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COVER

Dial plate from the wheel barometer by William Bastard of Blandford, early 18th century.

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Matthew Chubb of Dorchester: Rapacious moneylender and benevolent philanthropist

J. H. BETTEY

During the early years of the seventeenth century the wealthy Dorchester business-man and politician Matthew Chubb established a considerable reputation as a generous benefactor and the founder of almshouses in Dorchester, Shaftesbury and Crewkerne. The surviving records, however, indicate that he had acquired his fortune by harsh dealing, dubious practice and lending money at very high rates of interest. The Chubb family was established as merchants and property-owners in Dorchester during the mid-sixteenth century, and John Chubb, father of Matthew, was busily engaged in acquiring property in the town during the 1560s and 1570s.[1] John Chubb had married Agnes, the daughter of John Corbyn, another Dorchester property-owner.[2] Their only son, Matthew, was born in Dorchester and evidently given a good education, since from 1577 onwards his name appears frequently in deeds, leases and other legal documents, both as a witness and as the writer of the document. For example, after writing a lease in 1577 he added the words '*Testeque me Mattheo Chubbe, scriptore*'[3]

John Chubb was a burgess of Dorchester and served as one of the town stewards or treasurers in 1555; he was also a bailiff of Dorchester in 1562 and again in 1569.[4] Matthew Chubb also became a prominent burgess of Dorchester, serving as town steward in 1583 and on several occasions during the 1590s. He was elected one of the Bailiffs in 1602 and became one of the first Capital Burgesses and Councillors of Dorchester under the terms of the Charter granted to the town by James I in 1610. Chubb was also one of the two members of Parliament for the borough of Dorchester in the Parliaments of 1601 and 1604.[5] In 1583 it was Matthew Chubb who was entrusted by the town to present its case to the Lord Chief Justice when it seemed likely that the Assize Court might be transferred to Shaftesbury, and Chubb was paid expenses of £4 10s 8d for nine days spent in going to Canterbury to the Lord Chief Baron. Evidently his endeavours were successful, and the Assizes remained in Dorchester.[6] During the 1590s Matthew Chubb also played an active part in acquiring the tithes and advowson of the depopulated parish of Frome Whitfield in order to augment the income of the rector of Holy Trinity, Dorchester, and in 1610 the two parishes were formally united by Act of Parliament.[7]

On his own behalf Matthew Chubb added to the property he inherited from his father, and acquired more property in Dorchester and lands in the surrounding area including a small estate at Sydling St Nicholas.[8] At the time of the great fire in Dorchester in 1613 it was Matthew Chubb who lent the town £1000 towards the costs of rebuilding, and it was Chubb who was put in charge of organising the collection of money throughout the whole kingdom for the relief of those who had suffered loss through the fire.[9] He was clearly a wealthy man, but this did not prevent him from protesting vigorously and successfully to the Privy Council in 1589 when his name was included in a list of those sufficiently wealthy to lend money to Queen Elizabeth, and complaining that

> '... some adversarie of your Suppliant have sinisterlie used meanes that your Suppliant ys charged with the loan of l li [£50] beinge unable to doe it. Your Suppliant therefore most humblie desireth your Honours to bee discharged thereof.'[10]

Evidence of the way in which Matthew Chubb acquired and greatly increased his fortune is found in the complaints made against him by those who had fallen into his power. No doubt there were many others who likewise borrowed money from him or had dealings with him, but of whose misfortunes no records survive. At the same time it must be remembered that such complainants are hardly unbiased and that the surviving records do not always tell the full story. Nonetheless Matthew Chubb scarcely emerges with credit if the allegations are true.

The first complaint concerning Chubb's business dealings was made in 1590 to the Court of Requests, the Court which had been established 'for the expedition of poor men's causes'. The complainant was William Stagg of Stanbridge, and the details were complex and are made more difficult by the fact that the document is badly decayed and partly illegible, but the main matter is clear enough. For some unexplained reason, Stagg had borrowed £50 from Matthew Chubb on behalf of Lord Henry Howard, Viscount Bindon. Chubb had lent the money at 10 *per cent* interest 'ten pounds in the hundred for a whole yere', and had insisted that Stagg, together with John Snooke of East Lulworth and Thomas Taylor of West Burton should jointly stand surety for the money and give a bond of £100 for the repayment. Before repayment became due Lord Henry Howard had died 'soe greatlie indetted as that his goods and Chattells will not satisfie his detts by a great sum of money', whereupon Stagg alleged that Chubb had come to an agreement with Snooke and Taylor to place all the responsibility upon him. Whatever the truth of this confusing case, Chubb does not emerge with much credit, and was obviously lending money at high risk and upon interest which was considerably above the legal limit of 8 *per cent*, later reduced to 6 *per cent*.[11]

Much clearer is the complaint brought to the Court of Requests in 1592 by John James of West Coker, husbandman. He stated that being in great need of money he had borrowed £10 from Chubb for half a year at 10 *per cent* interest, 'at the rate of two shillings by the yeare for everie of the poundes'. A further condition of the loan was that James should purchase from Chubb 54 Welsh sheep for a further £10, making a loan of £20 in all, 'for in such lyke bargayning doth the said Chubbe cullor his chivizance with interminglinge money with goodes or cattells'. James appears to have been extremely naive in his dealings and agreed to purchase the sheep without seeing them, trusting in Chubb's assurance that the sheep were sound and that he 'should not be at losse above one quarte of wyne which he should bestowe upon the said Chubbe'. The sheep were on Chubb's land at Sydling St Nicholas, and when James went to collect them he found them to be badly infected with 'Rott or Cothe'. Several had already died and the rest died soon afterwards. When James complained, Chubb offered

1. C. H. Mayo. *The Municipal Records of the Borough of Dorchester*, Exeter. 1908. 352. 354. 360.
2. C. H. Mayo. *op.cit.*, 346-7.
3. C. H. Mayo. *op.cit.*, 378. see also 365. 379. 705-6.
4. J. Hutchins. *History of Dorset*. 3rd. Ed.. 1861-70. II. 352.
5. C. H. Mayo. *op.cit.*, 39. 41: J. Hutchins. *op.cit*. 352.
6. Dorset Record Office B2/21/1.
7. C. H. Mayo. *op.cit.*, 48. 620.
8. D.R.O. B2/21/2.
9. *Calendar of State Papers, Domestic*. 1611-18. 206; J. Hutchins. *op.cit.*, 340.
10. Public Record Office. SP12/223/114.
11. P.R.O. REQ2/166/172.

to lend him more money in order to pay the interest on his original loan and at the same time to sell him some cattle 'which your said subject liked not of for that he had soe harde a bargayne before in the said sheepe'. The outcome of this case is not known, but again Chubb does not appear to have acted very honourably.[12]

In 1599 a complaint of a different kind concerning Chubb's business dealings was made to the Court of Requests. This was made by the heirs of Robert Corbyn or Corben of Dorchester, deceased, who had left a tenement in Dorchester and two acres of arable land 'lyinge and beinge in a place called the west walls of Dorchester'. They claimed that in 1578 Corbyn had leased the property for 100 years and that the lease had been drawn up by Matthew Chubb

> 'who used and yet doth in the said towne of Dorchester (being the principal town of the saide countye) to drawe conveyances between party and party, and the said Chubbe did draw and ingrosse the same with his owne hande without anye other advise had or taken, and the said Robert Corben did take the same upon the creditt of the said Chubbe'.

The maiden name of Chubb's mother was Agnes Corbyn, and the family had apparently been content to accept the assurance of a relative that the lease was competently prepared. The rest of the document is torn and holed, but it appears that Robert Corben later got into debt and borrowed money from Chubb who somehow acquired the lease and now refused to surrender it. [13]

12. P.R.O. REQ2/226/22.

13. P.R.O. REQ2/143/31.

The expensive stone monument erected in 1625 by Margaret Chubb to her husband, Matthew, who died in 1617. It is now situated in the tower of All Saints' church, Dorchester. Photograph reproduced by kind permission of the Royal Commission on Historical Monuments England.

Finally the most damning indictment of Chubb and his business dealings occurs in a case brought to the Court of Requests in 1601 by Thomas Frye of Chetnole, gentleman. Frye was heavily in debt and owed money to numerous people, and if he could not satisfy his creditors it 'would turn him to great losse and much endanger the ruin and overthrowe of his estate'. He therefore borrowed £200 from Chubb in order to pay the interest on other debts. This large sum of money was lent at 10 *per cent* interest, and in addition Chubb insisted upon a bond of £400 and Frye had to obtain three substantial sureties. These were Edmund Hardy of Woolcombe, Esq., Robert Webb of Clifford (?Clifton Maybank), gent., and Robert Lovelace of Sydling, yeoman. This was not all however, for Frye was also required to purchase and deliver to Chubb 'two of the best kyne that he could possibly buye or procure in those parts, to be worth at the least £6 13s 4d'.

Frye claimed that he had carried out all these requirements, and had assured his creditors that they would soon be satisfied, but that Chubb, knowing the financial difficulties he was in, witheld £110 out of the £200 promised, 'as your subject verily believeth maliciously and of sett purpose'. Chubb had apparently contracted with the Crown to collect the royal taxes or subsidy in Dorset, and when Frye appealed to him in desperation for the rest of the money he had been promised, Chubb insisted that Frye was to undertake the collection of the tax 'from divers persons and in sundrye places farre distant from your subject's place of abode'. Frye was then to keep the taxes he collected towards the £110 and Chubb promised to make up the shortfall 'in readye money'. After much difficulty and travelling, Frye managed to collect about £90, but claimed that Chubb still refused to make up the balance of some £20 without taking from it a considerable amount to reward various parish constables and other officials for their assistance in collecting the tax.

It seems likely that Chubb was ensuring that Frye would be unable to satisfy his creditors or repay the loan, so that he could then proceed to demand the £400 from those who had stood as Frye's sureties. Chubb was apparently not without a grim sense of humour, for he told Frye and his three sureties that if they failed in their repayment by as much as one hour he would proceed against them and 'gave it out also that he fished not only for Frye but far greater fishes, meaning the sureties who are men of great credit and abilitye'. Frye also alleged that there were many other men who had similarly fallen into Chubb's power through financial difficulties, and who, like Frye, had depended upon Chubb's word and had no documentary proofs of their dealings with him. He, therefore, appealed to the Queen to grant her clemency to himself and 'manye other of your distressed subjects in like case extended'.[14]

Not surprisingly, in view of his large and complex debts and his dealings with Matthew Chubb, Frye appears to have been ruined and to have lost his estate at Chetnole. He may well have been the same Thomas Frye who was in gaol for

14. REQ2/119/17.

The effigy of Matthew Chubb on his tomb in All Saints', Dorchester. Although the monument displays various classical features, with strapwork, arabesques and angels blowing trumpets, the well-carved figure remains medieval in style, in a recumbent position, his head on a pillow, and in merchant dress with an elegant collar. Photograph reproduced by kind permission of the Royal Commission on Historical Monuments England.

debt in Dorchester at the time of the great fire in 1613. With other prisoners he was let out 'to quench the same wherein they did very good service and afterwards returned to the said gaole', and in recognition of their assistance in fighting the fire, they were pardoned by the King.[15]

Matthew Chubb was not only a lender of money at high interest and an exponent of sharp business practices, but he was also active in the public life of Dorchester, concerned for the good government of the town, and a generous founder of almshouses for the poor. Living in Dorchester during the early part of the seventeenth century, Chubb could hardly have failed to be greatly influenced by the Puritan ethos of the town, stimulated by the preaching of the remarkable rector of Holy Trinity, John White, under whose guidance the town became notable for the close supervision of all aspects of morality and public behaviour, and also for its numerous charitable donations. Matthew Chubb's contributions to the welfare of the poor and needy included the endowment of no less than three almshouses, in Crewkerne, Shaftesbury and Dorchester. His interest in Crewkerne came about because of his family connection with the town, and many of his relatives lived there. He had also acquired lands in that area, including the manor of Wootton Fitzpaine. Early in the seventeenth century Chubb established an almshouse at Crewkerne for eight poor people of the town.[16] A few years later, in 1611, Chubb joined with John Boden or Budden and William Grove of Shaftesbury to found and endow an almshouse there. John Boden was the Recorder of Shaftesbury, and Chubb had married his daughter, Margaret; William Grove had married another daughter, Jane. The almshouse was for sixteen women, and an inscription on the building named Matthew Chubb of Dorchester, gentleman, as the principal founder of it.[17]

Shortly before his death in 1617 Matthew Chubb founded and endowed Chubb's Almshouse in Dorchester for nine poor women, chosen in turn by the three parishes of Dorchester. His widow, Margaret, supervised the building of the almshouse and provided a further endowment for it. Over the door she placed the inscription 'The Gift of Matthew Chubb and Margaret his wife 1620'. At the time of his death Matthew Chubb was obviously extremely wealthy and was said to be worth £15,000. In his will made on 20 June 1617 he described himself as 'Matthew Chubbe of Dorchester, gentleman', and prefaced the bequests of his property with a suitably Puritan statement of faith

> 'I give and commend my soul unto the merit and protection of Almighty God myne everlasting Father, and his onlie sonne my Lorde and Saviour Jesus Christe, trusting by his merrits, death and passion to inheritt Everlasting life'.

He made very small bequests of 5s 0d to each of the three parish churches of Dorchester, but left the bulk of his wealth and property 'To my deare and loveinge wief Margaret'. To various relatives, including five who were 'now dwellinge in my house with me', he left sums ranging from £50 to £10. He was still owed the sum of £1,000 by the Crown 'disbursed by me for the re-edifying of Dorchester lately burnt and decayed by fire'. From this sum he made the following bequests:

The Bailiffs and Burgesses of Dorchester for charitable uses	£500 -0 -0
The Almshouse at Shaftesbury 'which I latelie procured to be built	£130 -0 -0
The Almshouse at Crewkerne 'which I also procured to be built	£100 -0 -0

He also ordered that there should be given 'To the poore almspeople at Dorchester livinge in the old almshouse several gowns of black cloth'. This confirms that the building of his own almshouse in Dorchester had not yet been completed by the time of his death.

Matthew Chubb and his wife Margaret apparently had no children of their own, but took a great interest in a nephew, also called Matthew Chubb, who lived with them. In his will Matthew Chubb left a generous legacy to his nephew,

> 'To my brother's son, Matthew Chubb, now living in my house, the rectory and parsonage of Portland with his appurtenances which I latelie bought and purchased of Sir Carewe Raleigh, knight'.

Sir Carew Raleigh lived at Sherborne with his brother, Sir Walter, and was no doubt in urgent need of money following his brother's disgrace and imprisonment. Various Dorchester merchants including Richard Blatchford and Elliot Johnson were named as overseers of the will.[18]

Matthew Chubb's widow, Margaret, died in 1628. She prefaced her will, made in 1625, with an even more Puritan statement of belief, committing her soul

> 'to Almighty God my maker, steadfastly believing that he hath washed awaie all my sinnes in the most precious blood of his sonne and my Saviour, Jesus Christ the righteous, who died for my sinnes and rose againe for my justification . . .'.

She ordered that her body should be buried beside her late husband and under the monument erected to him in All Saints' church, Dorchester. She was a very wealthy woman, and among her numerous legacies left sums to the parish churches of Dorchester, and

> 'I give a black gowne to everie one of the nine Almswomen of the Almshouse which I have of late newlie builte in Dorchester, and to everie one of them 5s 0d'.

She also left money to various relatives, and to her kinswoman and servant, Anne Hibbert, she left the interest on a bond of £200 'wherein Sir Ralph Horsey and his brother Sir George Horsey are bound unto my said late husband, Matthew Chubbe'. Clearly the Horseys had already got into debt, had borrowed money and were launched on the downward path which was to lead, via their abortive and costly scheme to drain the Fleet, to their ruin and the loss of their house and estate at Clifton Maybank. [19]

Margaret Chubb also left small bequests to Robert Cheeke, minister of All Saints' church and to John White, the minister of St Peter's and Holy Trinity, for sermons to be preached in her memory. The bulk of her property including the manor of Wootton Fitzpaine she left to her nephew, Matthew Chubb and Joan Coker, the daughter of Robert Coker of Dorchester, goldsmith. Evidently Matthew Chubb and Joan Coker were to be married and Margaret Chubb also left them her house in Dorchester with the request that they should live in it and maintain

> 'that hospitalitie for the entertainment of my said husband's friends and mine which my said husband in his lifetime and myselfe after his death have used'.[20]

The large monument and effigy to Matthew Chubb is in All Saints' church, Dorchester with the text

> 'Blessed are they which die in the Lord:
> They rest from their labours, and their works doe follow them'.

15. P.R.O. REQ2/Chas I/Bundle 50.
16. *Victoria County Hisotry, Somerset*, IV, 1978, 37; J. Collinson, *History of Somerset*, 1791, II, 164.
17. J. Hutchins, *op.cit.*, 19, 43; E. O. Cockburn, *The Almshouses of Dorset*, Dorchester, 1970, 30-2.
18. P.R.O. PROB 11/130, Will of Matthew Chubb, (74 Weldon 1617).
19. J. H. Bettey, *Wessex from AD 1000*, 1986, 136.
20. P.R.O. PROB 11/153, Will of Margaret Chubb (45 Barrington 1628).

Boundaries and Landscape in Blackmoor: the Tudor manors of Holnest, Hilfield and Hermitage.[1]

KATHERINE BARKER and DENNIS R. SEAWARD

This paper concerns the bounds of three contiguous parish/manors lying at the western end of the Vale of Blackmore, namely Holnest, Hilfield and Hermitage (Fig. 1). Probably all of 16th or early 17th century date (see Appendix 1) the boundaries described here are of more than purely local interest, for considered as a group together with additional source material, including field-work, they throw some light on the landscape history of this corner of Blackmoor. All three manors lay within the Forest of Blackmoor as it was at its greatest extent in 1246/7. As earlier defined in 1225 however, the manors of Holnest and Hilfield had been excluded, their eastern boundaries forming the western limit to Forest Law. Blackmoor was disafforested in 1299/1300 with the sole exception of the royal manor of Hermitage. Blackmoor was briefly re-afforested in 1310, but by 1349 there was no game left (Drew 1952, 33-35).

The three manors occupy an area of low relief, predominantly of heavy clay soils, bounded to the south by the prominent chalk scarp of central Dorset. The Vale here straddles the Stour-Parrett watershed, and it is the east-west course of the Cam and Lillington streams that forms a well-defined northern edge to the area under consideration.

Blackmoor formed an extensive area of wood-pasture, coppice and common grazing. While not mentioned by name in Domesday it probably represents a pattern of land-use of pre-conquest origin. A reference to the King's huntsman by Aelfric of Cerne (mass-priest/abbot *c.* 987-1002) (Swanton 1975, 109) may well belong to this area, and somewhere here was the reputed site of the lonely cell of St Edwold whose bones were translated to the Abbey of Cerne in the mid 10th century. Stockwood (about 2 miles north-west of Batcombe) is a possible site, as is Hermitage itself (Keen 1987, 9). Expressed here are the spiritual and temporal attributes of a tract of countryside that lay beyond the confines of everyday life; marginal in the geographical sense and undeveloped in terms of settlement, even before legal designation as Forest by the Norman Kings, it was seemingly already a place which could be described as *foris*, 'outside' (Rackham 1990, 164; Partridge 1958, 228).

The importance of this part of Blackmoor is reflected in its manorial structure. Hermitage was a detached part of the royal manor of Fordington (Dorchester). As sole survivor of the Forest, the estate was defined by the perambulation of 1299/1300 (Watkin, 1947, 182-3) (see Fig. 2). The Earls of Cornwall were patrons of a hermitage here from which the parish takes its name. The origins of the house are obscure, but it was certainly in existence by 1272. In 1315 the prior and hermits were given rights to enclose land out of the waste of the Forest at *Rocombe*; further land at *Rocombe* was made over in 1325 (VCH 2, 96-7).

Also in Hermitage was the manor of Hartley held by the custodians of the King's Forest. *Rocombe* and Hartley are the only place-names of the area referring to animals of the chase, respectively the roe-deer and hart (stag) – both words of Old English origin. By the time of the perambulation of 1607, Hartley was the subject of a dispute between Fordington and neighbouring Minterne in which parish it now lies, although as Hutchins noted (1874, iv, 471) 'in some records [is] said to be in the parish of Hermitage.'

Six hides of land at Hilfield (*Hylfelde*) formed part of the foundation grant made by Athelstan to the Abbey of Milton in AD 934 (Sawyer 1968, no. 391). The second element of the name OE *feld* may be taken to imply 'open countryside' in contrast to surrounding wood or wood-pasture; Aelfric of Cerne uses the term to describe land under the plough (Hooke 1981, 175). Old-enclosed lands at Hilfield lie on the south side of the manor, a pattern repeated for the adjacent estates of Batcombe and Hartley in Hermitage. The third manor considered here, Holnest, was also held by the church. A place-name not recorded until the later 12th century (Mills 1989, 336), its possible significance is discussed below. Holnest was an outlying part of the Sherborne manor of the Bishop of Salisbury, and may earlier have been held by the pre-conquest Bishop of Sherborne (See founded 705/6).

Adjacent manors to the west and north were included in the episcopal hundreds of either Sherborne or Yetminster; to the east lay (Glanvilles) Wootton wrested by the Crown from the Abbot of Milton at the Conquest. Middlemarsh, first mentioned in 1227 (Fägersten 1978, 200) was an outlying estate of the Abbey of Cerne, and to the south-east is Buckland (Newton) first mentioned in AD 854 as a Glastonbury estate; it was *Bokland toun*, land held by 'book' or royal charter (Sawyer 1968, no. 303; Finberg 1964, no. 408). The bounds of AD 941 belong to a grant of land at Buckland and Plush made by Edmund to Ælfflæd, a religious woman (Sawyer 1968, no. 474; Grundy 1933, 254-263). To the south on the chalk, is Minterne, held by the Abbey of Cerne from its foundation in *c.* AD 987 (Sawyer 1968, no. 1217), Up Cerne held by the Bishop of Salisbury in 1086 (Bishops of Sherborne had held land in the Cerne valley from the 9th century (Barker 1988, 27), and Sydling (St Nicholas) is listed in the AD 934 foundation charter of the Abbey of Milton (see above).

It is clear that the country in and around Holnest, Hilfield and Hermitage was the subject of extensive grants made by Anglo-Saxon kings to the early church. The rather isolated royal manor of Hermitage seems likely to represent the surviving portion of a once much more extensive royal demesne. The coincidence of church-manor, and parish which ultimately derived from the fragmentation of this estate was to persist until the Dissolution. The three perambulations considered here can be seen as a response to the far-reaching tenurial changes that were to follow – changes perhaps as marked here as anywhere, for they involved large tracts of intercommoned land. The annual parish bound-beating required by Royal Injunction of 1559 had most meaning in such country (Beresford 1957, 29 *et seq.*; Winchester 1990, 39).

As each perambulation clearly states, it is the 'range', 'limit' and/or 'circuit' of the common or waste that is, in each case, central to the enquiry. There is something almost defensive in tone about the 25 or more bound stones of Hermitage 'sett' against its neighbours by the Crown tenants. In Hilfield, a block of old-enclosed land lay on the south side of the manor and could conveniently be excluded from the survey; other enclosed parcels of land are only mentioned if relevant to the description of the boundary (e.g. East Close, Ho. prmb. ii). The Hermitage survey defines the commons as *in the right of the Said Manor*; for Hilfield the commons lie *within the Demaynes and Messuages*, and for Holnest the common is that *belongynge to the parishe*, and *all with in theyre owne tythinge*. The wording varies in each case, but rights to common lying within the stated bounds are clearly vested in each manor. Implied here is likely to be a concern over matters relating

1 A summary of boundary features will be found at the end of this Discussion.

to the market value of each estate, to the improvement and enclosure of pasture and to the regulation of Tithe (Beresford 1957, 36-37; Winchester 1990, 37). Only Holnest is described as a parish but the bounds of all three are, with the exclusion of Hartley, generally close to those of the parishes recorded in the Tithe Apportionments of 1845-7.

While the origins of these manors remain obscure, their territorial arrangement as expressed in their bounds preserves in part the lineaments of an earlier pattern of land-use; a pattern of land-use that speaks of movement rather than confinement. Fossilised in the principal north-south bounds of these two manors are a series of more or less parallel routes, sections of which are described as *green way* and *way* by the surveyors (Hi.prmb.h; He.prmb.12, 15, 24 and 27). Two *green ways* are recorded in places other than along the north-south bounds of these manors; one describes a route of only local significance connecting areas of common (Hi.prmb.e), but the other is part of a ridge road that runs along the top of the chalk scarp, namely the *green way called Hay Path* (He.prmb.3) or *haere path* of 1616, with little doubt to be identified with the *Herepathes*, 'army path' of the mid 10th century Buckland charter. The boundary routes of the Hermitage and Hilfield boundaries may also represent early rights of passage – pastoral as much as human – not along the chalk hills but over this part of Blackmoor, routes that served to link the area with the early royal manors of the 'Yeovil' (now Yeo) valley to the north and with those of the Frome valley to the south. Manorial links between Sherborne and Holnest and between Fordington and Hermitage are likely to derive from early rights to the woods and common pastures of Blackmoor.

From the south side the descent of the chalk scarp was made at Dogbury above Lyon's gate (A352), and at Stoy; the latter remains a deeply incised track which serves today only as a footpath. From the north side entry to the moor is represented by Hunter's Bridge, and particularly by Stockbridge on the north-west corner of the manor of Holnest where there is a marked convergence of routes and boundaries. Between the two is *Lipyeats* 'leap-gates' near the present A352. On the 1569-74 Map the road southward from Sherborne and Long Burton is shown here as opening onto common on the manor boundary, a track continued to the dispersed houses of Holnest. West of *Lipyeats* a prominent hedged 'funnel' incorporated into old enclosures north of Cancer Drove may represent an earlier entrance to the common.

The *(green) ways* have evolved in response to local topography following the drier routes provided by natural low ridges in a landscape often wet and marshy. Utilised as boundaries they highlight the contrasting style of land demarcation presented by the three manors. While Hermitage and Hilfield lie parallel with the lines of communication determined principally by the course of 'Stone Ridge' (now Stonerush Drove), the manor of Holnest lies across them, served by two routes each of which bisects a discrete pattern of enclosures. Routes which form the margins of the southern pair of manors, steer the traveller straight to the heart of their northern neighbour. But not until the mid 16th century do we find the first reference to Holnest in the role of 'central place' of Blackmoor Common where the *praye* ended, the great 'drift' or round-up of stock that grazed the unenclosed pasture that then extended some six miles to the east to the River Lydden (DRO D721A/1).

Holnest, Hilfield and Hermitage occupy part of an outlying region which formed a complementary part of the economy of the primary or 'original' lands – both to north and south – the character of which, as for those discussed

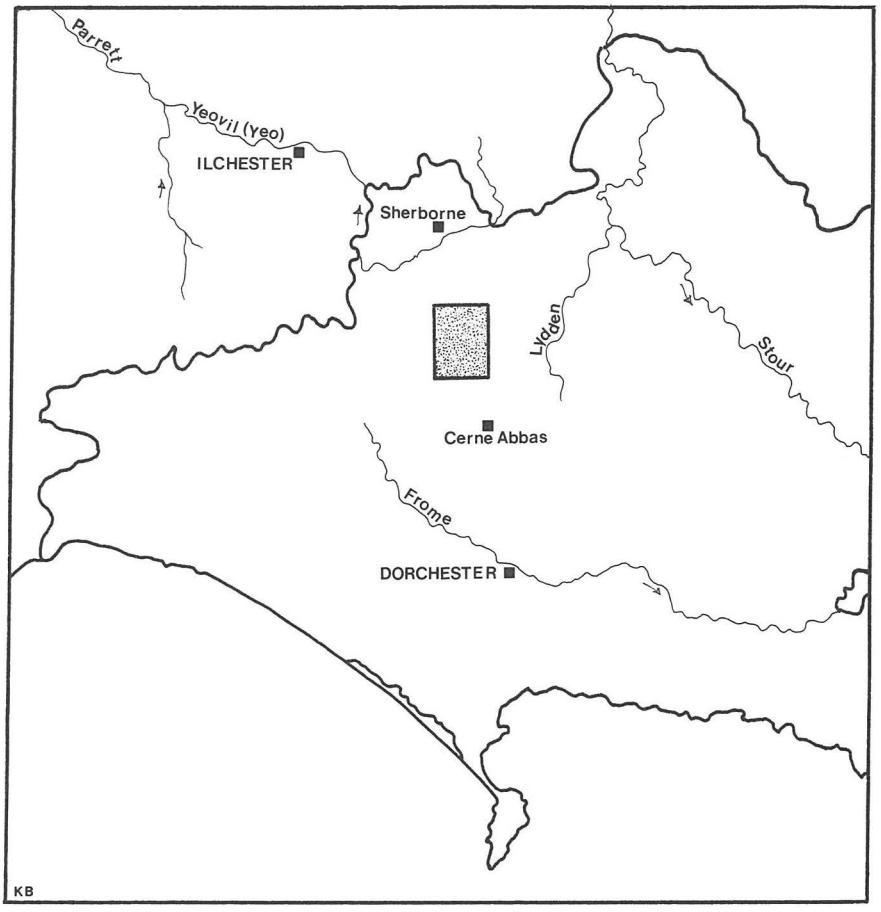

Figure 1. Map of West Dorset and part of Somerset: the stippled rectangle indicates the area covered by Figs. 2 and 3.

by Everitt for Kent (1986, 35-9), may find its origins in patterns of seasonal transhumance. The three manors present many of the distinguishing features of secondary settlement, dispersed hamlets (called *street*, *row*, *wyke* and *green)*, daughter chapelries (Hermitage to Cerne, from 1513; Hilfield to Sydling/Milton, and Holnest to Sherborne), and the presentation of a characteristic corpus of place and minor names of which OE *feld*, *hyrst* and *lēah* are found in the manor names, respectively Hilfield, Holnest and Hartley in Hermitage. 'What we see in the countryside of the sixteenth century is an uncompleted landscape: a landscape which in places was undergoing a final phase of colonisation, and in whose features we can still trace, at many points, the vestiges of a more primitive environment' (Everitt 1986, 2).

Of the north-south boundary routes, the easternmost formed part of the *possessions* (procession) way of an earlier bound-beating (He. prmb.26). Pastoral movement along this course may be implied in Hurdley, OE *hirde*, 'a herdsman' (Smith 1956, i, 246-7) and *lēah*, 'open land in a wood' etc (Hooke 1981, 152-60); possibly found again in *Irleigh* (Hutchins 1874, iv, 519) and *Erlin/Urlin* (DRO DCM 10730), both occurring in association with this boundary. The southern end runs into the highway via *The Lawne* (see below) and the northern end seems to be truncated at Rhymehorn on the Holnest boundary – the 'corner' thus formed may be reflected in OE *hyrne* (horn) first recorded in the mid 12th century (Ho.prmb.iv).

The route which forms the boundary between Hilfield and Hermitage twice preserves the rather unusual 'winding' – the *wynding oke* (He.prmb.13) and *winding Stoy*, probably the *Staweius jwinde* of the 13th century (He.prmb.7). While *winding* is a dialect word for an 'end' or 'termination', there is a possible hunting association here in the 'winding' or 'blowing' of a horn – this is the edge of the King's Forest. *Winding Stoy* led out along a low ridge, the 'Stone Ridge' of the 1569-74 Map, at the end of which was to be found an *Ancient Bound stone* (He.prmb.14) – the only bound stone already *in situ* recorded in these three perambulations and the point at which all three meet. The stone was certainly in place by the early 13th century when it lay on the bounds of the Forest; from its description it sounds to have been a large, rough, half-buried stone – perhaps a sarsen – since lost. It may have been the landmark which gave its name both to the route, and to the hill above it, 'Stoy' (He.prmb.8). The worship of stones is implied by Aelfric of Cerne (*c.* 990); it was forbidden, he writes, for a man to 'fetch his health' from any stone [or from any tree, see below] (*Homilies*, Thorpe 1844-6, i, 476). If the (bound) stone was indeed ancient, it could earlier have been an object of veneration.

The westernmost boundary of the two manors forms a route for only short parts of its length, one of these is the *green way* between *Great Nodo* and *Dead Groomes Bush* (Hi.prmb.g-h), shown not as a route on the 1569-74 Map but as a dotted line. If the *green way* did indeed once continue northwards it would have needed to negotiate the Leigh stream before joining a meeting of routes at Totnell Corner where three are shown on this map and whence a well-defined route ran along Bayley Ridge (Hi.prmb.m) to Stockbridge. That Hilfield retained a territorial interest in this direction is indicated by the *narrow poke* (Hi.prmb.m) that forms the northern extremity of the manor, between Leigh and Holnest. Bailey Ridge was the site of a thrice yearly cattle fair (Hutchins 1874, iv, 197).

The stretch of Hilfield boundary east of Leigh Castle, see Appendix 2, was hedged (Hi.prmb.k), one of only four hedges mentioned in the three surveys. It was a hedge which 'reboundeth back', forming, as it still does, a large 'funnel', a feature particularly associated in this area with places where enclosed land opened onto a common, characterised in some places by a 'gate' name.

There is no trace of any farmstead enclosure although the reference to a *wiche oke* may betoken a small *wick* or *wyke*; by the 18th century the settlement here was known as 'Three Gates' but the Hilfield perambulation records only one 'hanging' in the hedge. In 1583 Hilfield and Leigh were, with other manors, intercommoners on Leigh Common (VCH 2 195), and the Hilfield boundary is consistent with this, the implication being that Hilfield had sole rights to the common within the boundary, and inter-commoning rights beyond it. The 'funnel' suggests a droving route leading into Hilfield manor towards Stoys Gate. The manor boundary was clearly 'closed' at the time of the perambulation, but the Hilfield field system (dating from the Enclosure of 1697 (see Hi.prmb.a)) is one that obviously post-dates the making of the 'funnel' which thus represents an earlier (and now lost) phase in the enclosure history of this part of the manor.

The west boundary of Hilfield records no further hedges, but three lengths of *dech* (ditch), all of which are likely to be man-made. A *dech* above *Chewnest* (Hi.prmb.e) may be a medieval wood bank and ditch, and a *dech* called *Great Boysend* (Hi.prmb.i) ran along parallel to the Leigh stream. The valley floor here betrays signs of considerable activity in a confused pattern of low earthworks of unknown origin and purpose, most notably those known as *Gudgin's Banks* (RCHM 1952, 1, 132). Both Leigh and *Wocombe* Castles were bounded by a *dech* or *dich* (see Appendix 2) and the edge of old-enclosed land in Hilfield was seemingly marked by a *Diche* (Hi.prmb.v). But boundary descriptions can be inconsistent – *marke lake* (1569-74 Map) is referred to as a *Diche* in the Hilfield survey (prmb.q) but as *by the water* in the Holnest survey (prmb. ix). This may simply record changes in the course of time – the 'water' today is very obviously a canalised stream. Other watercourses may be implied but not mentioned (part of Ho.prmb.iii-iv) and for Hermitage (prmb.28) there is a *little trench or dych*, and a *letch/gutter of mire* which latter provides a definition of *letch*, an interesting dialect survival of a northern word, although place-name evidence suggests that it was current in all parts of England at an early date. In Old English it occurs only in charter material (Gelling 1984, 25, and Smith 1956, ii, 10). While it may be tempting to see the use of the word as indicative of the early date of the Hermitage boundary, the historical context is that of the early 17th century.

On the 1569-74 Map the south-western boundary between Hilfield and Holnest is followed by *marke lake*, a name which suggests that at least this length of boundary had been recognised for a considerable period of time (see Hi.prmb.p); it may have marked the edge of the Sherborne Hundred. Hooke (Hooke 1981, 123) notes that OE *mearc*, 'a march, boundary' only occurs twice in the Anglo-Saxon charters of the West Midlands, and each time in association with heathland; here in the sense of 'open tract of wasteland.' The word 'heath' is found in the place-name of one of the Holnest settlements (see below).

The south boundary of Holnest marks out margins of common which reflect an internal pattern of enclosed land; groups of fields are shown on the 1569-74 Map which are traceable today. The principal group lies within a ring fence centred on a low limestone knoll, part of which is Holnest Field (1846 HoTA). The enclosure is bisected by a route from 'Stone Ridge' (now Stonerush Drove) to Stockbridge, the settlement along its route *Heth(e)feldstret(e)* 1464 (Mills 1989, 341) is so named on the 1569-74 Map. By 1800 (HoEA) it had become *White House Farm*, the land of which occupied the greater part of the ring-fence.

It is possible the *street* settlement recalls the name of the enclosure, 'heath-field' – providing an interesting example of these OE name elements in a late, but definite topographical context. In the 12th century 'heath ground' is one of several classes of land held in common, within the Forest

(at its greatest extent) by the principal landowners, and which also included pasture, wood, and marsh ground (Hutchins 1874, iv, 519). 'Heath' seems to indicate poor quality open land – not the acidic sandy soils which characterise the south-east Dorset heath, but heavy clay land with gravel deposits, which in this area seems alternatively to

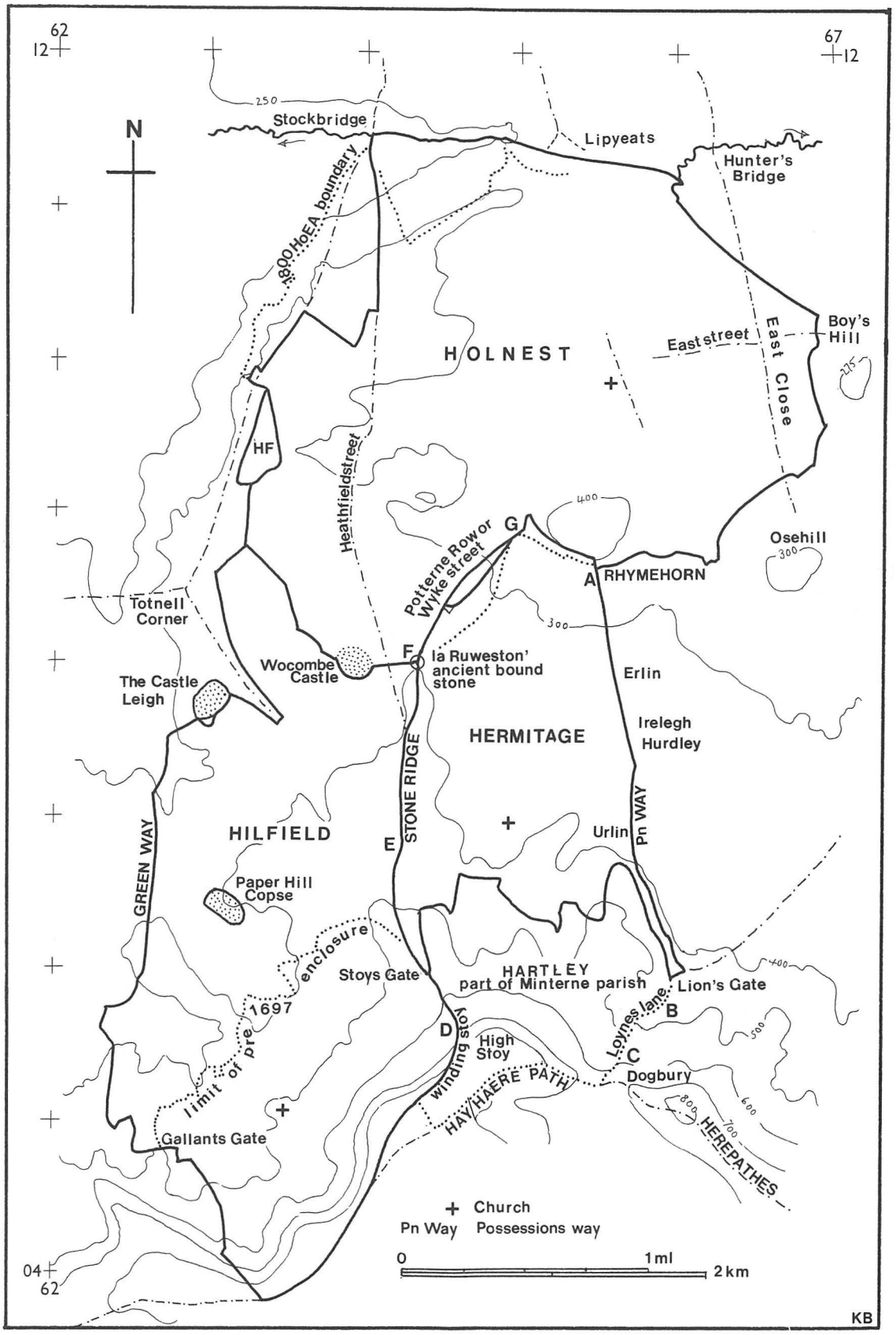

Figure 2. Contour map of the area of the manors of Holnest, Hilfield and Hermitage; tithe map boundaries are shown by the heavy line, other boundaries are marked. The Forest perambulation of 1299/1300 follows letters A-G. Routes are those shown on the 1569-74 Map with the exception of the Herepathes/Hay path. Also shown are the sites of The Castle, Leigh, Wocombe Castle and Paper Hill Copse. HF – detached part of Hilfield parish.

have been known as 'moor' – at least where the ground was badly drained. Blackmoor is a name which locally survives between the ring fences of Holnest and Wootton manors.

Enclosure was certainly taking place in Holnest by the 12th century when 'a great quantity of pasture ground of [the bishop of Sarum] . . . being appropriated and fenced in' (Hutchins 1874, iv, 518-9). It is not possible to know which parts of Holnest were involved. The curvilinear form of the ring-fence enclosure and its relation to the Stockbridge routeway may indicate a medieval *vaccary* or stock farm, and can be compared with others evidenced within former Forest areas (Tubbs 1986, 47, 72; Atkin 1985, 171-185). A King's Vaccary is recorded in Hermitage in 1226/7, but its location is not known (Hutchins 1874, iv, 477).

A second low knoll lies immediately north of Rhymehorn, the site of Holnest Wood on the 1569-74 Map, and adjacent to the east are the remains of other ring-fences. Several 'concentric' phases in their growth can be discerned by 1846, the pattern already much confused by allotments made to Dunn's, Dubbin's and Dyer's Farms, probably all in existence by the 17th century. The present route crosses the area to the east of the church; an earlier route may have lain to the west.

It is of interest to note that the Holnest perambulation twice records the name *Rye*, and each time in close association with the stream now known as the Cam (Ho.prmb.i and v). However *Rye* is not a stream name, and it probably represents a lost name for the area as a whole, from OE *atter īeg*, 'at the island.' In the sense of 'land island' *īeg* is frequently found in low-lying counties like Somerset, but this would constitute the only example in Dorset (Gelling 1984, 36). The Holnest reference is perhaps to the limestone knoll in a sea of heavy clay, or to the pattern of human activity framed around it – an 'island' of enclosed land in a wide expanse of common pasture. East of Holnest, the 'islands' of Boys Hill and Osehill were both medieval settlement sites.

The medieval manor name *Holnest*, OE *holegn hyrst*, 'holly tree' and 'wooded knoll', is also found on the Hilfield boundary at the junction with the parishes of Leigh and Batcombe where it forms what the survey calls a 'corner' (Hi.prmb.d). This *Holnest* is a small feature, and it is certainly possible that the manor name was derived from a natural landmark not much larger but of some particular local significance. Holly or 'Holms' can form dense, monospecific stands which often assume a roughly circular shape (Tubbs 1986, 142). In the New Forest these are used for both shelter and winter browsing. Atkin (1988, 77-88) notes the association of *hollin* (holly) place-names with packhorse tracks and stock droving routes in the north of England. Seemingly less common in the south, *Holnest* may represent a similar class of place-name. As already noted, the manor lies astride routes across Blackmoor and was the destination of the annual *praye* or stock 'round-up'. A Holm Bush is recorded on each of the north-south bounds of Hermitage (prmb. 11 and 28), although *Holm Bushes* along Bayley Ridge on the road to Stockbridge is not recorded until 1800 (HoEA).

The Holnest boundary mentions a number of pits also recorded by the Hilfield survey which gives them alternative names, *gore/gorell* (Ho.prmb.x, Hi.prmb.o) and *bryncis/snyne boyes* (Ho.prmb.ix, Hi.prmb.p); on the south-eastern boundary with Hermitage is a *little pit* (He.prmb.15) and another at Rhymehorn mentioned only by the Heritage survey (prmb.20) in which there was said to be a suicide burial; the parish boundary was unhallowed ground, a no-man's land 'betwixt and between.' These pits are likely to be the result of gravel or clay extraction; pottery manufacture at Holnest is evidenced in the medieval period. A settlement called *Crockeresrewe* (Crocker's Row) is mentioned 1225 and probably to be identified with the *Potterne Row* (Farm) of 1846 (HoTA), today the hamlet of Higher Holnest (see Appendix 3). The field nearby was *Furnace Mead*. Boundary features immediately south of *Potterne Row* described as *barrows* (He.prmb.16 and 17) are probably best understood here as spoil heaps in what was obviously the very disturbed ground of *Barrow Field* (1846 HoTA), although the possibility of pagan burial sites cannot be excluded. On the south boundary of Hermitage a lime pit is recorded on the chalk scarp (He.prmb.2) used presumably to provide lime for improving the clay soils of the neighbourhood.

Of the four hedges mentioned in the three surveys one, at Hilfield, has already been discussed. Two more were associated with the boundary of Up Cerne on the chalk scarp, and one with the edge of Gore Wood. The former pair constitute a reference to what is in fact the same hedge, namely that which 'divides' Up Cerne from Minterne (He.prmb.5) and which goes on to bound the lands of 'master Stewkley' (He.prmb.6). This is part of a single hedge described by More in 1616 as 'made by Minterne half a mile long.' It is in fact nearly two miles long and follows the narrow chalk ridge between the parishes of Up Cerne and Minterne. It joins the Hermitage perambulation at the one-time *Souther Gate* and leaves it on the borders of master Stewkley's land on the edge of the scarp from which point it plunges down into Blackmoor to form what was probably the western boundary of the small Hilfield estate of *Halve-hide* first mentioned in 1311 (see He.prmb.6). It is a territorial arrangement which suggests 'colonisation' of the Vale from the south side – perhaps an early extension of Minterne.

The Gore Wood hedge, also part of the Hermitage survey (prmb. 30) follows the northern edge of *The Lane* or *Lawne*, a narrow finger of land some 300 m long and about 40 m wide forming a very distinctive feature along this part of the boundary running into the highway below Lyon's Gate. Not part of the common in 1650, it constituted a Hermitage 'corridor' between the old-enclosures of Hartley, and Gore Wood once held by the Abbot of Cerne. *The Lawne* is one of a well-defined convergence of routes coming in from the open commons around Middlemarsh – Gore Wood was already wedge-shaped by 1576. *The Lawne* may represent a part of the boundary route that can be traced the length of the Hermitage boundary (see above). Drew (DCM nd) suggested a possible reason for its survival. He noted that a grant of land made to Ingelram Berenger in 1314 at *Rocombe* in Hermitage was made on condition that he was assured of 'free entry and issue for all his beasts to the nearest highway' (*Cal.Pat.Rolls* EdwII, ii, 216). Given however, that the lost *Rocombe* is to be identified with the valley on the west side of Hermitage (Appendix 3) then Berenger's access route is more likely to have lain along *Brockham Lane* (1888 OS), the *broccomb lane* of the 1616 More Map which led from *Rocombe* to what we take to be the site of *Stoys Cross* (He.prmb.9).

But *The Lawne* may well have been associated with the movement of animals – even if they were not those concerned under the terms of the 1314 grant. Long 'herding funnels' are not unfamiliar features on the borders of medieval deer parks, and a possible association with the royal Forest is one that should be noted. One method of hunting involved the use of dogs to drive animals into a confined space to be netted or shot (Cummins 1988, 56-61). Such techniques are briefly described by Aelfric of Cerne, and Hooke (1981, 234 *et seq.*) has explored possible hunting connotations in the wording of Anglo-Saxon charter boundaries from wooded areas in the West Midlands. A fresh look at the charter for the neighbouring Glastonbury estate of Buckland might yield similar clues.

At the top of the hill above *The Lawne* on the border of the Glastonbury estate was *Doggeneberwe*, now Dogbury, 'dog's hill' (Mills 1989, 255), and adjacent was the manor of Hartley (in Hermitage), the OE *lēah* of the *heorot*, 'hart' or stag. Also in Hermitage was *Rocombe*, the valley of the OE

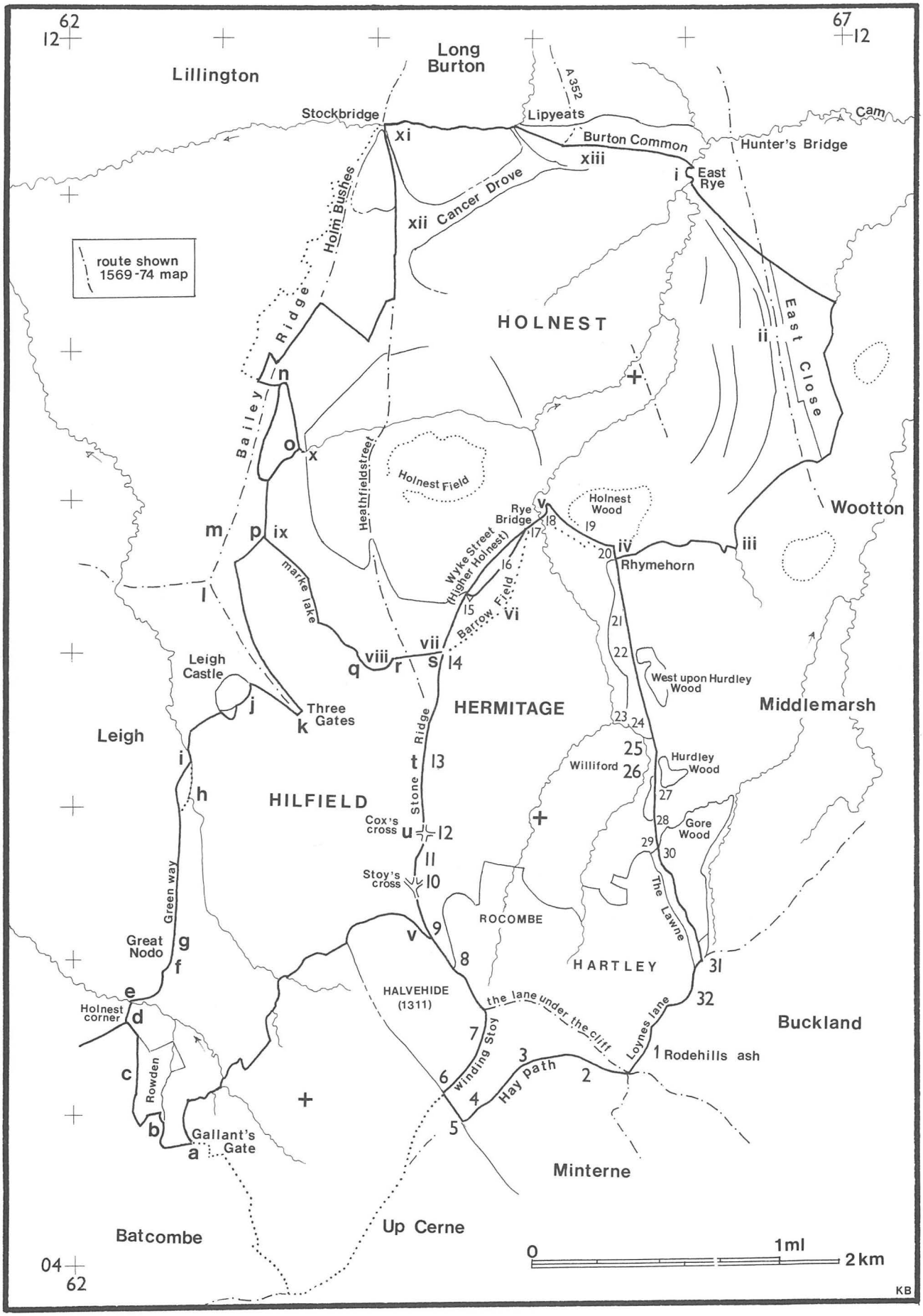

Figure 3. Map of Holnest, Hilfield and Hermitage showing perambulation details. The course of the Holnest boundary is indicated by Roman numerals, the Hilfield boundary by letters, and the Hermitage boundary by Arabic numerals.

rāh, 'roe-deer'; both names carry clear reference to these animals of the chase. Evidence of a less welcome animal may be found not far away in the 'wolf pit' above Stoy (He.prmb.4); according to Aelfric of Cerne a shepherd needed dogs to protect his sheep from attack by wolves (Swanton 1975, 109).

The Hermitage survey starts just below Dogbury, on a low hill beside the col, at *Rodehills Ash* (He.prmb.1), whereas the perambulation of 1299/1300, it may be noted, started at Rhymehorn (He. prmb.20). The Forest perambulation cited by Hutchins (1874, iv, 519) refers to the *crucem de la Rode*, 'cross at the *Rode*' – probably tautologous. *Rodehill* affords a magnificent view across this part of the Vale and the name suggests that here, overlooking Hartley and on the border between a Glastonbury estate and a royal manor there once stood a wayside cross or rood. The association of the Holy Rood and the Hart is a recurring theme in medieval iconography; the Hart was traditionally hunted between the two Feasts of the Holy Cross. The season began on 3 May (The Invention or discovery) and ended on 14 September (The Exaltation), Holy Roode Day; alternatively the season began on 24 June, Midsummer Day (Cummins 1988, 33, 56). Between 1228 and 1272 records for Blackmoor Forest show that a few animals were caught throughout the year, but the peak period was very definitely June, July and August (*Cal. Close Rolls*).

Both the ash tree and the hill mentioned in the Hermitage survey are drawn by More in 1616. Four references to ash trees are found in the three surveys, but only this tree *wheretofore Late did grow great Ash*, is accorded both a name and a specific site. Ash has an early mythological significance in which Christian and pagan traditions are fused, and in which hunting remained a powerful theme. Ash was regarded as the wood used for the original Holy Cross, and it represented the final triumph of Christianity over paganism. For it was on an Ash tree that Woden hanged himself to receive the wisdom of the runes (Branston 1980, 114), although the power of runes – as Aelfric of Cerne points out – was no match for the prayers of a mass-priest (*Homilies*, Thorpe 1844-6, ii, 359). Woden was ancestor of the West Saxon kings (Owen 1981, 10) and it was he, fearsome warrior god, who led his horses and hounds in the Wild Hunt across the sky on stormy nights. In 1127 . . . 'many men both saw and heard a great number of huntsmen hunting . . black huge and hideous . . . on black horses . . . and their hounds were jet black . . . This was seen in the very deer park of . . . Peterborough, and in all the woods that stretch . . . to Stamford, and in the night the monks heard them sounding and winding their horns' (*Anglo-Saxon Chronicle* 1972, 258). On the other side of Hartley is *Winding Stoy* – perhaps memories of human huntsmen sounding their approach to Blackmoor. West again on the Hilfield boundary (prmb.h) we may speculate as to whether Woden is remembered by his nickname *Grim* in the *Dead Groomes Bush*.

Crosses marking the bounds of 10th century Worcester church estates are recorded in the West Midlands; in two cases this had involved fastening a cross to an oak tree. All probably stood beside major routeways, possibly at road junctions (Hooke 1981, 123). A *cristemeleighe*, 'clearing with a cross' (Mills 1989, 255) is recorded on the 10th century bounds of Buckland, not at *Roode-hill* but on the northern edge of the estate. (The church at Buckland is dedicated to the Holy Rood). For the three surveys considered here there are two references to the sites of former crosses, Stoys and Cox's, and both were probably sited at road junctions along Stoys Lane/Stonerush Drove. The crosses had disappeared by the time the perambulations were made; Hermitage records the site of both (prmb. 10 and 12) but Hilfield mentions only one, Cox's Cross (prmb.u). Several wayside crosses are drawn on the 1569-74 Map but not these; the destruction of such monuments was seemingly commonplace by 1540, and often in the search for supposed treasure (Thomas 1971, 280).

A *Trimtre* oak (see He.prmb.13) may perhaps suggest a cross fixed to or marked in the bark, and *Trymhurne* (see Ho.prmb.iv) could carry a similar connotation, this time at a corner, although the reading of this name is very uncertain. The worship of trees seems to have persisted in this area at least until the 10th century – if Aelfric of Cerne was drawing from local experience. The marking of trees with a cross may be implied in his *Homilies*. 'It is not allowed to any Christian man to fetch his health . . . from any tree, unless it be the sign of the Rood. The sign of the Holy Rood is our blessing and to the Rood we pray, though not to the tree . . .' (*Homilies*, Thorpe 1844-6, i, 476; ii, 241).

The three perambulations belong to an old tradition. The clockwise recital of boundary features with a view to establishing their lasting legal validity, is first found in England in mid Saxon times. Before accurate mapping, a boundary survey was both a statement of past rights and a means of preserving those rights into the future; a countryside defined not by symbols on a plan, but by lists of otherwise usually insignificant places. We may suspect a first Hilfield perambulation to date from the 10th century when the estate was granted to Milton Abbey, but none survives. A charter dating from this time is found for nearby Buckland – already cited – and with it comes a reminder of the uncertain significance of those boundary features another age deemed worthy of note, particularly those concerning vegetation. Several trees are mentioned for Buckland, but not a single oak, ash or holly which figure so prominently for Holnest, Hilfield and Hermitage six centuries later.

It is difficult to know what, if any, significance attaches to the starting place other than practical convenience. *Roode-hill* had a religious association, but the evidence does not suggest that any such association was to be found at either 'East Rye' (Ho.prmb.i) or *Gallant's Gate* (Hi.prmb.a). Hermitage had been the starting place for two earlier Forest perambulations, for the first in 1225, the bounds begin at 'the head of *Rocombe*' and for the second in 1299/1300, at Rhymehorn. A fourth place may be represented by the mention of a *possessions way* (He.prmb.27) where the assembled company of bound-beaters having moved off from the church, could have taken their first steps along the boundary.

The three surveys were made over a period of probably half a century. Differences in style and content may be the result of changes in surveying techniques – and expectations – over that time. Holnest is the briefest of the surveys; copied into the Court Book some curious anomalies in orientation between one feature and the next may suggest dictation from memory rather than an account compiled from notes made either during or immediately after a field survey. The most 'professional' of the surveys is that for Hermitage which, dated 1607, belongs to the year that saw the publication of John Norden's *Surveiors Dialogue*. Not only is the survey detailed, including, for example, a section on the dispute with Minterne, and information regarding the maintenance of Rye Bridge, the contents were given tangible substance by the 'setting' of a large number of bound stones – not one of which the authors have yet found. The thirty two boundary points listed can be compared with the seven given in 1299/1300 for what is almost certainly exactly the same estate in establishing its legal identity as a royal Forest. The character of a boundary as perceived and recorded by its surveyors is an expression of both extent and intent. The brevity of the 1299 survey is not because it is earlier in date, but because it fulfilled the requirements of its time. The detail of the Buckland charter over three centuries earlier (Grundy 1933, 254-263) is more than sufficient to warn against a simplistic approach to the history of even a marginal landscape. Norden's 1615 Map of the area, and More's Map completed only a year later,

make the written perambulation of Hermitage almost superfluous, although they provide interesting complementary material. By contrast the manor map of 1569-74 is uneven in its coverage, and can be imprecise in its topographical detail. While offering valuable insights particularly concerning Holnest enclosure, it would have been inadequate for anyone wishing to establish the exact course of a boundary, but see Barker (forthcoming).

Norden cites biblical authority in forbidding the removal of any 'ancient landmark which thy fathers have set' – sentiments certainly echoed in the terms of Anglo-Saxon charter boundaries. Of obvious interest here is the 'pivotal' location of the ancient bound stone at the end of 'Stone Ridge' where the three manor bounds meet, and which may not originally have been a boundary mark. For the manorial division of this part of Blackmoor is not one of gradual evolution; the boundary pattern of these parish/manors suggests a single period allocation made relatively late and utilising much earlier landscape features as boundaries.

Through their manorial links with the riverine estates of the 'Yeovil' (Yeo) and Frome valleys, the three manors evidence an underlying north-south partition of this part of Blackmoor. Outlying areas of common wood-pastures found along watersheds characterise frontier areas of Anglo-Saxon England, and patterns of transhumance associated with them have been identified from places as far apart as Warwickshire and Kent, pastoral systems which find parallels in the Celtic world (Hooke 1981, 48-53; Everitt 1986, 119 *et seq.*) While the area under consideration is scarcely on a scale to qualify as a 'frontier', it is here that the early royal demesnes of the Frome and 'Yeovil' valleys have their meeting; valleys which in an earlier period each supported a *civitas* capital, respectively Dorchester and Ilchester. The subjecting of this small area to the close scrutiny made possible by the three perambulations has revealed a little of the potential held by a study of the Tudor landscape of a former royal Forest.

SUMMARY OF PERAMBULATION FEATURES

References in the three perambulations to individual trees and bound stones (10 oak, 4 ash, 4 holly, 3 bushes, more than 18 stones, and one 'ancient bound stone' mentioned in two surveys) imply a relatively open landscape, probably more so than today, and presumably not enclosed where these features are specified. Enclosure is implied by 4 hedges, one close, one 'poke', 8 gates, 4 greenways and 3 lanes. It is not clear whether highway/way (5) had any special significance, although in one case (He.prmb.31) an open highway across a common becomes a lane enclosed on both sides on passing through a gate into a hedged area.

Watercourses figure as linear features 'by the water' three times, and as bridges, fords and boggy patches twice each. Ditches are mentioned, again as linear features, but form and function – whether wet ditch or dry-ditch-with-bank (or indeed dyke, i.e. stone wall) – is not clear. Of the 8 ditches, 5 were probably permanently wet barriers, while three were ditch-and-bank on rising ground.

Physical features – cliff, ridge and hill – are used only 7 times.

Pits and spoil heaps (including 'barrows'), probably all for extraction of lime, gravel and clay, have 10 references.

Spiritual matters are catered for by (the sites of) two wayside crosses, and other intangibles in the form of a death, a suicide and 5 possible allusions to youths may be significant.

HOLNEST PERAMBULATION

The Circute of the Common belongynge to the paryshe of Holneste

	ffirste it begynnethe at	
i	**Estrye** (approx ST660112)	*Rye* may be from OE *atter ēeg*, 'at the island, land partly surrounded by water, dry ground in a marsh, well-watered land' (Mills 1989, 338) probably used here in the penultimate sense. Gelling (1984, 36) notes that OE *ēeg/ēg* 'dies out in the south west, after being frequent in Somerset'. In Dorset it occurs in the name of Brownsea Island, but not in settlement names. *Ryewater Farm* nearby (1846 HoTA) lies in a bend of the River Cam to which Ryewater no doubt refers (Mills 1989, 338). *East* as distinct from *West* (see Ho.prmb.v). *Estrye* seems to refer to the area a little upstream of Hunter's Bridge (*huntingforde bridge* 1569-74 Map).
	frome thence Sowthe to	
ii	***Henry Millers estcloseyate*** (ST665100)	Two gates are marked in 1800; the easternmost at the stream near Boys Hill bounds inclosures of Holnest (1800 HoEA), which suggests the westernmost is nearer to the site of this gate, and which accords best with the 1569-74 Map. Henry Miller is listed holding *estclosse* in 1541 in a manorial survey (DRO D721A/1).
	and ffrome thence Sowtheste	
iii	*to* ***lansherdes busshe***	The prmb. continues SSE, then SW (not SE) following a small watercourse now largely straightened, to the point where the 3 parishes of Holnest, Glanvilles Wootton and Hermitage meet, and probably the site of the bush. Mills (1989, 341) gives *lanchet* bush, but *cf* OE *land-scearu* 'land mark, a boundary' and OE *sceard*, 'a cleft, a gap (as in a fence)' (Smith ii, 1956, 15, 101), used here perhaps to denote a 'way through' between enclosed lands – the ring fences of Holnest and Wootton.
	and ffrome thence playne	
iv	*Weste to* ***Rune Hurne***	The 1569-74 Map shows a dotted line leaving the stream and crossing open common in a westerly direction to the S side of Holnest Wood; the name is rubbed but probably *ryme hurne; Rhymehorn* 1888 OS; *Trehurne* (Watkin 1947, 182) and *Trymhurne* (Mayo 1915, 251), both 1299/1300 from the same source. Mills (1989, 342) regards the first element *rune* as uncertain, but the second is OE *hyrne*, 'corner'. *Horn* may be used here in the sense of 'funnel-shaped' opening onto a common, or alternatively relate to the angles formed by the boundaries of Holnest, Hermitage and Middlemarsh which meet here. Probably the site of a suicide burial (He.prmb.20).
	& frome thence to	
v	***Westrye brydge*** (ST650088)	*rie bridge* 1569-74 Map; *Rye bridge* 1615 Norden Map; (see He.prmb.18). *West Rye* as distinct from *East Rye* (Ho.prmb.i). The bridge crosses the River Cam.

vi	*& frome thence Sowthwest to* ***cuccowe ocke*** (very approx ST647083)	The grid reference refers to the point where the boundary changes direction as shown by 1800 HoEA. *Quckowe oake* is drawn and named on the 1569-74 Map roughly south of *rie bridge* in unenclosed wood pasture. *Cuccowe/Quckowe* are earlier forms of 'cuckoo' (OED).
vii	*frome thence playne Weste to* ***stone Rige*** (ST644080)	The direction here is SW rather than W. *Stonne ridge* 1569-74 Map (Mills 1989, 342, reads this as *stonie ridge*), *Stonerush Drove* 1888 OS. The N end of this low ridge is stony (a patch of head material on Oxford clay is shown on the 1″ geological survey, sheet 312) and provided road stone (1800 HoEA), but *stone* here is more likely to refer to the 'ancient bound stone' (now lost) at the meeting place of the Holnest, Hilfield (prmb.s) and Hermitage (prmb.14) boundaries.
viii	*ffrome thence Weste to* ***diche uppon castell*** (ST640079-638080)	*castle* 1569-74 Map, marked within an oval feature shown by a dotted line; see also *Wocombe Castell* (Hi.prmb.q) and for discussion see Appendix 2.
ix	*and frome thence northe Weste alonge by the water to* ***bryncis pyte*** (approx ST632087)	Mills (1989, 340) reads this as *Byntis pyte*. See *Snyne Boyes pitts* (Hi.prmb.p).
x	*& so alonge by the water playne northe to* ***gore pytes*** (ST634093)	See *Gorell Pitts* (Hi.prmb.o).
xi	*ffrome thence northe West to* ***Stokbrydge yate***	The straight-line direction is NNE not NW, but the common edge as suggested by the 1569-74 Map and shown on 1800 HoEA runs first NW and then NE along *Holm Bushes*. *Stokbrigge* 1327 (Rumble 1980, 27), *stockbridge gate* 1569-74 Map, the gate itself is drawn. OE *stocc*, *brycg*, 'bridge made of logs.' (Mills 1989, 244). Stockbridge lay on an important north-south route linking the manor of Sherborne with outlying pastures in Holnest.
xii	*frome thence Sowthest to* ***Canchers lane*** (ST642106)	*Canshere lawne c.* 1551 (DRO D721A/1), *canshere lane* 1569-74 Map, 3 enclosures here are called *cantches* 1768 (DRO photocopy 416), *Canshard Drove* 1832 (DCM 7843), *Cancer Drove* 1846 HoTA. The first element may be OE *canne* 'hollow, deep valley' the nearby N boundary of Holnest follows a valley (Mills 1989, 336). Rackham (1990, 108) notes that a coppice compartment in a wood can be called a *cant*. The second element is OE *sc(e)aga*, 'small wood, copse' (Mills 1989, 336; Smith 1956, ii 99) adds 'strip of undergrowth' and the verb *shaw* 'to border a field with a fence of low trees' while Field (1972, 199) gives 'land near, or containing a copse'. *Canshard* and *Cancer* make late appearances and probably of no significance here. The alternate use of *lane/lawne* recurs; see *Prince's lane/lawne* (He.prmb.30-31).
xiii	*frome thence playne est to* ***lippyattes more*** (ST652113)	*Lipyates* 1598 (DRO D721A/1), *Close called Lypyate's* 1832 (DCM 7843), *Lipyeats* 1844 BuTA; OE *hlīep-geat*, 'leap gate' (Mills 1989, 341; Smith, 1956, i, 252). The 'leap gate' was presumably a 'deer leap' which permitted deer to move freely while restraining other animals. The name may record an enclosure made according to the 12c Assize of the Forest (VCH 2, 96). The *more* is Long Burton Common, and the grid reference is the position of the fields named in 1844 BuTA.
xiv	*& so playne est to* ***Estrye***	The manor boundary is shown by a dotted line 1569-74 Map crossing open common to the stream where the prmb. began.

And by estymacion the Circute of the Common belongynge to the parishe of Holnest is ffower miles & all within theyre owne tythynge xxx

HILFIELD PERAMBULATION

Dorset The begininge of the Renge of the Common within the Demaynes and Messuags of Hilfield Viewed and seene by Thomas Trenchard Esqr Lord of the Said Mannor with all the Tenants of Hilfield aforesaid William Oldish of Lillington Thomas Vincent of Holnest Peter Maber John Wills William Stourmey Richard Leueridge Henry Stourmey Henry Carter Roger Whiffen Thomas Leueridge William Stourmey & John Fyrbrand.

a	*Imprimis yt beginth at* ***Gallants gate*** (approx ST627048)	*Gallent Gate* 1697 HiEA . . . *'when the outfences are made against Leigh and Honest that the first fences of the new Inclosures to begin at Gallent Gate . . .'* The gate was thus sited on the edge of old enclosures giving access to the common. The field at ST628049 is *Gallant* 1845 HiTA; OE *galla* 'barren, wet land' (Field 1972, 85).
b	*and soe goeth Downe in the East side of Gallants tell it come to* ***Horse Locke ford*** (?ST626049)	The direction given is probably a mistake (in copying?) for West; the TA boundary goes downhill to a small stream. *Horse Lock* perhaps 'hobble to prevent straying' on the open common (*Derbyshire Record Society* 1977, 31).
c	*item it doth come passe in all* ***Rowden*** (ST624050)	The TA boundary runs N along and across a hill spur with 5 fields in Hilfield and one in Batcombe called *Rowden* (1845 HiTA, 1841 BaTA); OE *rūh*, 'rough' and *dūn*, 'hill' (Smith 1956, ii, 88; i, 138).
d	till it come to ***Holnest Corner*** (ST623055)	The boundaries of Hilfield, Batcombe and Leigh meet at a clump of trees, including holly. OE *holegn hyrst*, 'holly wood'; *cf Holnest* (He.prmb.19). See Discussion.

& goeth over from holnest Corner tell it come to

e ***Chewnest ford*** *where standeth an oke* (ST623056)

The River Wriggle is forded here; the first element perhaps refers to the valley, OE *cinu* 'a fissure, a ravine' second element OE *hyrst*, 'copse or wood' (Smith 1956, i, 94, 276). (See Hi.prmb.f).

& from the said oke eastward by A Dech tell it come to

f ***Lettle Nodo*** (ST624058)

A prominent ditch (*Dech*) and bank (?wood bank) climb away from the stream. 1569-74 Map shows a dotted line manor boundary leaving the stream along the edge of a wood which extends both sides of the watercourse, perhaps supporting the interpretation of the second element of *Chewnest* (see Hi.prmb.e).

and from Lettel Nodo to the topp of

g ***great Nodo*** to A Round Oke (ST626061)

Nodo probably from Lat *nodus*, 'knob or boss' (Latham 1965, 313-314), *cf* use of OE *cnoll* for other round-topped hills in the vicinity, Chetnole and Totnell. 1569-74 Map shows 2 hills straddling the dotted line here. On the ground, *Lettle Nodo* is represented by a break of slope on the way up to *great Nodo* now the hill-top junction of Load Lane, Hilfield Lane and the road from Hilfield church. The OS does not name this hill. The use of *nodus* may indicate church influence and just possibly hint of a lost Latin charter.

& from it it goeth Downe in a greene way tell it come to

h ***Dead Groomes Bush*** (?ST628070)

A footpath is shown here (1888 OS) following the Hilfield side of the hedgerow as far as ST626068 where it diverges from the TA boundary to join the stream at a point presumably marked by the bush. The bush itself may have been dead, or perhaps commemorate some misfortune; 'dead' in place names usually refers to death or the discovery of bones (Smith 1956, i, 127). ME *grome*, 'manchild, boy; male servant or attendant' (Smith 1956, i, 210) *cf* the supposed suicide burial (He.prmb.20). Note also *groom*, 'a wooden stick used as a thatching tool' (EDD ii, 73). Speculatively OE *grim*, *cf Grim's Ditch* (Wilts), a name used in association with a boundary feature (Smith 1956, i, 210).

& from that it goeth a Longe by the water tell it come to ***A***

i ***Dech called great Boysend*** (ST627072-074)

For about 180 m a prominent ditch (dech), after a small deviation, follows the straight line of the stream in its canalised course between Hi.prmb.h and i (about 260 m). (i) OE *boi(a)*, ME *boie*, 'boy, servant; (ii) OFr *bois*, 'underwood', (iii) personal name, *cf* Boys Hill, Holnest (Mills 1989, 336). OE *ende* 'end, end of an estate, district' also occurs in ME field names (Smith 1956, i, 40, 152).

and from it it taketh up by A Dech

A ditch and hedge continue upslope

& in at the west gate and out at the Northeast gate of

j ***Leygh Castell*** (ST629076-631077)

The Castle, *Castle Plantation* 1888 OS; 7 fields here were named *Castles* following enclosure (1804 LeEA, 1841 LeTA). 'The Castle, earthwork on the E edge of the parish [of Leigh] about 1 ml SE of the church, consists of a slight bank with occasional traces of an outer ditch and enclosing a roughly oval area of about 9 acres. The bank has been destroyed on much of the SE and SW sides but is in part represented by a scarp. There are twin gaps towards the NE and SW which may represent entrances. The work occupies a comparatively level lowlying site' (RCHM 1952, 132). The 'entrances' are probably the 'gates' referred to. This prmb. is the earliest reference to Leigh Castle known to the authors. The Castle is unlikely to have been a defensive work (see Appendix 2).

& soe forthe as the waye goeth to Sherborn tell it com to ***an oke called***

k ***Wiche oke*** *standing in an hedge wherein hangeth a gate* (ST633076)

The oak possibly reflects OE *wīc*, 'dwelling, farm, dairy farm' etc. (Smith 1956, ii, 257-262) (see Discussion) but *cf* OE *wice*, 'a wych-elm or other tree with pliant branches' (Smith 1956, ii, 263); 'witch' is not given as a place-name element. The gate was probably located at the narrow end of the 'funnel' that led out onto Leigh common, no detail is shown on the 1569-74 Map. A small settlement known as *Three Gates* appears on Taylor's 1765 Map and on 1841 LeTA.

& from whiche oke it reboundethe backe to the way that cometh from

l ***Leigh corner*** (ST629084-633098)

This is *Totnell Corner* 1569-74 Map and 1888 OS where the routes from Leigh, Sher borne and Minterne meet. The present junction dates from the mid 18c (Good 1966, 125, 145).

towards Sherborne a Longe upon

m ***Bayley Ridge*** (ST629084-633098)

Bayly gate c. 1552 (DRO D721A/1), *Bailey Ridge Farm* 1887 OS; OE *baillie*, 'a bailiff's jurisdiction or district' (Mills 1989, 344). A low ridge runs N. The exact course of the boundary cannot now be determined.

tell it come to a

n ***Narrowe poke*** (ST633098)

The prmb. implies a N projection likened fancifully to a narrow 'pocket' or bag (OED). By 1845 HiTA this had become a detached triangular portion of land consisting of 3 fields subsequently lost to Leigh parish.

& then it rebounds East ward in a gren way (ST634094-634093) *till it com to* ***Gorell pitts***

The 'green way' suggests pre-existing Hilfield enclosure leaving a 'way' some 30 m wide against Holnest enclosures to provide access for stock between N and S parts of the common. The direction is SSE rather than E. *gore pytes* (Ho.prmb.x), *goorepittes* 1523 (DRO D721A/1), *gorpittes* 1569-74 Map, *Gallpits Gorse* 1889 OS; *gall* occurs again in association with pits on the TA boundary at Stonerush Drove ST643080. OE *gara* 'triangular plot of land' (Mills 1989, 337), but perhaps also OE *galla*, *gealla* 'barren or wet spot in a field (Smith 1956, i, 192). Also *gore*, 'dirt, mire, slime' (EDD ii, 687). Both gravel and clay pits are found close by (1888 OS, 1889 OS); *cleypittes*,

Gravle Pyttes are referred to in a Holnest tenants survey of *c.* 1523-1552 (DRO D721A/1). See also Moon (1983, 272-5) and Hi.prmb.p.

p — *& from that alonge by the water to* ***Snyne Boyes pitts***

This is the *along by the water* of Ho.prmb.x. For both this and the *Diche* (Hi.prmb.q below) *cf* the rubbed name *?marke lake* 1569-74 Map, OE *mearc*, 'boundary', *lacu*, 'watercourse' (Smith 1956, ii, 8 and 37); this may have been the Sherborne Hundred boundary. Now a canalised stream in this rather flat, featureless area. *Snyne Boyes* probably to be identified with *Bryncis* (Ho.prmb.ix) – perhaps even a misrendering of the same name. If *Boyes* = 'boys' this is one of 4 references to young males in boundary features of the 3 prmbs. discussed here.

q — *& from that take the Diche to* ***Wocombe Castell***

diche uppon Castell (Ho.prmb.viii), *castle* 1569-74 Map, marked within an oval feature shown by a dotted line. The boundary here describes a rough semi-circle (1845 HoTA) followed on the ground today by the remains of a ditch and internal bank disturbed by recent tipping (see Appendix 2). *Wocombe* is a valley name and not understood in this context *cf Rocombe* a lost name in Hermitage, (Fagersten 1978, 198); see Discussion and Appendix 3.

r — *& soe alonge in the Diche till it com to* ***a corner where standeth an oke*** (ST640079)

Represented by the change in direction from W to NW (Ho.prmb.viii-ix), and perhaps by the solitary tree drawn on the S boundary of the *castle* 1569-74 Map.

s — *& from the oke take Eastward to* ***a Meere stone in a pitt*** (ST644080)

OE *(ge)mǣre* 'a boundary, a border' (Smith 1956, ii, 33). See He.prmb.14 and Ho.prmb.vii; perhaps a large, half-buried sarsen stone is what is implied here.

t — & from that southward to ***an oke called swine oke***

See He.prmb.13.

u — *& from that to a place where stood a* ***Crosse called cox crosse*** (ST643068)

See He.prmb.12.

v — *& from that to* ***a Diche beneath Stoyyes gate*** (ST643061)

Stoys gate (He.prmb.9). The *Diche* presumably marked the N edge, against the common, of the old-enclosed fields of the S part of the manor of Hilfield.

& soe over to Hillfield

The prmb. returns westward to the starting point at *Gallants gate* (Hi.prmb.a) along the edge of the old enclosures, the course indicated on Fig 3.

HERMITAGE PERAMBULATION

. . . the bounds Lymits and Cirquits of such parcell of his Majesties Lands In Ermitage and also of the Said Common or Wast there as belonging to his Majesties as in the right of the Said Manor of Fordington And which are also within the precints and Libertys of the Said Manor & we find them to be as followeth [viz]

[Note. These bounds include Hartley now in the parish of Minterne]

1 — *begining first in our View to a place called* ***Rodehills ash or Lynes Ash*** *wheretofore Late did grow great Ash and now we have set a Bound Stone there* (ST656052)

la Rode 1225 Cerne Cartulary (Fossett Lock 1908, 197), *ad Rodum* 1299/1300 Blackmoor Forest prmb. (Watkin, 1947, 183), *usque crucem de la rode* not dated, but before 14*c.* (Hutchins 1874, iv, 519), *Willelmo atte Rode* 1327 (Rumble 1980, 134), *?la Rodehay* in Buckland Newton 1474, OE *(ge)haeg,* 'enclosure; first element possibly OE *rōd* 'cross' (Mills 1989, 257; the boundary here marches with Buckland). 1615 Norden Map shows and labels a *meerstone* at *Redhill*, 1616 More Map draws a tree on *Roode-hill* – both immediately below (N of) the col, E of the present A352, on a small hill noticeable on approach from the N. The hill of the OE *rōd*, 'a rood, a cross' (Smith 1956, ii, 86-7), but OE *rod* 'clearing' (Smith *ibidem*), the latter interpretation followed by Drew (1952, 34), Mayo (1915, 252), says 'road'. *Lyne* may be a reference to the family of de la Lynde who held the manor of Hartley from the mid 13*c.* (Hutchins 1874, iv, 477-9); *Lyns gatte* 1616 More Map, *Lyon's Gate* 1888 OS.

2 — *and from towards the South or Southwest to a place called* ***Lyme pitt or Lyme holt*** *on The South side of the High way or Lane called the Lane under the Cliff* (ST654052)

The *Lane under the Cliff* is the minor road to Leigh; the cliff is described 1616 More Map as 'great clefs not able for men to passe upe;' it is a steep scarp in the Lower Chalk. Lime has been dug from several places; 1888 OS marks a disused chalk pit and lime kiln about 1½ km W along this road, the field nearby [ST654054] is *Cinders* 1723 (DRO D148/38/8). *Lymeholte* 1615 Norden Map, OE/ME *holt*, 'holt, wood, thicket' (Smith 1956, i, 259). 'The place-name evidence suggests that [holt] was to some extent a specialised term for a single species wood' (Gelling 1984, 196). Hutchins (1874, iv, 478) quotes from an *inquisition post mortem* 1312 which found that Wm de Hertlege (Hartley) died before 1277 seised of certain rights in the demesne wood pertaining to the royal manor of Fordington, at *Lyndenholt in Blakemore.* Slender evidence for the presence of the Linden, or small leaved Lime *Tilia cordata*, OE *lind*, 'lime tree' (Smith 1956, ii, 24; Rackham 1980, 239-241) which in Dorset now occurs only in the ancient woodlands of Purbeck, N. Dorset, Cranborne Chase and the Hampshire border (Spencer 1977, 7). However, the printed source

gives the spelling *Lydeneholte* (Cal IPM v, 404 1908), casting some doubt on the connection with the Linden. Fägersten (1978, 217) places the wood near the R. Lydden some 6 kms E. The wood is *Remedy Coppice* 1888 OS.

3 *and so from Lyme Pitt to Lyme Holt to* ***a green way called Hay path*** *where we have also sett Two bound stones at several places* (ST654052-647051)

hare path 1615 Norden Map, *haere pathe* 1616 More Map; OE *here-paeth*, 'a military road, a highway' (Smith 1956, i, 244). This is a continuation of the *herepathes* AD 941 of the Buckland charter (Grundy 1933, 261; Mills 1989, 256) which runs along the ridge at Dogbury and crosses the col at Dogbury Gate near the *Rode* (He.prmb.1).

4 *and so alongst Hay path unto* ***a place called Woolpitt [wulpit]*** *where also we have sett a Bound stone* (ST646049)

The course of the *Hay path* is lost. *Wulpitt* 1615 Norden Map, drawn but not labelled by 1616 More Map. Probably OE *wulf-pytt*, 'a wolf pit or trap' (Smith 1956, ii, 281; Field 1972, 260). AS charters mention wolf pits although there is no inevitable connection with the animal; by the medieval period wolves seem to have been confined to the Welsh Borders and North (Rackham 1986, 35). Aelfric of Cerne (*c* 990) mentions the need to protect sheep from wolves (Swanton 1975, 109). This *Woolpitt* may be a natural solution hollow in the Chalk; a shallow depression is still visible.

5 *And from Wool pitt to* ***the Hedge*** *that Divideth the Grounds belonging to up* [Cerne] ***where sometime stood a Gate*** *called the South or Souther Gate where we have now sett a Bound stone* (ST645049)

The gap for the gate is shown by 1616 More Map in a 'hedge made by Minterne half a mile long,' being the boundary with *Up Cearn*. The present road narrows here, the place marked by 2 trees shown on 1888 OS.

6 *And then Northwards unto the hedge aforesaid unto* ***the Land s Sometimes of one Master S Stewkley***

1615 Norden Map records *Stukeleys landes*. This part of Hilfield was known as *la Halvehide* 1311 and 1397 (Cal Pat Rolls EdwII, i, 389-90; Traskey 1978, 136), *Halvehede* 1616 More Map; land here and in Hilfield *Hylfehed*, *Hylfeld* was held by Ludwig Stwekeley in 1564 (DRO DCM 2661); this personal name does not appear in Hutchins' index. Fägersten (1978, 202) regards Halfhide as a lost name and places it in Sydling St. Nicholas.

7 *& then as the Hedge of that Land leadeth and so down to* ***a way Called Winding Stoy*** (ST645052-646056)

Staweius jwinde 1225 Cerne Cartulary (Fossett Lock 1908, 197), but *Staweius Iwinde* (Hutchins 1874, iii, 663) and *Staweins Iwinde* 'Probably High-Stoy, qv Windy-Stoy' (Hutchins 1874, iv, 517), all from the same source. *Winding Stoye* 1615 Norden Map, *vymdyng lane* 1616 More Map; the route is shown 1569-74 Map. The name of a narrow, deeply incised track that descends the chalk scarp; *winding* possibly descriptive, but considered with *the wynding oke* (He.prmb.13 below) perhaps *wynding*, 'an end, a termination' (EDD vi, 560), this is on a boundary; or *winding*, the action of blowing or making a blast, chiefly of horns' (OED), there could be a hunting connotation here. For Stoy, see He.prmb.8.

8 *to the High way called* ***Stoys Lane***

At the bottom of *Winding Stoy* the route is joined by the *Lane under the Cliff* (He.prmb.2 above). *Staweius jwinde* (see He.prmb.7), *Staweyesfote* 1246/7 (Drew 1952, 33), *Staneweysfote* 1299/1300 Blackmoor Forest prmb. (Watkin 1947, 183); 'foot' of the OE *stān weg*, 'stony way' (Mills 1986, 85). Alternatively *stān* may be a reference to the (ancient bound) stone (He.prmb.14). to which this route leads by way of 'stone ridge' 1569-74 Map. The hill above is *Stoys hill* 1569-74 Map, *High Stoy* 1888 OS, perhaps earlier *Penn* (see below).

The next 17 lines of the prmb. refer to the area S of *the lane under the cliff* (He.prmb. 2-7 inclusive) stating that while it belonged to Hermitage it had been used by Minterne manor.

All which Grounds so bounded as aforesaid Lieth in Common and is & heretofore this has been usually called by the name of the Clyffe or penn And is bounded with the aforesaid bounds between Lyme pitt or Lyme holt aforesaid to the Said place called the South or Souther place in the South part thereof and with a high way or Lane called they way or Lane under the Clyffe on the North part thereof Which Said Ground Called the Peen and so about as aforesaid Containeth by Eastimacon two hundred acers or more and is parcell of his Majesties Land or Wast belonging to Ermitage aforesaid parcell of the Said Manor of Fordington and Every acre thereof is worth yearly one with another 12d but the Said Ground is used by the Tenants of the Manor or Lordship of Mynten Magna which adjioyning to the same Ground which Said Manor of Myntrn Magna belongeth to the Colledge of Winchester And the Tenants of that Manor do take the most part of profitts of that Ground called the Cliffe or peen & so have done by the Space of Forty years or thereabouts now last past but by what Title we know not to the Great Damage of his Majesties and his Tenants of Fordington and Ermitage.

1615 Norden Map, 8 years later, records this dispute.

A plott and demonstration of certained groundes of and confirming unto the parte of the Princes Manor of Fordington which is knowne by the name Hermitage made for the distinction of certaine woodes and woode grounds supposed to be undulie challenged by Sir Thomas Freke Knight in parte and the Tenantes of the Manor of Mynterne viz the Princewood and the Cliffe

The *Cliffe* is described above in He.prmb.2; OE *clif*, 'a cliff, a steep slope, an escarpment' (Smith 1956, i, 98) also called *Penn* or *Peen* here; *Penn Wood* 1888 OS. Old Welsh *penn*, 'top, height, a hill,' (Smith 1956, ii, 61), an earlier and perhaps alternative name for High Stoy

9 *and then to proceed in this our View from the Said Lane called Stoys Lane Aforesaid Northwards in at* ***a Gate called Stoys Gate*** (ST643061)

Stoyyes Gate Hi.prmb.v., *Stoys Gate* 1616 More Map. *Stoys gate* 1569-74 Map is written beside a hedged 'funnel' opening N onto unenclosed Hilfield land. The hedgeline remains today.

10 *And so to a place* ***where sometimes was a Cross called Stoys Cross*** (ST642064) *where we have now sett a boundstone which is the bound between his Majesties Lands or Wast of Ermitage aforesaid on the East part and the Land or Wast belonging to Hillfield Sometimes parcell of the Posessions of the Disolved Monastry of Milton & now the Land of Sir George Trenchard the Elder Knight as we do take it on the West part*

1615 Norden Map shows a *boundstone* here although *Stoys Cross* is not marked. Nothing seems to be be known of this cross which probably stood at the junction of *Brockham Lane* and *Stonerush Drove* both 1888 OS.

11 *And from that place or Cross northwards in or near the way to* ***a Bush called the great Holm bush*** (ST642067) *where we have also sett a Bound Stone*

1615 Norden Map marks another *boundstone* where the dotted line of the Hermitage boundary alters course, probably at the bend in *Clay Street* 1888 OS. *Holm* is holly (Smith 1956, i, 158), also at Hi.prmb.d and He.prmb.29.

12 *And from thence unto a* ***place where Sometimes was a Cross called Cox Cross*** *where we have also sett a bound Stone* (ST643068)

Cockescruche (Watkin 1947, 183),*Cockestries* (Mayo 1915, 252), both from the same source 1299/1300 Blackmoor Forest prmb., *Cox crosse* (Hi.prmb.u), *Cox's Cross* 1888 OS. A crossroads is shown here 1847 HeTA but not 1569-74 Map. 1615 Norden Map shows another *boundstone* which may be identified with this place.

13 *And so to [****a great olde oke called the wynding oke****] a great old Oak being counted a* ***Bound Tree*** *where also we have sett a bound stone*

For *wynding* see *Winding Stoy* He prmb 7. *Swine oke* (Hi prmb t), *Trimtre oke* 1615 Norden Map. Clearly a notable landmark; 1569-74 Map shows a prominent isolated tree in approximately this position. *Swine* presumably associated with pigs and pannage; *Trimtre* perhaps containing OE *Trēo-mǣl*, 'crucifix tree' (Smith 1956, ii, 186; Gelling 1984, 211). See Discussion.

14 *And from thence alongst in or near a way to* ***a Stone called Hore stone which is accounted and Ancient bound stone*** *between his Majesties Lands or Wast of Ermitage on the East side part of the Land or Wasts belonging to Hilfield aforesaid on the west part And the Lands or Wast belonging to the Manor of Holnest being now the lands of John Fitch James Esquire as we do take it on the North part*

Horestone 1615 Norden Map, OE *hār*, 'grey, hoar' frequently used of objects forming boundary marks (Smith 1956, i, 234); this is *la Ruweston'* 1299/1300 Blackmoor Forest prmb. (Watkin 1947, 183) probably OE *rūh*, 'rough' (Smith 1956, ii, 88); *a Meere stone in a pitt* (Hi.prmb.s), OE *(ge)mǣre*, 'a boundary, a border' (Smith 1956, ii, 33). The manor/parish boundaries of Holnest, Hermitage and Hilfield met at this stone (now lost) which also marked the S edge of the Sherborne Hundred. The *way* to it, mentioned here, was part of *stone Rige* (Ho.prmb.vii), *Stonerush Drove* 1888 OS. *Stoy* (He.prmb.8) may also contain a reference to the same stone.

15 *and from that Stone leaveing the Landes Holnest on the North part the bounds of His Majesties Lands or Wasts of Ermitage extendeth Eastwards near unto* ***a little pitt***

Between the Hore stone and Rye Bridge the line of this boundary differs from that of Holnest (see Ho.prmb.v-vii) and this is reflected in the TAs 1846/7 for the 2 parishes. Gravel for road mending (1800 HoEA) and clay for pottery making (Moon 1983, 272-5) have been extracted from this area. The field nearby is *Furnace Mead* 1846 HoTA. The settlement here is *Crockeresrewe* 1225 (Fossett Lock 1908, 196, and see Appendix 3), *Potterne Row* (Farm) 1846 HoTA, *Wike* 1377 (Fowler 1951, 197), *Wyke Street* 1569-74 Map, *Wyke Street Green* 1800 HoEA; *wīc* 'dairy farm' (Mills 1989, 340).

16 *and from thence unto a* ***little Hill or Hill Coke [hillocke] called a barrow*** (approx ST647086)

Coke and *barrow* are alternative names for a small hill OE *cocc* 'heap . . . hence a hillock' and OE *beorg*, 'hill, mound' (Smith 1956, i, 29, 103); *Barrow Field* 1847 HoTA.

17 *from thence towards the North Eastwards leveing to great Oaks on the right hand & so unto* ***another Little hill or Barrow*** (approx ST647086)

The 1569-74 Map labels an isolated tree *Quckowe ocke* (*Cuccowe ocke* Ho.prmb.vi) in this approximate position which may have been one of the oaks referred to here, as viewed from the Hermitage boundary.

18 *And from thence unto* ***a Little bridge called Rye Bridge*** (ST650088) *leaveing two ashes within the Bounds thereof on the right hand in all which part aforeneamed and In some other place between the said stone called Horestone & Rye bridge we have also set certain boundstones which Bridge as we are credibly Informed is ought to be repaired the one by Parishoners and Inhabitans of Ermitage & other half by the parishoners and Inhabitans of holnest*

For *Rye* see Ho. prmb.v. This stretch of the prmb. accounts for at least 4 *boundstones* between the *Hore stone* and *Rye Bridge*; 1888 OS records 5 stones between these same points.

1299/1300 Blackmoor Forest prmb. (Watkin 1947, 183) mentions *la dedelak'* presumably referring to poorly drained land in the vicinity of Rye Bridge.

And from that Bridge the Bounds of his Majesties Land or Wast of Ermitage extendeth towards the Eastward

Holenhurste et Boscum 1225 (Fossett Lock 1908, 196), *Holneste woode* 1569-74 Map lies immediately N of the manor boundary as described in the 1299/1300 Blackmoor

19 *Somewhat* ***near unto an Enclosed Coppice called Holnest Wood*** *leveing the wood aforesaid upon the left hand*

Forest prmb. (Watkin 1947, 183). Part of the site is now occupied by Holnest House 'built in 1768 on a site which so late as that year was called Holnest Wood' (Mayo 1915, 252).

20 *& so unto* ***a Pitt called ryme horn pitt*** (ST655086) *leaveing Ashes and Trees between the bridge and that pitt on the right hand In which pytt as we are credible informed there hath been buired a boy which hanged himself in that pitt & at certain places between the pitt And rymebridge we have set certain Bound stones which pitt is the Bound between the Land or Wast of Holnest Aforesaid the Land or Wast of the Manor of Midle Marsh sometimes parcell of the Possessioners of the Dissolved Monastry of Cerne & now the Lands of Sir Robert Napier Knight as we do take it and his Majesties Land or Wast of Ermitage*

A further reference to a pit on a boundary, to a young male and to death – here a suicide burial. *ryme horn* see Ho.prmb.iv also Hi.prmb.h and p. 1299/1300 Blackmoor Forest prmb. (Watkin 1947, 182-3), *Trehurne* for Rhymehorn; 3 boundaries meet here.

rymebridge for *Rye Bridge*

21 *and from that pitt his Majesties Land Aforesaid or Wast of Ermitage extendeth towards the South unto* ***a great Oak called a Bound Tree*** *where we have set a Bound Stone* (approx ST656078)

The location of He.prmb.21 and 22 cannot now be recovered; they most probably reflect the direct line of *The Drove against Middlemarsh* 1847 HeTA. The boundary had been the subject of dispute, although it is consistent with a 1650 Parliamentary Survey (DRO DCM10730). 1615 Norden Map shows an *ancient bound oke*.

22 *And from that oak to a place called* ***the Shard*** *where we have also set a Bound stone* (approx ST656078)

OE *sceard*, 'cleft, a gap (as in a fence)' (Smith 1956, ii, 101); see Ho.prmb.iii for another possible *shard*. The 'gap' implied here probably lies between the bounds of *Queens Grounde* 1569-74 Map/*Abbey lande* [Almshouse land] 1615 Norden Map, and *West upon Hurdley Coppice c* 1770 Isaac Taylor Map (DRO photocopy 1/19).

23 *and from thence to* ***a little Trench or Dych*** *towards Wiltyesford Lane where we have also set a Bound Stone* (approx ST656075)

This is probably the tributary of the River Cam which flows past Williford Farm; the boundary follows it upstream to the end of *Williford Lane* 1888 OS; *cf Wilfordes Mead* 1555/6 (DRO D204/CH220); personal name, or OE *wilig*, 'willow' (Smith 1956, ii, 266).

& from that Little Trench or Dych that some What Windeth about to the Eastwards in a Little green way on ***the North side of a rank of Small Trees and Bushes***

24 *& so to* ***the end of that rank of Trees or Bushes*** *were we have set a bound Stone*

25 *& then to* ***the root of an ash near to Willyford Lane end*** *where we have set a Bound stone* (ST657072)

A *boundstone* is shown at this point 1615 Norden Map, and 1888 OS.

26 *& from thence unto* ***a green way or path used heretofor this for the possessions way*** *where we have set a Bound Stone* (ST657071)

The *possessions way* presumably occupies the narrow gap between Princes Wood and Hurdley Wood as shown 1615 Norden Map. The reference is to an earlier 'procession' or bound-beating (Richardson 1975, 55) and possibly to the point nearest to the church where the circumperambulation began (Beresford 1957, 29). This is part of *North Drove* 1846 HeTA.

27 *and so down a Little fall unto* ***a small oak*** *Standing by [a letch] or Lying Where water Sometimes runneth where we have Also set a Bound stone* (ST657070)

Along the length represented by this and the next feature (He.prmb.29) are two low places, from each of which natural seepage ocurred, since drained.

28 *& from thence to* ***a Holm Bush*** *by a [letch of gulley of mire] Gutter of Myre near Goor Wood Adjoyning to the end of the [lawne] Lane where we have also set a Bound stone leaveing also the Land or Wast belonging to the said Manor of Middle Marsh on the East or North East part thereof* (ST657068)

29 *And so from that Holm Bush or Boundstone there sett Streight over to* ***Goor Wood hedge*** *Which Goor Wood was Sometimes the Parcell and Posessions of the Dissolved Monastry of Cerne as we take it* (ST658067)

From He.prmb.21 *a great oak* to prmb.28 *a small oak* are listed 7 bound stones, 1615 Norden Map shows 4, 1888 OS only one – prmb.26, at the end of Williford Lane. *Gorewood* 1573/4, OE *gāra* 'triangular piece of land' (Fägersten 1978, 198).

30 *and and then to prosied along by Goor Wood hedge* ***on the North side of the***

The Lawne 1615 Norden Map; probably OFr/ME *launde*, 'open space in woodland' (Smith 1956, ii, 17), the name is associated with open areas of grazing in compart-

	***[lawne] Lane** which [lawne] Lane is parcell of hisMajesties Land or Wast belonging to Ermytage parcell of the Manor of Fordington*	mented Forest (Rackham 1990, 171 and 174), although Norden shows *The Lawne* wooded. It is *South Drove* 1847 HeTA, *Prince's Lane* 1888 OS; *Lawne/Lane* may have arisen through confusion, or there may be a hunting/Forest connotation here, see Discussion. The track runs along this narrow strip of land, the terms implying that it was hedged on both sides.
31	*And so Eastward to the* ***High way** on the South Side* (ST661059)	The *High way* is the open road across the common to Middlemarsh, now the A352.
32	*& alongst that way to* ***Loynes Lane*** (ST660059)	*Lane*, 'road or path between hedges or walls' (OED) is reached at *Lynes gatte* 1616 More Map; the change from the open highway to enclosed land at a gate is shown by 1615 Norden Map, although the gate is not named. Probably the *portam de Hertelegh* 1299/1300 Blackmoor Forest prmb (Watkin 1947, 183). Other versions read *pontem*, either is possible topographically (Drew 1952, 33-34).
1	*and so up to a place called* ***Rode hills Ash or Loins Ash** where we first began our View.*	*cf Lynes Ash* (He.prmb.1).

Appendix 1
Sources and dates for the three perambulations

The **Holnest** perambulation is found in a document described in a loose insert as 'The original court roll book of the manors of Holnest and [Long] Burton in the County of Dorset for 15 Henry VIII to 7 James I in an old stamped leather binding of the time of Henry VIII with flap and buckle; large folio, 1523-1609' (DRO D721/A1). The perambulation is an entry of 12 lines, undated, but found among entries of 1523 to 1552.

There are two versions of the **Hermitage** perambulation. One, which is given here in the analysis in full, is a copy, probably of about 1740, of a survey of the manor of Fordington (including Hermitage) dated 1607 (DRO D1/LL737). The other version (DRO D1/LL687) is 'extracted from the original parchment roll [of 1607] by G L Clowes, 11 October 1932, of a document in the Duchy of Cornwall office.' The latter differs in some places; where significant, these variations are shown in the analysis in square brackets.

The **Hilfield** perambulation (DRO D128/M8) is contained in 31 lines of manuscript on one side of a single sheet of paper (called on the reverse *Mem- of a View of the Range of Hilfield Common*). The top third of the sheet is occupied by the names of the witnesses, the lower two thirds by the perambulation itself, the writing being steadily more compressed as space ran out towards the bottom of the page. It is not dated, but is listed as '?later 18th century' in the DRO catalogue (D128) presumably on handwriting evidence. It must however, be a copy of an earlier document, for it states that the lord of the manor was then a Trenchard, and Hilfield manor was sold out of Trenchard hands in 1754 (DRO D128/T1; Dampier 1938), not in 1574 as stated by Hutchins (1874, iv, 501). The earliest date possible is 1540 at the Dissolution, when some property belonging to Milton Abbey, including Hilfield, was granted by Henry VIII to the Trenchards of Wolveton (Hutchins 1874, iv, 501; DRO D60/T103).

At the time of the perambulation of the common, the lord of the manor was Thomas Trenchard, Esquire. Over the period 1540 to 1753 the Trenchard-of-Wolveton heir was always called Thomas or George (Hutchins 1874, iii, 326-7). In attempting to date the survey, the time when a George was lord of the manor, or after a Thomas had been knighted, may be eliminated.

According to Hutchins (1874, iv, 501), the 1540 grant was to 'Thomas Trenchard and his heirs' and in 1552 'Sir Thomas Trenchard, knt. died seised of the premises . . . Thomas his cousin and heir'. But there is no record of a Thomas Trenchard being knighted between 1503/4 (he who died in 1552) and 1613 (he who became lord of the manor in 1630). Another source (D60/T103) suggests that the 1540 grant was to 'Sir Thomas Trenchard and his heirs'.

Over the relevant period, the lord of the manor was:

1540-1552 ?Thomas or ?Sir Thomas (Hutchins, iv, 501; DRO D60/T103)
1552-1557 Thomas (D60/T103; Hutchins ii, 543)
1557-1630 George, Sir George (Hutchins ii, 543; VCH ii, 295). This long period includes two Georges, father and son
1630-1652 Sir Thomas (D128/T1 and T2; D60/T103; DCM10730)
1652-1676 Thomas (D128/M1; D60)
1676-1702 Thomas (Colonel Thomas); as *infanta* from 1676 to a date between 1686 and 1693 (i.e. age 5 to 15/22 years) (D128/M1).

The Trenchards are most likely to have surveyed the Hilfield common either soon after acquiring the estate, or in order to be able to 'keep seperate the Common of Hilfeild from the Commons of Leigh and Honest and other adjacient Commons' (D128/M4; SDNQ), preparatory to enclosing Hilfield common in 1697/8; it would hardly have been necessary afterwards.

Further dating evidence is supplied by the tenants' names listed in the perambulation, which may be compared with name lists available from other sources tabled below. The full name of the Holnest tenant persists throughout, but the Lillington tenant's surname does not appear for that manor in any other source, and so both these have been excluded from the figures. Of the Hilfield tenants, 3 surnames – Maber, Stourmey and Whiffen – occur at most dates. The table below shows the number of occasions the names of the 9 Hilfield tenants (William Stourmey counted once only) listed in the perambulation are found in other sources. (Full name includes both Christian name and surname).

Source	Surname	Full name
1525 subsidy roll (Stoate 1982)	4	2
1542 muster roll (Stoate 1978)	6	6
1543/4 subsidy roll (Stoate 1982)	6	5
1569 muster roll (Stoate 1978)	-	-
1565-1702 parish registers (DRO transcripts)	3	2
1598 subsidy roll (Stoate 1982)	2	-
1652-1702 manor court book (D128/M1)	3	2
1662/4 hearth tax assessments (Meekings 1951)	2	-
1697 enclosure agreement (SDNQ 1910-1911)	3	-

It can be seen that the coincidence is remarkably good between 1542 and 1544.

In view of the above evidence, it would seem that the perambulation is a copy, of uncertain date, of an earlier original from between 1540 and 1557 or between 1652 and 1698, most probably from the former period. If it is in fact of the mid-sixteenth century, then it is roughly contemporary with the Holnest perambulation.

Appendix 2

Two boundary features called 'castles' are mentioned in the perambulations and merit further consideration. They are *Leygh Castell* and *Wocombe Castell* (Hi.prmb.j and q); the latter occurs again as simple [*diche uppon*] *castell* (Ho.prmb.viii). As noted in the analysis, Leigh Castle is described by the RCHM (1952, 132) as an earthwork, but no mention is made of *Wocombe* Castle. Only a segment of the latter remains today, but evidence from the 1569-74 Map suggests that this too once formed part of a simple ring-work. Hutchins (1874, iv 451) may have referred to both sites when he noted that 'on an eminence which before inclosure composed part of the common are the remains of two old encampments, one called the Castle, the other Gudgin's Banks . . .' The 1888 OS however, records the name Gudgin's Banks as belonging to earthworks, not on 'an eminence' but lying on the west bank of the Leigh stream at the bottom of the valley below The Castle.

Leigh Castle encloses an area of about 9 acres contained within a low bank and a ditch. Sub-oval in plan, a small extension at the southern edge lies over a gravel deposit; pits and hollows here may be the result of gravel workings subsequently included within the boundary. The existing portion of the *Wocombe* Castle boundary suggests the part survival of an earthwork of very similar character and plan. In terms of size, shape and location, both castles may be considered as belonging to the same class of enclosure. A third may be represented by Paper Hill Copse (*Papell Hill Coppice* 1697 HiEA) in Hilfield parish (Fig. 2). All three pre-date enclosure and will have originally lain in open common. Today they remain distinctly anomalous rounded features locked into a rectilinear landscape of late enclosure (Fig. 4).

The Inclosure commissioners clearly anticipated the removal of Leigh Castle. The parish boundary preserves the distinctive form of its eastern edge readily discernible on the plan (1804 LeEA) but the rest of the area is shown as divided between two parallel east-west fields. The Castle did, however, remain, the only change effected was the straightening of the northern perimeter – the curve of the original bank and ditch can still be traced in the present field. By the time of the 1846 TA, the Castle was listed as 'Furze' and seven of the surrounding fields all bear 'Castles' names. It is shown as a mixed plantation by 1888 OS; except for one old sweet chestnut coppice stool, it now looks a typical Victorian amenity and sporting plantation.

Wocombe Castle, labelled simply *castle* on the 1569-74 Map is shown in open common; a tree has been drawn in the centre of the enclosure and another on the southern perimeter (an oak tree is recorded by Hi.prmb.r). In 1800 HoEA it formed part of *Higher Common*; by this date there is no indication of any northern edge to the enclosure. By 1888 OS it was part of an extensive mixed plantation cleared only a few years ago.

Not one of the enclosures appears on Isaac Taylor's Map of Dorset (1795) and only Paper Hill Copse is shown on the 1805-11 first edition of the 1″ OS. The latter enclosure is not associated with a *castle* name. Sited on rising ground (Leigh Castle is easily visible) a low bank and ditch enclose an area of about 9 acres. The northern edge deflects the road which dates from the enclosure of Hilfield in 1697. At this date the wood is described as 'coppice'. Today it is predominantly an oak/ash/hazel wood; a number of old coppice stools remain, and some indicator species suggestive of ancient woodland, for example *Carex pendula, Melampyrum pratense*, *Euphorbia amygdaloides*, and *Orchis mascula*.

Two other ancient woods are found nearby in Hilfield, with very large oak, ash and alder stools – West Wood (mentioned in a lease of 1612 which refers to management for coppice and standards, (DRO/D60/E4), and Twisting Alders Coppice (*Twysenalrs* wood of 1397, Traskey 1978, 136) which seems to have lain across the boundary between two small estates now represented by Pond Farm and Manor Farm – hence, perhaps, the name. But these woods have the same irregular outline as the old fields among which they are found.

It is clear, however, that the Paper Hill Copse enclosure, Leigh and *Wocombe* Castles, are all planned features. It may be noted that the latter two are incorporated into manor boundaries which they presumably pre-date. In this connection the name *Wocombe* may be of interest (Hi.prmb.q). The proximity and similarity of the three enclosures suggests that even if they are not contemporary, then they were constructed in response to some specific requirement or to fulfill some common purpose. They are related to some particular aspect of the economy or settlement of this unenclosed landscape, vested in and shared by these three church manors, Hilfield, Leigh and Holnest,

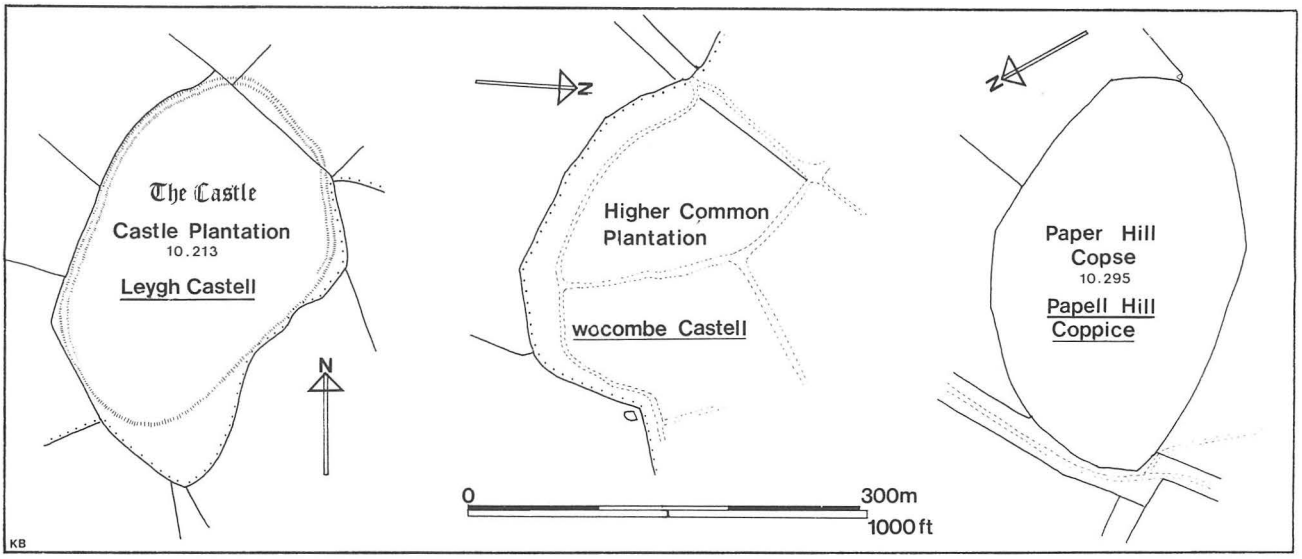

Figure 4. Plans of The Castle, Leigh, Wocombe Castle *and Paper Hill Copse redrawn from the 2nd edition OS 1:2500, surveyed 1885, published 1902/3. Dorset sheets XXII/1, XXII/5, XXI/4 and XXI/8.*

each of which lay in a different Hundred. None of the enclosures looks to have been defensive, although Leigh Castle was clearly 'closed' in the sense that it had 'gates' (Hi.prmb.j). Even if there had once been a high pale, 10 acres is small for a medieval deer park. So little is known of the archaeology of this area that a pre-medieval origin, while it seems unlikely, cannot be ruled out.

The earliest cartographic evidence – and likely to remain so – is that of the 1569-74 Map where (*Wocombe*) *Castle* is shown by means of a dotted line, but with no clear identity, and no obvious function. In Devon *castle* occurs regularly as a field name in association with hillforts or settlement enclosures of probably later prehistoric date, and infrequently in association with other prehistoric features, (Frances Griffiths, pers comm). For Leigh Castle there could be an association with OE *cisel* or *ceosel*, 'gravel, shingle' (Smith 1956, i, 95) – the Castle lies on a superficially gravelly deposit – a contention strengthened, it may be supposed, by *Papell* Hill, where a capping of OE *papol*, 'pebbles' (Smith 1956, ii, 59) could be suspected. *Papell* is, however, perhaps more likely to record a personal name, *Papel*, found in the 1332 Lay Subsidy Rolls for both Yetminster and Leigh (Mills 1971, 35-6). *Wocombe* Castle lies directly on Oxford Clay.

By analogy with Paper Hill Copse all three enclosures are, at present, most readily interpreted as medieval coppice compartments in the open Blackmoor/Leigh Common. At some stage, it is suggested, the conservation of timber and wood resources became less pressing and two of the enclosures were laid open to grazing and fell into disuse. By the 16th century they were fancifully termed 'castles.' In the mid-19th century Leigh Castle was re-planted within its banks, but *Wocombe* Castle was incorporated into a larger area of plantation and the name forgotten. *Papell Hill* for some reason, was retained as coppice.

Appendix 3

Land at *Rocombe* was the subject of a grant made to the prior and hermits of Blackmoor in 1315, and again in 1325 when Ingelram Berenger, steward of the King's Forest made over a further 100 acres of land there (VCH 2,96-7). Hutchins tentatively suggested *Rocombe* to be the name of the valley where the hermitage was founded (1874, iv, 466) and Fägersten (1978, 198) felt there was little doubt that such was the case. Two further references satisfactorily locate *Rocombe*. The first reference concerns the Blackmoor Forest bounds of 1225 (Fossett Lock 1908, 207-8) which begin and end at 'the head of *Rocumbe*.'

> 'From the head of *Rocumbe* on the western side towards the north between *Crockeresrewe* and its wood and *Holenhurst* (Holnest) and its wood . . . and from the *Rode* (see He.prmb.1) . . . to the west as far as the head of *Rocumbe* where the metes began.'

The second reference is found in the recital of the *lordes praye c* 1552, in the Holnest and [Long] Burton Court Book (DRO D721A/1).

> '. . . *rowcombe* above *crokere rewe* . . .'

Rocombe is clearly a name which refers to a valley, it is in Hermitage (in the gift of the King), and it lies west of the *Rode*. The deciding factor is the location of *Crockeresrewe/crokere rewe*, 'Crocker's Row' – which lies both north of and 'below' *Rocombe* ('head'). In this context 'row' seems most likely to be a common-edge settlement name describing a characteristic grouping of houses ranged along the edge of enclosed land.

Mills (1986, 64) indentifies *Crockeresrewe* with a low hill called *Crocker's Knap* in Leigh parish (ST620064) nearly 2 miles WNW of Hermitage. *Crockeresrewe* is much more satisfactorily identified with *Potterne Row* (Farm) 1846 HoTA (also *Wyke Street Green* 1800 HoEA) the hamlet today known as Higher Holnest. Both names are associated with pottery making. As can be seen in Fig. 3 the settlement does indeed lie north of what we take to be *Rocombe* as it does in the Forest perambulation. *Rocombe* is the valley on the west side of Hermitage, and which today contains the site of Hartley Farm. The stream rises just below the junction of *winding stoy* and the *lane under the cliff* (see He.prmb.7-8) – above which is presumably 'the head of *Rocumbe*' – and flows northwards past Hermitage church to join the Cam not far from Williford.

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[1697 HiEA]. See D128/M8 above.

[1800 HoEA]. KG 2768. Holnest inclosure award and map, 1800.

[1804 LeEA]. Inclosure 72. Leigh inclosure award and map, 1804.

[1841 BaTA]. T/BAT. Batcombe tithe map 1838 and apportionment 1841.

[1844 BuTA]. T/LOB. Long Burton tithe map 1843 and appt., 1844.

[1847 HeTA]. T/HER. Hermitage tithe map and appt., 1847.

[1845 HiTA]. T/HIF. Hilfield tithe map 1844 and appt., 1845.

[1846 HoTA]. T/HON. Holnest tithe map and appt., 1846.

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ABBREVIATIONS

BA	Batcombe	AS	Anglo-Saxon
Bu	[Long] Burton	Lat	Latin
He	Hermitage	ME	Middle English
Hi	Hilfield	OE	Old English
Ho	Holnest	OFr	Old French
Le	Leigh		
EA	Enclosure Act/Agreement	c	Century
TA	Tithe Map & Apportionment	*c*	*circa*
prmb	perambulation		

DRO	Dorset Record Office
EDD	Wright, English Dialect Dictionary
OED	Oxford English Dictionary
OS	Ordnance Survey
RCHM	Royal Commission on Historical Monuments
SDNQ	Somerset & Dorset Notes & Queries, (Dorset editor)
VCH	Victoria History of the County of Dorset

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The authors are grateful to the Dorset County Records Office for access to documents and in particular for permission to publish D721/A1, 'The circuit of the common of Holnest' from the Mayo archive owned by Dorset County Council; D128/M8, 'The range of the common of Hilfield' from the Hilfield archives deposited by Mrs E A Cockburn; also D1/LL737 and D1/LL687, 'The limits of Hermitage' from the Bartelot mss deposited by DNHAS. The authors also thank Mr M Cockburn, Mr D Chutter and Fountain Forestry Ltd for access to land. Bob Machin brought to our attention the two Hermitage perambulations.

Addendum: *re* p.9 CS17/p3 and the Ho.prmb.i, *Rye* occurs again in Dorset in a stream and boundary context at Ryewater Farm in Halstock parish, 14 km W, ST515066.

Excavation of the 17th century kiln at Horton, Dorset

PENNY COPLAND-GRIFFITHS and CHRISTINE BUTTERWORTH

INTRODUCTION

Further excavation at Horton in 1990 finally revealed the kiln in which the large sample of pottery published last year (Copland-Griffiths 1989 p71-85) was fired. Small scale excavations were carried out in 1988 and 1989 by the Dorset Institute of Higher Education (now known as Bournemouth Polytechnic) to the south of the kiln, and just to the east where a flue was encountered. The pottery from these excavations, and the details of the flue are incorporated in this report. The 1990 excavations were sited over the kiln, since its position had been established by the 1989 excavations (SU 03150753) (Fig. 1).

THE EXCAVATION

The excavation at the north end of the garden was restricted by the presence of wire fencing dividing the area into three chicken runs. In the first instance a trench 5 × 3 m was opened in the middle chicken run. This was subsequently expanded westwards to meet the netting and posts of the enclosure. A second trench was opened in the west chicken run, 1 × 3 m, later dug closer to the dividing netting, but owing to this division it was impossible to join the two trenches. A third trench was dug in the eastern chicken run, 1 × 2 m.

SUMMARY OF THE STRUCTURE

The firing chamber of an almost circular brick-built kiln showed evidence of two main phases of construction. Much of the interior of the kiln was heavily fire-damaged and many minor repairs to the structure were also recorded. As first built, a single short flue entered the kiln from a rectangular stoke hole to the east (Fig. 2). During the second phase another flue was added, entering from an angled stoke-hole to the west. Central dividing walls were inserted and the eastern flue was lengthened (Fig. 3). The main chamber was *c.* 2.20 m in diameter, the extended eastern flue was *c.* 1.30 m and the western flue 1 m in length (Fig. 2); the highest surviving part of the kiln, the side walls, had a maximum height of *c.* 0.50 m above the floor (Fig. 4).

PHASE 1 (Fig. 3)

The foundations of the kiln were probably set within a trench dug into the natural clay overlying chalk, although the area examined was too small to establish this with certainty. Redeposited soil lay immediately beyond the brickwork, but its full extent was not determined.

The floor, formed predominantly of bricks but also incorporating two incomplete floor tiles at its eastern end, had been built first. The tiles and bricks lay directly on, and were bonded with, clay. The exposed upper surfaces of most of the floor bricks were vitrified and the underlying clay heat-reddened to a depth of *c.* 0.08 m. The bricks were laid flat, and where necessary, had been neatly trimmed to fit; they were generally regularly set. The eastern part of the floor was less regularly paved, consisting of part bricks and the floor tile fragments (although these may have been a later repair). There was a line of four additional part bricks beneath the floor at the threshold of the eastern flue providing extra strength.

The inner edge of the wall foundation abutted the straight sides and curved western end of the floor. A second line of bricks marked the outer limit of the foundation. At the western end of the kiln the two lines of bricks were only *c.* 0.20 m apart, the space between them broadening to *c.* 0.60 m at the sides of the kiln,

Plate 1. General view of the kiln from the south.

where an intermediate line of bricks had been laid. Brick rubble, flint nodules and clay filled the areas between the lines of bricks.

Above foundation level, the side walls of the kiln were built of three interlocking but separate layers or skins, the outermost having been built first. Each skin was composed of a number of constituent parts, comprising separate arch base supports and surrounding wall sections. The walls sloped outwards, the inner skin to a greater degree than the outer one. It was not possible to determine whether all three layers of the wall had originally extended around the western end of the kiln, but the narrower foundations there suggest that they did not. None of the three wall skins was bonded to another, nor within each individual layer were any of the separate sections bonded to another, although very occasionally a short length of brick did protrude from one section or skin into another. Clay was used to hold the bricks together, heat from fire in the kiln having reddened and hardened it through the breadth of the inner skin only. There were three arch base supports along each side wall, each one a square pillar of alternately laid pairs of bricks, partly surrounded by and partly protruding beyond the adjoining wall sections. The western arch on the northern side had, however, been enlarged by the addition of a third line of bricks at its eastern side, probably to improve its alignment with the opposing southern arch. The outer arch bases were low, the upper courses of the outer wall extending across them. The middle and inner arch bases were higher, with upper bricks angled to receive the main part of the arch. All of the adjoining wall sections were single brick thickness, infilled with clay and brick rubble where necessary. Many bricks in the arch base supports and the wall sections were re-used, both whole and part bricks having heat-damaged surfaces which could only have originated in positions other than those in which they were found. There was no evidence of a structure or structures which could have supported the arches

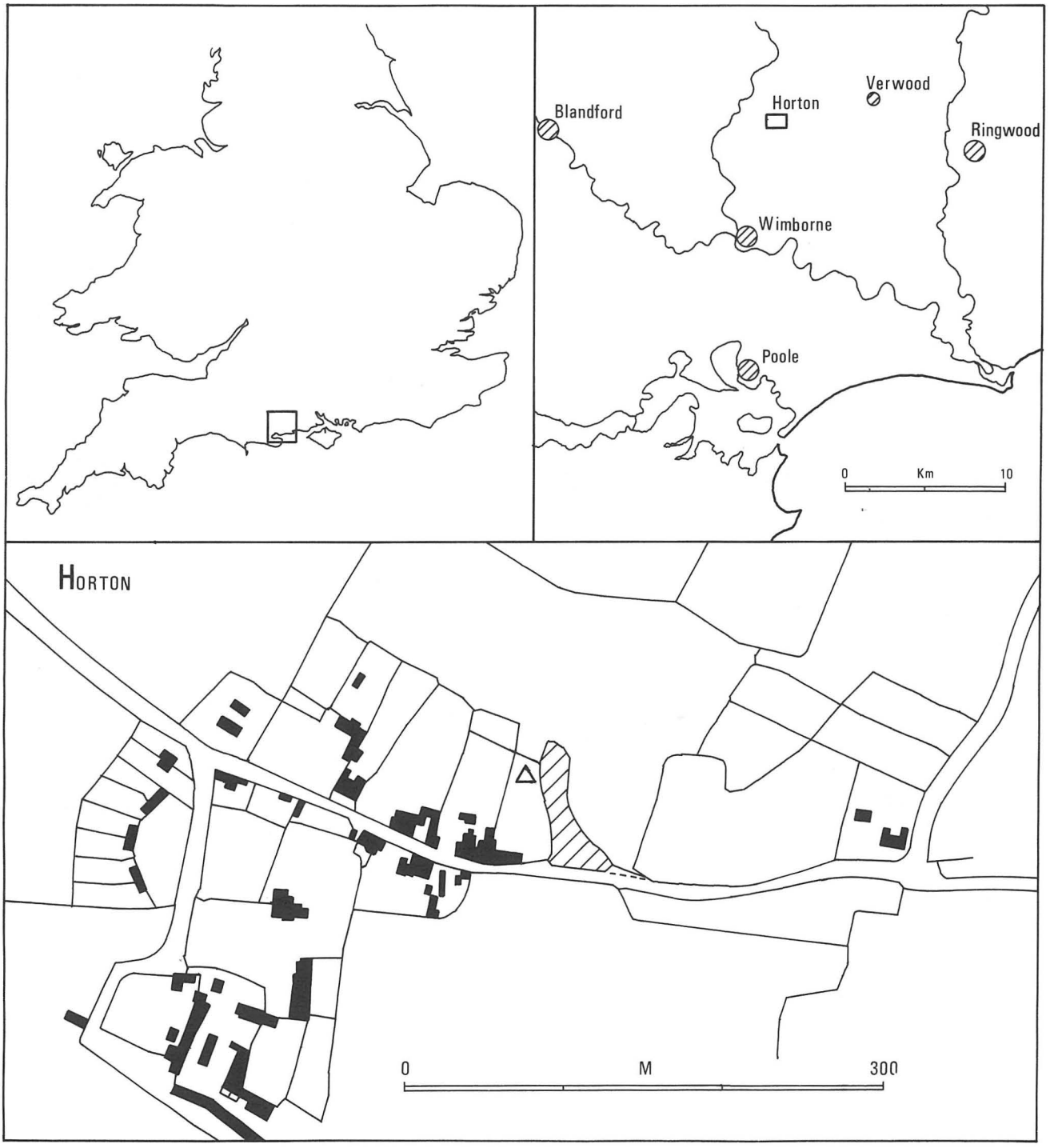

Figure 1. The location of the Horton kiln.

Plate 2. View from the east of original flue and chamber, with northern ramp removed.

at the centre of the kiln in this first phase.

The three skins of the side wall converged to walls of single brick width for the eastern flue, some 0.90 m long. The short return walls *c.* 0.40 m long, hidden behind later extensions, and disturbed ground where the flue walls had been rebuilt, were all that survived of the original stoke-hole.

Heat damage to the interior of the kiln was undoubtedly extensive and one major repair probably took place in this phase: a new length of wall was inserted at the northern side of the flue, butting against the triple skin side wall at a slightly sharper angle than the southern flue wall, which was less extensively repaired and maintained its original, more gradual curve.

PHASE 2 (Fig. 3)

The most obvious alteration to the structure of the kiln in this phase was the breaching of the western wall to allow the insertion of a second flue. The break in the end wall was not central, but slightly south of centre, the result being that the new flue was also skewed to the south. A gap *c.* 0.90 m wide was made in the western wall, and the brick work of the new flue butted up against the remaining sections of the old wall, part of the original foundations being incorporated in the new floor. The upper courses of the end wall (as far as the western arch base supports) were rebuilt, resulting in some overlap of the new brickwork over old, but there was otherwise no attempt to tie the old and new parts of the structure together. The western flue was slightly longer (*c.* 1 m) than the original eastern flue with the side walls of single brick thickness. The bricks of the new floor were laid directly on the underlying clay, set lengthways along the flue with the exception of those abutting the foundation of the earlier western wall.

The centre of the kiln was divided into quadrants by the insertion of central cross walls and platforms, all built up from the floor. Although the cross walls were the earliest surviving internal structures, the platforms may have been only the latest replacements of earlier, similar structures designed to support the arches at the centre of the kiln. The cross walls would have prevented through draughts caused by the use of a second flue. The walls abutted and

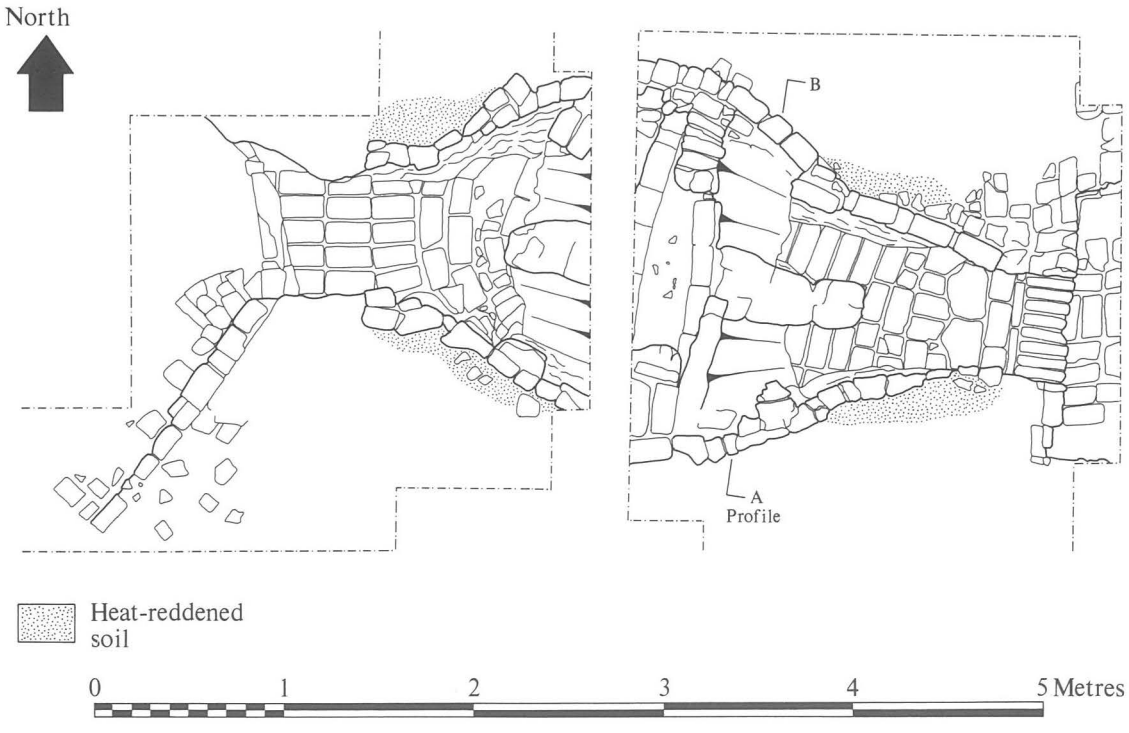

Figure 2. Plan of the Horton kiln – for profile A-B see figure 4.

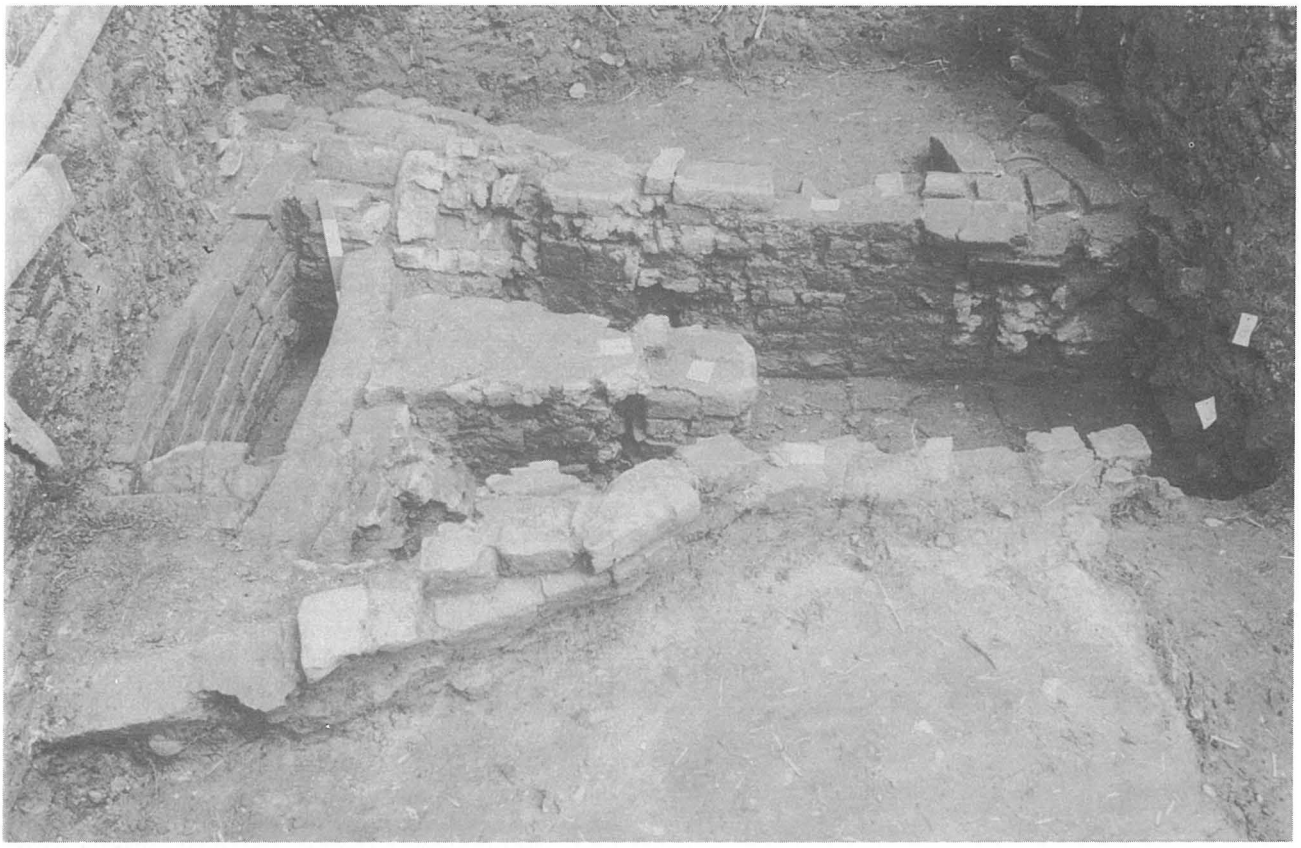

Plate 3. View from the south of original flue and chamber.

Plate 4. View of chamber from south with internal structures removed.

extended between the central arch base supports. They were slightly bowed in plan, up to 0.25 m apart, the area between them infilled with sandy clay and pottery sherds. The outer faces of both cross walls were slightly burnt, indicating that they had been directly exposed to fire at some time, albeit briefly. Abutting the cross walls were wedge-shaped platforms: both were more solidly built than the cross walls, of brick rubble with clay cores. They were heat affected almost throughout, but particularly at their outer ends. Although originally of similar length, the eastern platform has been extended by the addition of a square block, slightly misaligned, at its eastern end.

Within each quadrant of the kiln, ramps, serving to direct the heat upwards from the base of the kiln, filled the angles between floor and cross walls, each one sloping up from the floor to the level of the upper surviving bricks of the cross walls, *c.* 0.40 m high. Despite the similar, fire-hardened, partly vitrified and ash-covered external appearance of the ramps their construction varied. The north eastern ramp was an apparently natural accumulation of ash, clinker and pottery sherds. The other three ramps had been deliberately constructed, the south eastern and north western ones in much the same way, with whole bricks and rubble roughly set (in clay) in the corner between platforms, cross and side walls. The bricks of the south eastern ramp partly overlapped the cross wall. The south western ramp was much more neatly built, consisting of regularly stepped and occasionally chamfered bricks over a brick rubble and clay core. Although there was no clear evidence that the extension of the eastern flue and the construction of a replacement stoke hole was carried out in phase 2, it is likely that they were necessitated by the changes to the kiln described above and they are therefore assigned to this phase. Almost all of the phase 1 stoke hole was demolished and the flue extended eastward by *c.* 0.45 m. Only the lower courses of the earlier, short, north and south walls survived, buried beneath backfilled soil behind the new walls. The kiln floor was extended, most of the new bricks being laid on their narrow sides, the last row running across the flue (at right angles to the others) to provide a stronger threshold. Return and

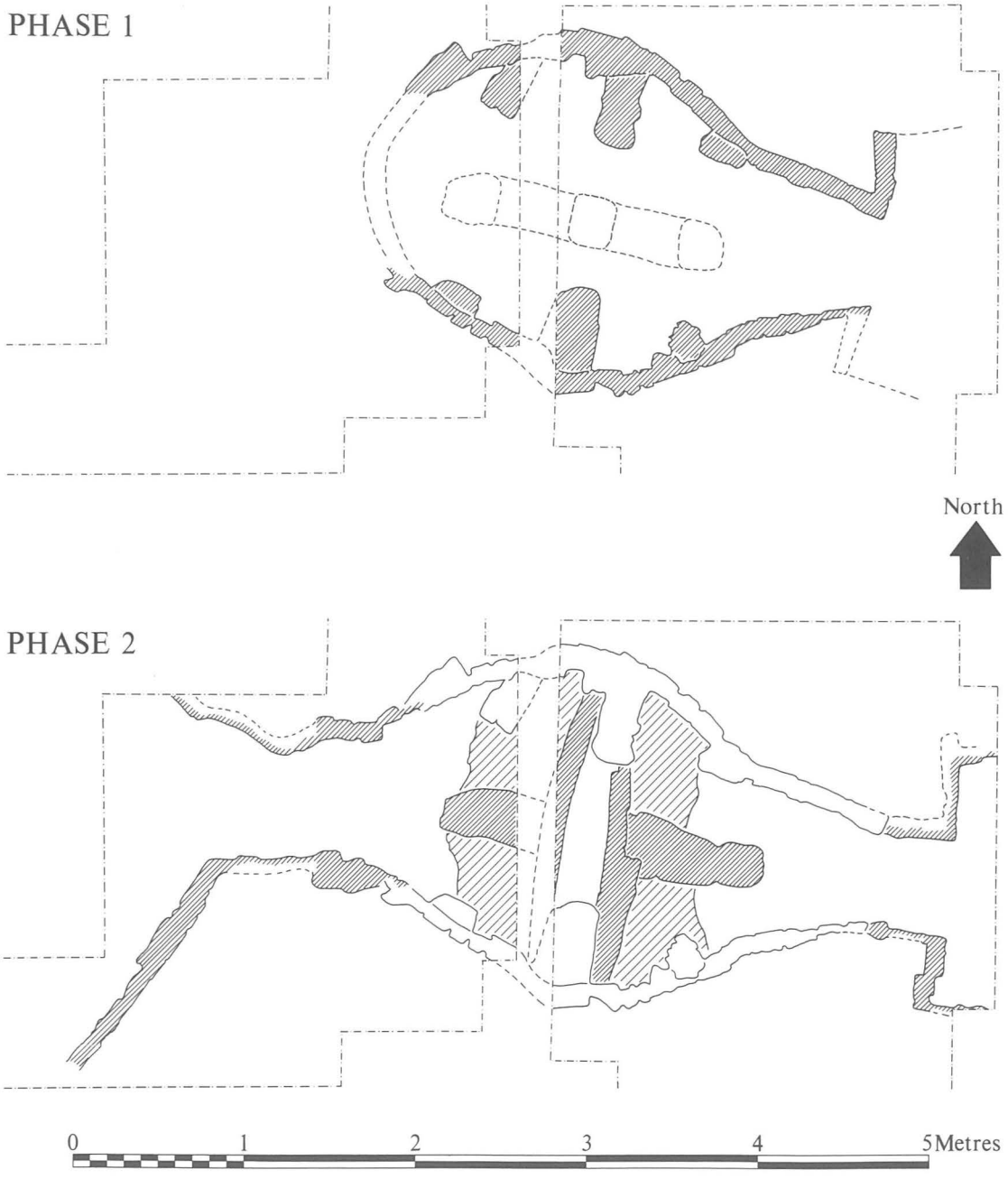

Figure 3. The Horton kiln showing both phases: areas of heaviest burning closely hatched lines; burnt surfaces more widely hatched lines (floor area not hatched).

Plate 6. View of chamber from the north east showing remnants of arch.

Plate 7. View of chamber from north east with remnants of arch foundations.

side walls for a new stoke hole were added, all of single brick thickness, and a patchy irregular brick floor was laid, lower than, and slightly overlapped by, the kiln floor. The full size of the new stoke hole was not determined since it extended beyond the trench. As elsewhere, the new brickwork simply abutted the earlier structure and was not bonded to it. Heat damage to the extension was not noticeably less than that to the earlier parts of the kiln.

Also assigned to this phase are several other relatively minor repairs, including those to the eastern and western arch base supports at the southern side of the kiln. In addition, the replacement northern flue wall had been further patched by the insertion of two bricks set on their sides, a style of work not found elsewhere in the kiln.

There was no evidence for a complete relining of the whole kiln, although the numerous repairs would, in effect, have almost achieved that result through its lifetime.

EXAMINATION OF RADIAL BRICKS BUILT INTO THE KILN

Martin Hammond A.B.I.A.T.

Examination of bricks which had been used for lining the kiln chamber suggested that they were made especially for this purpose as the total quantity of the bricks was unlikely to have been great. There were two sizes of these bricks which had narrow sunken margins, a darker red brick 235 mm long 145-125 mm tapering and 70 mm thick and a reddish buff brick 230 mm long, 140-120 tapering and 70 mm thick. The question of these being produced by a worn and repaired mould, as suggested by some authors, (Firmen 1983; Reeder 1984; Lloyd 1923 p33) would not have arisen because

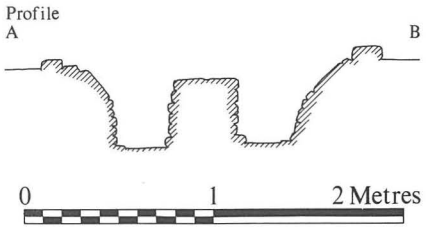

Figure 4. Profile of the Horton kiln: for position see figure 2.

Plate 5. View of chamber from south east with inner skins removed.

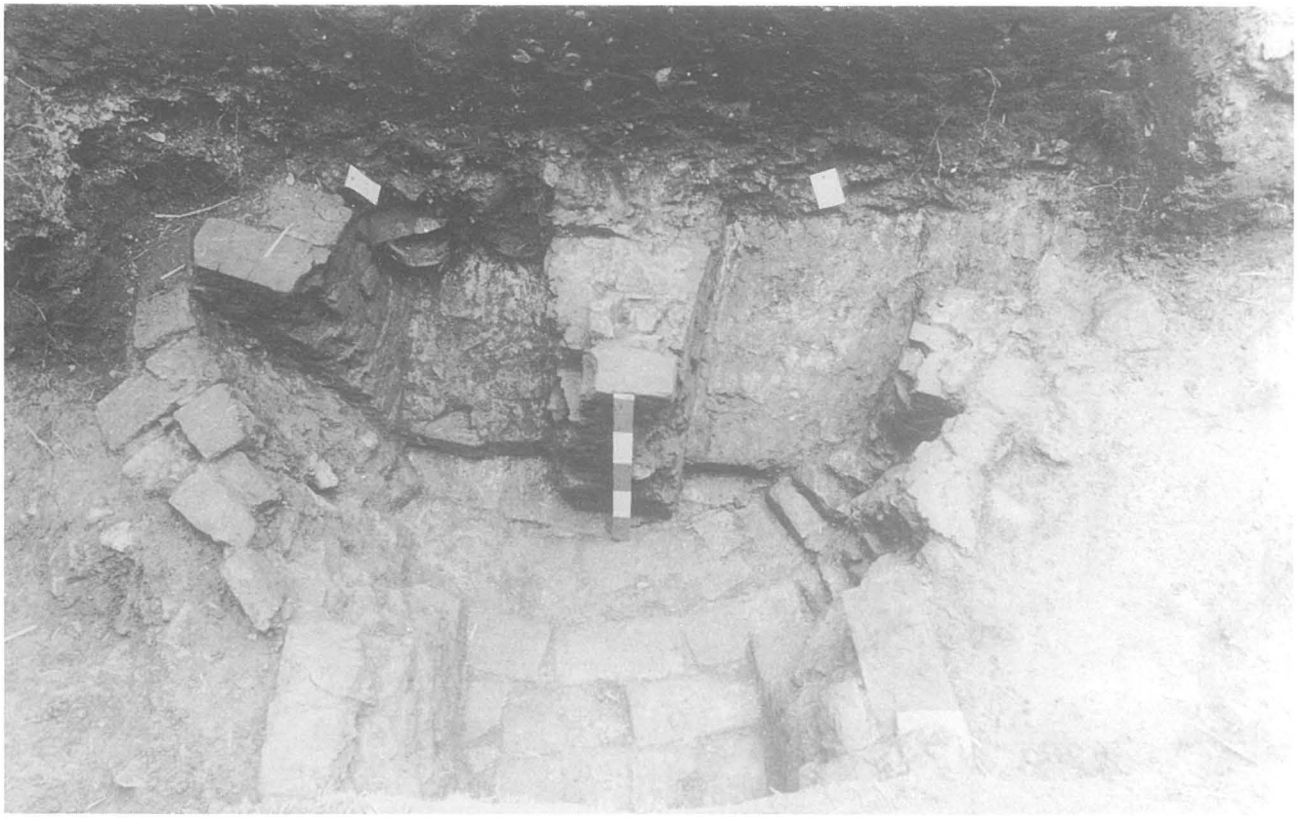

Plate 8. View from the west revealing breach for second flue, central pillar and ramps.

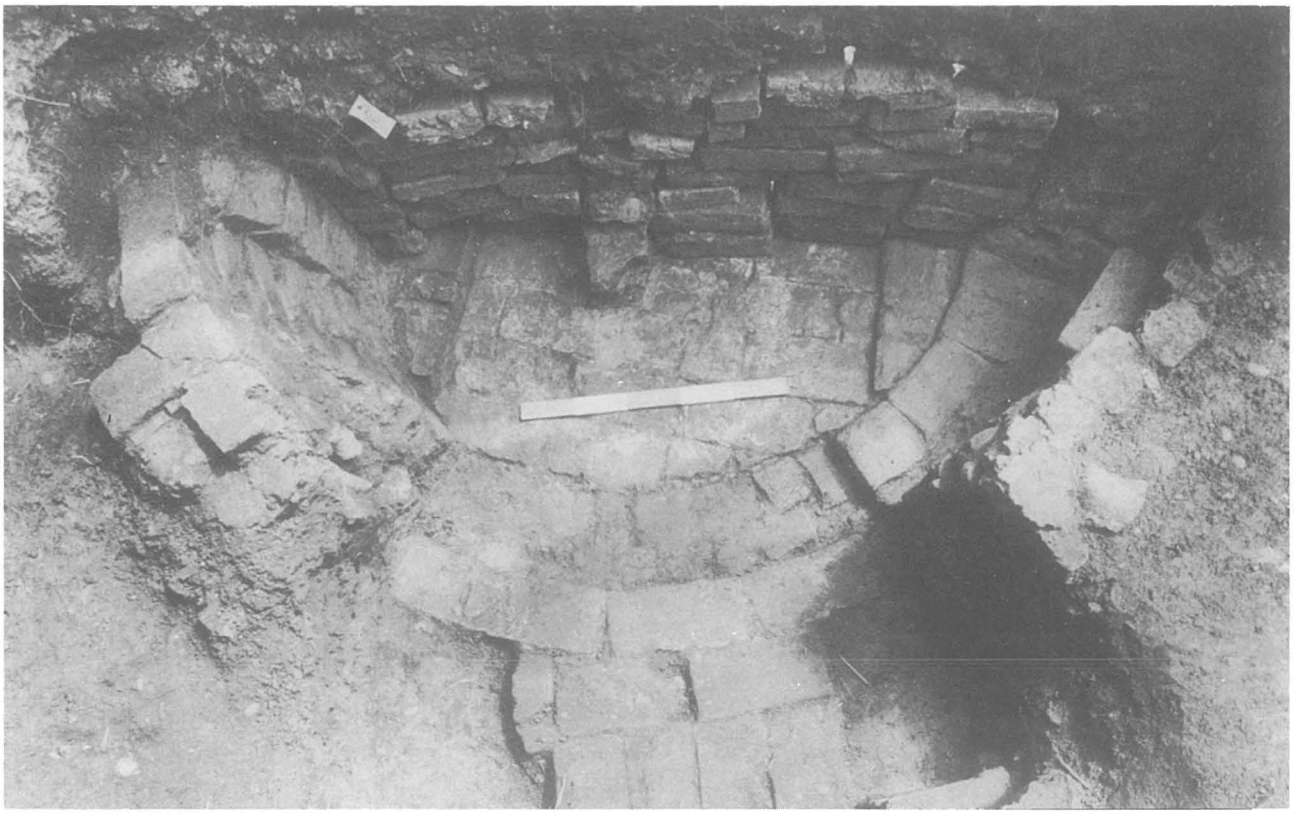

Plate 9. View from the west with central pillar, ramps and flue walls removed. The bricks centre top shoring the baulk do not form part of the construction of the kiln.

Figure 5. The pottery from the Horton kiln, at ¼ life size.

of the small quantity of bricks needed. There were signs of vitrification and all the bricks showed signs of sunk margins to some degree on the top (struck) face, and they were deepest on the high spots of the surface, which was not very even. The header, stretcher, and bedfaces were sanded, and the bed was often very rough, suggesting that the bricks had been made in an open-bottom mould laid on a sanded drying area, from sanded clots of clay and the mould was lifted off, and the brick left to dry. Because of the unevenness of the ground the clay would in places squeeze out under the bottom edge of the mould. Many bricks showed where this excess had been fettled or trimmed off with a knife when the brick was partly dry and leather-hard.

The dimension within the sunk margins were always the same, but their new position relative to the edge of the bricks varied by a few millimetres. Possibly the sunk margin was formed by some kind of framed template laid on top of the brick and used as a guide for the knife during fettling. Previous authors (*ibid*) have suggested a mould with an inward-facing flange around the top edge. It would be difficult to pack clay under this to form a square arris to the brick, and doing so would slow up moulding considerably. The flange would have had to have been very thin material; sheet metal is the only practical possibility. Leather would have to be thick to be stiff enough not to bend, and stand the wear and tear of the strike passing over it each time a brick is made. This flange has been assumed to be a repair to the mould. But why in so many cases was the excess width of the repair material not trimmed off flush with the inside of the mould, but left projecting, requiring an alteration in moulding technique? Brickmaking accounts for the 1730s from the East Yorkshire Archives (Los 1983, p22) mention re-lining moulds after every 30,000 or 50,000 bricks. Dobson (1850, p70) says brass-lined moulds should be re-plated every season (after 100,000 bricks).

Sunk margin bricks have been seen from the *Mary Rose*, Poole, Corfe Castle, and Higher Row, Holt, near Wimborne Minster. All of these are 16th-mid 18th century in date. After that time much squarer bricks, bench-moulded and set in hacks to dry superceded them. The short header faces of the bricks were all heavily slagged with wood ash glaze.

Both sizes of radial brick suggest an internal diameter for the kiln of 2.9 m, but remains indicated a diameter much less than this, perhaps 1.8-2 m. The firing chamber of this type of kiln was an open-topped cylinder, the height being about equal to the diameter. 60 bricks form a full circle, × 40 courses (about 3 m) high 2,400 bricks; well within the life of a mould. Minimum likely diameter 1.83 m: 45 bricks to a circle, × 24 courses = 1,080 bricks.

THE POTTERY

In this excavation apart from forms already described (Copland-Griffiths 1989, p71-85) a few variations and a number of new forms were discovered and are described here.

HTNV3 – **Bowls**
3.2 No. 1 Externally unglazed. Internally overfired with traces of a yellow glaze.
3.4 No. 2 Externally unglazed. Internally a wet looking C3 with iron flecks.

HTNV8 – **Commode Liner**
8.4 No. 4 Externally unglazed. Internally overfired with a dull yellowish glaze colour.

HTNV9 – **Chamber Pot**
9.5 No. 5 Externally unglazed. Internal C6 glaze.

HTNV10 – **Jug**
10.2 No. 6 External C2 which runs over the rim for 2 mm, the underneath of the handle attachment appears to be unglazed.
10.6 No. 8 Totally unglazed. A better example of (Copland-Griffiths 1989 p79 No. 79) showing relationship to base of pot.
10.10 No. 7 Externally a darker greenish version of C7. Internally the glaze is dry, thin and patchy. The drawing could be upside down.

HTNV13 – **Chafing dish**
13.3 No. 9 External C6 glaze which does not cover the stem and foot. Internal C6 glaze.
13.4 No. 10 External darker version of C1 which covers bowl and stem but foot remains unglazed. Internal continuation of C1 version.

HTNV15 – **Lid**
15.5 No. 11 External C2 but a bit more patchy varying between an orangey green glaze. Internally unglazed.
HTNV18 – **Ridge tile/finial**
18.3 No. 14 External C6 glaze. Internally unglazed.

HTNV19 – **Kiln furniture/ring**
19.2 No. 13 Totally unglazed.

HTNV20 – **Sagger**
20.1 No. 12 Totally unglazed.

HTNV21 – **Bucket pot**
21.1 No. 21 Externally unglazed. Internal C13.

HTNV22 – **Bird waterer**
22.1 No. 19 Totally unglazed.

HTNV23 – **Oven door**
23.1 No. 20 Totally unglazed.

HTNV24 – **Drug pot**
24.1 No. 3 Totally unglazed.

HTNV25 – **Drain pipe**
25.1 No. 15 Totally unglazed. Five further examples unglazed.

Miscellaneous
No. 16 Unglazed band. Not classified.
No. 17 Handle with thumb impressions unglazed and not classified.
No. 18 Spout C2 glaze externally.
No. 22 Handle, probably from a skillet. External C5 but with very large iron flecks and runs and more orangey in shade: the break is almost completely glazed over.

DISCUSSION OF THE POTTERY

This 1990 material has slightly extended the range of forms known from the kiln. The bucket pot (No. 21), the bird waterer (No. 19), the oven door (No. 20) and the drug pot (No. 3) are new forms, whereas the other vessels illustrated add further variations to forms already published. All new types are ones which would be expected from a kiln of this date (1640s-1650s), although the oven door is a surprise since the form has not been recorded from any excavated group in Dorset (Jo Draper pers. comm.).

HTNV21 – **Bucket pot**. Bucket pots can be parallelled at Donyatt (Coleman-Smith and Pearson 1988 Fig. 115 11/14) dated to 1600-1650. Most of the examples from Donyatt show a foot, except this example (*ibid.*) which differs from the Horton pot in that it is dumpier with a different rim form. In previous publication (Copland-Griffiths 1989, p79 No. 80) some sherds were thought to be the 'mouth of a jug', but having now obtained an almost complete example of a bucket pot, they would most likely have come from form 21, the bucket pot.

HTNV23 – **Oven door**. Although some comparison can be made with Donyatt (Coleman-Smith and Pearson Fig. 165 31/4) this partial door gives little information to be a good comparison. The Donyatt example, like the Horton one may have had two handles but only one complete handle survives. Dated to 1600-1650.

HTNV24 – **Drug pot**. It is close in shape to the ubiquitous little delft pots (e.g. Hume 1977 Fig. IV dated to the middle 17th century).

SMALL FINDS

BUTTON. (Fig 6.) Silvered copper alloy button, stamped with a raised central 'square'. Decoration of a man in a chariot pulled by four horses. Late 18th or early 19th century.

WORKED FLINT. A small quantity of worked flint was recovered and has kindly been examined by Peter Bellamy who identifies it as being of late Neolithic/early Bronze Age in character. More detail will be found in archive.

ROMAN BROOCH. A Roman fibula was found beneath a waster heap (see Copland Griffiths this volume).

Figure 6. The copper alloy button at twice life size.

DISCUSSION

This is the first 17th century kiln to be excavated in the East Dorset group known as The Verwood and District Potteries, and indeed in Dorset.

It would appear that this kiln started life as a one flue, brick built kiln, but there were so many repairs and alterations that the potter must have had such severe problems that it became necessary to open a second flue. The raised floor confirmed that this kiln was wood fired (Prior and Blockley 1974, p33) and since there must have been a tradition of wood firing of kilns in the Verwood area from medieval times, it seems more likely that it was the firing of the glaze of the vessels which was giving trouble rather than simply the wood firing.

Evidence from other kilns excavated in the group show that they were also constructed of brick with one flue (Algar *et al.* 1987, p15) an 18th century kiln at Crendell (Copland-Griffiths forthcoming), and a 19th century kiln in Verwood (Algar *et al.* 1987, p33) (Copland-Griffiths forthcoming) and a 20th century kiln also in Verwood (Algar *et al.* 1987, p18). Thus it is clear that a one-flue form of kiln continued to the demise of the industry. Sites further afield have been studied.

In Somerset, Donyatt's kilns of similar date (Coleman-Smith & Pearson 1988, p81 period 5) appear to be rather casually constructed, consisting of broken tiles muddled together with clay and straw – rubble construction rather than the regular brick masonry of which Horton was constructed. It also became clear that all Donyatt's kilns were constructed with two flue mouths.

The 17th century kilns at Brill, Buckinghamshire (Farley 1979, p127-152) although similar in brick construction were multiflued. The 16th/17th century kilns at Potovens, near Wakefield (Brears 1983 p3-43) were not constructed of brick but of various materials, clay, straw and stone, and were fired by coal.

The 17th century kiln site at Woolwich (Prior & Blockley 1974, p30-85) seemed at first similar in construction (made of brick but again two flues purposely built) but no inner floor survived, making it an unsatisfactory site for comparison although it was producing earthenware.

The 17th century kilns at Potterspury, Northamptonshire (Mayes 1965, p22-82) appeared again at first similar in construction, but on close inspection of the oven chambers, were quite different. Mayes comments that these kilns were remarkably undeveloped forms for a late 17th century date, when a much more sophisticated form and the direct forerunner of the late bottle-kilns were in use in the midlands and north of England by 1500. Several flues disposed around the perimeter of a circular kiln allow easier firing and a smoother dispersion of heat in the pottery chamber. It may be that adherence to a traditional kiln plan was one reason for the collapse of the Potterspury industry, he suggests.

It would appear that Dorset potters adhered to a traditional kiln plan for another three hundred years with some success and maintained their local market. Since this Verwood district also produced brick, it was the obvious material to use for the kilns.

From documentary sources potting in Horton is evident from 1590 to 1730 approximately (Copland-Griffiths 1989 p72). No exact date can be given to this kiln site from the documents, but the pottery has been dated to range from 1640s to 1650s.

ACKNOWLEDGEMENTS

We are grateful to Martin Hammond for his report on the bricks; to Alan Graham for the plans and pottery drawings 1-21; to Peter Bellamy for the drawing of the button; to Erica Gallatly for plates 2-9 and to Jo Draper for her help and endless encouragement.

The Verwood & District Potteries Trust is very grateful to the Dorset Archaeological Committee for a grant enabling them to employ Christine Butterworth of the Trust for Wessex Archaeology on this excavation. Four of the Verwood Trust's patrons – The Marquess of Salisbury; Sir Michael Henham; Sir Westrow Hulse; and Peter Brears; and some of the associate members also contributed towards the cost of the work.

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The Church of St. Rumbold, Cann, Shaftesbury, Dorset

SHAFTESBURY AND DISTRICT ARCHAEOLOGICAL GROUP

SUMMARY

Small-scale and incomplete excavation in St. Rumbold's Church, Cann, uncovered right-angled footings of large, Upper Greensand blocks at the west end of the present nave, extending 2.0 m north and 1.7 m east. These probably represent part of the foundation course of the original Saxon/Medieval building dating from the 13th century or earlier.

INTRODUCTION

When St. Rumbold's Church (Plate 1) was made redundant in 1971, it was acquired as a Chapel for Shaftesbury Grammar School, and it was at this time that the font, of *c.* 1200, was removed to St. James's Church, Shaftesbury. Following the amalgamation of the town's schools in 1982, St. Rumbold's ceased to be the School Chapel and two years later, through the hard work and guidance of the Headmaster, Mr. Brian Kirkup, a Deed of Trust was declared and a body of Trustees formed to fund the creation of the Shaftesbury School Chapel Arts Centre in the church, as a focus for arts activities, drama and music. This was completed in 1987 and by 1990 a building which had probably been the old Rectory stables (and had served as the Church Hall), was redesigned for musical education (David Grierson, pers. comm. and Hopton 1988, 19-22).

ST. RUMBOLD: THE DEDICATION

The legend of this eighth century English-born child saint, very popular in Saxon England, is so extraordinary that it must be described. '... this infant marvel was the son of a nameless King of Northumberland by a Christian daughter of Penda, the famous heathen of Mercia ... His birthplace was King's Sutton in Buckinghamshire. No sooner was he born than he found voice to declare three times, "I am a Christian." He then desired to be baptized, and with truly royal decision made choice both of his sponsors and of his own name. Unhappily, however, he omitted to give any directions as to the spelling of the said name, and hence it is to be found in some half-dozen different forms. He pointed with his infant finger to a great hollow stone, almost beyond the strength of man to lift, which should serve him as a font, and being duly baptized, he delivered himself of a sermon.

Plate 1. St. Rumbold's Church, Shaftesbury: c. *1910, (photograph given to the Trustees of the Shaftesbury School Chapel Arts Centre by Mrs. Pennell).*

Exhausted by all these efforts he died at the end of three days, but not before he had taken thought for the disposition of his body, bequeathing it for one year to his birthplace ... then for two years to Brackley in Northamptonshire and finally to the town of Buckingham for ever' (Arnold-Foster 1899, 172-3). None of these churches now bear his name.

In Dorset, there is a similar dedication at Pentridge and a lost chapel, St. Rowald's, in Dorchester (Draper 1982, 112), where the saint's name is thought to be from the Old German *Rumwold* (Mills 1977, 349) and the same derivation is attributed to the former owner of a field *Rumbles Deane* (1618) in Iwerne Minster (*ibid.* 1989, 129), a parish near Cann. There are variations in other parts of the country from York to Kent, making eight references in all (Arnold-Foster 1899, 172-3).

A note to the recent edition of Alban Butler's *Lives of the Saints* gives the earliest recorded date around the year 1000 and states that the story of St. Rumwald (*sic*) seems to have been practically unknown to the rest of Europe outside England (Thurston & Attwater 1956, Vol. IV).

However, some West Country attributions are made under the heading of Rumwold about 'Ronan' or 'Rumon'. Various Celtic origins are suggested for this saint from centres at both Tavistock and Glastonbury. A reference to him as an Irish hermit who became a bishop and went to Brittany (Farmer 1987, 377-8) has similarities with the description of an Irish-born bishop St. Rumold or Rumbold, later a noted Anglo-Saxon missionary in West Germany and the Low Countries in the 8th century (The Book of Saints 1966, 619).

From the multiplicity of these sources, the child-saint would seem to take preference in spite of Shaftesbury's relative proximity to the West Country and the Celtic tradition.

ST. RUMBOLD'S CHURCH, CANN (Otherwise SHASTON ST. RUMBOLD, *alias* CANN)

St. Rumbold's Church was first recorded in 1280 (Mills 1989, 144). Its presence and status is also noted in the Taxation of Pope Nicholas IV in 1291, when it was assessed for 100s; the Inquisition of the Ninth in 1340 for 73s 4d. (Hutchins 1868, 81); and the *Valor Ecclesiasticus* of 1535 for 18s 2d (Record Commission 1810, 291). The church lay in the parish of Cann which was outside the borough of Shaftesbury, a town which formerly boasted twelve churches. Cann, having been part of the manor of Barton and Cann, (which lies *c.* 370 m north of St. Rumbold's Church), originally occupied only some third of its present area (R.C.H.M. 1972, 9). Not recorded in Domesday Book, Cann is first mentioned in documents in the 12th century but is almost certainly older (*ibid.*). It was a tithing of West Melbury (Hutchins 1868, 79), an alternative name to the parish of Melbury Abbas (Mills 1989, 130), and lay within the Hundred of Sixpenny Handley, formed sometime in the 13th century from the Geld Roll Hundreds of *Sexpene* and *Handlege*, previously belonging to Shaftesbury Abbey. The name was derived from *Seaxpene*, referred to in the Anglo-Saxon bounds of Fontmell Magna (*ibid.* 89, 104-5).

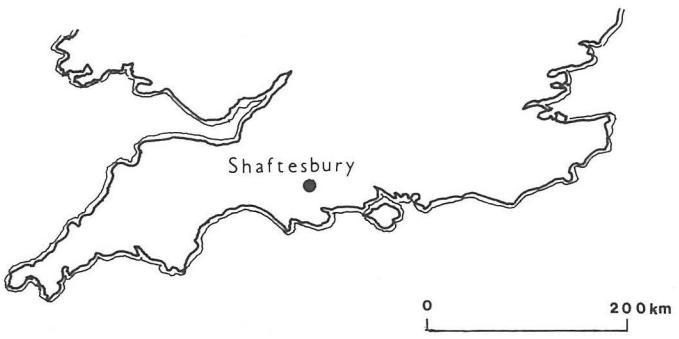

Figure 1. Location Map of Shaftesbury.

Almost the entire parish lay on the Upper Greensand escarpment which provided permanent pasture and was well-watered by the River Stirchel and its feeder stream the Boyne. The importance of the plentiful water supplies available in the parish, contrasting with the town of Shaftesbury which depended on wells, cannot be underestimated. Indeed the presence of a spring may have had a ritual significance in the founding of the church (Rodwell 1981, 142). Three mills are recorded (Hutchins 1868, 79) and there is evidence of much quarrying in the past.

Within this Hundred of Sixpenny Handley, the church of St. Rumbold was one of the outer bounds of Cranborne Chase, this title denoting (in theory) private rather than royal ownership, when it was a forest (Rackham 1983, 153) due to the different laws appertaining. Here the Chase probably acquired its name when it was granted by William Rufus to Robert Fitz Hamon (Wake Smart 1841, 116). The perambulation of the bounds applying to Shaftesbury was as follows:- '... from Kingsethe [Kingsettle] to Shaftesbury, namely to Sleybrondesgate ... to the church of St. Rowald ... to Gildenhoc [Golden Oak] ... to the water of Sturkel ... to the bank of Stour' (*ibid.* 173).

At an Inquisition in 1244-5, disputing the bounds, the Earl of Gloucester, who owned the Chase, described how they had been set up in the reign of Richard I and probably originated in the Saxon era. His claim was upheld by a *quo warranto* enquiry in 1280 and insisted on thereafter by subsequent landlords (*ibid.* 204-210). Hutchins endorsed this and said that such a tenure was too ancient to be affected by *Magna Carta* and the Charter of Forests (Hutchins 1868, 409) but Rutter writing in 1818 denied the perambulation of the Chase by King John and said the Writ of 1215-16 was contradictory (Rutter 1818, 14).

Part of the boundary of the Chase was formed by the River Stirkel which rises in Cann and flows into the River Stour. The Earl of Gloucester was also claiming the same liberties in the Hundred of Sturkel (*sic.*) '... from time which does not exist in memory.' (Wake Smart 1841, 181). The Hundred name has not survived except as the river name. Strangely, an additional church (named as Cann Church) is shown on the 1618 map of Cranborne Chase (Richard Hardinge 1618), as well as those of St. Rumbold and Melbury Abbas. This cannot be identified and is assumed to be an error.

The Rectory of St. Rumbold was said to be the best-endowed in Shaston (Shaftesbury), with the Abbess as patron apart from one presentation by the King in 1394, during voidance of the Abbey (Sydenham 1959, 81), until the Abbey itself, the advowson, rectory and lands of St. Rumbold's were acquired in 1546 by Sir Thomas Arundel (Hutchins 1868, 81). He had served as a Commissioner for the suppression of religious houses but was later beheaded for treason (Stephen & Lee 1937-8, 620). At this time the glebe was valued at only 4s as it had been in 1535. Such a low income is subsequently borne out by a terrier of 1635 describing a mere 1¼ acres of ground belonging to the parsonage and the total absence of glebe land in 1784 (WRO D28/10/114/1 & 2). This was presumably the reason for a settlement of £100 for a minister at St. Rumbold's in 1658-9 (Fry 1915, 94) and a dispensation for the Rector of Cann to accept and hold the rectory of Holy Trinity with the churches of St. Peter, St. Lawrence and St. Martin, Shaftesbury for life in 1772 (DRO PE/CAN: IN3/1).

No illustration of the original church of St. Rumbold has been traced and the written description is not very

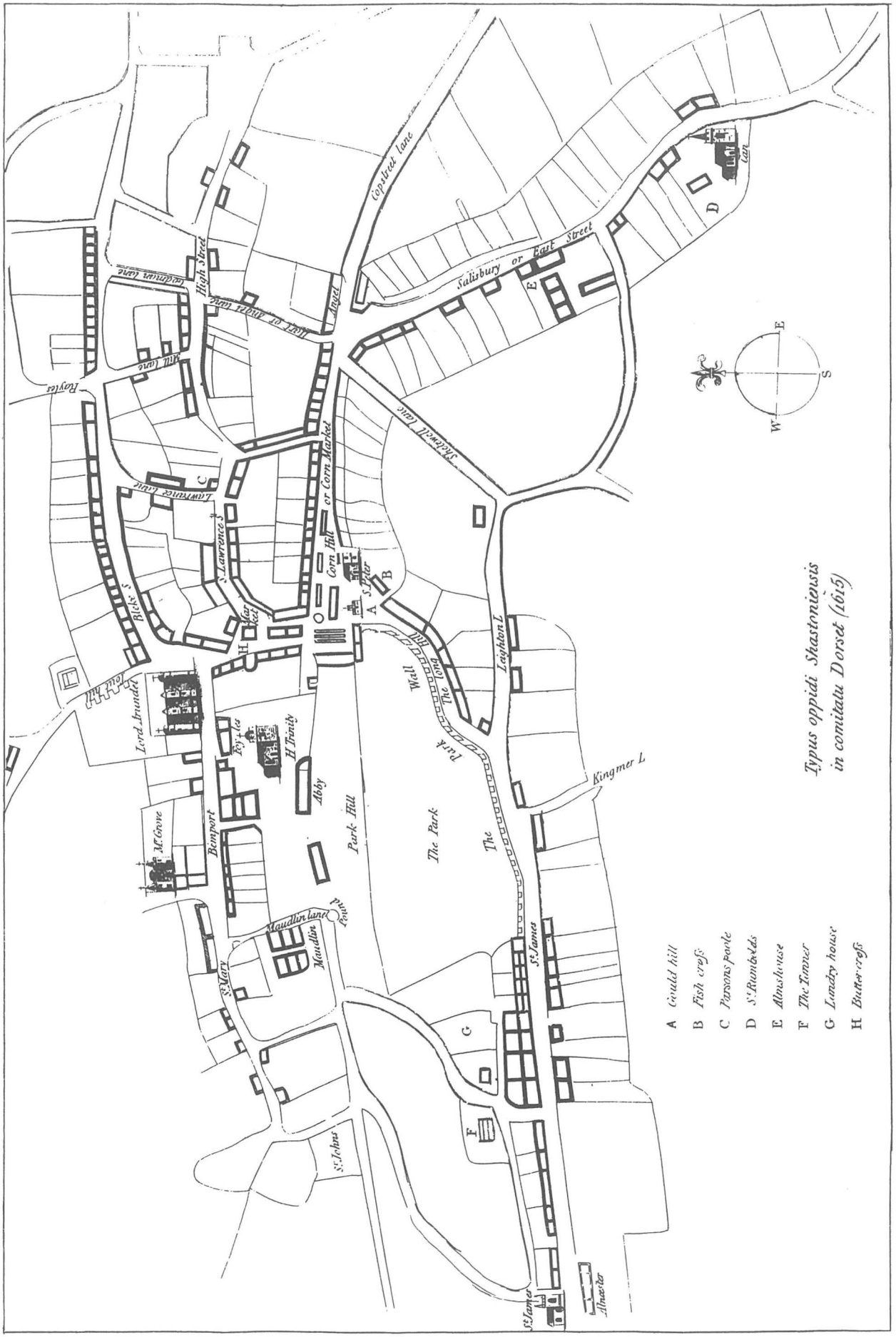

Figure 2. Shaftesbury Town Map: St. Rumbold's Church at bottom right; the towers depicted do not appear to correlate with the architectural features. (after Hutchins 1803, 391). Scale: approximately 1:4500.

illuminating. It was said to be in the same style as Holy Trinity, Shaftesbury before it too was rebuilt in 1840, but is only depicted on an oil painting in Shaftesbury Museum and the detail is not helpful. Hutchins describes a very small building with a large arch on the south side of the chancel and two more on the north side of the body, possibly representing blocked aisles of a larger church. The orientation was unusually north-east, the body and chancel were both tiled and its windows had undergone alterations '... probably from the caprice of churchwardens' (Hutchins 1868, 80). The columns had no base or capital, with the arches springing up gradually and being pointed at the top, and only the chancel and nave were roofed with tiles (with evidence of both ceramic and stone roof-tiles). The tower, built in 1708, had the event recorded in the belfry and there were two bells (*ibid.*). Sir Stephen Glynne writing from notes of 1826, stated that the battlements were '... absurdly painted white ...', the arch to the chancel was plain and pointed and there were some bad modern windows and one lancet. It was built in dark green stone (Glynne 1924, 52). The font, referred to above, and now in St. James's Church, Shaftesbury, of *c.* 1200 has an inscription on the side of the bowl of 1664 (R.C.H.M. 1972, 65).

St. Rumbold's suffered the same fate as numerous Dorset churches and was totally demolished and rebuilt on its present site '... or near thereto ...' in 1840, for a faculty reiterated the inadequate accommodation for an increasing population and '... the age and shattered state of the building ...' (WRO D28/19). And so on 22nd September 1840, the '... beautiful little Gothic church ...' was consecrated by the Bishop of Salisbury (*Dorset County Chronicle and Somersetshire Gazette* Vol. XX, 1840). The architect was William Walker of Shaftesbury who had designed two other churches in the area but had had his plans for Gillingham Church rejected (Colvin 1978, 861).

Subsequent additions included two further bells in 1861 and 1863 and a Vestry and Organ Chamber in 1909. The ground plan can be seen in Fig. 3 and its conversion to the Shaftesbury School Chapel Arts Centre in 1987 has already been described.

THE EXCAVATION (Fig. 4)

As the inside of the church was to be considerably altered in the process of conversion to the Shaftesbury School Chapel Arts Centre, it provided an excellent opportunity for excavation.

The pews, floor boards and joists had already been removed, exposing an area of loose Greensand rubble with a few fragments of brick, and it was decided to open trenches on both sides of the nave at A and B (Plate 2, Figure 4).

This rubble A(1), 0.10-0.40 m in diameter, which had formed a hard-core base for the 1840 floor, was completely removed to a depth of 0.40 m on the south side of the nave. Artefacts retrieved included a stone architectural fragment of medieval date (Fig. 7, no. 1) and a glazed floor tile of the early 14th century (Fig. 6, no. 1). In the east side of this area, a further trench was opened A(3) and *c.* 0.20 m of material consisting of compacted Greensand, small rubble and soil was removed. The majority of medieval floor tiles (Fig. 6, nos. 2, 3 & 4) of the late 15th century, the sherds of medieval pottery, a Bronze Age scraper and a 19th century clay pipe bowl, all came from this context.

A dark band of soil approximately 0.60-0.70 m wide was noted below A(1), running parallel to the north and south walls of the church. Investigation of this feature to a depth of 0.95 m, trench A(6), proved it to be the foundation trench for the south wall of the 1840 church. The fill consisted of loose soil and small fragments of Greensand rubble, although some larger pieces at the base were up to 0.20 m in diameter. The only artefact of note found in this feature was part of a crested roof tile which was of likely medieval date.

Context A(10) on the west side of the trench produced rubble to a depth of 0.10-0.15 m when excavation was stopped. Further examination of A(3) exposed the outline of a grave A(15) and work was halted to prevent disturbance, but in the process had revealed six pieces of medieval floor tile (Fig. 6, nos. 5, 6 & 7), dated to the late 15th century and a fragmentary copper alloy book clasp of the 15th or 16th century (Fig. 5). Neither this grave nor that in B(14) below, showed any feature suggesting the presence of a coffin or shroud.

On the north side of the nave a similar trench to A was opened at B and the Greensand rubble, already described above, was removed to a depth of 0.40 m, B(1), (Plate 2, figure 3). Excavation of approximately 0.5 m of soil from trench B(4), which contained a stone architectural fragment (Fig. 7, no. 2), medieval floor tiles and part of a crested roof tile, possibly 13th century, (Fig. 6, no. 8), fragments of glass, exposed some large, dressed Upper Greensand blocks on the south side of the area (Plate 3, figure 4). B(5) demonstrates the alignment of the blocks with the rubble core. As the robbed-out trench B(4) was the same width as the surviving part of the wall foundation and had not been enlarged, the implication is that the footings were not very deep. To the east of B(4), trench B(13) was opened to investigate the next layer, but had only uncovered evidence of another grave B(14), when excavation was stopped.

An area between A and B, comprising part of the central paved aisle of the nave C(11) and on the same level as the original wooden floor, was taken out to extend trench B(5). Greensand rubble was removed to a depth of 0.60 m, with the largest stones at the bottom up to 0.30 m across. A piece of a gravestone was uncovered, certainly 17th century or later.

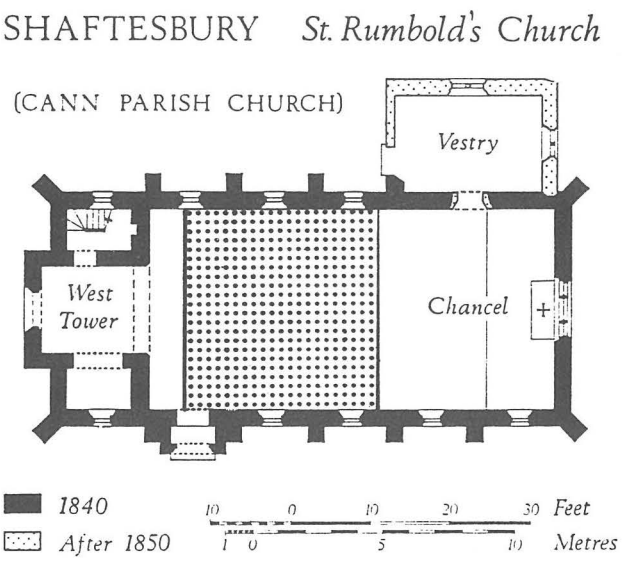

Figure 3. St. Rumbold's Church, Shaftesbury: stippling shows total area excavated. Published by kind permission of the R.C.H.M. (England).

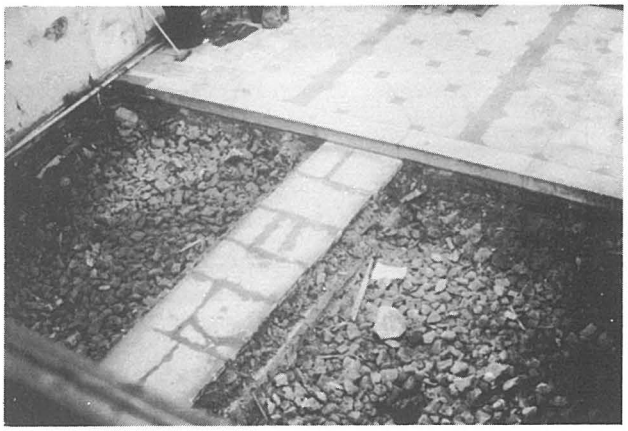

Plate 2. St. Rumbold's Church, Shaftesbury: trenches A(1) and B(1), right and left respectively, showing Greensand rubble. Photograph: Margaret Cox.

St Rumbold's Church, Cann 1986

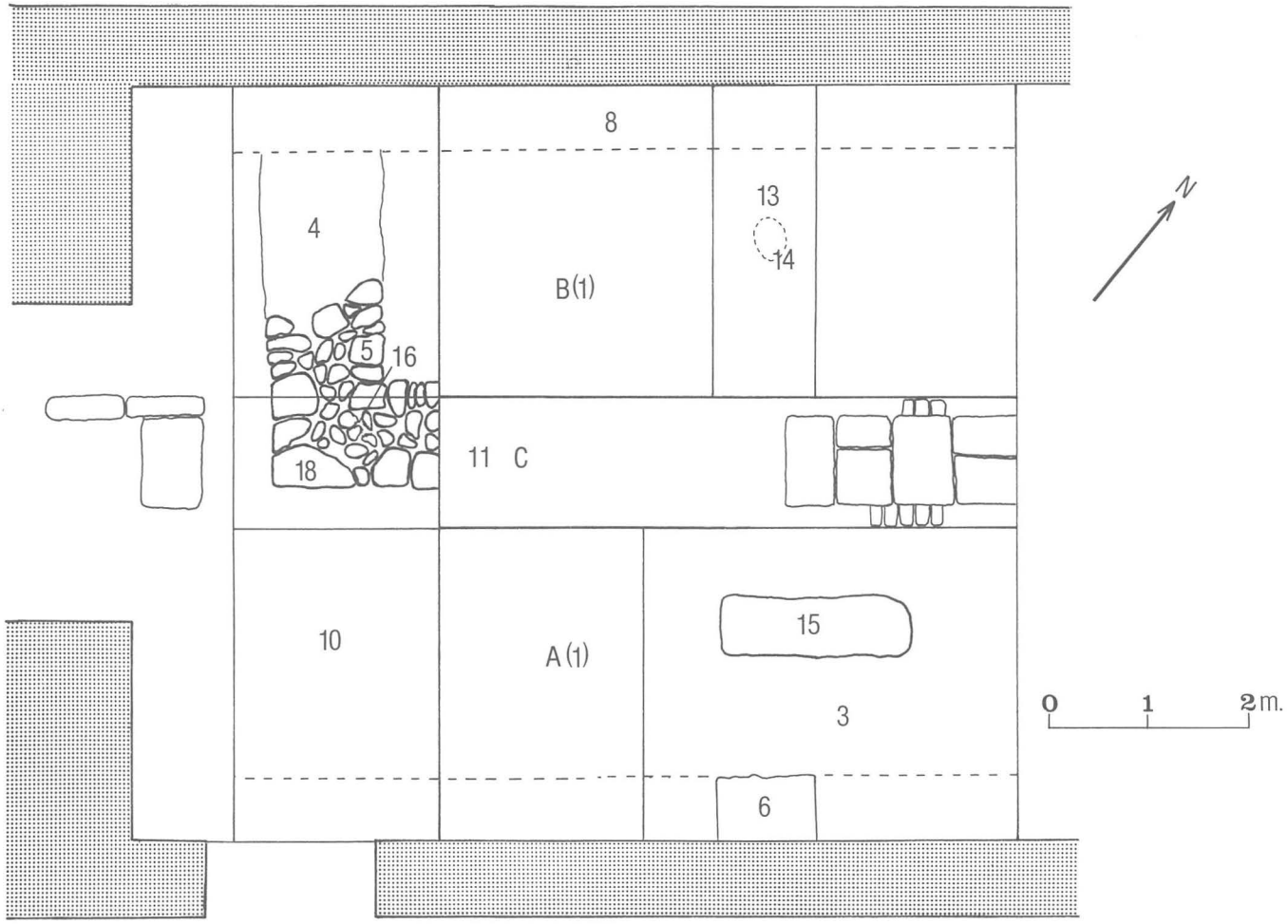

Figure 4. St. Rumbold's Church, Shaftesbury: ground plan of excavated trenches, identified by numbers, and foundation course of medieval church with the stippled area representing foundation trench of 1840 church. After the R.C.H.M. (England). Drawn by Peter Irvine.

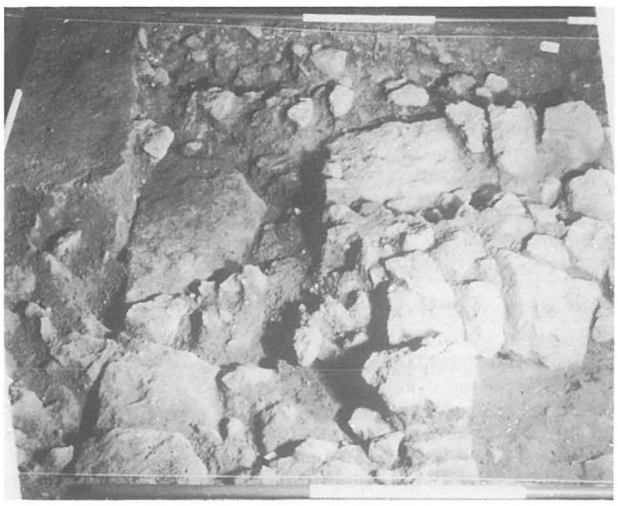

Plate 3. St. Rumbold's Church, Shaftesbury: south-west corner of the foundation course of the medieval church from the east. Photograph: M. Sanger.

The east side of the trench C(16) consisted of compacted soil with fragments of wall plaster, of which only one very small piece showed any colour, 19th century sherds of Verwood type pottery and a stem of the ubiquitous clay pipes, over further stone foundations. As might be expected, C(18) showed further large, Upper Greensand blocks and some rubble, connecting with those in B(5) and forming the L-shaped corner of an earlier wall (Plate 3, Fig. 4). If this represented the south-west corner of the earlier church, then the grave A(15) had been inserted outside the south wall, and the probable medieval building was *c.* 2 m north of the wall of the 1840 church, but on the same orientation.

Unfortunately at this stage it was decided that no further work should be carried out as any other archaeological features would be preserved under the new flooring.

THE FINDS

THE METAL OBJECTS

Copper Alloy

A(15) Book Clasp, identified as probably of late medieval date (?15th century), Marian L. Campbell, Assistant Keeper, Metalwork Section, Victoria and Albert Museum, (pers. comm.).

Dr. Mirjam Foot, Deputy Director, West European Collections of the British Library states that the clasp is a fairly common type of the 15th and 16th century, used in England, Germany and the Netherlands, (pers. comm.) (Fig. 5).

Tracings supplied from the British Library collections show similarities of the design (Fig. 5) to German blind-

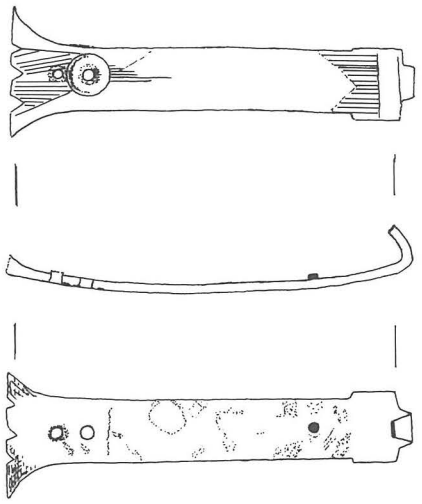

Figure 5. St. Rumbold's Church, Shaftesbury: copper alloy book clasp of the 15th or 16th century. At life size. Drawn by W. F. Moore.

stamped clasps of the early 16th century, *eg.* no. C64 C13 and 1A1743a and also the fishtail binder, English 15th century, illustration no. IA 47755. Two bindings of *c.* 1485 and 1493 (with later clasps), illustrate the attachment of the clasp to the cover of the book also showing a comparable design (Foot, M., 1983, *Netherlandish Bindings*, no. 286 and 287, p. 337), as does an example of Bruges binding in *Missale ad usum cathedralis ecclesie Tornacensis* MS 1508, (Nixon, Howard M., 1956, *Styles and Designs of Bookbindings from the 12th century to the 20th century)*, and one of the German School of 1476 (Schmidt Künsemüller, F.A., 1980, *Corpus Der Gotischen Lederschmitteinbände aus dem Deutschen Sprachgebiet*, no. 53, p. 106).

B(4) One pin with wound head, ?17th century.

Coins

A(1) One penny 1914, one new penny 1971.

Iron

A(1) Section of drain pipe, *c.* 80 mm diameter, ?19th century.

Nails

A(1), A(3), B(4) 26 cut-nails 2½ in long, not hand-made, for floorboards and wall fixing, (Mortar adhering).
A(3), A(12) 4 hand-made nails, 3½ and 4 in long.
A+C ? 1 coffin nail, 2 in long and tapered.

THE GLASS

Some 36 fragments of glass, (the largest only 50 mm in length), came mostly from context B(4), the partially robbed-out trench of an earlier stone foundation trench. The marks of a diamond cutter were seen on some pieces but all were in a state of deterioration. One fragment was very fine, less than 1 mm thick. As it was impossible to date these fragments and they were in such poor state of preservation, further identification was not undertaken.

A(6) Base of a wine bottle in dark green glass, early 19th century.

THE CLAY PIPES

A(3) Bowl with spur, 19th century. 3 stem fragments.
A(15) Bowl, 17th century shape, no identifying marks.
B(4) 2 stem fragments.
B(13) 1 stem fragment.
B(14) 1 stem fragment.
C(16) 1 stem fragment.

THE MEDIEVAL POTTERY

The small collection of eighteen fragmentary sherds, weighing 0.174 kg appeared to represent cooking pot/storage jars. All the fabrics were tempered with sub-angular/rounded quartz grains, on average up to 0.1 mm in size, visually similar to, or a sub-division of, the C and D quartz wares from Sherborne Old Castle (Harrison & Williams 1979, 97-8) and by analogy, therefore, can be dated from the 12th to the 14th century.

They were comparable to pottery described from Kingston Magna (Ross 1985, 35-6) and Shaftesbury (Cox 1985, 52), notably containing only very occasional flint inclusions, which bears out the supposition that flint-tempered fabrics originated from Sherborne to the west, while the quartz-tempered wares are derived from the east of Shaftesbury. Additional inclusions noted were of grog and ironstone.

All but two sherds were recovered from the soil and rubble fill of the surface cleared for construction of the 1840 church [A(3)].

Context A(3) (not illustrated)
Rims (2), sherd (1), cook-pot, black ext. and int., coarse, frequent quartz temper up to 2 mm in size. (0.025 kg).
Sherd (1), shallow scratchmarking (Ross 1985, 36), fine quartz temper, black ext., buff int. (0.002 kg).
Handle (1), buff, grey core, fine quartz temper. (0.025 kg).
Sherds (5), 3 joining, smooth, pale brick red int. and ext., 1 fire-blackened ext., grey core, less frequent quartz temper, noticeable voids, occasional flint inclusions. (0.050 kg) (1) sherd context B(13).
Rim (1), pale brick colour, slightly blackened, plentiful fine quartz temper. (0.005 kg).
Sherd (1), Base (1), context B(13), buff colour int. and ext. slightly blackened, light core, fine quartz temper. (0.020 kg).
Base (1), sherd (1), rough, buff colour int. and ext., light core, coarse quartz temper. (0.020 kg). Sherd blackened, similar temper. (0.025 kg).
Sherd (1), smooth, pale brown fabric, grey core, less frequent quartz temper. (0.020 kg).
Sherd (1), sherd A(3)[3], jug fabric, very fine white quartz temper, latter green glaze over pink slip ext. (0.020 kg).

THE POST-MEDIEVAL POTTERY

Sixteenth Century

A+C(3) Sherd (1), buff colour, grey core, fine quartz temper, well-fired. (0.005 kg).
B(4) Base, yellow stone colour, grey core, fine quartz temper. (0.010 kg).
B(13) Sherd with beading, buff int., grey ext., and core, fine fabric, trace pimply green glaze. (0.070 kg).
C(16) Sherd, dull buff colour ext. and int. grey core, traces pimply green glaze both sides, fine quartz temper, well-fired. (0.035 kg).
A(3) [4] Thumbed base, pale buff ext., dark grey core and int., slightly rough fine quartz temper, trace green glaze. (0.010 kg).

Eighteenth Century

Bellarmine type stone ware
A(3) Sherd and rim. (0.015 kg).

Staffordshire or Bristol Slipware
A(3), A(6), Sherds (2). (0.025 kg).

Verwood type pottery
A(9) [1] base, Sherds (2), one glazed dark green int. (0.060 kg).

Donyatt Pottery
A(6) Sherd. (0.002 kg).

Nineteenth and Twentieth Centuries

Verwood type pottery
A(3), (6), B(4) Rims (3) glaze int. (0.225 kg).
A(3), (6), A+C (3), B(4) Sherds (14). (0.135 kg).

Miscellaneous
A(15), B(4), (13), (14) Sherds (6). (0.040 kg).

THE CERAMIC FLOOR-TILES

Fragmentary floor-tiles form the major part of the artefacts recovered and are the largest collection from a Shaftesbury parish church, weighing in total 9.5 kg. No tile is complete, but though mostly very worn, several show traces of decoration with varying amounts of pattern and glaze surviving and the best of these are described below. Two different fabrics can be identified.

A) A pale, orange/pink quartzitic fabric with frequent inclusions of ironstone, up to 10 mm across, and larger quartz fragments. Grey areas within the fabric demonstrate reducing conditions.

(i) Patterned tiles:

A(1)[1] Thickness 23 mm. 0.4 kg. One large knife scoop, traces of

two others with some brown glaze. Bevel acute, mortar on sides and under. Trace green glaze on very worn surface only, but inlaid pattern (inlay to 1 mm), identifiable as variant of hunting scene, (Emden 1977, no. 181), early 14th century with parallels in the abbeys of Milton, Shaftesbury and Sherborne. Represents production of tiles in Wessex at that time. Fig. 6. no. 1.
A(1)[2] Fragment, 0.6 kg in similar fabric. One large knife scoop. Trace white slip with yellow lead glaze.
(ii) Plain tiles:
A(3)[8] 100 x 55 x 23 mm. 0.275 kg. Sharp bevel, triangular shape, scored for splitting. No scoop. Mortar on sides and base. Upper surface white slip with yellow/green glaze over.
A(3)[9], [10], [11] 0.5 kg. Three pieces, rectangular shape, 65 mm wide, 40-55 mm long. Sharp bevel, traces mortar on sides and under. Dark copper glaze residue on surface and under. Plain tiles for border of pavement.
A(3) Fragment. 0.1 kg. Part one large knife scoop. Trace glaze on side.

B) A bright, orange/red, quartzitic fabric often reduced on upper part, particularly where glaze had worn away. Ironstone inclusions are less frequent than in fabric A. Some tiles are slightly micaceous and a few show traces of black flecks in the fabric.

Visually the colour is similar to bricks from a 19th-century kiln

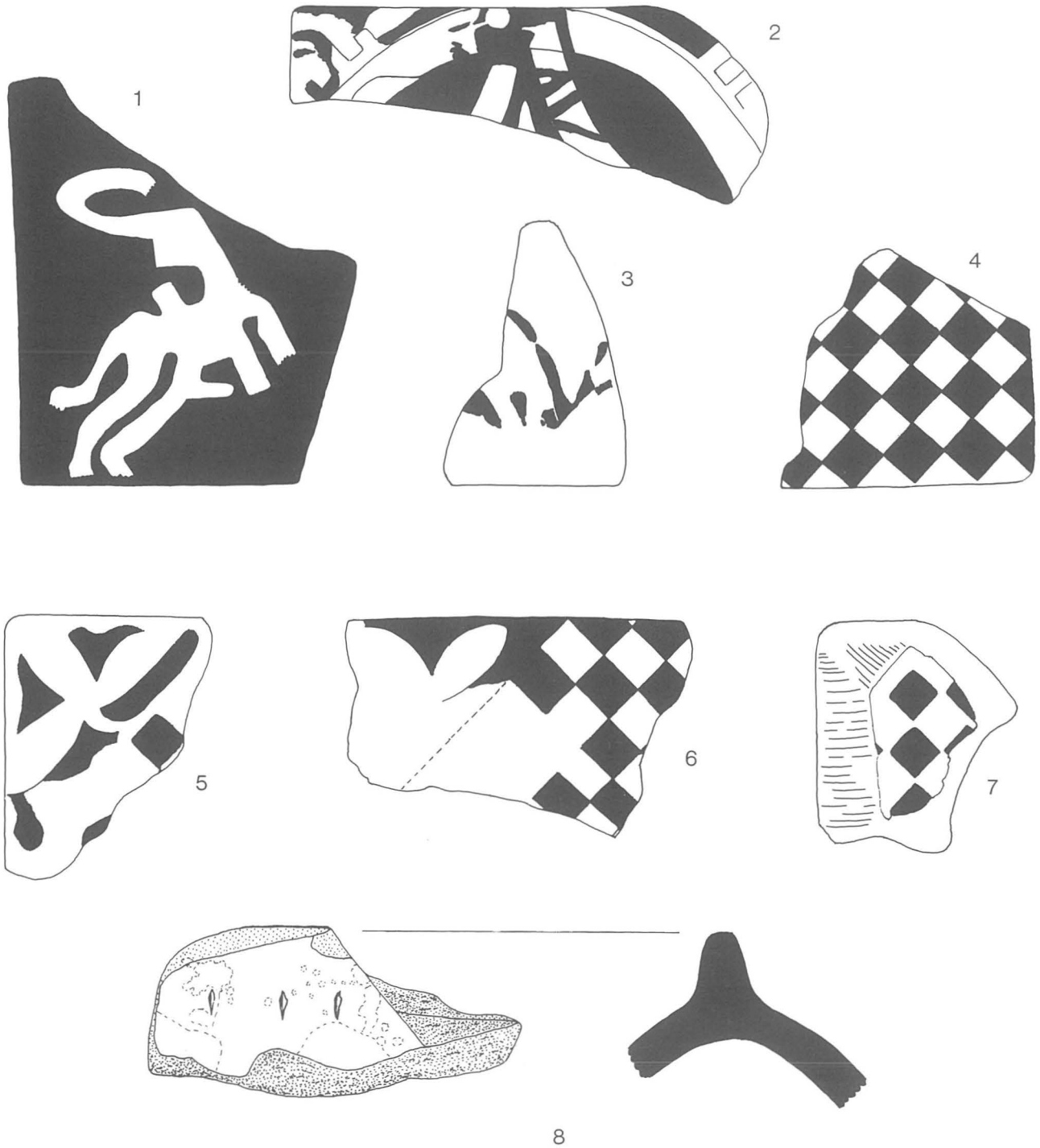

Figure 6. St. Rumbold's Church, Shaftesbury: the medieval floor-tiles; nos. 1, 2, 4-7, the white areas represent yellow slip; no. 3, the black area shows an almost black slip over a red base; no. 8, medieval glazed roof-tile. At ½ reduction. Drawn by W. F. Moore.

at Gillingham using the Kimmeridge Clay. Scoops are seen on all but a few, mostly small and kidney-shaped, and as no tile is complete, they cannot be classified, but variations are presumed to represent different places and phases of manufacture (Eames 1977, 3), although tiles in Shaftesbury Abbey with four or five scoops are contemporary. Apart from the obviously patterned tiles, the majority are so abraded, with only a minute trace of glaze, and many are totally without, that it cannot be determined whether they were originally patterned or plain. There is no example of border or triangular tiles among them. Several of the tiles described below have heraldic designs which appear to be the Arms of Warren (Emden 1977, no. 155). There is no apparent connection of this family with Shaftesbury and the design has not been recorded in the Abbey; a single example comes from St. Peter's Church, Shaftesbury (*ibid.* 74). Their manufacture represents a different technique and may be dated to the late 15th century.

(Unident = unidentified)

(i) Patterned tiles:

A(3)[1] Thickness 23 mm. 0.275 kg. Larger sized tile, one small scoop, trace second. Straight sides, glaze with stacking marks. Upper grey under glaze, lower pale brick colour with black face. Trace mortar one side. Green and yellow glazed pattern, technique probably 'stamp-over-slip'. Unident. Fig. 6, no. 2.

A(3)[2] Thickness 23 mm. 0.125 kg. Part one small scoop, straight side, trace mortar. Bright red-coloured surface, grey core under and grey reduced border 10 mm along edge. Pattern black/dark green glaze. Unident. Fig. 6, no. 3.

A(3)[3] 65 x 55 x 23 mm. 0.125 kg. One small scoop, trace green glaze. Slight bevel, side glazed but worn. Bright red upper and lower surfaces, thick grey core. Black/dark green chequerboard pattern, much worn, technique doubtful. Late 15th century. (Emden 1977, no. 155: Arms of Warren).

A(3)[4] Thickness 23 mm. 0.225 kg. Dark grey reduced throughout. One small scoop, ? two others, slight bevel, some green glaze on sides. Chequerboard pattern, very little slip used, technique doubtful, yellow/green squares. Late 15th century. (Emden 1977, no. 155: Arms of Warren). Fig. 6, no. 4.

A(3)[5] 60 x 30 x 20 mm. 0.5 kg. One large knife scoop, slight bevel, ? glazed. Bright red but part grey core. Trace chequerboard pattern, white slip, yellow glaze. Unident.

A(3)[6] 45 x 60 x 23 mm. 0.15 kg. Trace small scoop, slight bevel, trace glaze and on underside. Bright orange/red. Trace slip and residual green glaze. Unident.

A(3)[7] 110 x 65 x 23 mm. 0.225 kg. Large knife scoop. Bright red upper, part grey core. Trace slip and green glazed pattern on surface, very worn. Unident.

It is impossible to determine whether the following were patterned or plain:

A(3) 44 fragments, bright orange/red. Sides mostly slight bevel, trace brown glaze. Small scoops where large enough example. Upper surface often grey due to firing and loss of glaze. Generally uniform thickness, six with traces surface glaze. Unident Largest: 115 x 115 x 23 mm.

A(15)[6] Thickness 23 mm. One small scoop, bright red, core grey. Medium bevel, green glaze on side and trace under. Very shallow inlaid dark green and white pattern, worn. Late 15th century. (Emden 1977, no. 155: Arms of Warren). Fig. 6, no. 5.

A(15)[8] 90 x 70 x 20 mm. 0.22 kg. One small scoop with mortar. Slight bevel, ? glaze. Bright orange/red, top and bottom grey. Trace shallow, inlaid pattern, green/yellow glaze over white slip, very worn. Unident.

A(15){10] Thickness 25 mm. 0.3 kg. One small scoop, slight bevel, trace glaze. Dull red under, trace mortar, rest grey as upper surface. Overfired, almost waster yet design identifiable but very abraded. Late 15th century. (Probably Emden 1977, no. 155: Arms of Warren). Fig. 6, no. 6.

A(15){11] Thickness 25 mm. 0.125 kg. No scoop, very rounded side, no bevel. Dull red, grey upper, mortar on base. Green glazed squares on slip. Late 15th century. (?Emden 1977, no. 155: Arms of Warren). Fig. 6, no. 7.

A(15) 10 fragments, three with traces of scoops and glaze.
B(4) 3 fragments, one with scoop, all traces yellow/green glaze.
B(13) 2 fragments, with traces of scoops, one with glaze.
B(14) 1 fragment, trace scoop and yellow glaze.

THE CERAMIC ROOF TILE

A(3) Four joining fragments, [1 A(13)], 115 x 110 x *c.* 15 mm. 0.275 kg. Rim with 10 mm round edge on upper side, underside flat and smooth. Pale buff colour, reduced grey core, frequent sub-angular/rounded quartz grains, occasional ironstone up to 5 mm. Trace green glaze upper surface.
Fragment crested ridge tile, 100 x 50 x 8 mm. Fine quartzitic fabric, buff upper, red underside, grey reduced core, occasional inclusion ironstone 0.1 mm. Flat crest with sloping sides, all very smooth with 3 slashes on side, no glaze, well-fired, noticeably thinner. Medieval.
Six fragments with green glaze, five plain fragments.

A(6) Fragment crested ridge tile, (as B(4) below), 70 x 45 x 10 mm. 0.05 kg. Four fragments roof tile.

A(15) Fragment crested roof tile, vitrified, 55 x 25 mm.
Three other fragments.

B(4) One incomplete crested ridge tile, 0.2 kg. Fine quartzitic fabric, some larger assorted quartz and ironstone inclusions up to 0.5 mm, occasional black flecks and mica. Dull brownish/red upper, brighter red under with traces mortar, grey reduced core. Thumb wiping on sides with patchy dark green glaze and some dark brown iron stains. Crest probably rounded, ? knife cut. Three slashes on side, all very smooth. ? 13th century, c/f Southampton, (Platt & Coleman Smith 1975, 191). Fig. 6, no. 8.
Two fragments, one vitrified with butted end, concave upper, many black flecks.
One as above, green glaze, four fragments, three with glaze, one pimply. 24 various fragments, one with lug, glaze or unident.

B(14) 10 miscellaneous fragments.

B(13) One fragment with smooth green glaze and rim. 110 x 65 x 15 mm. 0.15 kg. Pale brick colour, reduced grey core, coarse temper applied with glaze to roughen surface.
8 fragments.

C(12) One fragment.

C(16) 6 fragments, two with trace green glaze.

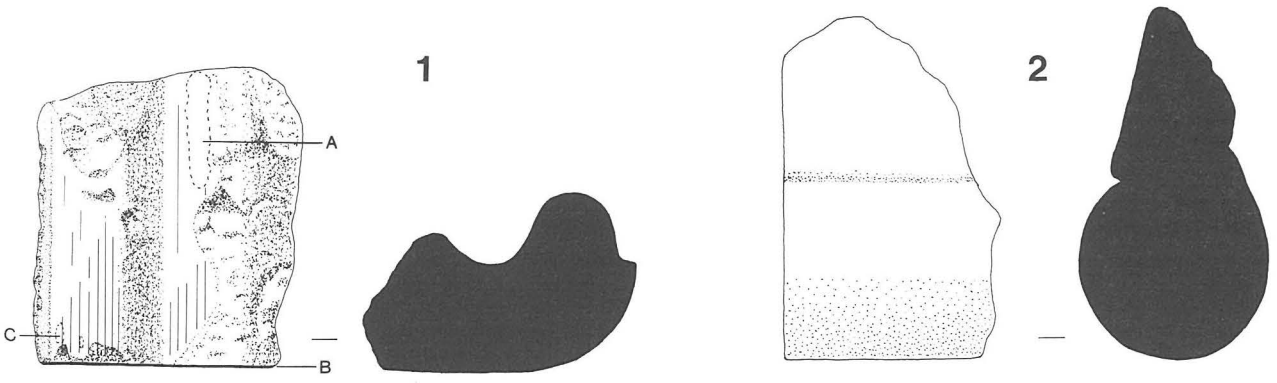

Figure 7. St. Rumbold's Church, Shaftesbury: architectural fragments; no. 1, A & B show areas of whitewash or paint, C shows trace of crimson paint. At ⅓ life size. Drawn by W. F. Moore.

THE WORKED STONE

Flint

A(3) Bronze Age scraper

Architectural Fragments

A(1) Part of a window frame or arch, 115 mm x 100 mm x 65 mm. Upper face dressed, covered in whitewash/paint, suggestive of re-use. Dabs of crimson paint similar to other fragments in Shaftesbury Abbey Museum, probably medieval in date. Fine oölitic limestone. (Fig. 7, no. 1)

B(4) Base of column, 70 mm diameter, 120 mm x 90 mm. Tooling on base, trace mortar. Upper Greensand. (Fig. 7, no. 2).

C(12) Fragment of gravestone, unidentified. 150 mm x 150 mm x 75 mm. Inscribed '. . .id me. . .'

Stone Roof Tiles

A(3) Fragments: 115 x 90 x 08 mm, Forest Marble; 105 x 60 x 10 mm, Upper Greensand; 7 small pieces of Upper Greensand, ? roof tile.

A(6) One piece Upper Greensand, ? roof tile.

B(4) Roof tile: 125 x 95 x 15 mm; 75 x 90 x 20 mm; 60 x 90 x 10 mm; 100 x 70 x 10 mm; all Upper Greensand.

C(11), (16) Three fragments, all Upper Greensand showing interference ripples.

C(12) Five roof tiles, showing traces of mortar:
230 x 140 x 15 mm, Upper Greensand; 140 x 100 x 15 mm, Upper Greensand; 100 x 90 x 15 mm with hole at top 7 mm diam., Forest Marble. 165 x 120 x 12 mm, Forest Marble; 185 x 110 x 20 mm with hole at top, Upper Greensand.

The Stone

A(3) Piece rubble with mortar attached, 120 x 80 x 50 mm, Upper Greensand. Small piece Upper Greensand Chert.

A(6) Rough piece Upper Greensand with evidence of slickensiding.

THE WALL PLASTER

Only one very small fragment, with colour, was thought to be from an earlier church. The measurements are approximate because the material, adhering to mortar is extremely fragmentary.

A(3) 7.5 sq. mm., less than 1 mm thick, white.

A+C(3) 8 sq. mm., less than 1 mm thick, white.

B(4) 26 sq. mm., less than 1 mm. thick, partly green over buff, modern.

B(13) 4 sq. mm., less than 1 mm. thick, white.

C(12) 45 sq. mm., 15 mm. thick, pink plaster with mortar adhering, modern.
20 sq. mm., 2 mm. thick, white.

C(16) 202 sq. mm., less than 1 mm. thick, white.
37 sq. mm., less than 1 mm. thick, yellow, modern.

THE MARINE SHELLS

Oyster shells weighing 0.33 kg in total were found in the following contexts: A(3), B(4), B(14), C(16), A(6).

DISCUSSION

The domination of Shaftesbury by the Abbey and its twelve churches was symbolic of its enormous wealth and prestige, making it a centre for pilgrims from all over the Christian world.

Within this vast complex, but outside the *burh* to the south-east lay the parish of Melbury Abbas, of which the manor of Barton and Cann was a tithing, and which had been acquired by the Abbey in 956 (Mills 1989, 130). Seemingly St. Rumbold's Church would have been founded there, at a time unknown, as a dependent church or chapel of the Abbey, with the Abbess as patron. The ties of the church with the Abbey are emphasised by the fact that the church-yard had not been used as a burial ground '... till within the memory of man ...' (Hutchins 1868, 81), which would suggest that parishioners had to be buried in the conventual church, and that revenue from masses and offerings for the dead accrued to the Abbey rather than the church, thereby reducing its income. It is of interest to note that the church-yard is in use at the present time. Yet St. Rumbold's had a degree of independence evident from the tax assessment of 1291, as had, in similar fashion, St. James's Church, south-west of the *burh* and founded as early as 1140 (Mills 1989, 143), also under the auspices of the Abbey. These churches were the only two in Shaftesbury to be of sufficient value to be listed in the Taxation of 1291.

It must be presumed that St. Rumbold's was built to provide for the spiritual needs of an expanding town and a community engaged in farming, for it was after all in the manor of Barton and Cann, extending south over the Greensand escarpment. Other activities probably included milling and quarrying. A valuable water supply, so lacking in Shaftesbury itself, encouraged development in the area.

With such a background, even though the first recorded date for the church is 1280 (*ibid.* 144), an earlier origin is suggested. The most cogent argument for a 12th century foundation comes from the font of *c.* 1200, for the right to baptise was highly valued, and in rebuilding a church, was often retained to confirm its previous use (Hoskins 1959, 60).

This view would seem to be supported by the dedication to an Anglo-Saxon child saint, in spite of the other attributions described, for such dedications have sometimes been used as a measure of the provision of parish-churches, although this might indicate a new fashion rather than the presence of recent building (Platt 1981, 8-9). The same dedication is found, however, at the church of Pentridge, Dorset, also in Cranborne Chase, and whose gift to Tewkesbury was confirmed in 1109 (Hutchins 1868, 442).

If St. Rumbold's credibility as one of the outer bounds of Cranborne Chase in the 12th century or even earlier is accepted, then it would seem logical that it was chosen as a landmark because it was already there and held an important position beside the 'Royal Road' on the outskirts of Shaftesbury.

Further evidence is provided by the unusual north-east orientation of St. Rumbold's Church. In a personal communication, Dr. Warwick Rodwell says '... there is no doubt that the church derives its orientation quite simply from Salisbury Street: the church, like all the burgage plots, is at right-angles to the frontage. It seems likely that St. Rumbold's relates to a late Saxon suburban expansion of the town and the dedication is likely to indicate an 11th century date. In the Norman period there was considerable concern about building new churches on an approximately east-west axis, and thus many churches were correctly aligned; St. Rumbold's was obviously never re-orientated.'

As for the building itself, there is more tangible evidence for its 13th century existence. From the sparse details available, it would appear to have been a simple building, in the Early English style, based on the description of lancet windows and plain pointed arches. The unembellished pillars noted are difficult to date in this context. The font of *c.* 1200 might be fitted into this setting or could represent an earlier foundation, perhaps in parallel with the rebuilding of the Abbey during the Norman period. Even so, St. Rumbold's has been described as well-endowed, and the glazed tiles, in providing important dating evidence of the 14th and 15th centuries, also demonstrate relative affluence at that time. In fact, the limited excavation has produced more of these tiles than in any other parish church in Shaftesbury (Laurence Keen, pers. comm.) The contracting fortunes of the church in the form of blocked aisles indicate an earlier programme of enlargement perhaps in those centuries when the glazed tiles were used. The paucity of glebe land even before the Dissolution is not understood and must be assumed to have been appropriated by the Abbey at some time previously.

The recorded building of the tower early in the 18th century points to an improvement in the church's status and finances or maybe the generosity of a patron. This would appear to preclude the presence of an earlier structure, although with such a small area of the Saxon/medieval

foundation uncovered, a tower offset on the north-west cannot be ruled out, and must only be conjectural. A further decline in St. Rumbold's fortunes led to its ultimate demise and total rebuilding in 1840, demonstrating neglect in the intervening period or perhaps simply Victorian zeal.

The excavation fulfilled its purpose in defining a small part of the earlier church and giving some substance to its presence. An 11th century origin seems likely in view of the site of the church, its dedication and position on the Cranborne Chase boundary, although there is no definitive archaeological or documentary basis for this assumption which must, therefore, remain somewhat speculative.

As a fitting epitaph for the old St. Rumbold's, these two simple verses from a lengthy poem 'On the Rectory, Cann, St. Rumbold' by R. Williams and dedicated to the Rev. W. Gane (undated but obviously written in 1840), reflect the enthusiasm and devotion of the parishioners in the early Victorian period (DRO PE/CAN:IN 5/11).

Cann St. Rumbold Rectory
Surrounded is with shrubberys
A pleasant place with lofty trees
It doth our fancied mind well please.

There is a Church now nearly built
May blessedness be the result
This Church is blest with a good Pastor
He is obedient to his Master.

ACKNOWLEDGEMENTS

The Shaftesbury and District Archaeological Group are very grateful to the Trustees of the Shaftesbury School Chapel Arts Centre for permission to excavate and for their help and co-operation during that period. They thank particularly Mr. Brian Kirkup, Chairman of the Trustees and Headmaster of Shaftesbury School, David Grierson, John Seabrook and students of the School for their assistance and interest; an MSC team from the Springhead Trust who carried out a mammoth clearing operation which made the excavation possible; Frank Hopton, author of *Reminiscences of St. Rumbold's*; the Curator and staff of Shaftesbury Museum; Peter Irvine for acting as supervisor during the excavation; Frank and Hazel Plowman who carried out the survey; M. Sanger and Margaret Cox who took the photographs; members of the Shaftesbury and District Archaeological Group and other helpers.

They also thank those who gave specialist information: Patrick Barry, O.B.E., R.I.B.A. who discussed the architectural details; Marian L. Campbell, Assistant Keeper – Metalwork Section, Victoria and Albert Museum and Dr. Mirjam Foot, Deputy Director, West European Collections at the British Library for identification of the book clasp; Laurence Keen, County Archaeological Officer for advice and classification of the medieval floor-tiles; Dr. Warwick Rodwell who clarified the unusual orientation of the church; Chris van der Vyver for help with the geology; Anne Woodward of the R.C.H.M. for details and plans of St. Rumbold's; Jo Draper for editorial guidance and much patient assistance.

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Abbreviations:
Dorset Proceedings (1915 & 1924) – *Proceedings of the Dorset Natural History and Antiquarian Field Club.*
Dorset Proceedings (otherwise) – *Proceedings of the Dorset Natural History and Archaeological Society.*
DRO – Dorset Record Office
WRO – Wiltshire Record Office

THE ARCHIVE

All finds have been deposited in the Dorset County Museum, with the site drawings, illustrations and relevant archival material.

Site reference: SR 86.

Boxes stored are marked with the site and context number.

Excavations at the Parish Church of All Saints, Chalbury, Dorset, 1989

TERESA HALL
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ABSTRACT

This report describes excavations in the northern part of the nave of All Saints Church, Chalbury, which took place in advance of renovation work. The brick floor and filling were removed to a depth of 0.15 m in order that a damp-proofing membrane could be inserted. The work was undertaken in two stages; Area 1, the western end; and Area 2, the eastern end. In addition a small amount of exploratory work was carried out to identify some of the features present. Two pits associated with medieval bell-founding were found. An exploratory section from the pits to the foundation trench of the standing north wall of the nave, cut through the footings trench of a 12th-century nave, apparently of timber-framed construction, and through what may have been an earlier phase of the church.

INTRODUCTION

The excavations were carried out in January and April 1989 by members of the East Dorset Antiquarian Society at the request of Mr Laurence Keen for the Diocesan Advisory Committee for Faculties and the Care of Churches. As the floor in the southern part of the nave unfortunately had been renovated already without a faculty, the opportunity to examine that area was lost.

The village of Chalbury lies in the eastern part of Dorset, about seven kilometres north of Wimborne Minster, at a height of 90-100 metres above sea level and is sited on Plateau Gravel and London Clay over Reading Beds. Three springs emerge at the junction of the gravel and clay on the north side of the hill. The church sits on the top of the hill, between two parallel roads, the most southerly of which is now a sunken way (Figure 1). Little settlement is shown on the 1849 Tithe map (DRO. T/CHY), but earthworks suggest that the village is shrunken.

Artefactual evidence from Chalbury consists of Roman coins, said to have been found during the first extension of the school house adjacent to the Church, and a cinerary urn found in the Rectory Garden in 1878. The church guide (Brewster, n.d.) describes the urn as Saxon. However, using Cunnington's notebook, Calkin identified the urn as being Middle to Late Bronze Age (Calkin 1969, 119). Neither the coins nor the urn are available for verification of the identifications.

Documentary References to Chalbury

The earliest documentary evidence for Chalbury is from a 14th-century copy of two Anglo-Saxon charters dated to 946 and 956 (Grundy 1934, 111-114). In the 946 charter, King Eadred grants 5 mansas of land at Didlington to the thegn Wulfric. The area described appears to be approximately the same as the area of the present parish. In the charter, the east and west gates of 'Ceol's burh' are mentioned. These references have been interpreted as implying the existence of an Iron Age hillfort (Mills 1980, 134), but there is no evidence of a hillfort on the ground.

In the Domesday Survey it is recorded that the church of St Mary at Wilton held Didlington. In 1293 lands in Chelesbury belonging to the abbess of Wilton were rated at 113s. The lands remained with the Church of St Mary at Wilton until the Dissolution when they were granted to William Herbert, Earl of Pembroke (Hutchins 1868). The earliest documentary reference to a church at Chalbury is in 1291 in the Taxation of Pope Nicholas IV (Cooper 1802, 178).

A sketch of the church reproduced in Brewster shows the church at the beginning of the 16th century with a tower over the west end (Brewster n.d.). The Church Goods Inventory of 1552 describes Chalbury as having two bells in the tower (Barnes 1904, 231). The Church Wardens' Accounts (DRO, PE/CHY.CW1) record renovation works in 1702, and again in 1725. The larger works in 1725, costing £44 1s 6½d, followed a fine of £1 12s 6d imposed because the church was out of repair. In 1791 the Accounts show a payment of £13 18s 6d to Robert Wells of Salisbury for a new bell, that which presently occupies the bell-cote. The bell is inscribed 'R Wells fecit', and 'T Golding Cwarden'.

The most recent analysis of the church is that carried out by the Royal Commission on Historical Monuments which states that the church appears to be of 13th-century date in the chancel and the eastern end of the southern wall of the nave; the north wall of the nave is 16th-century, and the remainder of the south wall and the west wall are 18th-century (Figure 2), (RCHM, 1975, 3). The nave contains fitted box pews and a triple decker pulpit of 18th-century date.

THE EXCAVATIONS

Post Medieval

After the removal of the pews a brick floor bedded in a sandy layer (10) containing some rubble, was revealed. The depth of the bedding increased from 0.02 m by the west wall of the nave to at least 0.14 m beside the pulpit. The brick floor was incomplete at the eastern end and in places the runners of the wooden pews had been laid directly on the sandy bedding, suggesting that the brick floor was contemporary with the pews. The bricks measured 230 mm by 110 mm by 60 mm. A polished Purbeck Marble grave slab (3), 1 m by 1.90 m was laid in the western end. The grave slab, dedicated to Jane Arney, *obiit* 1670, had been recorded previously by Hutchins (Hutchins 1868, 117). Between 0.50 m and 1.30 m to the east of the grave slab the bricks had been disturbed and the sandy bedding removed: a brick and slate foundation had been inserted (7). The filling in the centre of the foundation was extremely dry and dusty (probably the only dry place in the whole church): a stove had probably stood in this position, the brick and slate foundation being necessary to prevent the damp being drawn up by the heat.

Medieval

Three earlier periods were apparent, all three probably associated with church construction.

Period 1 – Archaeologically earlier than the 12th-century nave (Period 2).

The first period consisted of a chalky-earth filling (46) which was observed in Area 1 in the side of the pits where it rested on the gravel subsoil, at a depth of 0.70 m. An exploratory trench dug through the filling showed that it appeared to continue under the footings of the north wall of the nave. Filling 46 also overlaid a flint footing (48), 0.30 m wide, which was parallel to the nave wall at a depth of 0.30 m (Figs 2 and 3, section C-D). A piece of a tegula, 140 mm by 65 mm, was present in the filling.

Interpretation The flint rubble (48) was possibly the base of a flint wall foundation. It lay almost directly under the foundation trench of the 12th-century nave wall of Period 2, and may represent, with an east-west wall, an early phase of the church.

The chalk fragments in filling 46 are not natural to the site. They may have formed part of a floor but there is insufficient evidence about the extent of the chalky filling to draw any conclusions about

its significance. The presence of part of a Roman tile may indicate that there are Roman remains nearby which were being ransacked for building material.

Period 2 – The 12th-century nave and evidence for bell-founding.

In Area 1, a linear clay feature (35), 2.5 m long and 0.30 m wide, was parallel to the north wall of the nave and 0.4 m to the south of it (Figure 2). The clay, 0.07 m at its deepest point, was set in a small earth filled trench (22), 0.02 to 0.03 m deep, which was cut into the chalky earth filling (46) of Period 1 (Figure 3, section C-D). Sherds of 12th-century pottery were present in the earth-filled trench (22). The southern edge of the clay feature was straight, and abutted a yellow clay floor (36) which varied in thickness from 0.015 to 0.10m. Part of the upper part of this floor and of the clay feature (35) appeared to have been cut away in the levelling of the area for the brick floor. A second floor (43) of grey clay with mortar in places, of a consistent thickness of 0.01 m, lay under the yellow clay floor (36). Two more floors, both about 0.01 m thick, of yellow (56) and grey clay (58), were revealed in the side of the pits. The grey clay floor (58) had localised burning. Under the bottom floor (58) was a patchy layer of crushed chalk fragments above filling 46 of Phase 1. The floors were cut through, to the south and east, by a

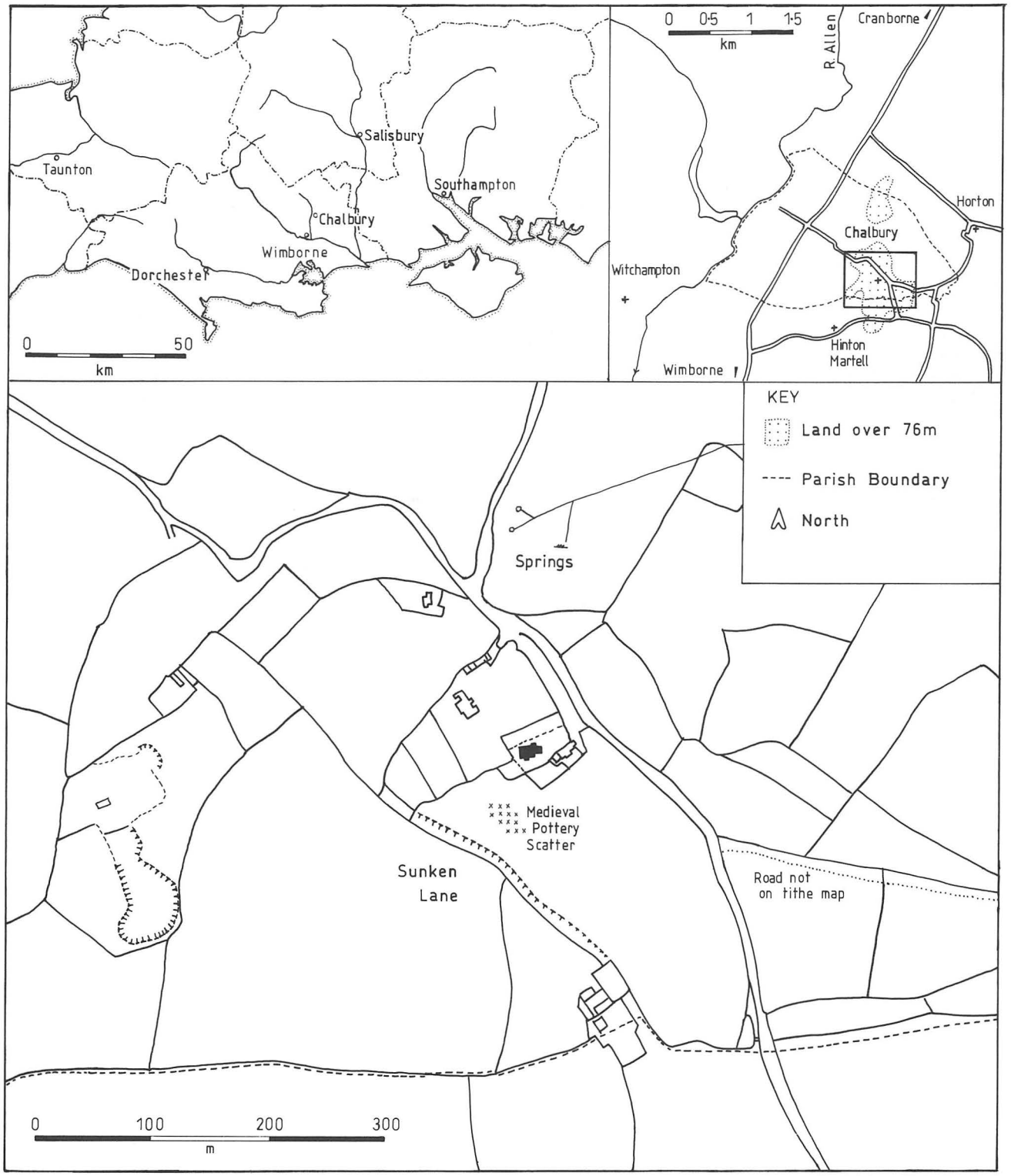

Figure 1. Location and site of All Saints Church, Chalbury.

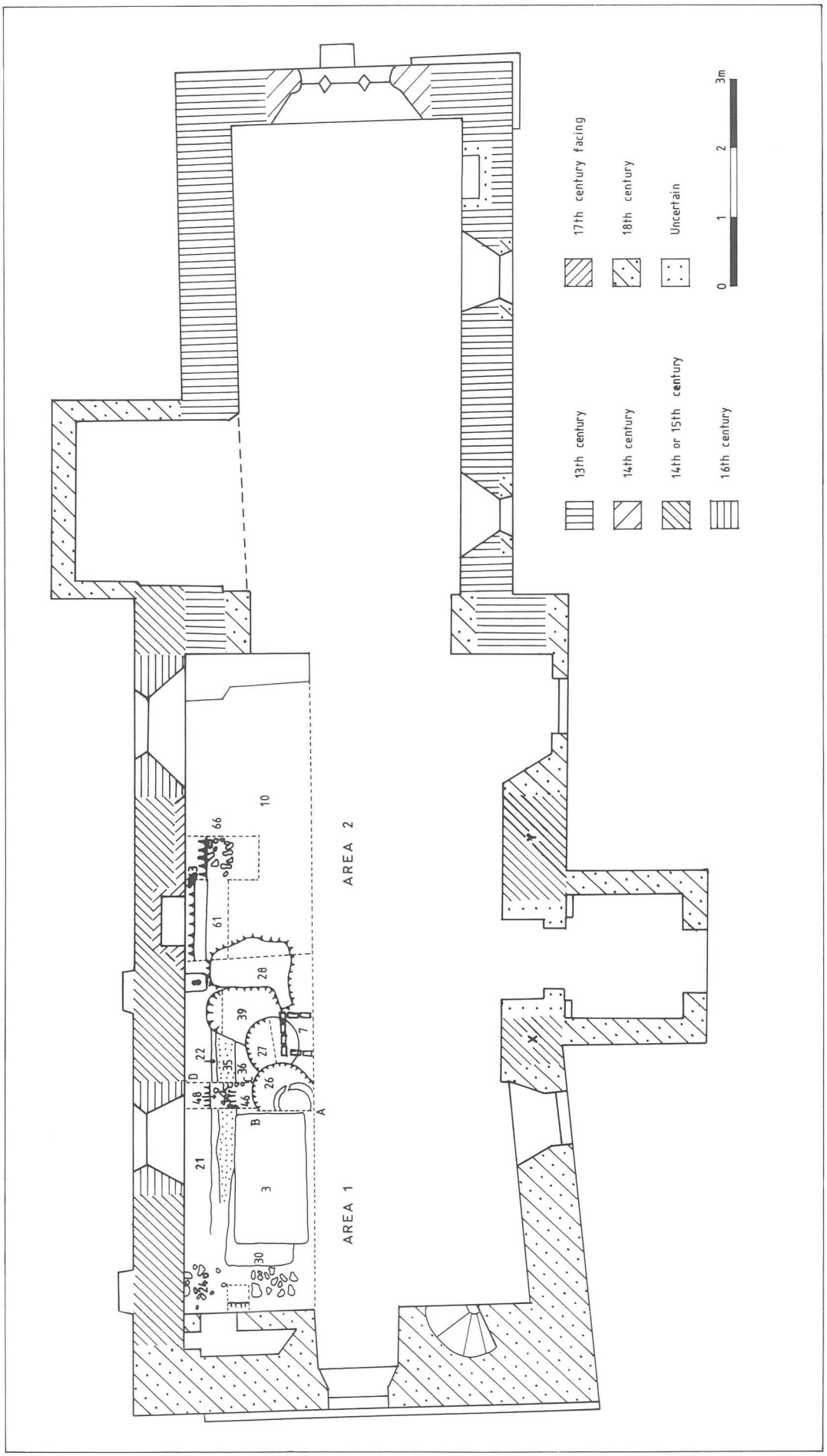

Figure 2. Plan of All Saints Church, Chalbury, showing excavated areas.

series of three interconnected pits, 26, 27, 39 (Figure 2).

Pit 39 was not excavated, but was observed from the side of pit 27. Its surface was about 0.60 m in diameter and the top 0.03 to 0.04 m was filled with lumps of mortar, pebbles and dark earth. Below this the side of the pit was vertical and had a much narrower diameter. Its filling consisted of a loose grey soil with large pebbles and flints. Pit 39 was cut by pit 27.

Pit 27 was 0.70 m in depth and 0.75 m in diameter. The filling was a uniform loose brown soil containing pebbles 50 to 70 mm in diameter with some charcoal fragments and chalk flecks. A small piece of 14th or 15th-century pottery and some bronze fragments were found in the filling. Pit 27 was cut by pit 26.

Pit 26 continued under the aisle and may have continued under the grave slab (Figs. 2 and 3, Section A-B). The pit was 0.70 m deep and its filling consisted of brown soil with small pebbles and flint. At a depth of 0.30 m there was a layer of charcoal, yellow clay, and darker soil containing fragments of bell mould. At a depth of 0.65 m, part of an unfired clay ring was found *in situ*. The ring was approximately 0.50 m in diameter and 0.01 to 0.02 m deep with an indentation running around its upper surface. Bronze fragments, 14th or 15th-century pottery and parts of the mould and model for a bell were present in the filling. Pits 26 and 27 had vertical sides.

An area of clay (28), about 1.25 m by 0.75 m, was exposed beside the pits and overlapped Areas 1 and 2. It showed signs of having been subjected to intense heat. The clay was between 0.01 and 0.05 m thick and overlay 0.01 to 0.02 m of crushed chalk. The small exploratory trench in Area 2 showed that the chalk rested on a brown, chalky earth filling (61), which contained a sherd of 14th or 15th-century pottery. Filling 61 extended under the present north wall of the nave.

Two other features were found: these predated the north wall of the present nave and may be part of the 12th-century nave of Period 2. The base of a flint wall (66) running parallel to the north wall of the nave, at a depth of 0.30 m, was found in the exploratory section of Area 2. The wall was 0.30 to 0.35 m wide (Figure 2).

Part of the foundation of a wall (24), consisting of a mixture of flint, Greensand and ironstone blocks was present in Area 1, at a depth of 0.10 m, running parallel to the west end of the nave (Figure 2). It was 0.45 to 0.50 m wide and continued under the north wall of the nave. No artefactual dating evidence was associated with the foundation. To the west of this foundation, the foundation trench of the present north wall was located. To the east of the wall foundation (24), the clay floor had been cut by a rectangular feature (30), probably for the grave which lay under the grave slab.

Interpretation The clay feature 35 may have been a levelling layer for a timber cill plate. This could have been used to support the timber-framing of either the north wall of the nave or the arcade of an aisled nave. The latter interpretation would allow for a nave of slightly greater width than the present chancel which is of 13th-century date. If the nave had aisles, the stone wall foundation 24 may represent the sleeper wall of the west end; it would seem sensible to have stone foundations for the external walls. Pottery from the trench suggests a 12th-century date. At least four floors ran up to the edge of feature 35 indicating that the structure was in use for a considerable period of time. The north end of feature 35 was cut through by pit 39, which was in turn cut by pits 27 and 26, suggesting that the timber-framed nave was demolished before the bell-founding in pit 26 took place.

The flint wall foundation 66 present in Area 2 was on the same alignment as the clay feature (35) and the north wall of the present chancel, and therefore may have been part of the 12th-century nave wall. However, no dating evidence was associated with 66, and it may be that it is part of the flint foundation 48 present in Period 1; both being at the same depth below the present floor.

The lack of stratification related to, or earlier than, Period 2 in Area 2 suggests that the 12th-century nave may have been stepped to accommodate the slope of the site. The 14th or 15th century pottery in 61 might then indicate that this layer was used to level the site before construction of the standing north wall.

The area of burnt clay 28 which overlays 61 must have been connected in some way with the bell-founding process, and may perhaps have been where the furnace for melting the bronze was sited.

The pottery from pit 26 suggests a 14th or 15th-century date for the bell-founding associated with pits 26 and 27. This operation took place after the demolition of the 12th-century nave, probably in the shell of the newly constructed nave which would have provided shelter against inclement weather and enabled the bell(s) to be hoisted straight into place.

Period 3 –The present north wall of the nave.

A foundation trench (21) was present at the base of the north wall of the nave (Figs. 2 and 3, section C-D). The trench was 0.35 to 0.40 m wide and was divided into two parts. The first, in Area 1, ran from the north-south wall foundation (24) to a large stone block (8), running under the north wall, at the edge of Area 1. Its southern edge was parallel to the clay footing (35) of Period 2 and 0.06 to 0.08 m from it. The filling of the trench was a heavy orange clay with iron-patinated flints and lumps of ironstone at a depth of 0.12 m below the surface of the footing trench; this was the depth reached by the excavation at this point.

The second part of the foundation trench in Area 2 had been cut into by a smaller trench (63), 0.20 m wide and 0.5 m deep, beside the wall. The trench contained loose brown earth and fine chalk rubble. Seventeenth-century pottery was present. The thick orange clay of the foundation trench underlay the filling of 63 to a depth of 0.10 m where it rested on a layer of large iron-patinated flints and ironstones, which covered loose orange gravel in the bottom 0.10 to 0.12 m of the trench. The trench was cut into the chalky earth filling (61) of Period 2.

The base of the north wall was constructed of dressed Greensand blocks which, in Area 1, rested directly on the clay. In Area 2 the Greensand blocks were 0.30 m below the level of those in Area 1 and rested on the gravel at the base of the trench. The first four blocks after the drop in height were not as uniform as the rest, the fourth being of ironstone.

In the western part of the wall, Greensand blocks were laid vertically above the large stone block (8). This end of the wall was of a mortar and rubble construction. The eastern end of the wall was faced with bricks above the Greensand foundation blocks. Immediately to the east of the point where the two wall types joined, an alcove, 0.80 m wide, was set into the wall at a height of 0.20 m above the blocks. The centre of the alcove was equidistant from the vertical Greensand blocks and the far edge of the ironstone block.

Interpretation The footing trench of the north wall appears to belong to one phase of construction, with the wall stepped up to the west to accommodate the slope of the site. The vertical Greensand blocks, the adjacent alcove and the different foundation blocks beneath the alcove, may indicate that when first constructed there was a door in this wall.

The western end of the north nave wall appears to be the earlier part. This is suggested by the vertical line of Greensand blocks at its eastern end which appear to be contemporary with the Greensand blocks at the base of the wall and the footing trench. This portion of wall may have been part of the base of the tower which was shown in the early 16th-century sketch of the church and is mentioned in the Church Goods Inventory of 1552. The pottery from the bell-founding pit suggests that the base of the western end of the north nave wall is of 14th/15th-century date. The window in the east end of the chancel is 14th century in date and may well have been inserted when the new nave and tower were constructed. The present 16th-century nave windows and tie beams at the east end of the nave (Pitfield 1987, 160) suggest a date in the 16th century for the demolition of the tower. If a north door existed this may have been blocked when the eastern end of the north wall was refaced with brick, possibly in the 17th century, as suggested by the pottery in the filling of trench 63.

The middle part of the south wall of the nave, on either side of the porch, was not observed, but was reported by Mr Pittard, a Churchwarden, to be of a similar construction to the western end of the north wall. This part of the wall (marked X and Y on Figure 2), is described by the RCHM as being 13th century in date. This now appears unlikely as the 12th-century nave appears to have been timber-framed. Its similarity to the west end of the standing north wall would suggest that it is 14th or 15th century in date.

The Bell-Founding Remains

Little of the bell mould was found, the largest piece, from the core, being only 140 mm by 80 mm in surface measurement (see Figure 5, 1). The fabric of the core consisted of loam with some finely chopped vegetable matter, that had been built up in layers, becoming finer towards the casting surface, which would have formed the inside of the bell. The surface was a light grey colour and showed signs of having been wiped. As the core, model, and cope would have been fired in one operation some sort of interface would have been needed between each layer to prevent adhesion during firing. The light grey colour may, therefore, have been as a result of the surface having been coated with ashes or reeked with smoke to help with separation. (Elphick 1988, 70). Fragment 2

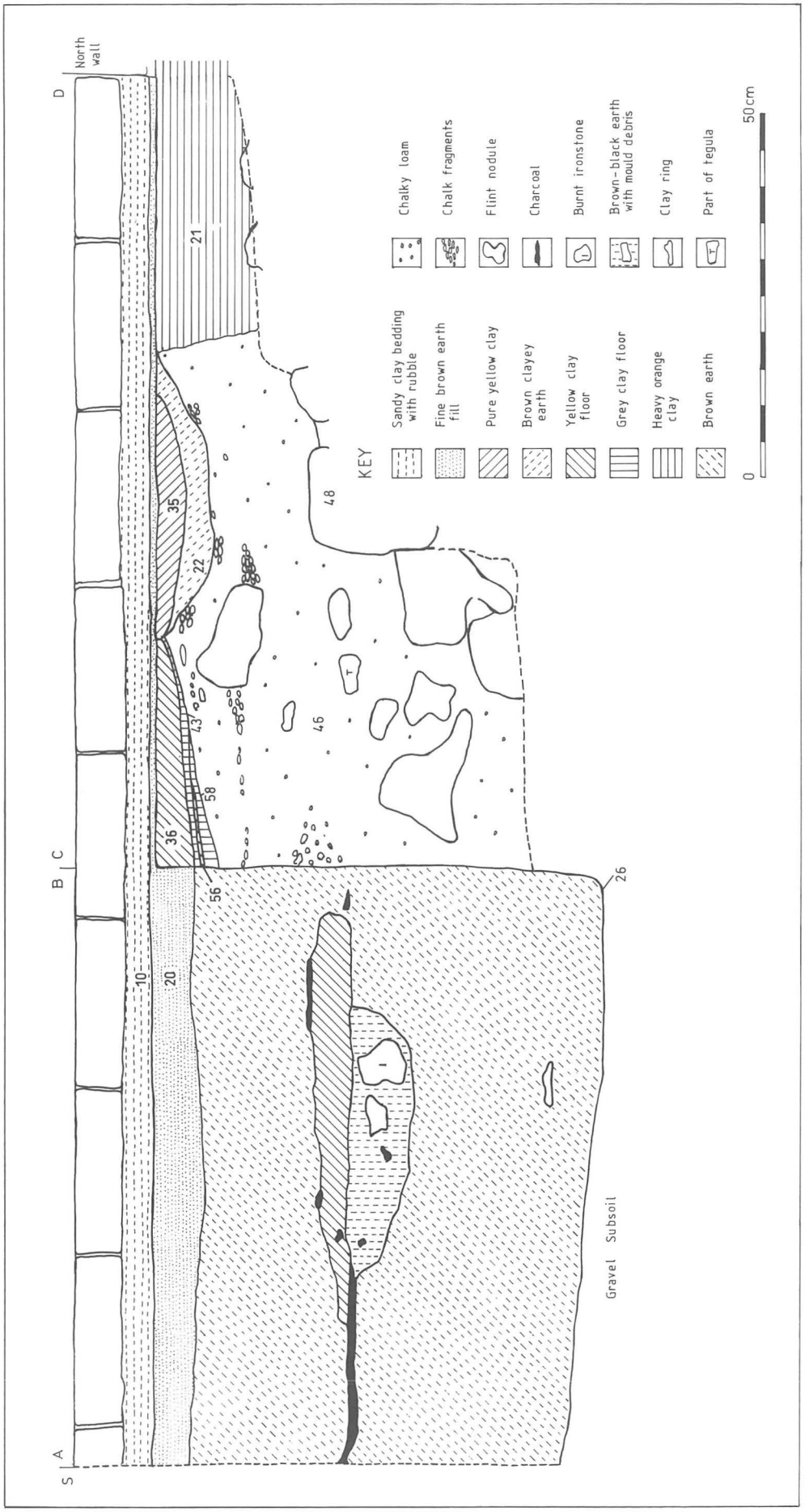

Figure 3. All Saints Church, Chalbury. Sections A-B, east facing. C-D, west facing.

(Figure 5) is probably part of the shoulder of the bell mould, and fragment 3 may be from around the head of the mould.

Fragments of a very soft vegetable-tempered fabric similar to the core, weighing 190g, were also found (see Figure 5, 4-8). This appears to be part of the model around which the cope was formed. The surface of the fabric was very rough, especially the outer surface, and reddish brown in colour as a result of oxidation. There were carbonized areas in the centre of the fabric and it has been suggested by Mr Elphick that this might have been caused by fine vegetable fibres being used to bind the inside layer of the model to the core before being covered by the loam of the outside layer of the model. The scratched surface of the model was probably used to key in a thin layer of wax to the loam to ensure a very smooth surface against which the cope could be formed. This method is apparently still used in Holland today (Mr Elphick, pers. comm.). The use of wax-coated loam for the model is consistent with what is known of bell-founding at this time. Mr Elphick notes that entirely loam models probably came into general use at about the time of the Reformation (Elphick 1988, 70). The curvature of No. 8, Figure 5, suggests that it may be part of the shoulder of the bell-model. One piece of the model has what appears to be a cross roughly inscribed on it (see Figure 5). The softer nature of the model would have enabled it to be easily broken away after firing, without damage to the mould.

As only a small part of pit 26 was examined, it is difficult to compare the bell-founding process with that of other examples in churches. The clay ring in pit 26 seems to indicate that this feature was used to hold the mould whilst the bell-casting took place. It is possible that the feature was trench-shaped, as other casting pits have been. (Mr Graham summarizes these (Graham 1982)). The lack of debris in the neighbouring pit 27, and the fact that the pit holding the mould would have been backfilled for support during casting, indicates that it was infilled before casting. Its purpose may have been to enable the mould to be lowered into pit 26 and levelled. Pit 39, with its narrower diameter may have held a post for the hoisting gear which would have been necessary to move the bell.

The pottery present in the pit must also have some connection with the bell-founding process, (other than the supply of copious liquid refreshment during the casting operation), as assemblages which include cooking pots have been found in bell pits elsewhere.

The dimensions of the clay ring in the base of the pit and the curvature of the fragments of mould and model suggest a bell of between 0.48 and 0.56 m in base diameter. (The present bell measures 0.56 m.)

POTTERY REPORT

Figure 4 – identification and discussion by Jo Chaplin

A small amount (1060 g) of medieval and post-medieval pottery was found. The material described and illustrated below occurred in well-stratified contexts. Most of the remaining pottery consisted of sherds ranging from the 12th/13th century through to the 17th century found in the bedding layers beneath the brick floor. A small fragment of prehistoric pottery was also present in this layer.

Medieval

Context 22. Foundation of earlier Nave wall.

1. Pitcher (?) base in coarse sandy orange fabric. Surface has grey/green splashes of orange glazing externally. Inclusions of quartz up to 2 mm. Also three body sherds in same fabric (not illustrated). A similar body sherd was found in the brick bedding layer (10). Probably 12th century.

Context 61. Earthen floor.

2. Pitcher base in orange fabric with grey core. Inside coated in grey slip. Base decorated with finger pinched lobes. Similar to 1, but slightly less coarse and harder fired. Probably 14th or 15th century.

Context 26. Bell-casting pit.

3. Rim and body sherds of cook-pot in fine hard dark grey fabric with fine quartz sand inclusions mostly smaller than 0.5 mm. Blackened externally.

4. Base of jug in fine orange fabric with fine sandy inclusions. Traces of dull olive green or orange glaze with quartz particles adhering. Diagonal stripes of orange/red slip. Base has finger pinched lobes in groups, perhaps seven in all.

5. Top of jug in same fabric as 4, but redder externally. Splashes of green glaze with quartz particles up to 2 mm adhering. Simple ribbed decoration around neck, burnt over upper break.

Post-Medieval

Context 63. Infill by north wall.

6. Body sherd of fine regular well-fired pale red fabric vessel, at least 250 mm in diameter. Internal glazing dark olive brown with streaks of dark brown. Possibly part of a large jar, and from the kiln at Horton only 2 km away (Copland-Griffiths 1990), of the 1640s or 1650s. A firing scar, 10 mm wide and more than 350 mm long, suggests this might be a locally distributed 'waster'.

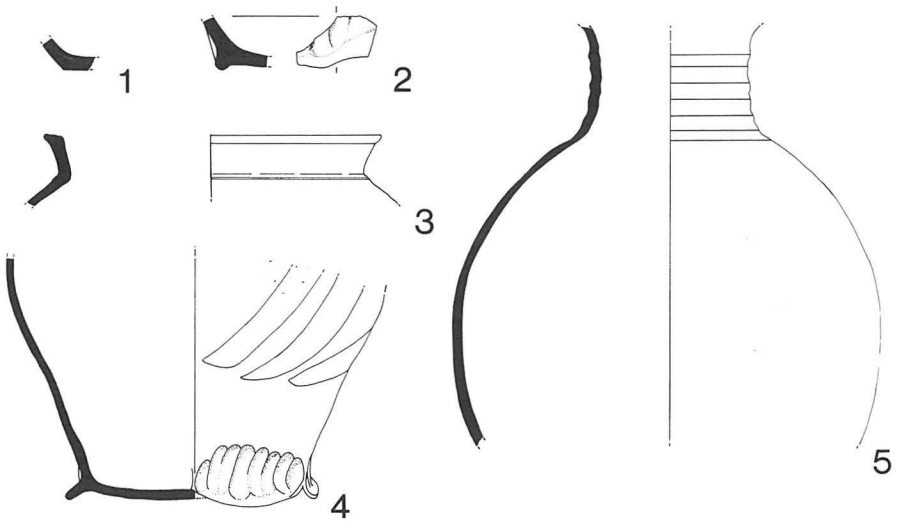

Figure 4. All Saints Church, Chalbury. The medieval pottery.

Discussion

The small group from the bell-pit (nos 3, 4, 5) is difficult to date. The jug base (no. 4) is obviously Dorset Painted Ware (Jarvis 1983. p53), and no. 5 is a similar form. They are quite like two illustrated from Christchurch (base no. 4 here as Jarvis 1983, no. 21 p56; rim no. 5 here as Jarvis 1983 no. 145 p66, but no. 5 is rilled) but not identical. The body is more rounded, and the outflaring neck of no. 5 is rilled. At Christchurch the suggested dating is 13th to 14th century, but for these two vessels a date in the late 14th or early 15th century may be proposed, on analogy with undecorated jugs of similar shape from the Methodist Chapel, Dorchester (with rilled necks) which may be dated from the mid 15th century. The large groups from the Methodist Chapel, Dorchester also contain a cook-pot with a rim similar to no. 3 here (Draper, forthcoming).

This leaves the dating for this stratigraphically useful group irritatingly wide. Only one of the Christchurch examples is well stratified, and these Chalbury vessels are clearly later than that one. A mid 14th-century date might be acceptable, but the group could be later. When more examples of Dorset Painted Ware have been recovered from well-stratified contexts a firmer date will be possible.

CONCLUSIONS

The parish of Chalbury is small, only 817 acres, compared with an average size of 3000 acres in East Dorset. The fact that the boundaries of the 10th-century land unit of Didlington are virtually the same as the present parish implies that the land unit became a parish at an early date, though its first church may not necessarily have been on the site of the present church. The excavations revealed that the area underlying the church was in use before the 12th-century, possibly as a church, though this is by no means certain.

Chalbury appears to have always been a small community and this is reflected in the size and fabric of the church. The excavations showed that whilst the existing 13th-century chancel was built of stone, a 12th-century timber-framed nave continued to be used until the 14th or 15th century. This may have been as a result of the division of the responsibility for the church during the early 13th century between

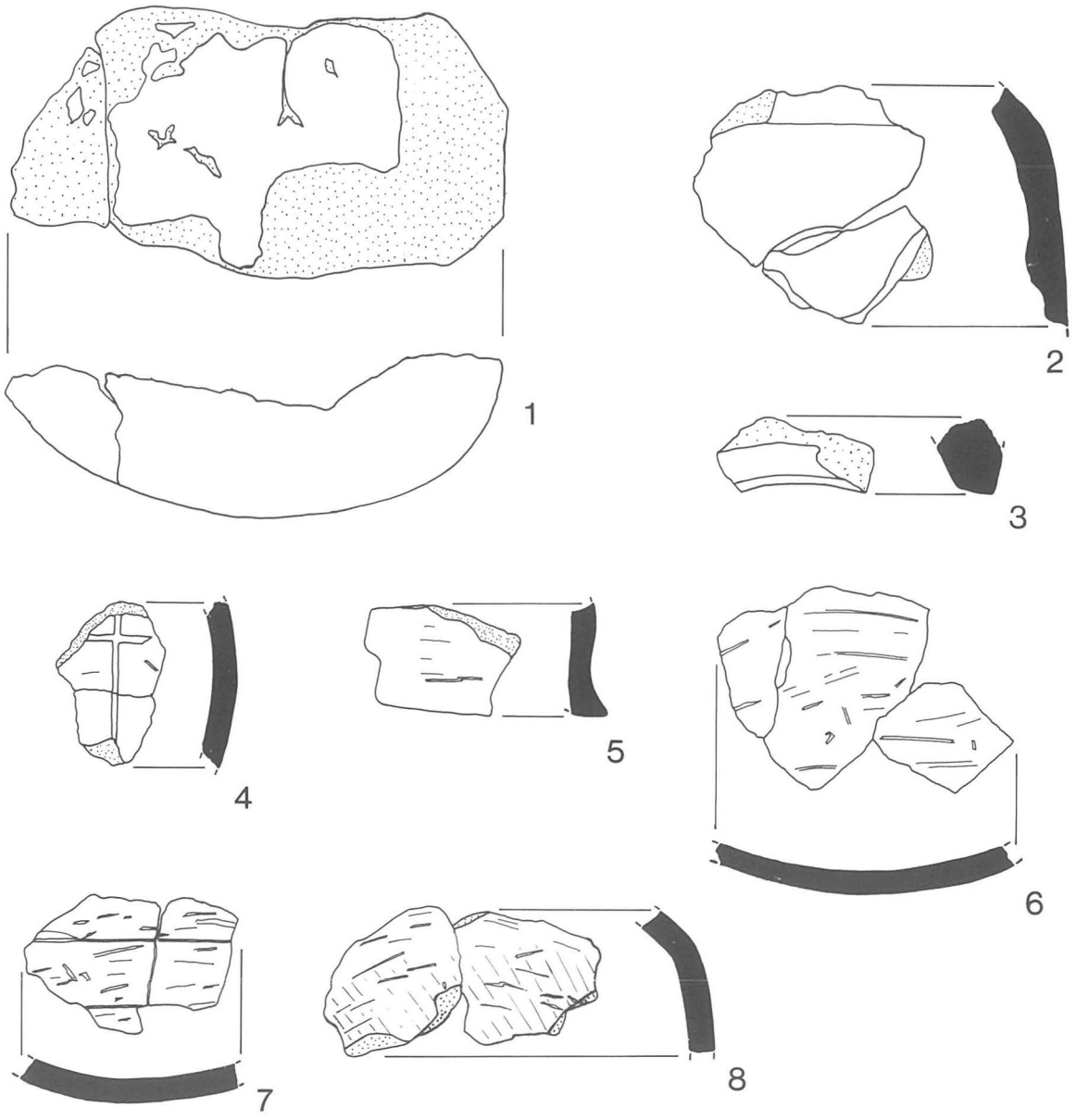

Figure 5. All Saints Church, Chalbury. 1-3, Bell mould. 4-8 Model.

the parishioners, who were responsible for the nave, and the rector or patron, who was responsible for the chancel. The abbey of Wilton may have been able to provide the large funds necessary to rebuild the chancel in stone, whereas the parishioners could not afford to build the nave in stone until much later. Wooden churches must have been more common in the county than is now suggested by their absence, especially in areas lacking a good supply of stone. Builders of small churches would naturally make use of local resources.

Excavation showed that the present nave dates from the 14th or 15th century with later modifications. By this date the wealth of the parishioners appears to have increased sufficiently for them to be able to consider replacing the timber-framed nave with a stone version complete with bell-tower. This would be in line with the general period of rebuilding that took place at the end of the 14th century. Excavations at Sydling St Nicholas showed that bell-founding took place inside the church in the 13th century and the evidence from Chalbury shows that this practice continued into the 14th or 15th century.

The church is usually the oldest building surviving in town or village and much of the history of the parish is reflected in its structure. For this reason it is extremely important that alterations to the fabric or ground surface, both inside and outside the church, are recorded archaeologically. The excavations at Chalbury show that this is a worthwhile practice even when only a small area is likely to be disturbed, and it is unfortunate that the southern half of the nave was damp-proofed without a faculty, as a fuller picture of the earlier church may well have emerged if it had also been recorded.

Finally, these excavations took place although there was no money available to fund the exercise, and this illustrates the contribution that can be made to archaeology in the county by local groups working in collaboration with the County Archaeological Officer.

ARCHIVE

The archive is deposited in the Dorset County Museum, Dorchester. It consists of: 13 plans; 13 section drawings; a photographic record; and finds which include pottery, pins, fragments of window glass, and fragments of bronze bell-casting debris.

ACKNOWLEDGEMENTS

Thanks are due to Parochial Church Council for permission to excavate, and to the Churchwardens Dr M C de V Sadler and Mr Pittard for their help in accommodating the excavations. Also, thanks to Roger Peers, Mr G Elphick, Alan Hunt, Keith Jarvis, and Richard Warmington, to Jo Chaplin for help with the pottery, and to Laurence Keen and Alan Graham for advice on site and help with the report. Lastly, and most especially, to the members of the East Dorset Antiquarian Society, in particular John Milner, and John and Della Day, without whom the excavation would not have taken place.

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South Walks Tunnel Sewer, Dorchester

ARCHAEOLOGICAL WATCHING-BRIEF

SUSAN M. DAVIES & DAVID E. FARWELL
Trust for Wessex Archaeology

INTRODUCTION

The Trust for Wessex Archaeology was commissioned by West Dorset District Council to provide a watching-brief during phase 1 of the construction of the central trunk sewer in Dorchester, including the preliminary borehole investigation which was carried out in November 1989. The following construction work consisted of two separate operations; a tunnel along the northern edge of South Walks Road and an open-cut trench along the southern half of Charles Street.

Archaeological observations on the major works started on 8th May 1990 and ended on 11th July 1990.

THE ARCHAEOLOGICAL BACKGROUND

The line of South Walks follows that of the southern defences of the Roman town of *Durnovaria* (RCHM 1970, 542-9); the south gate of the town probably lies somewhere under the present junction of South Walks, South Street, and Trinity Street *inter alia*. The defences comprised a chalk bank or rampart fronted by a series of three deep ditches (extant depth from the present ground surface between 3 m and 5 m) and a counterscarp bank. Two of the ditches lie more or less under the present road, the third, and the counterscarp bank, to the south of it (RCHM 1970, Fig. opposite p. 584; and Davies and Thompson 1988). Parts of the defences are a Scheduled Ancient Monument (Number 648).

Evidence from previous excavations and observations suggested that occupation inside the Roman defences was also likely to survive in the area. In particular, results of excavations during 1989 in advance of the 'Wessex Court' development suggested that the interior of the Roman defensive bank would be encountered, in addition to a substantial roadway, buildings and other settlement features (Davies and Farwell 1990, and Fig. 2). The trench along Charles Street therefore presented an ideal opportunity to observe a continuous section from the extreme south edge of the Roman town across some 90 m of the interior where both early and late Roman features could be expected.

LOCATION OF CONSTRUCTION WORKS

The five preliminary boreholes were drilled at approximately 120 m intervals along South Walks, covering the whole line of the tunnel sewer (Fig. 1). The tunnel sewer runs from the junction of South Street and South Walks in the west to the junction of Icen Way and South Walks in the east, a distance of approximately 470 m. It was anticipated that this route would result in a limited degree of damage to Scheduled Ancient Monument number 648, and Scheduled Monument Consent was therefore sought by the District Council from English Heritage and the Department of the Environment. This was given on condition that access was granted for archaeological monitoring of the works.

The open-cut trench along Charles Street ran northwards from the southern end of that street for approximately 90 m (Fig. 1). It was joined to the main east-west tunnel sewer by another short length of tunnel.

CONSTRUCTION TECHNIQUES AND WATCHING-BRIEF STRATEGY

The tunnel sewer along South Walks was dug in sections from three access shafts, one sunk at each end of the route and one approximately in the middle, at the junction of South Walks Road and Acland Road (MH1, MH3 and MH5 on Fig. 1). These three shafts were roughly rectangular cuts *c.* 3 m wide from north to south and 6 m long from east to west. Between them were two additional manhole positions (MH2 and MH4), both of which were circular cuts of *c.* 3 m diameter. All five cuts were inspected and recorded during their excavation.

The tunnel itself was excavated between 4 m and 7 m below the present ground surface, and, because much of it passed through bedrock chalk, it was not continuously observed. The tunnel construction involved jacking short sections of the sewer lining into the tunnel as work progressed, and therefore long exposures of section were not available for examination. The initial starting faces from within the access shafts were inspected, but thereafter material brought to the surface as spoil was checked in the skips in which it was dumped. The locations within the tunnel route at which archaeological deposits were encountered were checked against face geology logs made by Laserbore Ltd and Wessex Water Engineering which gave drainage values. These were then plotted onto a 1:250 base plan which was supplied by West Dorset District Council.

A similar strategy of checking excavated spoil was employed during the excavation of the connecting tunnel from the main sewer tunnel to the open-cut trench along Charles Street. However, as this tunnel was excavated without a lining being jacked-in immediately, the tunnel sections themselves could also be closely observed.

The trench along Charles Street was excavated as a cut-and-cover operation in 5 m lengths from an access shaft *c.* 20 m north of MH2 to two existing manholes *c.* 80 m to the north (MHA and MHB, Figs. 1-2), and was continuously watched during its excavation. The trench varied in depth from about 4 m at the southern end to about 3.5 m at the north and was 1.2 m wide. It was shored during excavation with half-and-half sheeting on a hydraulic frame. Spoil excavated out by machine was again observed as it was dumped. The eastern trench section was drawn (at 1:20) with occasional features which only occured in the west section being projected across. The plan position of layers and features was also recorded and a full photographic record was made.

RESULTS OF THE WATCHING-BRIEF

1. The Boreholes

The locations of the boreholes along South Walks are shown on Fig. 1 (BH1-BH5). Copies of the borehole logs were supplied for the site archive by West Dorset District Council. Three of them revealed no ancient archaeological deposits: in BH1 1.35 m of made ground (modern) was present over chalk bedrock; BH2 and BH3 showed 1 m and 0.3 m of modern topsoil respectively over chalk.

The other two boreholes cut through Roman deposits. In BH4 below the present ground surface there was 1.4 m of topsoil, under which was 3.4 m of clay above chalk. In BH5, 2.8 m of made ground sealed 1 m of clay over chalk bedrock. The clay fills probably represent deposits in the Roman defensive ditches, that in BH4 the middle ditch and that in BH5 the inner ditch (RCHM 1970, 545ff). The latter was also encountered during the tunnelling operations along South Walks and Charles Street (below). The depth

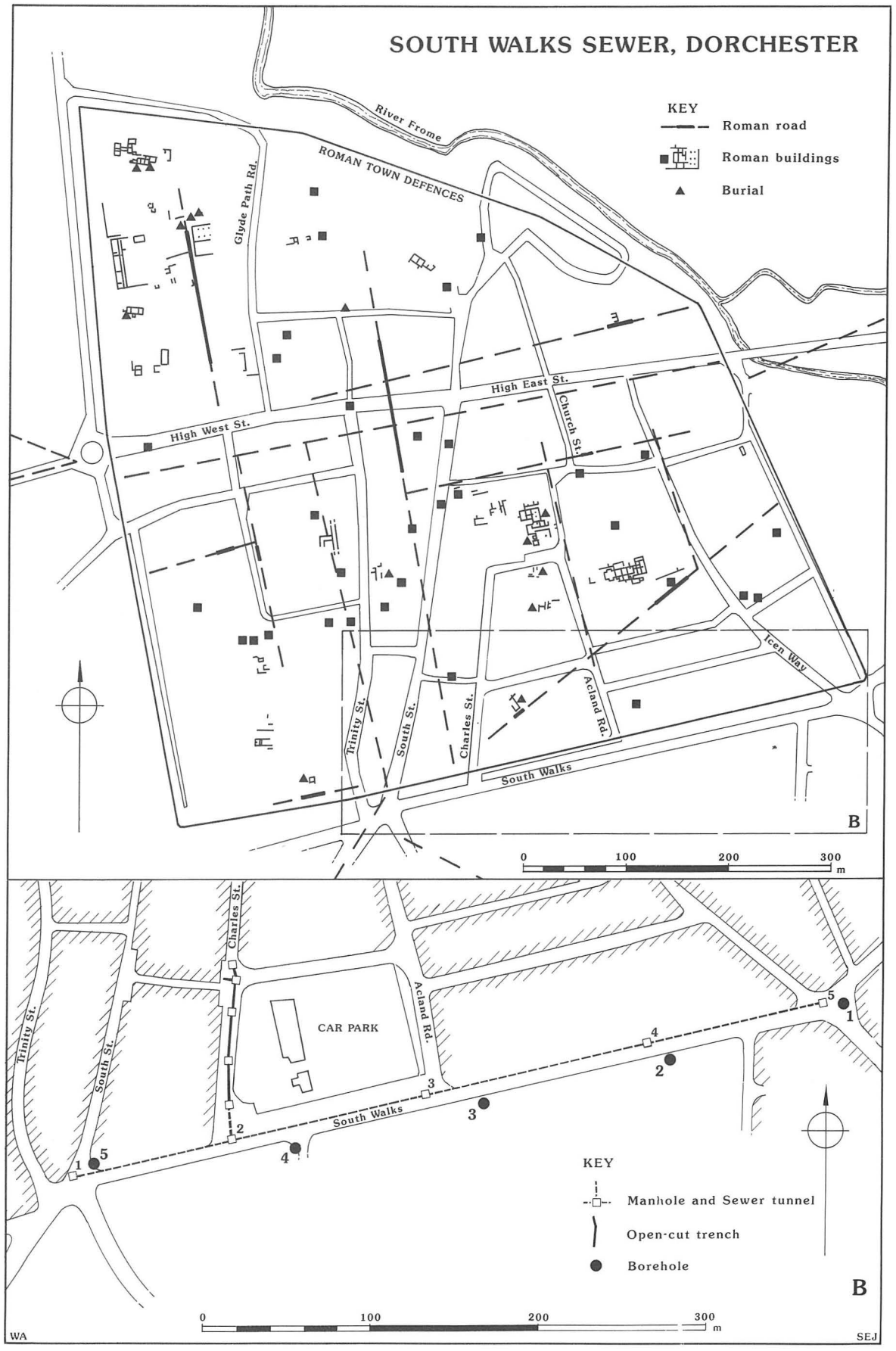

Fig. 1. Location of tunnel and open-cut sewer trenches, and preliminary boreholes, shown in relation to Roman features.

of made ground is surprising, but may relate to landscaping of the monument which occurred in the early part of the 18th century (RCHM 1970, 542).

2. The Tunnel Along South Walks

Most of the observations relate to the excavation of the various manholes (MH1-MH5, Fig. 1). At the time of writing the final detailed plan of the tunnel itself, made by the engineers, is still awaited, but this probably will not significantly alter any observations.

In MH1, located close to the supposed position of the South Gate of the Roman town (RCHM 1970, 550), the exposed sections showed 1 m of modern made ground over 0.6 m of natural flint gravel and clay loam above undisturbed chalk. The tunnel runs east from that point through bedrock chalk.

At MH2 1.30 m of modern disturbance was found to overlie *c.* 2.7 m of light grey-brown silt, which is interpreted as naturally-derived fill of the inner Roman ditch, in the northern part of the manhole. Most of the southern section was chalk which suggests that the main part of the ditch lies to the north of the manhole. No finds were recovered from the ditch at MH2 or from any of the other tunnel sections.

MH3 again revealed ditch fill in its northern face. The sections showed up to 0.5 m of modern build-up over Roman ditch fill which extended to 1.8 m below the present ground surface. A width of 1.5 m of ditch was exposed. Most of the ditch again lies to the north of the course of the tunnel. But since ditch fill was also encountered in the northern side of the tunnel itself about 50 m to the east of MH2 and at approximately 4 m down from the present ground surface, the course of the ditch may swing to the south slightly between the two manholes.

In MH4, along the northern edge of the cut only, fill of the Roman ditch was exposed to a depth of 1.1 m below the present surface of the road. The tunnel itself passed to the south of the ditch through bedrock chalk.

The sections in MH5 revealed about 1 m of modern deposits directly above bedrock chalk.

3. The Open-cut Trench and Tunnel along Charles Street

The construction work in this area contained a number of archaeologically interesting deposits of Roman and later date. Small quantities of artefacts were also retrieved (see Appendix 1).

Roman Features

A. *Roman Town Defences*

The tunnel linking the open-cut trench along Charles Street to the tunnelled sewer along South Walks cut through the inner Roman defensive ditch, *c.* 11 m south of the access shaft at the southern end of Charles Street (Figs. 2 and 3). The ditch fill differed markedly from that encountered in the manholes and tunnel along South Walks, consisting of a mixed brown silt loam, with fine fragments of chalk, sand and carbonised grain, possibly the result of urban refuse being dumped into the ditch. In addition large blocks of roughly-dressed, but unmortared limestone (up to 0.4 m by 0.25 m by 0.15 m) were visible in the section.

At the south end of the open-cut trench redeposited chalk from the northern edge of the defensive bank was encountered under about 1 m of modern layers. From the end of the trench it extended northwards for about 4m and was up to 1m thick, surviving to *c.* 61.50 m AOD (Fig. 3, chalk bank). The chalk bank overlay natural periglacial clay deposits, which in this part of the town overlie the Coombe Rock (a weathered chalk deposit).

Immediately to the north of the bank and partially sealed by it, was a flint wall foundation 3.5 m wide, which extended east-west across the trench (Figs. 2 and 3). It was 0.30 m thick and consisted of two courses of unmortared flints set into pale brown silt. The foundation had been cut down into the Coombe Rock to a depth of 59.30 m AOD. This feature has also been observed in Bowling Alley Walk to the west of the present site (RCHM 1970, 547) where it was completely sealed below the chalk bank. Initially it was interpreted as a road foundation, but more recently has been reinterpreted as the foundation for an early Roman town wall which was never completed.

B. *The Roman Road*

A road, 5.75 m wide and comprised of 0.5 m thick layers of compacted gravel bands over a crushed chalk consolidation level, extended diagonally across the trench from north-east to south-west, about 2.5 m north of the flint wall foundation (Figs. 2 and 3). This road was also excavated to the east in 1989 (Fig. 2), but there the thickness of it was rather greater, being approximately 1.2 m. The difference may relate to the topography of the area and the need to keep the road as level as possible, though it is likely that the deposits in this trench may have been truncated. There is some evidence to suggest that this part of the road may have gone out of use in the 4th century AD, as mixed soil and clay layers which overlie both it, the flint wall foundation and the chalk bank, seem to be of that date, and may represent a refurbishment or strengthening of the town defences.

C. *Pits and Wells*

Two Roman pits and one probable well were found (Figs. 2 and 3), the former cutting through a thin, probably early Roman soil level, the latter through the flint wall foundation. None is particularly well-dated, though the pit in the north-east corner of MH6 produced the lower half of a Greensand rotary quern.

D. *Buildings and Yards*

In the north part of the trench a series of discontinuous, thin crushed chalk spreads and lenses of ash and charcoal were present (Fig. 2). These chalk spreads are interpreted as probable yard surfaces, similar to those excavated in 1989 to the east (Davies and Farwell 1990). Roman pottery recovered from these deposits (layers 1012, 1013 and 1015) included an amphora sherd and coarseware dated to the late 1st century AD.

Associated with the yard surfaces was a probable footing trench for a building, *c.* 3.4 m wide, roughly on the same alignment as the road, but some 60 m to the north of it. Limestone and flint rubble was found within this footing area, but no *in situ* stonework. Immediately south of the building footing was a 0.1 m thick gravel layer, observed in the corner of MH8 (shown on Fig. 2, but not visible in section). This gravel, which was a maximum of 1.4 m wide, partly sealed one of the chalk yard surfaces, and seems to have been some form of path running alongside the building.

E. *Soil Accumulations and Rubbish Deposits*

About 5 m to the south of MH7, a grey clay with chalk and charcoal flecks (1008) overlay the natural clay. This deposit contained fragments of Roman pottery characteristic of the 4th century AD and covered 3 m of trench. To the north lay a 5 m wide and 0.4 m thick deposit of mottled olive-brown silty loam (1010), which contained fragments of Roman pottery of 2nd- to 3rd-century AD date and traces of carbonised seeds and mineralised deposits commensurate with a deposit formed *in situ* from soil and dumped organic material, possibly cess. This deposit was traced through the section face of MH7 and for 3 m to the north.

Over most of the Roman layers and features was a dark earth level (Fig. 3), which obviously started to form in the later Roman period and continued to build up throughout the medieval period, containing Roman pottery and building debris at the base, and a mixture of Roman, medieval

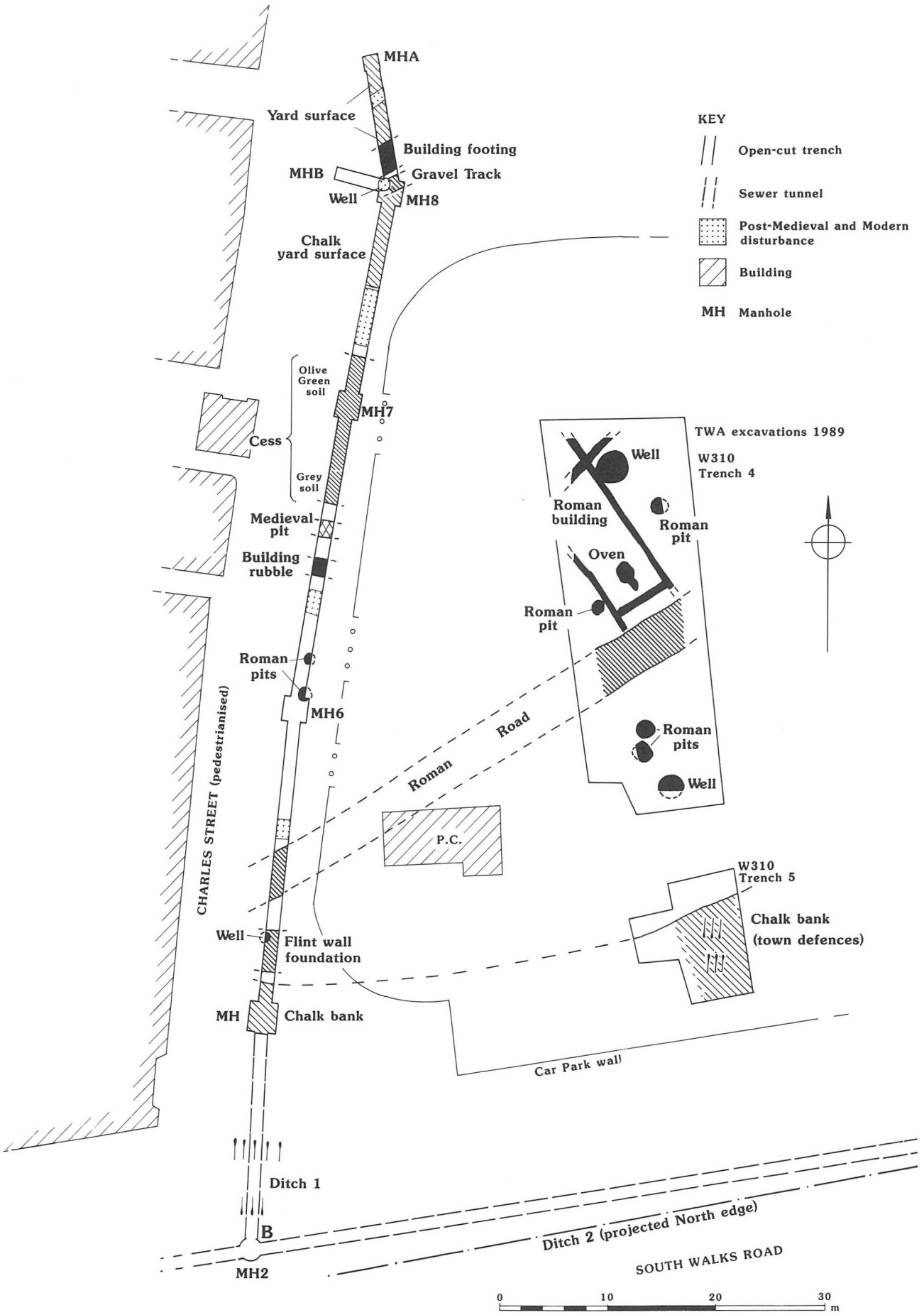

Fig. 2. Archaeological features observed in the open-cut trench and the connecting tunnel at the southern end of Charles Street. Also illustrated are the excavation trenches dug in 1989 prior to the 'Wessex Court' development, showing the major late Roman structures, road, pits and wells, and the town defensive bank.

and post-medieval pottery and other finds in its uppermost levels. Such dark earth deposits are common on urban sites, though reasons for their formation are not well-understood.

Medieval Features

One possible medieval pit, 1.2 m in diameter, was noted approximately halfway between MH6 and MH7 (Figs. 2 and 3). No good dating evidence was recovered, but the pit appeared to be cut the lowest part of the dark earth layer and Roman soil/cess layers, but was not visible higher up in the dark earth deposits.

Post-medieval Features

Immediately to the north of the Roman road was a stone-lined pit or passage way to a detached cellar. It was filled with loose rubble (1002) which contained many pieces of 19th-century pottery. Some 8m north of MH6 was a late disturbance (1006) which contained 19th-century pottery. To the north of this disturbance was a deposit of limestone building rubble (1007) which contained both 17th- and 18th-century pottery and redeposited Roman material.

A stone-lined well was uncovered in the north-western corner of MH8 (Figs. 2 and 3). The lining was of rough unmortared sandstone blocks set in a chalk-rubble-filled construction trench. One fragment of 18th- or 19th-century brick was recovered from the well lining (1016). The well had an internal diameter of 1 m. When first discovered the well was open to a depth of 54.2 m AOD, at which level loose rubble could be seen. Subsequently the well was filled with concrete to the level of the base of MH8.

SUMMARY AND CONCLUSIONS

The tunnel under South Walks Road located the southern edge of the inner or northernmost Roman town ditch and enabled a more accurate projection of its line to be drawn up. The observations suggest that the edge of the ditch deviates from a straight line by bowing out to the south. The presence of probable Roman rubbish deposits and building rubble in the fills of the ditch near MH2 is interesting, although their date and full significance is as yet uncertain. In any event these deposits are very different from ditch layers excavated or observed elsewhere along the line of the defences.

The presence of undisturbed chalk in MH1 sealed by gravel and rubble, adds weight to proposals for the South Gate of the Roman town at this position. The ditch would not be expected in front of the gate and the consolidation might represent eroded road bed.

The Charles Street trench exposed a section which ran from the northern edge of the late 2nd-century defensive bank into the Roman town. It passed through an early town wall footing, an internal road, Roman pits and a well and the remains of one Roman building with its associated yard surfaces and gravel path. This information has helped to confirm the nature of the occupation within the south-eastern part of the town, with housing and intensive land-use running up to and probably aligned on the internal road which can now be projected with confidence to the south-west towards the postulated South Gate of the town. Some of the deposits, such as the extensive rubbish and cess layers around MH7, are unusual but unfortunately cannot be fully interpreted from such a small sample.

In addition the trench has provided a useful gauge of the general depth and survival of Roman deposits in the area. At least 0.5 m of stratified Roman levels survive, approximately 2.5 m below the present ground surface, overlain by a continuous sequence of relatively undisturbed dark earth layers, which started to form in the late Roman period and continued throughout the medieval centuries. Although some modern disturbances reached low enough to remove stratified Roman material, only about 11% of the section was thus obscured.

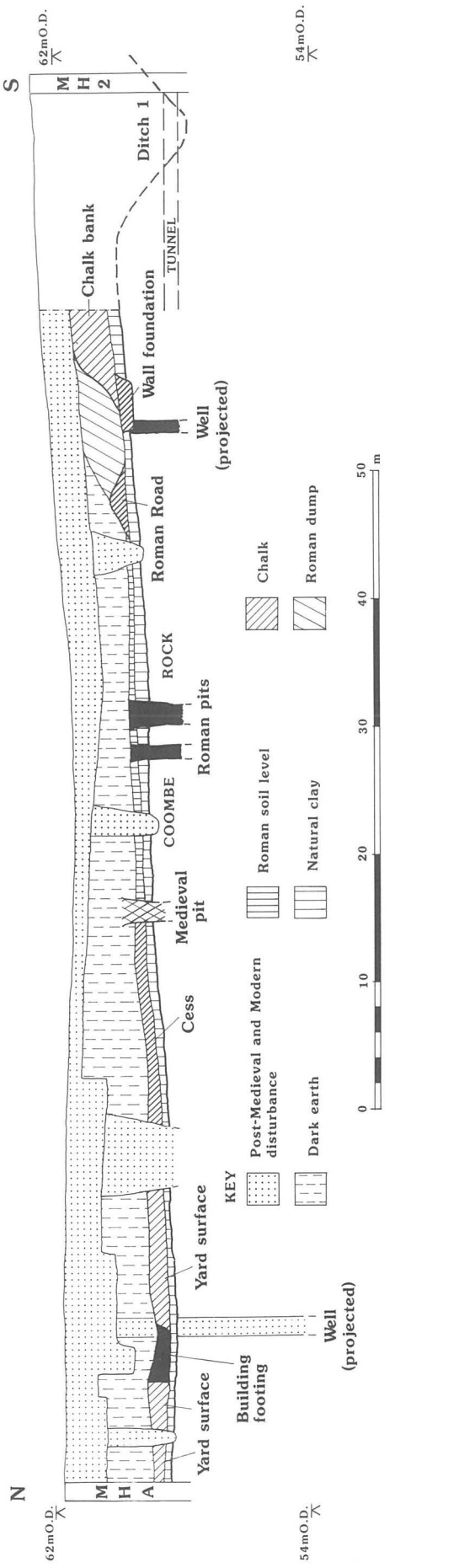

Fig. 3: Simplified eastern section of the open-cut trench and tunnel along Charles Street, showing major observed features. Horizontal scale 1:500, vertical scale 1:200

ACKNOWLEDGEMENTS

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APPENDIX 1: LIST OF ARTEFACTS RECOVERED

Context	Artefacts
U/S	five sherds of Roman Black Burnished ware; two sherds of 16th-century pottery, including one possible imported rim
1001	seven pieces of white-painted Roman wall plaster, one bearing faint traces of red painted design
1002	seven sherds of 19th-century pottery including a jug dated 1830-40; green glazed ware (1830-40) and pearl ware dated to 1800; one sherd of medieval pottery; one prehistoric flint flake; one marble
1003	one piece of South Gaulish Samian, late 1st C. AD
1004	one prehistoric flint flake; one Black Burnished ware base; one New Forest bowl, Fulford (1975) type 67, AD 300-370; one piece of Central Gaulish Samian, 2nd C. AD
1005	half of a Roman rotary quernstone (lower piece), in Greensand
1006	one pottery base sherd (1830's?)
1007	two sherds of 17th- to 18th-century pottery; one Black Burnished ware jar sherd, 1st-2nd C. AD; one New Forest red colour coat bowl, Fulford (1975) type 67, AD 300-370
1008	one South Gaulish Samian sherd, late 1st to early 2nd C; one New Forest sherd, Fulford (1975) type 77, AD 345-380
1009	one clay pipe bowl (18th C.?)
1010	one Black Burnished ware jar. 3rd C. AD; one South Gaulish Samian base sherd, 2nd C. AD; one South Gaulish Samian body sherd, 2nd C. AD
1011	four sherds Black Burnished ware jars, 3rd-4th C. AD
1012	Roman tile; one sherd possible Black Burnished ware, Roman
1013	Brick; four sherds Black Burnished ware, Roman
1014	Roman tile; one Black Burnished ware dish, late 3rd-4th C. AD; four sherds of Black Burnished ware, 3rd-4th C. AD; one unidentified Roman (?) sherd
1015	one Roman amphora sherd, Southern Spanish Dressel 20 (?); one Roman Black Burnished ware sherd; one Corfe Mullen sherd, late 1st C. AD; one sherd shouldered bead rim jar 1st AD; one piece of frit
1016	one fragment of 18th-century brick
1020	one fragment of 19th-century flowerpot; one piece of brick; one Roman (?) sherd

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Excavations at Whitcombe, 1965-1967

G. M. & G. N. AITKEN

INTRODUCTION

In 1963 a broken limestone relief sculpture of a rider on horseback was turned up by the plough in a field 65 m west of Whitcombe hamlet, about 2 km SE of Dorchester (Fig.1). As a result, archaeological investigations were undertaken in the area, during three two-week seasons in 1965-67 with a very limited labour force, in order to try to place the sculpture in its context.

The site (SY 711880) lay on the south-easterly facing slopes of a low chalk ridge, oriented NW-SE at a height of about 75 m OD. The area was under arable agriculture and the soil cover was a thin rendzina.

No archaeological features were visible on the available aerial photographs (RAF Sortie 540/1775, Neg F21:0149, Jan 1956, and J. Boyden, 1965 [all in archive]). Therefore, it was decided to carry out preliminary geophysical surveys of the area. A 12 ft square survey grid was established over an area 200 ft square and initially both Proton Magnetometer

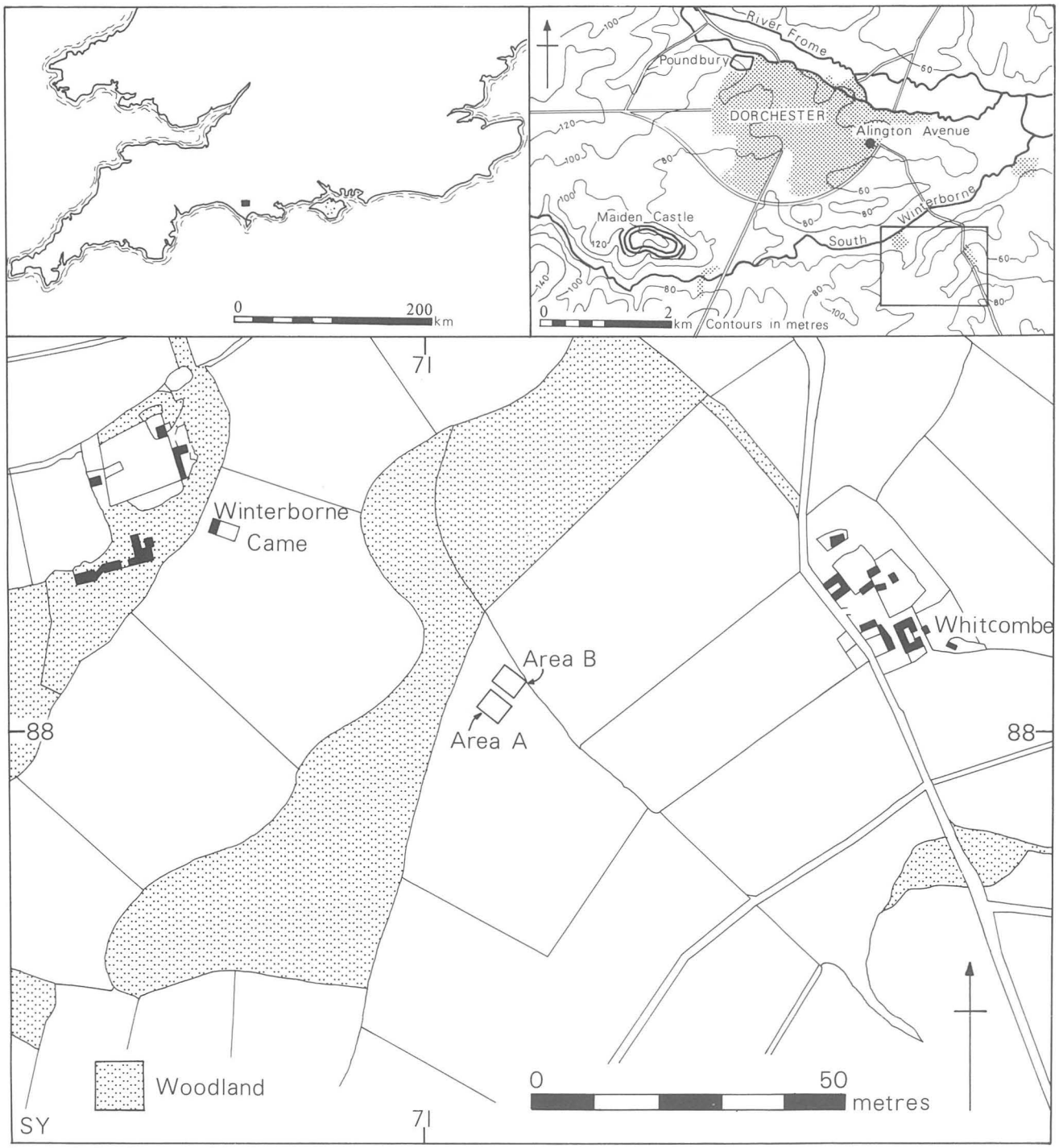


Figure 1. Whitcombe: site location plan.

and Resistivity surveys were carried out within this. The analysis of the initial survey data indicated that both methods produced similar results, and consequently only the Resistivity survey was continued. The areas excavated were determined on the basis of the results of the geophysical survey.

Interim reports of each excavation season have been published previously (Aitken 1966, 1967, 1968). The archive and the finds are deposited in Dorset County Museum.

The Excavations

A large number of small trenches were dug within a 12 ft grid initially established for the geophysical surveys. These were concentrated in two areas (A and B) (Figs 1, 2, 5). In

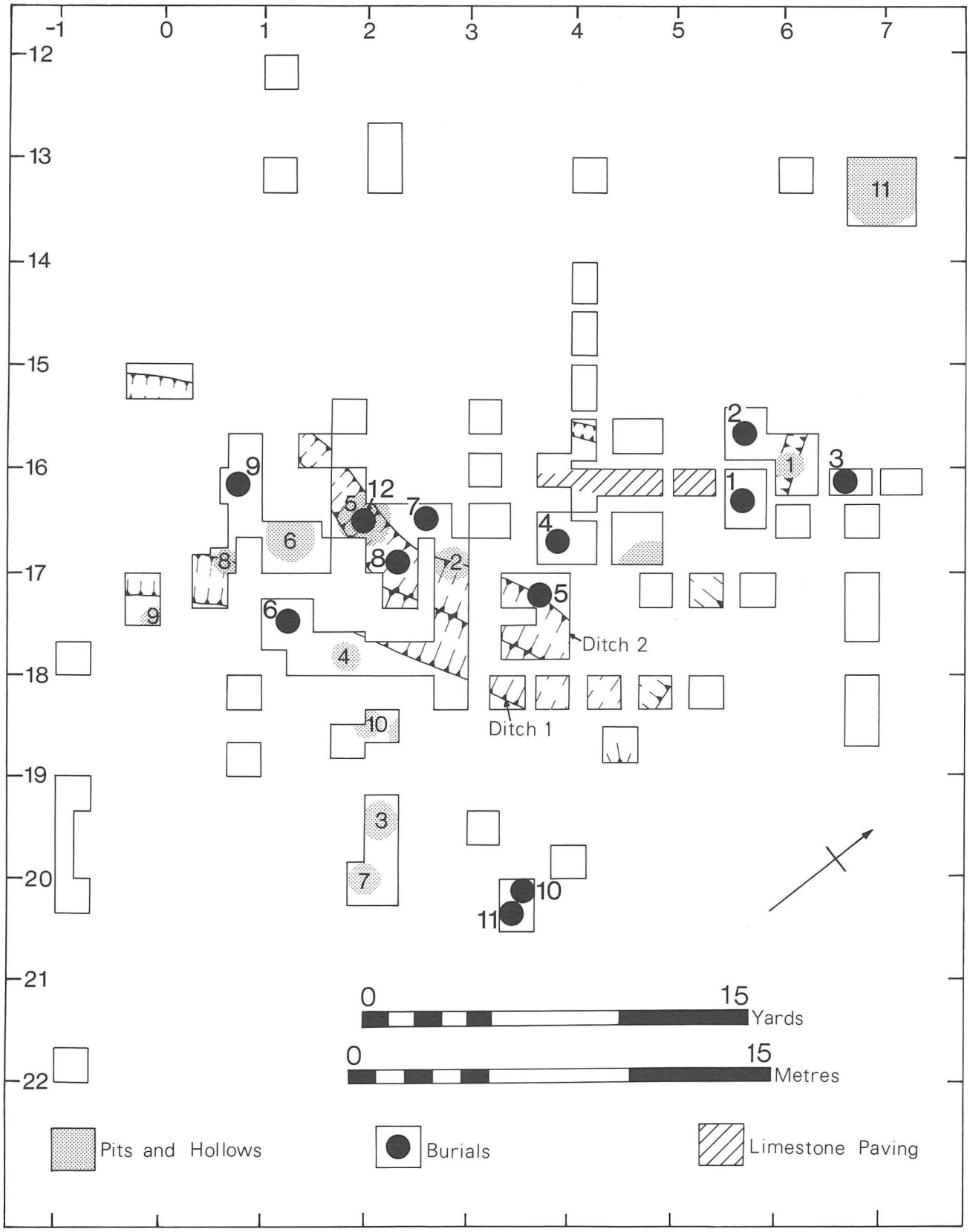


Figure 2. Plan of Area A.

addition, a few small test pits were dug to the north-west of these areas, up to the edge of the field. No archaeological features were discovered in these and they will not be discussed further.

Area A

A concentration of features was revealed in this area, just to the north of the find spot of the rider god (Fig. 1). These features comprised principally pits, graves and ditches (Fig. 2). Although it is clear that these features probably represent more than one phase of activity, very few stratigraphic relationships were recorded and the area excavated was too limited to determine the precise nature and extent of activity. Each feature type will be discussed in turn and relationships with other features noted, where these survive.

Pits: Thirteen pits were fully or partially excavated (Table 1). They were all typical Iron Age storage pits filled with a mixture of domestic refuse, charcoal, and chalk rubble. A number had features worthy of note.

Pits 1 and 10 cut through small gullies (Figs. 2 and 3). On the north-eastern side of pit 10, the filling of the gully was revetted by about 12 layers of small flat limestone slabs held in position by chalk and clay, presumably to prevent slippage of material in the gully into the pit. Pit 1 contained a horse skull, and graves 1, 2 and 3 were equidistant from it. In two of these graves (1 and 3) the burial was aligned differently from all the others found.

Pit 2 was cut by ditch 2 (Fig. 3). It contained an articulated dog skeleton and two human infant skeletons.

Pit 5 was also cut by ditch 2. Within the area of this pit was a crouched burial (12) whose grave was cut into the pit fill. The side of Pit 3a was strengthened with puddled chalk where it cut pit 3.

Pit 4 had several large slabs of limestone at the base, together with many lumps of reddish clay. One lump of clay (0.23 × 0.10 × 0.07 m) was perforated with two circular holes. It is not clear from the record whether any of this clay had been burnt or fired. At the very top of the pit was the lower stone of a rotary quern, which had apparently been burnt, surrounded by a number of other large stones. This may have been in order to seal the top of the pit.

Pit 9 had had its neck repaired with chalk.

Pit 11 was a wide, relatively shallow, pit with a seemingly well-laid limestone surface at its base. It was suggested that this might have been something other than a storage pit. It cut through another pit on its western side but this earlier feature was not excavated. Some of the beehive-shaped pits had evidence of a shallow gulley where the side and base joined, perhaps for drainage.

Ditches and Gullies: Traces of two V-shaped ditches (1 and 2) were uncovered during the excavations (Figs. 2 and

Plate 1. A half section of Pit 2 from the south showing the varied nature of its filling.

TABLE 1. Details of Pits.

Pit	*Profile*	*mouth dia (m)*	*base dia (m)*	*depth (m)*	*volume (m^3)*
1	Cylindrical	0.9	0.9	1.7	1.08
2	Beehive	1.5	2.3	2.1	2.88
3	Beehive	1.2	1.7	1.5	2.50
3A	Beehive	?	?	?	?
4	Beehive	1.2	1.7	1.5	2.50
5	Conical	2.0	1.2	1.1	2.26
6	Cylindrical	1.7	1.7	0.9	2.27
7	Cylindrical	1.1	1.1	0.3	0.28
8	Beehive	1.2	1.7	1.5	2.50
9	Beehive	1.1	?	?	?
10	Beehive	1.0	1.7	1.8	2.63
11	Conical	2.9	2.0	0.8	3.81

Plate 2. Ditch 1, with a more recent gully on the right.

3). Ditch 1 measured about 2.13 m across and was between 1.14-1.60 m deep. Although not enough of this ditch was uncovered to be completely certain of its precise course, it was oriented roughly NE-SW and appeared to curve southwards at its south-western excavated end. It cut pit 8 (Fig. 3). The part of the ditch that was excavated was in an excellent state, owing to chalk repairs. There was no signs of weathering or silting. The filling-in appeared to have been completed in one operation.

Ditch 2 was another, slightly smaller, V-shaped ditch which cut the northern side of ditch 1 (Fig. 3), and appeared to run parallel to ditch 1 for most of its excavated extent, before curving westwards at the south-western end. There is a suggestion that ditches 1 and 2 merge towards the east and perhaps join another ditch running at right angles (Fig. 2) but the excavated areas were too small to determine whether this was the case. Ditch 2 measured between 1.1-1.5 m wide and between 0.7-0.8 m deep. It cut pits 2 and 5 (which contained Durotrigian pottery) and appears to have silted up naturally. Where ditch 2 cut across pit 2 the sides of the ditch were lined with rammed chalk. Part of the north side of ditch 2 ran through a natural clay deposit and here the sides were faced with chalk.

The function of these ditches is unclear. It is possible that ditch 2 was a replacement for ditch 1 given that the two are contiguous for much of their excavated extent, although their courses do diverge at one end.

In addition to these two ditches, there were also traces of several smaller gullies revealed by excavation, notably those cut by pits 1 and 10. None of these was recorded in detail.

The Burials

Twelve inhumation burials were discovered in Area A (Fig. 2). The details of the burials are presented in Table 2 and the skeletal data in Tables 3 and 4.

Two basic types of grave, rectangular and oval, were recognised, although the grave cuts were not identified in every case (Fig. 4). Only two rectangular graves (4 and 8) were discovered but no common distinguishing characteristics other than the shape of the grave could be identified. Burials 10 and 11 were parallel and adjacent but were too badly preserved to be able to determine whether they formed part of a double grave or were two separate intercutting graves.

The skeletons were all flexed and the majority had been placed on their right side (Fig. 4). Burials 2, 8 and 9 had been placed on their back but with the legs flexed to the right. Burial 1 was prone with the legs to the left. The positioning of the arms differed in all the burials (Fig. 4). The majority were oriented with their heads to the E-NE, the exceptions were burials 1 and 3 (Fig. 4).

The small disparate areas of the site excavated means that no meaningful analysis of the distribution of the burials

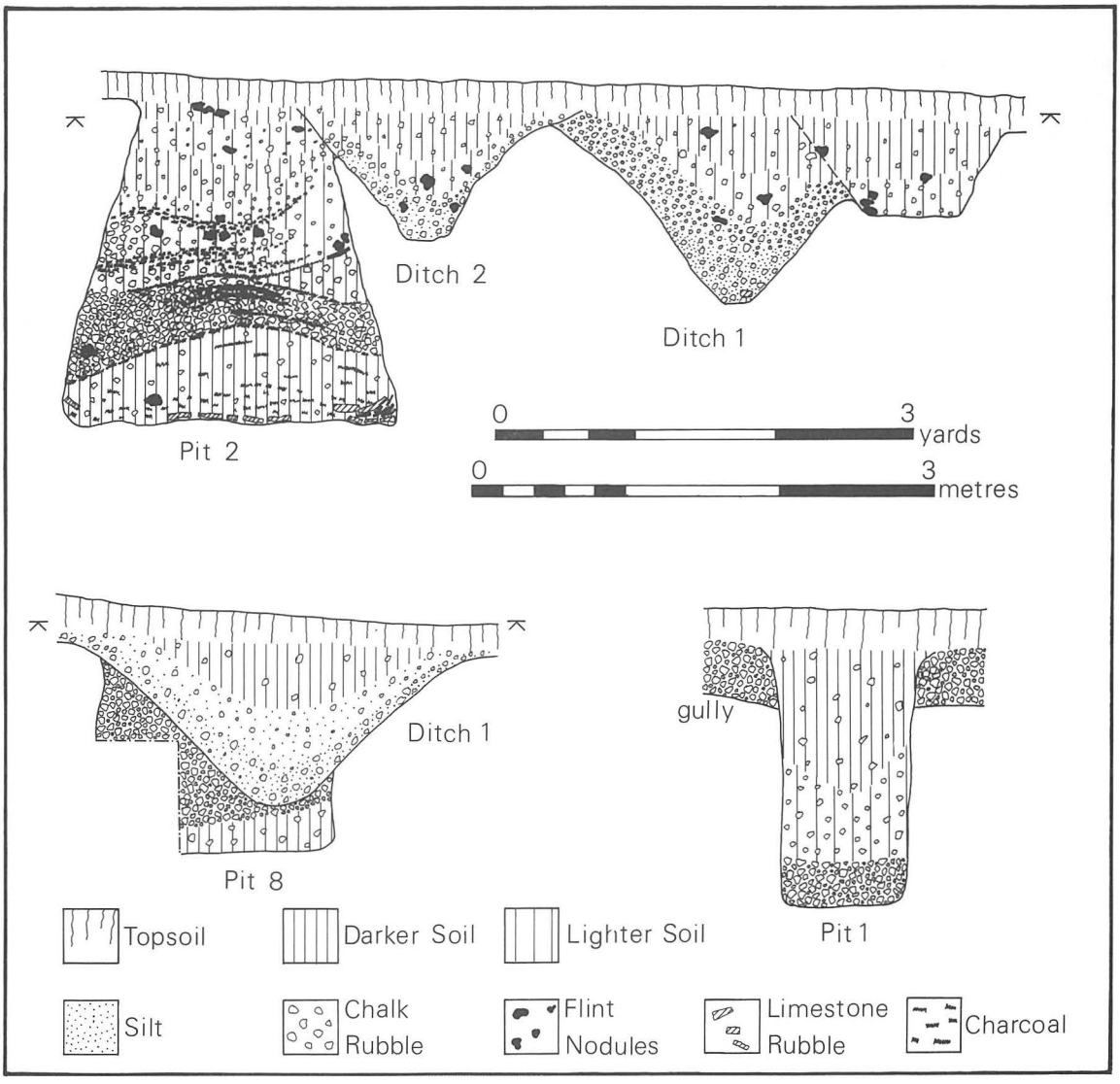


Figure 3. Selected pit and ditch sections, all from Area A.

Plate 3. Burial 1.

Plate 5. Burial 3.

Plate 4. Burial 2.

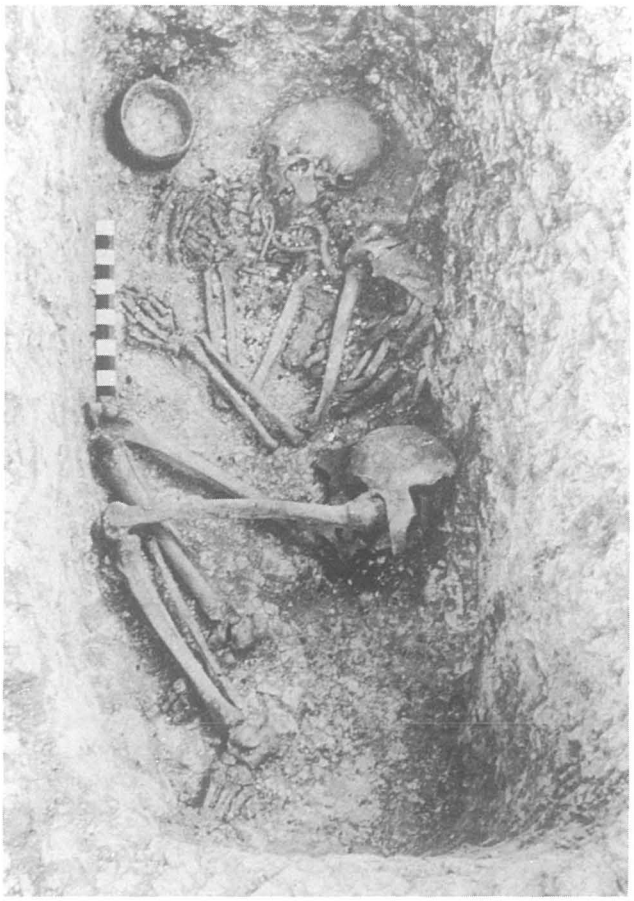


Plate 6. Burial 4.

is possible. There were very few stratigraphic relationships between the burials and other features on site. Burials 5, 8 and 12 were all found on the line of ditch 2. Large stones scattered on and around Grave 5 suggest that they may originally have protected the grave. Other large stones found in the grave areas may have performed the same function. Unfortunately, the relationship between the ditch and burials is not clear, although burial 8 was clearly later than the ditch. Burial 12 was fragmentary, owing to plough damage. It was found within the filling of pit 5. It is not certain whether this burial was in a grave cut through the pit filling or was simply buried in the pit.

All the burials had accompanying grave goods, except for burials 10 and 11 (Table 2) which were so badly disturbed that one cannot be certain that these were originally unaccompanied inhumations. The details of the grave goods can be found in Table 2 and Figure 4. All the burials except two (7 and 9) were accompanied by animal bone. These were placed on or near the body (Fig. 4) and appear to have been deliberately buried with the body, rather than just chance inclusions. In burial 8, pig bones were found within one of the accompanying pottery vessels. It is interesting to note that the two burials without animal bone were the only two which contained grave goods of iron (Table 2).

TABLE 2. Details of graves

Burial	*Shape*	*Length* (m)	*Breadth* (m)	*Grave Depth* (m)	*Sex*	*Age*	*Skeleton*	*Head* to	*Animal bone*	*Grave Goods* Pottery	*Other*
1	oval	1.29	0.66	0.99	F	25-30	prone, flexed, legs to left	SW	frag. of immature pig jaw by left shoulder		
2	oval	1.04	0.71	0.81	M	40-50	supine, flexed, legs to right	NE	?sheep/goat rib frags by head	Durotrigian bowl Durotrigian jar (Fig. 15, nos. 49 & 50)	
3	?	?	?	1.12	F	25-30	flexed, on right side	W	left half of pig skull and ?horse jaw frag by skull		1 annular bead of amber glass (Fig 12, no. 9)
4	rect	1.42	0.74	0.84	?	40-50	flexed, on right side	ESE	bones of immature domestic fowl and thoracic region of immature sheep/ goat by right hand	Durotrigian jar; Durotrigian bowl (Fig. 15, nos. 51 & 52)	
5	oval	?	?	0.46	M	25-30	flexed, on right side	E	unidentified bones by right hand		
6	?	?	?	0.41	M	20-25	flexed, on right side	NE	left forelimb of immature sheep/ goat across right leg	2 Durotrigian bowls (Fig. 15, nos. 53 & 54)	
7	oval	1.27	0.76	0.56	M	25-30	flexed, on right side	NE			Iron bracelet (Fig. 8, no. 1)
8	rect	1.07	0.61	0.86	F	15-17	supine, flexed, legs to right	NE	frag. of pig jaw in pot by pelvis; left leg of immature domestic fowl	Durotrigian bowl; Durotrigian jar (Fig. 15 nos. 55 & 56) Two samian vessels Ref. 128 DR.67 (Fig. 13)	10 glass beads 2 wooden beads (Fig. 12)
9	oval	1.37	0.71	0.25	M	25-30	supine, flexed	E			Iron sword; Copper alloy scabbard mount; 2 iron rings; Copper alloy ring; iron spearhead; iron hammerhead iron file; Copper alloy strip; copper alloy pseudo-LaTene II brooch; chalk spindle whorl. (Figs. 9&10)
10	?	?	?	*c.*0.20	?	?	supine, flexed, legs to right	NE			
11	?	?	?	?	?	?	supine, flexed, legs to right	NE	?cattle bone on torso	?	?
12	?	?	?		?	?	flexed, on right side	NE			

Plate 7. Burial 5.

Plate 8. Burial 6.

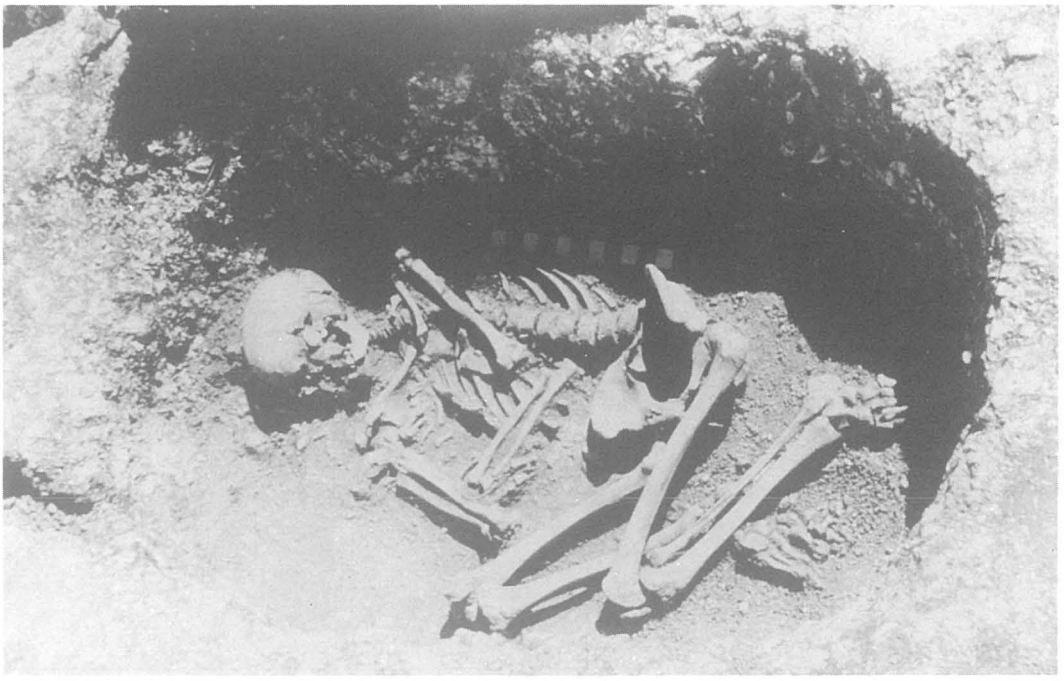


Plate 9. Burial 7, with iron bracelet visible on left wrist.

Several burials were accompanied by grave goods of note and two in particular stand out. Burial 9 was accompanied by no less than nine individual items (Table 2; Fig. 3). These are listed, described and discussed separately below. Burial 8 had a cluster of 12 beads beside the left shoulder. Four pottery vessels were also found in this grave. Between the pelvis and the left heel, was a Durotrigian bowl and another Durotrigian vessel, a shallow bowl or lid, was found beside the skull; on top of the upper torso was a Samian bowl and in the northern corner of the grave was a Samian globular beaker.

Three other burials were accompanied by pots. Burial 2 contained two Durotrigian vessels, a bowl beside the left shoulder and a jar between the pelvis and left heel. The positioning of these vessels is similar to the Durotrigian vessels accompanying burial 8. Burial 4 had a Durotrigian bowl in front of the skull and a Durotrigian jar above the skull. Burial 6 had two Durotrigian bowls placed on the lower part of the torso.

Burial 3 contained a single annular bead of amber glass, found underneath the skull and burial 7 had an iron bracelet around the left wrist.

In addition, the remains of eight human foetal or neonatal skeletons were recovered from area A. Four of these were found in pits, two in pit 2, one in pit 5, and one in pit 10. Two infant skeletons were found beside burial 4, one of these appeared to be in a shallow oval grave. The other infant bones were disturbed and found beside ditch 1.

Other Features: Several other features were revealed in area A, but the areas excavated were not large enough to be able to define these features adequately. Cutting through the southern edge of ditch 1 was a feature with steeply sloping sides and a flat bottom, 0.6 m deep (Fig 3). Only a small part of this feature was revealed and its function is uncertain.

An area of rough paving, composed of large and small, irregular, limestone slabs was discovered in the area to the north of ditches 1 and 2 (Fig. 2). This paving was exposed

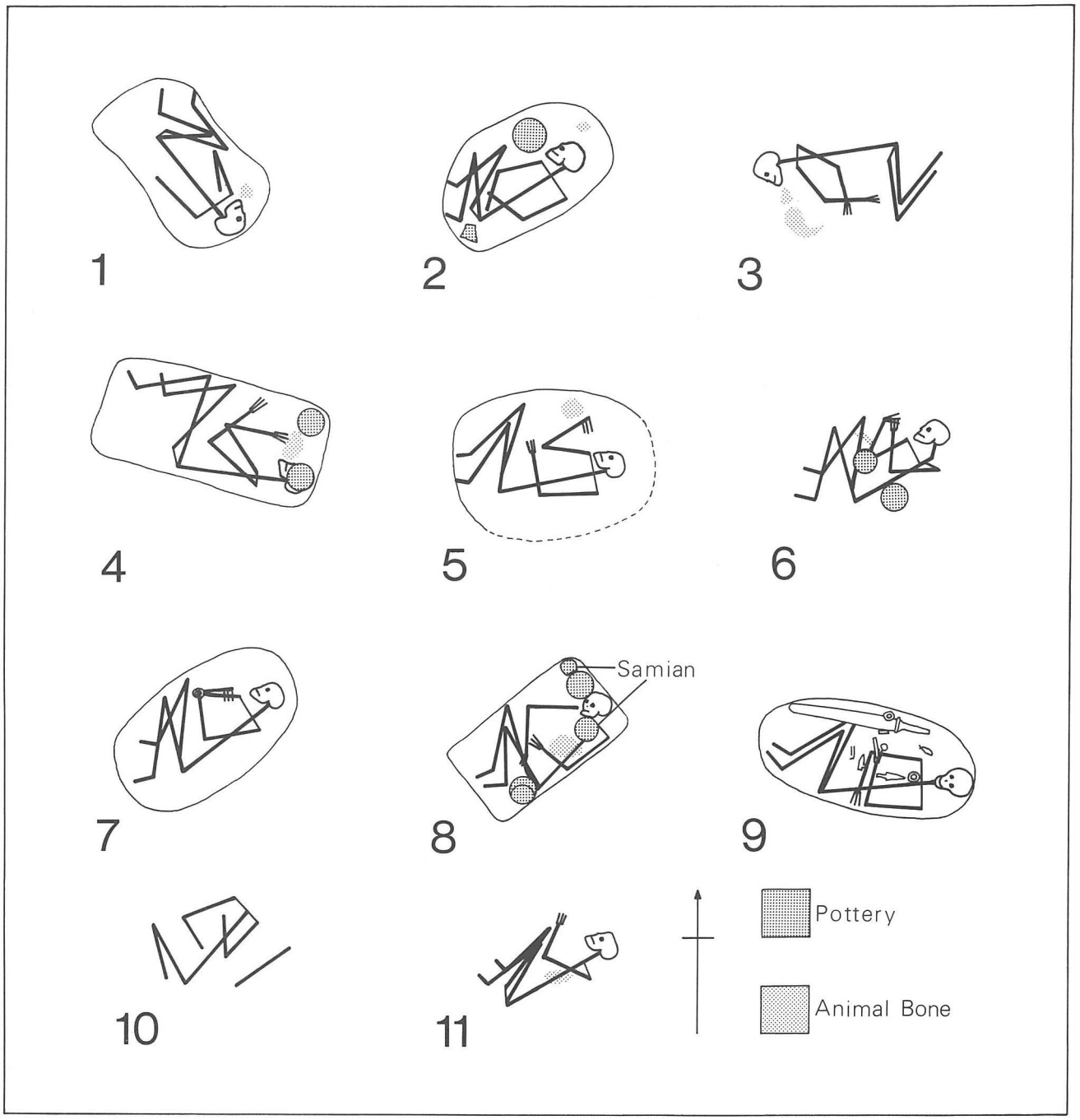


Figure 4. Details of graves, showing orientation. For the real location of graves see Figure 2.

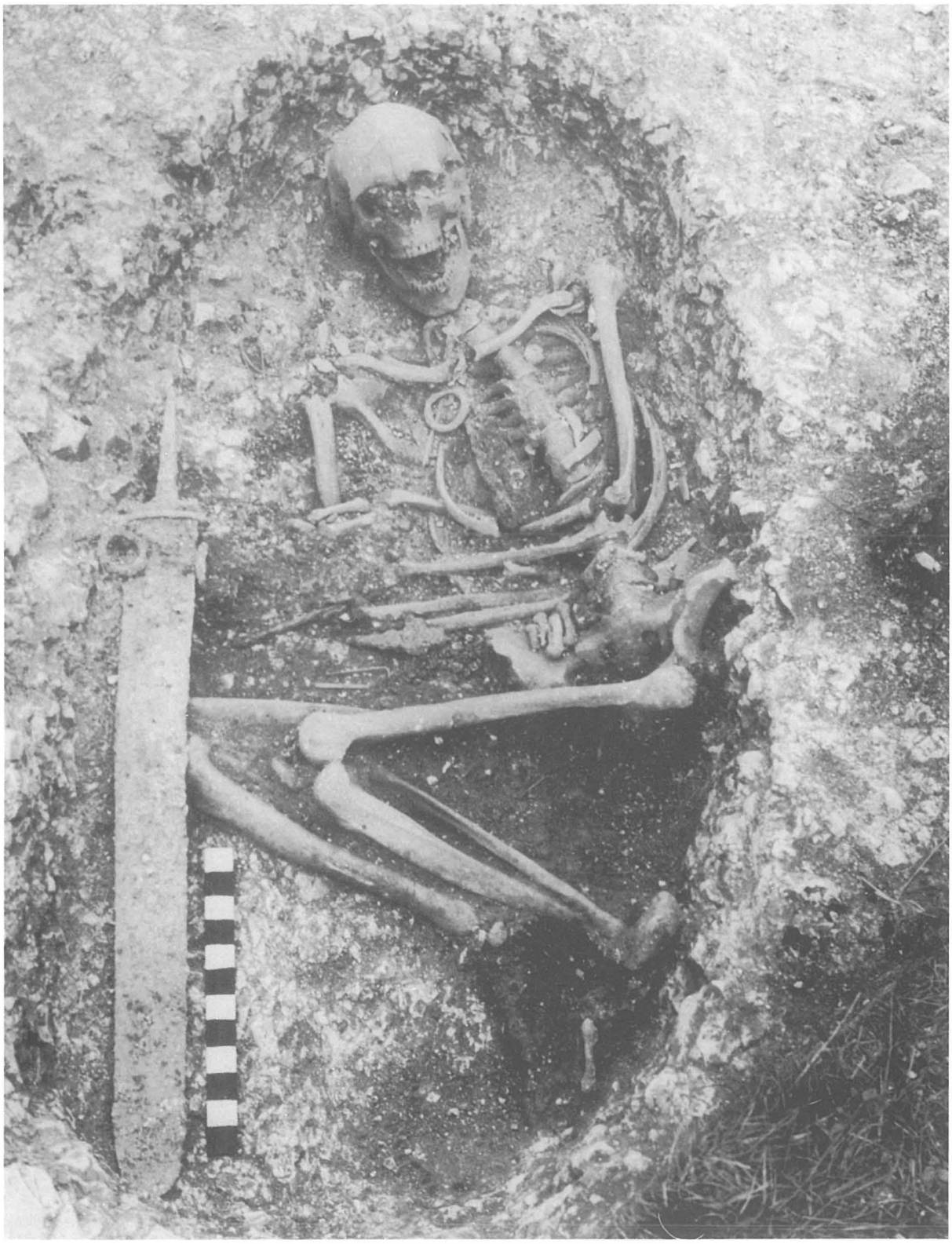


Plate 10. Burial 9.

for a length of 6.7 m and a width of 0.7 m. The paving was not laid directly on the chalk but on top of a thin layer of soil which contained BB1 pottery and a single sherd of Samian as well as some roof tile.

Area B

This area was about 20 m north-west of area A (Fig. 1). A comparatively smaller number of trenches was excavated (Fig. 5) and a different range of features was revealed, mainly the remains of Romano-British buildings.

Romano-British structures: Traces of several Romano-British structures were revealed. In the northern part of area B (grid ref. 14/11), a 6.3 m length of wall foundations, oriented roughly NE-SW, was revealed (labelled Building 1 in archive). These consisted of several courses of flint nodules set within a foundation trench, 0.6 m wide and up to 0.5 m deep. These wall foundations continued out of the excavated area to the north-east but, to the south-west, the foundation trench became shallower before petering out altogether. There was a slight suggestion of a foundation

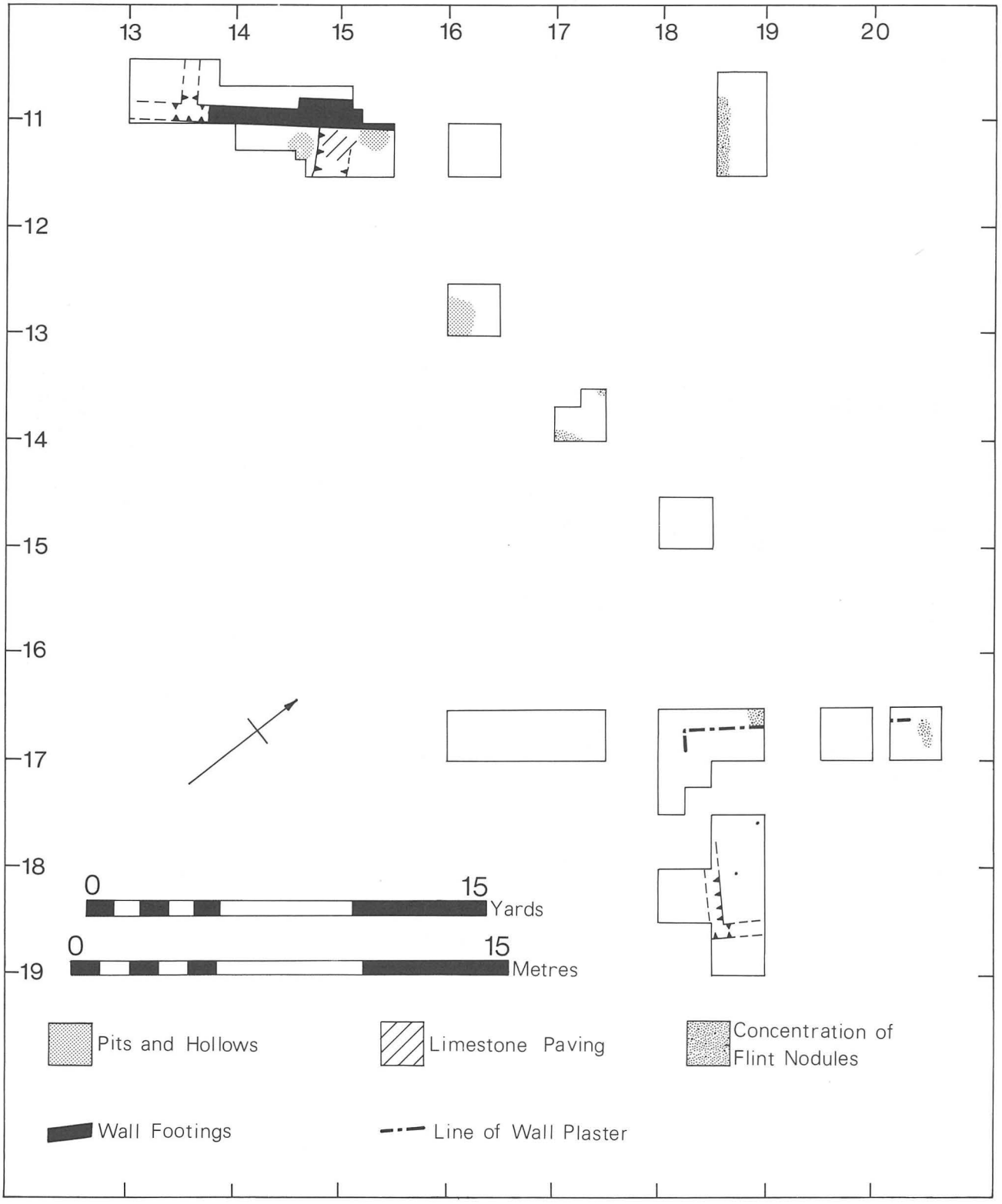


Figure 5. Plan of Area B.

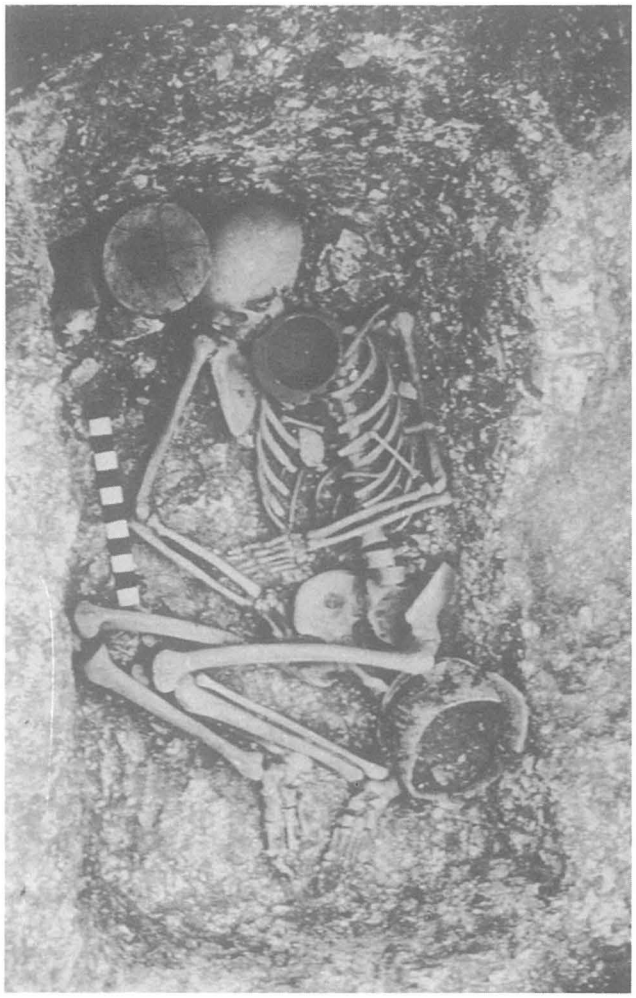


Plate 11. Burial 8.

trench for a return wall to the north-west at the south-eastern end of these wall foundations. The flint footings were double width at the north-eastern end and partially overlie an earlier pit.

On the south-western side of the wall there were traces of a shallow gully about 1.4 m wide, at right angles to the wall. Within this gully, adjacent to the wall, was a large limestone slab and further to the south-west, a large dressed limestone block (0.38 × 0.33 × 0.17 m) with a square mortice hole in the top surface.

Overlying these features in the north-eastern part of the trench was a mass of flint nodules, limestone pieces, including roof tile, and mortar fragments which were probably derived from this building. Scattered in the soil in the southern part of the trench, were the remains of four human infant skeletons.

In a trench about 11 m to the north-east (grid ref. 18/11) there was a linear concentration of flint nodules which might also have been debris associated with this building.

Approximately 10 m to the south (grid ref. 17/13) were found some very slight traces of another wall foundation trench, possibly running approximately NE-SW. Only an area 0.5 × 0.4 m across was uncovered but there are some remaining traces of flint wall footings.

About 10 m further to the south (grid ref. 18/16), slightly more extensive remains of further structures were excavated (Fig. 5). The evidence was found in three separate trenches so the exact relationship between all the features cannot be determined. The corner of a building (labelled Building 3 in archive) was defined by an L-shaped line of wall plaster which survived up to 0.15 m high. It was clear from impressions on the back of this plaster that it had been applied to a wall composed of flint nodules. Traces of a flint wall were found in the north-eastern end of the trench. The plaster had been painted, except for a strip 0.05 m high along the bottom. The colour of the paint has not been recorded. The plaster was traced for a length of 2.75 m in a north-easterly direction and for 0.85 m in a south-easterly

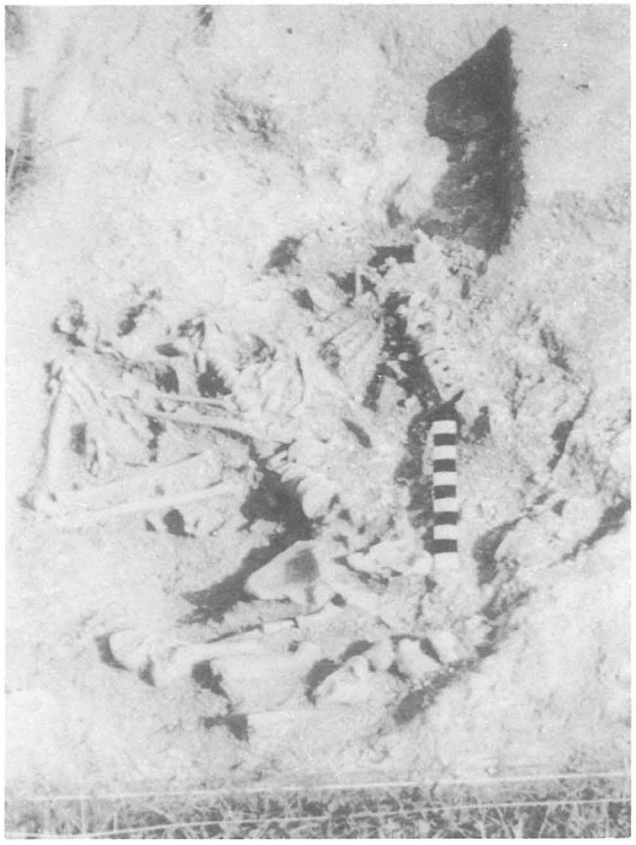


Plate 12. Burials 10 & 11.

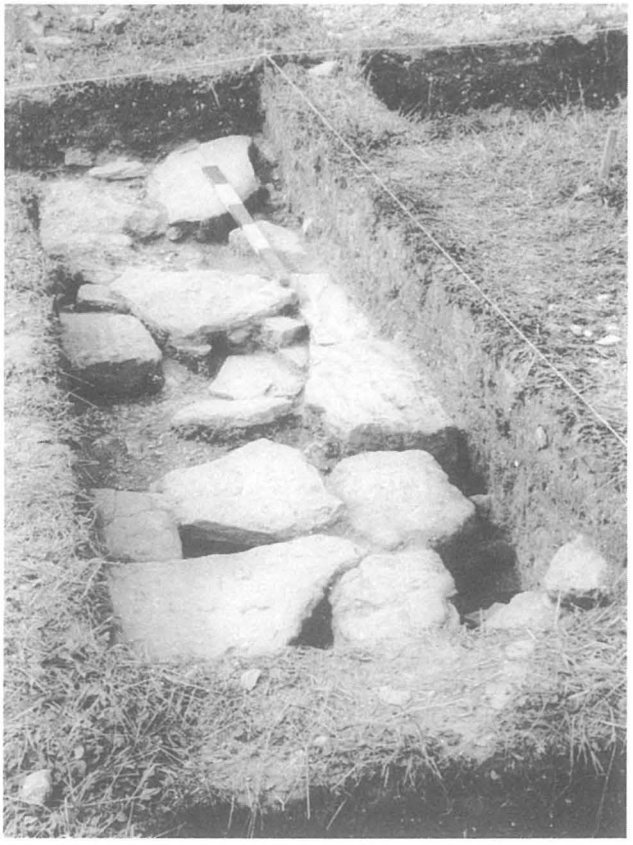


Plate 13. The limestone paving in 4/16.

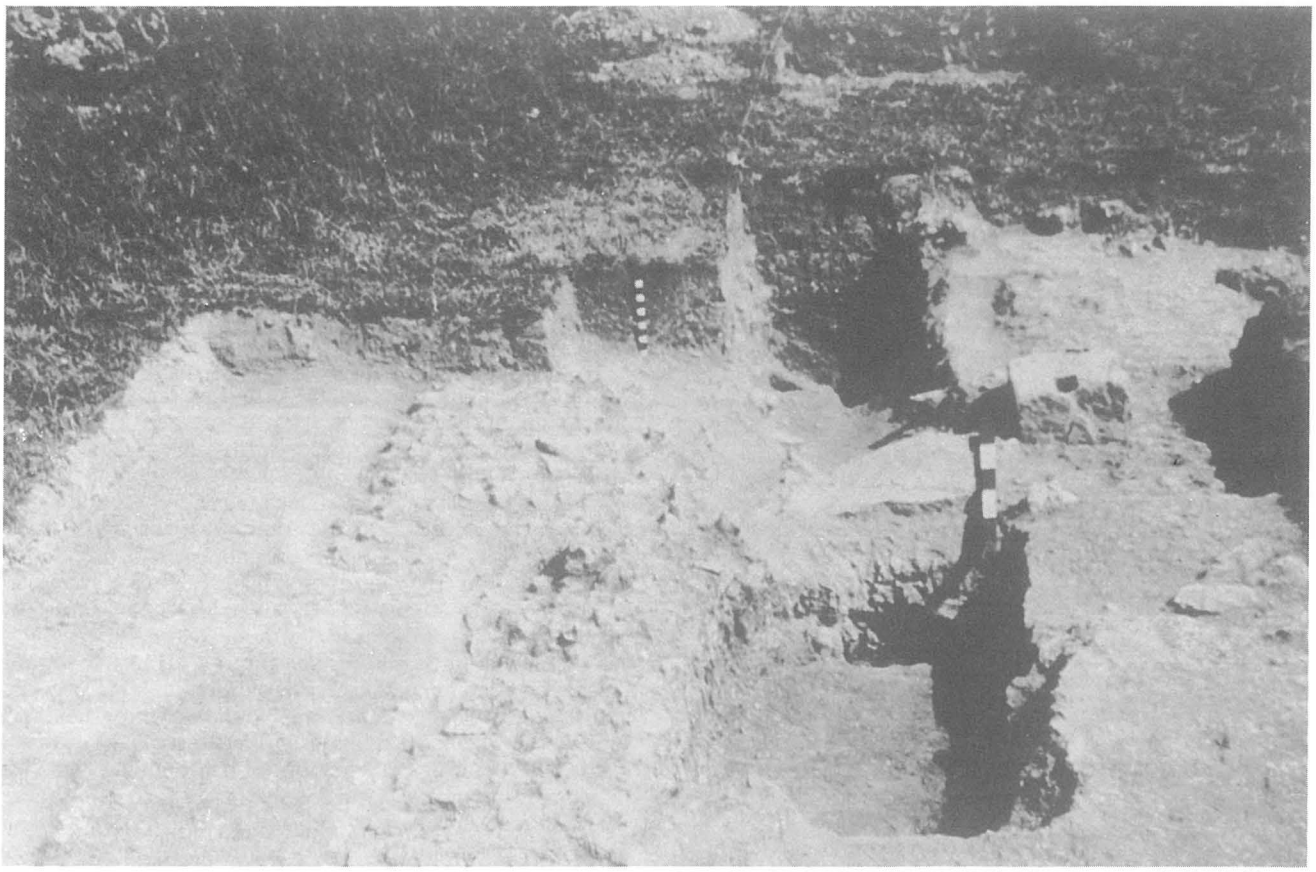


Plate 14. Flint footings of Romano-British building in 14/11.

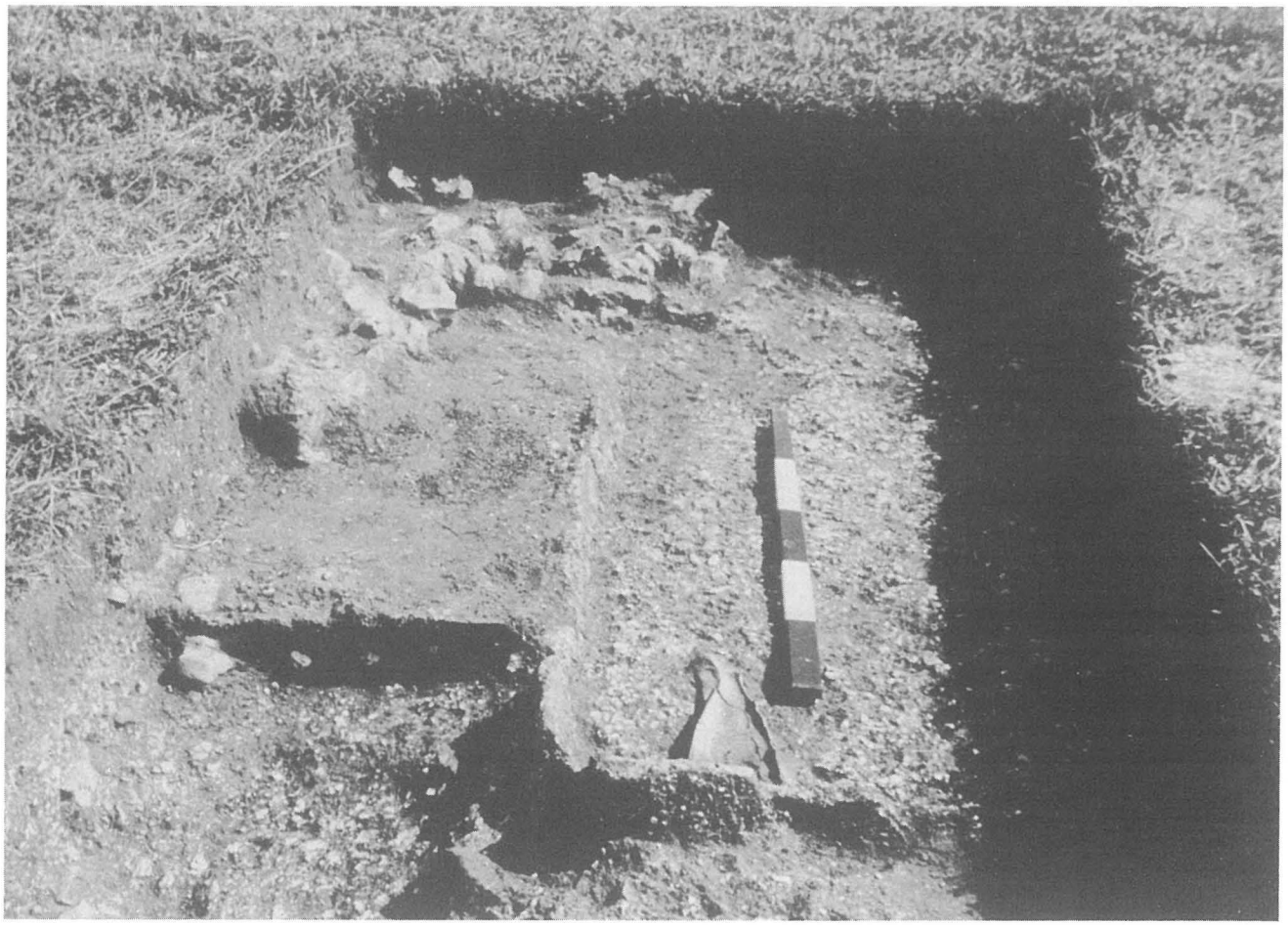


Plate 15. The L-shaped line of wall plaster (foreground right and centre) and remains of flint wall footing in 18/16.

direction. No trace of a floor was identified. *In situ* wall plaster was also recorded from a trench 6.5 m further to the north-east (grid ref. 20/16), but it was not recorded in the intervening area (Fig. 5). In this trench there was also evidence for a possible return wall to the south-east in the form of slight traces of a trench oriented NW-SE which contained flint nodules. There were also traces of a possible rammed chalk floor in this trench.

Another wall angle (labelled Building 2 in archive) was discovered south-west of the line of plaster (grid ref. 18/18). This was defined by a foundation trench up to 0.5 m deep, which was oriented roughly NW-SE, with a return to the north-east. It was on approximately the same line as the southern-western wall defined by wall plaster. Inside the angle of these wall trenches were two postholes, 2.75 m apart, cut into the natural chalk. If these building remains are associated with the plastered wall and were part of one building, this would have had internal dimensions of approximately 7.0 × 8.2 m.

The full plan of the structures described above and their full extent is not known, nor is the relationship between the remains in the individual trenches certain. There were few good sections of foundations, as they had been robbed for flint and stone. Ploughing, also, had destroyed levels and scratched into surfaces. The presence of painted wall plaster in association with one structure suggests that it was a domestic building of fairly high status.

Other Features: Only a small number of other features were recorded. Two pits were found in the north-western end of the area. One of these was partly sealed by stone wall footings. No further information has been recorded. Another pit was found just to the south of the wall. The top of this pit was partly excavated. This revealed that the top of the pit was sealed with a layer of closely-packed flint nodules. This was probably a deliberate attempt to stabilise the pit filling. One other pit or hollow was partly exposed in Area B but this was not recorded in detail, owing to lack of time and labour.

Chronology

The lack of stratigraphic information restricts any detailed discussion of the chronology of some individual features. This has to be based on the datable artefacts alone, but unfortunately it is not always possible to determine the exact stratigraphic position of the finds within each feature, so the dating cannot be regarded as secure.

Over all the area excavated, the soil in the plough layer contained abundant scrapers, points, flakes, cores and hammer stones.

In general, the pits contained only Late Iron Age pottery, although a small amount of Romano-British pottery does occur. In certain pits (1 and 4), the Romano-British pottery was recorded as coming from the upper level only, and this may be the case for the others also (see pottery report). Given the predominance of Late Iron Age pottery in these pits, it is likely that they can be dated to this period. The one exception is pit 11 which contained a large proportion of Romano-British pottery throughout the filling, including some New Forest sherds from the lower levels. This pit was a different size and shape from the others and may have belonged to the Late Roman period.

Four of the graves (2, 4, 6, 8) contained typical Durotrigian pottery and can be generally dated to the 1st century AD. Burial 8 also contained two Samian vessels dated to AD 41-68 and AD 70-85. Burial 9 had a copper-alloy brooch dateable to the first half of the 1st century AD. Thus, the burials seem to have taken place between the early and later 1st century AD.

The ditches contained both Late Iron Age and Romano-British pottery but the site records are not sufficiently specific to be able to determine where the later pottery occurred within the ditches. The exact date of these features must remain in doubt.

There is no secure dating evidence for the structures in Area B. However, the occurrence of a small number of late 3rd-4th century AD New Forest sherds among these remains, together with the general late 3rd-late 4th century AD date range of the coins recovered from the whole site, suggests that these structures can be dated to the Late Roman period.

INHUMATIONS

J. C. BUCKLAND-WRIGHT Ph.D. J. HEBDITCH M.A.

The condition of the human bones recorded from the Iron Age was good, for the same reasons outlined in the animal bone report. The skeletal record for each inhumation followed the outline for the data sheets described in Brothwell (1965). Age was determined from dental attrition and the estimate for stature was based on the first two formulae quoted by Brothwell (1965) and the last quoted by Cornwall (1956). The sex and estimated age and stature for the

TABLE 3. Skeletal data

Burial	*Sex*	*Age*	*Estimated stature (m)**	*Pathology/comments*
1	F	25-30	1.60	Articulated vertebral column indicated a tendency for a deviation to the right. Osteoarthrosis from 6th thoracic vertebra to sacrum
2	M	40-50	1.76	Configuration of right maxilla and zygomatic bones suggested a well-healed fracture. Osteoarthrosis throughout spine. Osseous growth on surface of right tibia, indicative of a periosteal reaction possibly resulting from a site of injury or infection.
3	F	25-30	1.53	Size of left hand and wrist larger than right. Head of right femur larger than left. Out-growth of cortical bone at promixal end of the linea aspersa of the left femur. Neural arch of 5th lumbar vertebra unfused. Osteoarthrosis on 5th lumbar and 1st sacral vertebrae and articular head of right humerus.
4	?	40-50	1.62 (male) 1.59 (female)	Osteoarthrosis of spine. Cranium was thick.
5	M	25-30	1.59	
6	M	20-25	1.66	
7	M	25-30	1.56	
8	F	15-17	1.60	Region of wormian bones is large (up to 35 mm wide along the lambdoid suture).
9	M	25-30	1.68	Osteoarthrosis throughout spine. Proximal end of right humerus absent from just below the level of surgical neck, also marked cortical and trabecular thinning of remaining proximal end of humerus, of the clavicle and of the acromion of the scapula. This suggests that there had been an open wound to the head of the humerus which became septic.
10	?	?	?	Very badly preserved
11	?	?	?	Very badly preserved
12				No data available

skeletons recovered together with pathological comments are given in Table 3. The skeletal measurements for each limb bone for inhumations 1 to 9 are given in Table 4, for the explanation to the skeletal measurements refer to Brothwell's published account (1965).

Human Foetal/Neonate Remains

Iron Age

In the Iron Age period, the remains of eight human foetal/neonates were recovered from the site. Of these, only one occurred in a clearly defined depression. Three were recovered from pits (two from Pit no. 2 and one from Pit no. 10). The rest of the foetal/neonates were found at different parts of the site. They were not connected with any feature and were shallowly buried.

Romano-British Period

In the Romano-British period, the remains of four individuals were recovered, in association with building debris from Building 1.

TABLE 4. Skeleton measurements

	1		2		3		4		5		6		7		8		9	
Measurement	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R
FeL1	429	430	473	472	404	400	426	425	412	410	448	442	398	396	439	438	–	444
FeL2	424	426	471	472	400	397	425	425	411	409	446	441	397	395	432	434	–	443
FeL3	404	407	460*	457	386	385	405	405	396	395	428	426	383	381	415	418	–	422
FeD1	19	18	26	26	21	19	25	23	24	23	24	23	21	22	22	21	24	24
FeD2	31	32	36	36	30	32	35	33	35	33	34	33	29	26	28	29	37	36
FeE1	74*	76	80	79	74	74	76	74	82	80	84	83	73	71	71	70	85	–
TiL1	333	334	392	390*	318	318	330	330	325	323	349	348	324	320	330	327	359	358
TiL2	329	331	390	392	318	318	330	330	322	– 327	350	347	324	319	331	322	361	357
TiD1	30	31	37	37	30	29	35	35	37	38	36	33	30	31	28	28	41	40
TiD2	18	19	24	23	20	21	23	25	23	22	24	24	24	24	21	22	27	29
TiE1	70	69*	79	–	72	73	70	70	78	76	76	76	68	68	69	69	81	75
HuL1	305	–	336	341	280	291	305	310	291	302	310	323	281	289	291	300	319	–
HuD1	19	20	22	22	19	21	23	23	23	26	21	23	18	21	19	20	23	26
HuD2	15	15	18	20	15	15	16	16	16	17	18	19	15	16	14	15	20	21
RaL1	221	222	277	273	–	211	223	225	219	216	243	239	200	203	211	216	–	251
U1L1	239	242	297	294	228	231	245	248	241	240	264	261	–	224	232	237	276	–
FiL1	–	330	390	389	318	319	–	328	316	316	344	343	317	–	330	330	356	–
Cephalic Index		72		74		73		70		–		–		–		75		–

* – estimated. Measurements after Brothwell (1965)

THE FINDS

THE RIDER RELIEF FROM WHITCOMBE

MARTIN HENIG

The relief found in 1963 (Plate 16) is carved in a white oolitic limestone similar to Portland stone. It lacks its top which, on analogy with many other reliefs from Britain and elsewhere, may have been a pediment, and also its base. The subject, set within a recessed panel, is a horseman. He is bare-headed (with a fringe of curls above his brows) and bearded and he looks towards the spectator although, regrettably, weathering has removed much of the surface of his face. He wears a short belted tunic and a cloak which billows out behind him. In his right hand he carries a spear with its point inclining upwards, in other words it is not couched, ready for use. The horse now lacks most of its back legs and the lower portions of its front legs, as well as the end of its tail. Otherwise it is well preserved and its harness is clearly delineated. Other detail would have been added in paint. The sculptor was an artist of some distinction, as is shown by the bold cutting of the image and by the skilled use of linear patterning, especially on the rider's cloak and the horse's mane.

From the time of its discovery two theories of its significance have been proposed by those who have written about it (Toynbee 1964, 446 no. 1; Farrar 1965; Cunliffe and Fulford 1982, 32 no. 114). Either it is a cavalry tombstone, though the beard would imply a date after the first century, post-dating the known military presence in the area or, with greater probability, it is a rider-god analogous to the hero-deities of Thrace.

There is little more to add to the previous discussion. First, comparison with the cavalry tombstones confirms that the Whitcombe relief does not belong to that series, even if the type had some general influence on the iconography, both because sculptors were trained to make reliefs like those of Genialis and Dannicus at Cirencester and because such tombstones long survived in cemeteries throughout southern Britain. The auxiliary riders, in almost all cases are in the act of spearing a prostrate foe (Mackintosh 1986) while our horseman is making an *adventus* like an emperor, a hero or a god. Secondly, we do not have to go beyond Roman Britain to find comparable rider-gods or heroes. An altar from Bisley, Gloucestershire shows a mounted warrior, perhaps the god Mars, brandishing a sword and a shield (Ross 1867, 188-9, fig. 124) while a votive relief from Kingscote in the same county portrays a similar mounted figure with other deities (*ibid.* 189, 191, fig. 126); a third example of a rider-god comes from Stragglethorpe in Lincolnshire (Ambrose and Henig 1980) though here the deity spears a monster. Like the Whitcombe relief, they are all carved in oolitic limestones. The Jurassic ridge which runs from south-western Britain to Lincolnshire, not only, and self-evidently, provides a similar material for carving but also, in the Fosse Way, a physical link for the free flow of men (including, without doubt, sculptors) and of artistic, religious and intellectual ideas. The style of carving of the Whitcombe rider is, incidentally, not unlike that found in the Cotswold region especially in the way that the sculptor has treated the texture of the clothing.

No temple has been found at Whitcombe but excavation has revealed burials including a warrior burial. These date from the Iron Age and are self-evidently much earlier than the Roman relief for which a date in the second or third century AD is acceptable. I suggest that Mrs Aitken was not the first person to excavate at Whitcombe: in the middle of the Roman period in Britain another burial, 'of a powerful man . . . buried with his ornaments and weapons' was found 'in a shallow grave in the chalk' (Aitken 1969, 127). It was regarded as the grave of a hero, deserving of veneration and the owner of the land presumably reinterred the body and set up a *stele* in his honour; henceforth he would protect the estate. What a pity that we do not know the imagined identity of this lost hero of Dorset, for alas if there was an inscription above or below the figure it is not preserved.

This hypothesis suggests not continuity but dis-continuity; at Whitcombe a former inhabitant of the land, known only from his bones, is being invoked to provide religious sanction for Roman ownership. The process is now well known thanks to a brilliant and persuasive paper by Richard Bradley (1987). In addition to the examples assembled there, I cannot forebear to cite the myth which

forms the basis of Sophocles' last play in which Oedipus goes to Colonus on the borders of Attica and there dies (or is transported to the Other World), leaving his grave to protect the state of Athens, Tombstone or votive-relief? I suggest that the Whitcombe stele was both.

THE ROMAN COINS

RICHARD REECE

Although there are only 14 coins from the site I have listed them in two groups. The first group consists of general site finds (6 coins) while the second group seems to consist of a rather strange concentration around the years 326-336.

General site finds

AD 270-73	1 Tetricus I	*Roman Imperial Coinage* (*RIC*) 100
AD 330-45	1 Urbs Roma	*Late Roman Bronze Coinage* (*LRBC*) part i copy as 184
AD 348-50	1 Constans	*LRBC* ii 178
AD 367-78	2 Gratian	*LRBC* ii 517, 529
AD 364-78	1 House of Valentinian	*LRBC* as 275

Constantinian Group (337-40)

3	Constantine I	**RIC* vol. 7 London 293; *Trier 504; *LRBC* i 1117
2	Constantine II	*RIC* 7 Trier 479; *LRBC* i 232
1	Fausta	*RIC* 7 Trier 466
1	Licinius II	**RIC* 7 Siscia 155
1	Constantinopolis	**LRBC* i 66

Of this group one lot of four coins were stuck together (indicated *), and the other four coins all have surface deposits which show that at one time they were stuck to one another. Both sub-groups run from the issues of 324-330 to 330-337 and should therefore be considered together, perhaps as one small hoard which was scattered in the later Roman or post-Roman period.

Discussion

The general site finds run through from the late third century to the 370's. The fact that all the coins seem to be regular and that there are no contemporary copies is unusual on a British site, but in view of the small numbers the matter cannot be pursued further. It seems reasonable to say that coins were used, and occasionally lost, on the site but that it is unlikely that many transactions took place there.

The small hoard is an interesting collection of coins which might well be expected in a pocket or purse around AD 337-340. It is no more than small change and, by itself, would hardly stretch to the monthly shopping for a family, though it would probably cover daily purchases of food and other basic necessities.

COPPER-ALLOY OBJECTS FROM WHITCOMBE, DORSET

S. A. BUTCHER

The following notes include the results of metal analyses by Justine Bayley (A. M. Laboratory Report No. 4333).

Not illustrated

Part of the ring of a small penannular brooch (maximum diameter c. 20 mm) with a fragment of the loop which attached the pin. Without the terminals the type cannot be identified, but small penannular brooches with plain rings are common in first century AD sites (cp. Hod Hill, Brailsford 1962, Fig 11), although they also occur in later contexts. The alloy was bronze, which is normal for such brooches. (Topsoil; grid ref. 18/16).

1 Figure 6 W. 65 II. Length 53 mm. Metal: bronze.

This belongs to a large group of brooches classified by M. R. Hull as "South-western T-shaped" (*Ancient Brooches in Britain*, forthcoming). Like many of these it is hinged and has a plain tapering bow and a plain crossbar. The catchplate is continuous with the bow and there is no footknob. Similar brooches were found at Rotherley (Pitt-Rivers 1888, pl XCVIII nos. 2 and 3) and Ham Hill (Taunton Museum E1). Other variations occur in Wessex, none of them from closely-dated contexts (one from Chew Valley, Rahtz

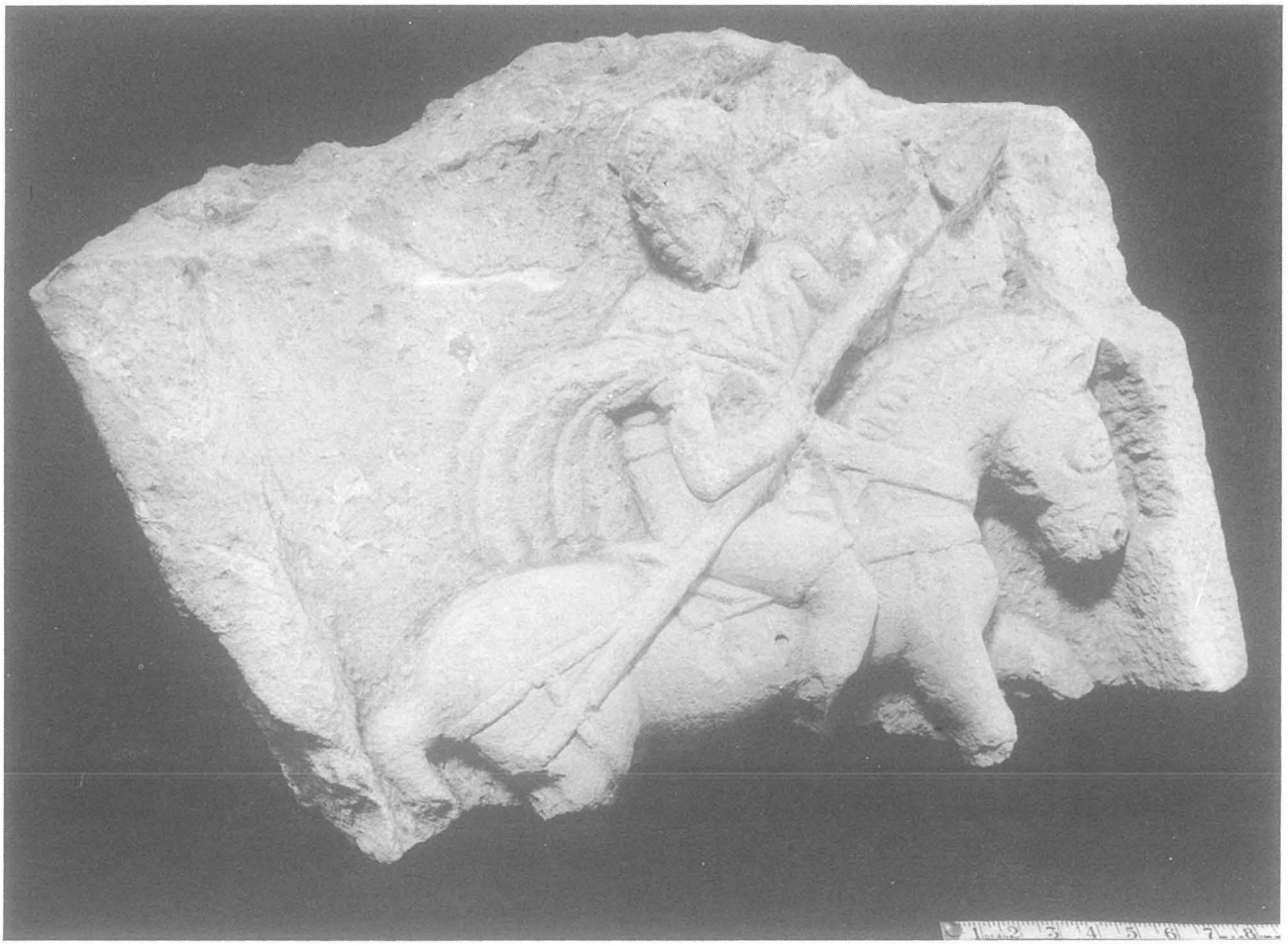


Plate 16. The rider relief.

and Greenfield 1978, Fig. 114, 17 p. 293, was in a site context of late third or early fourth centuries). The type seems most likely to date from the later first century as it is clearly a hinged variant of the two-piece Colchester brooch (flint and limestone layer, 0.2 m below surface; grid ref. 17/16).

Not illustrated. Fragment of domed sheet metal.

Possibly part of a decorative stud (flint and limestone layer, 0.2 m below surface; grid ref. 17/16).

2 W. 65 IV. Length 48 mm overall. Metal: leaded bronze.

A head-stud brooch with hinged pin and head-loop cast in one with the brooch. This belongs to a sub-group in which the decoration of the bow consists of a pane of enamel divided by a central toothed metal strip running down the length of the bow. The head-stud is a raised circular moulding containing a quatrefoil in relief. There is no trace of enamel in this. Very similar brooches have been found at Winterton (Stead 1976, p. 201, no. 27) Woodeaton, Caerleon and York, but they are closely related to the more common group which has a panel of enamelled lozenge and triangle decoration down the bow. The general type is widespread in Britain and appears to date from the later first or early second centuries AD. (cp Butcher 1977 p. 64). (In painted wall plaster debris; grid ref. 18/17).

Not illustrated. Thin sheet of metal, broken but showing one rectangular corner and two holes which might be for rivets. (Topsoil; grid ref. 4/15).

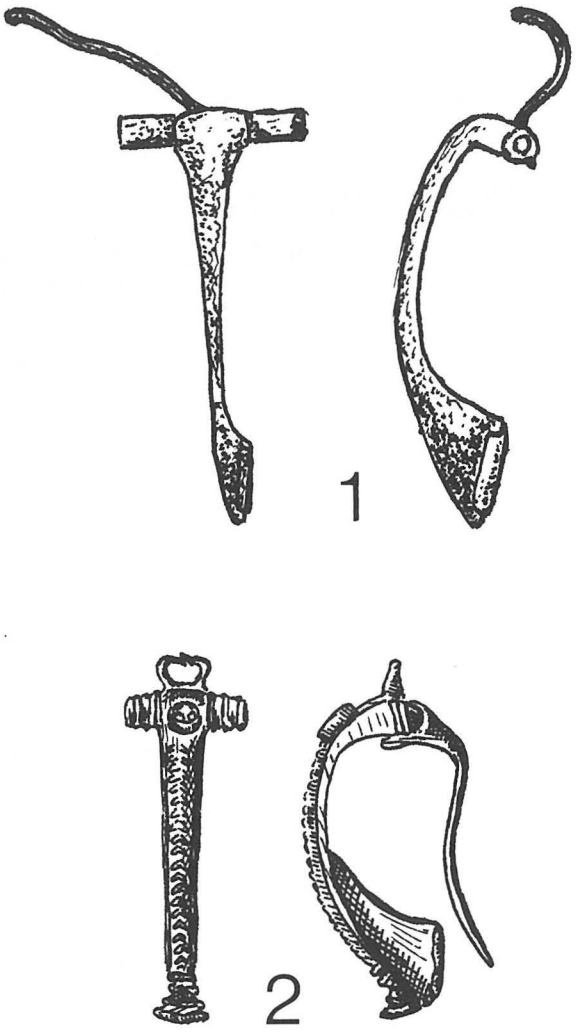


Figure 6. Bronze brooches at life size.

Figure 7. no. 1 Fragment of a flat plate with a raised lozenge-shaped panel of incised fine cross-hatched lines. One end broken. The slight mouldings at the ends appear to be deliberately cast. No sign of attachment on the back. (Among flint foundation; grid ref. 13/10).

IRONWORK

W. H. MANNING

Figure 8

1: BRACELET Diameter 6.8 cm. A simple penannular ring of D-shaped cross-section.

Although bracelets of this type were probably common both in the Iron Age and Roman periods relatively few survive, probably because they are virtually unrecognisable once broken. Others are known from a late Iron Age burial from the War Cemetery at Maiden Castle, Dorset. (Wheeler 1943, 281, fig. 92, 9), and a burial of third or fourth century date at Verulamium (Wheeler and Wheeler 1936, 138 & 217, pl. LX, B, 4) (SF LXX, from left wrist of burial 7).

2: CLEAT Length 5.6 cm. Lentoid plate with upturned spikes at its ends.

A common type usually identified as coming from shoes or boots, cf. Manning 1984, R54-R64. (SF XII, Limestone paving, grid ref. 6/16) XIII.

3: CLEAT Length 3.5 cm. Similar to preceding.

(SF VI, topsoil, grid ref. 18/17).

4: STYLUS Length 8.9 cm. Round-sectioned stem tapering to a point with a damaged flat eraser.

An example of the simplest and most common form of stylus (Manning Type 1, Manning *op cit* N1-N14) (SF LX1, topsoil, grid ref. 6/18).

Not illustrated: FRAGMENT OF BINDING Length c.12 cm, now broken in two. A curving fragment of bar, broken at one end with a perforated, sub-rectangular head at the other.

Probably part of a structural binding. (SF LV, topsoil, grid ref. 5/16) L.V.

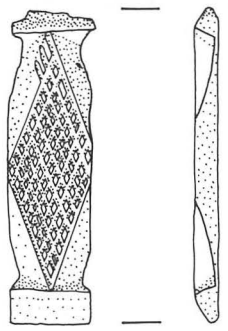


Figure 7. Bronze fitting at twice life size.

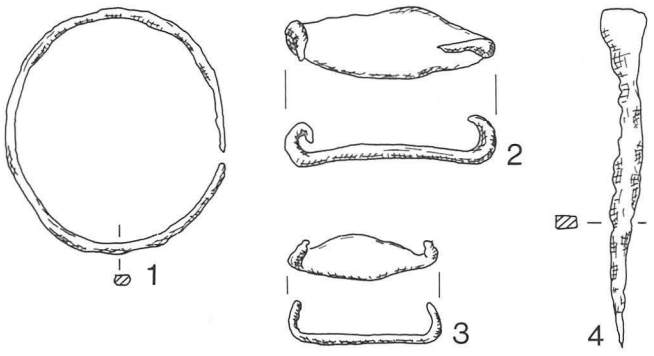


Figure 8. Iron objects at half life size.

WHITCOMBE, BURIAL 9, THE GRAVE-GOODS

I. M. STEAD

Figure 9 & Plate 11

1 A complete iron sword in quite sound condition, undulating slightly along its length – it rested on the legs of a skeleton but earth pressure had caused it to sag where not supported by the bones. The total length is 930 mm, with the blade measuring 768 mm long and 77 mm wide at the top. The blade is quite flat and there is hardly any taper until about 50 mm from its very broad rounded tip. The tang is rectangular in section, tapering at the top and very wide and flat (24 by 11 mm) just before it meets the squared shoulders. The sword had been in a wooden scabbard whose traces, with the grain along the length, survived on one side only (the upper side in the grave).

A long broad and flat blade with parallel sides, rounded tip and squared shoulders is characteristic of La Tène III (Déchelette 1914: 115, fig. 460). The Whitcombe sword is unusual because of its incredible width (77 mm), for most British Iron Age swords measure between 35 and 55 mm wide at the very top of the blade. Its excessive width and very thin flat section might suggest that the Whitcombe sword was an ineffective weapon, but examination by Janet Lang (1984: 72) has shown that the blade was both hard-edged and tough.

Figure 10.

2 A copper-alloy mount from the mouth of the scabbard, 89 mm wide. The front is decorated with a simple moulding that expands towards the sides and terminates at each end in an oval button-shape bearing faint traces of a dotted triangular design. The back is undecorated and narrower than the front. It was found on the sword, face downwards in the grave.

Mounts from the straight mouths of wooden scabbards have been found at Hod Hill (Brailsford 1962: 1, fig. 1, A.5), Llyn Cerrig Bach (Fox 1946: 73, pl. xv1, no. 10) and St. Albans (Piggott 1950: pl.ii), whilst one from Stanwick is still attached to its scabbard (Wheeler 1954: 44-50). A mount at the mouth of a copper-alloy La Tène III scabbard from the River Witham provides a much closer parallel (Piggott 1950: pl.ii).

3 and 4. Two corroded iron rings, 50 and 56 mm external diameter. They were found against the top of the sword, one at each side, and had clearly been involved in suspending the scabbard (cf. Déchelette 1914: 1115, fig. 461). Two bronze rings were found in a comparable position in the Owselbury warrior-burial (Collis 1973: 126-8).

5 A copper alloy ring, D-shaped in section and almost D-shaped in plan. 58 mm across externally, it is 9 mm wide apart from the flattened length which tapers to 4 mm and would presumably have been covered by a leather strap. Opposite the narrowest part is a stud-like projection from the flat side terminating in a button some 12 mm diameter.

There is a rather similar ring from Hod Hill (Brailsford 1962: 17, pl. xi, I.97): it is smaller (38 mm diameter), completely circular, oval in section, and has a stud comparable in size to the Whitcombe piece. A ring of slightly different form but used for a similar purpose was found with the Owselbury burial (Collis 1973: 126-8).

6 A crude iron spearhead, 172 mm long. The blade is flat on one side and rounded on the other, and the socket has been simply wrapped and secured by an iron nail. There are traces of wood in the socket.

7 An iron hammer-head, 111 mm long, with a short flat or perhaps slightly rounded tup and a long tapering and now rather rounded pane. Part of the mineralised wooden shaft survives, 41.5 mm long and 22.5 by 13 mm thick.

8 An iron file, 134 mm long. Square in section, it tapers at one end to a short tang which has been held in a wooden handle; its identification as a file, cut on four sides with 8-11 cuts per cm, has been confirmed by Vanessa Fell.

9 A copper-alloy strip 132 mm long, found in two pieces and broken at both ends. It is 5.5 by 2 mm in the centre; the more complete end terminates in a hook (broken) and the curve at the other end is consistent with the beginnings of a similar terminal. Its purpose is unknown.

10 A copper-alloy brooch of La Tène II construction. 76 mm long, it has a four-coil spring with internal chord, high rounded bow, long catch-plate and a long thin returned foot clasped by a collar to the top of the bow.

Known as the pseudo-La Tène II brooch (Déchelette 1914: 1260), this type is characterised by an *internal* chord and was a revival dating many years after the version with external chord. it is usually found in the first half of the first century AD and survives

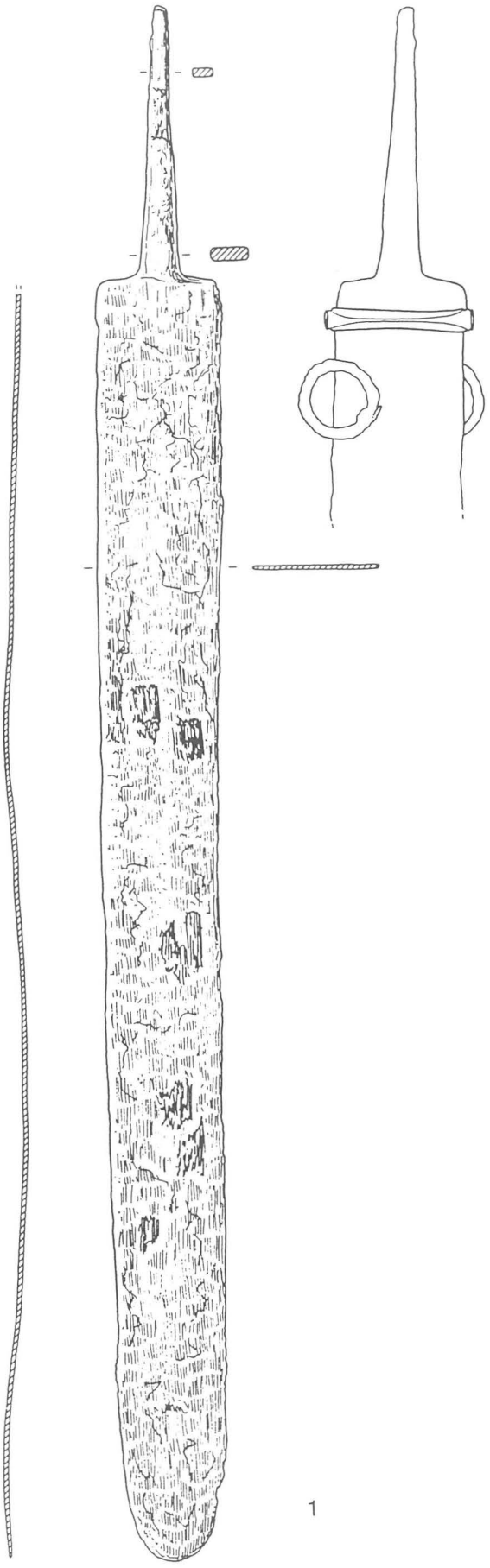


Figure 9. The iron sword from Burial 9, with sketch showing the relative positions of the scabbard-mouth and rings. At ¼ life size. Drawn by Gillian March.

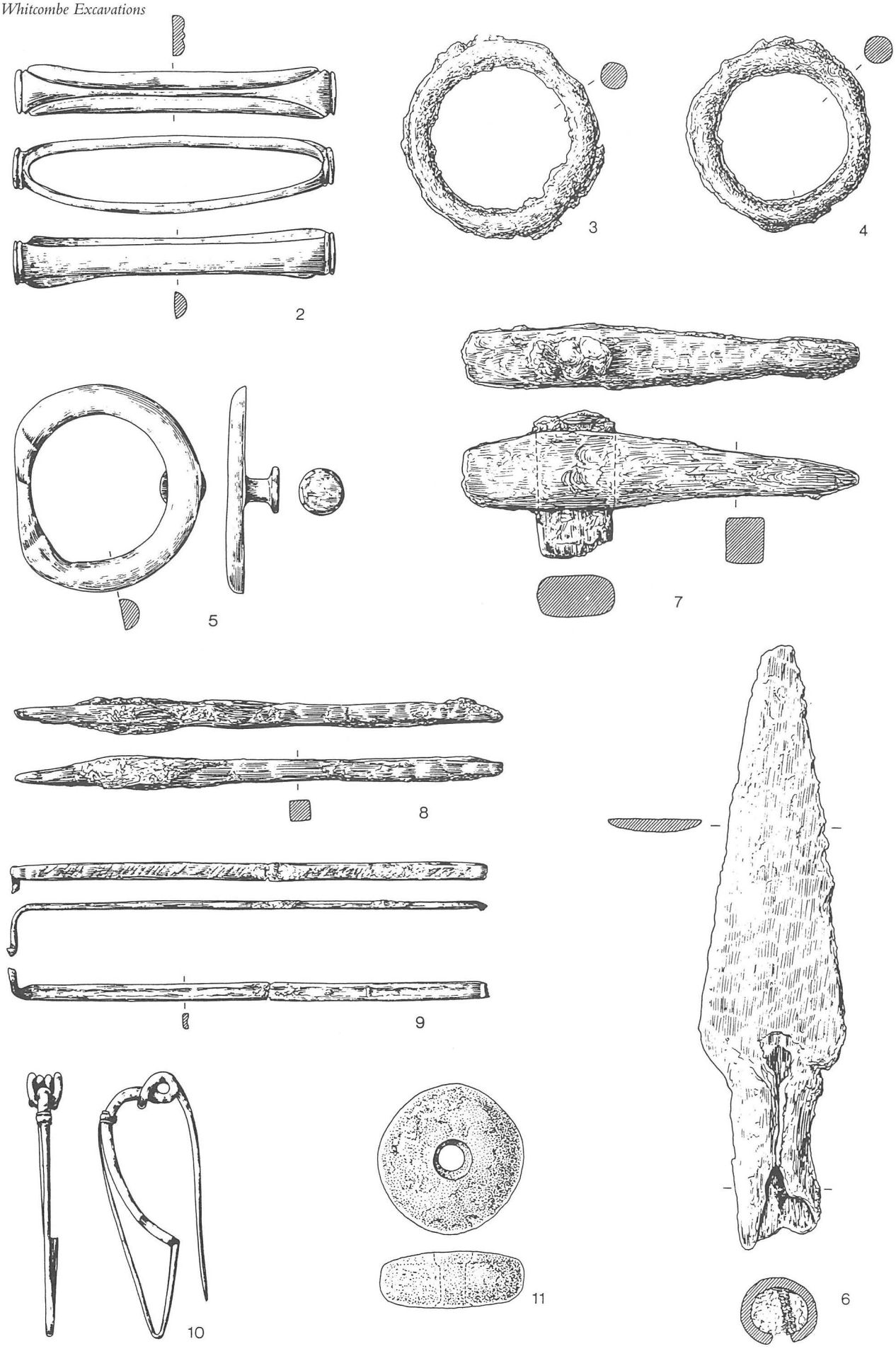


Figure 10. The other objects from Burial 9. Nos. 2, 5, 9 and 10 copper-alloy; nos. 3, 4, 6, 7 & 8 iron; no. 11 chalk. All at $^{2}/_{3}$ life size. Drawn by Gillian March.

even later (Ettlinger 1973: type 3; Riha 1979: type 1.4; Feugère 1985: type 3bl; Hull and Hawkes 1987: type 3c).

11 A chalk 'spindle-whorl', 41-2 mm external diameter, with a perforation some 8 mm diameter expanding to a recess some 10.5 mm diameter at each side.

Spindle-whorls are known from several Iron Age graves in Britain (Whimster 1981: 67) and on the continent. They are assumed to occur in women's graves, for which they are sometimes a diagnostic type (Bantelmann 1972: 108), so the appearance of this object in the grave of a warrior craftsman is surprising and its identification must be queried. It has been suggested that the chalk ring was part of the hilt of the sword – but it was not found on the tang (which is in any case rectangular in section), and there is no iron staining in the perforation. Perhaps it was used as a flywheel on the spindle of a pump drill (cf. Goodman 1964: 180-81, fig. 183; Jenkins 1965: 125, fig. 30) – in which case it too could have belonged to a craftsman's tool-kit.

The Whitcombe burial probably dates from the first half of the first century AD: the brooch could be even later, but a native warrior is more likely to date before than after the Roman conquest. In Britain burials of Iron Age warriors are rare (Collis 1973) and those of craftsmen are even more unusual: the combination of the two can be matched only at Rudston, North Humberside (Stead 1991, Burials R87 and 154) and possibly Ham Hill, Somerset (Walter 1923). On the continent there are several burials of Iron Age warrior-craftsmen: a cemetery of 70 cremations at Wesótki in Poland had 14 warrior-graves of which three also included craft-tools – but that is exceptional (Dabrowscy 1967). One of the finest such grave-groups is from a barrow at Celles (Cantal, France) where a spearhead and parts of shield-boss were found with a collection of 27 iron tools used for working wood or leather (Pagès-Allary *et al.* 1903; but see Guillaumet 1982, who suggests that it may have been the remains of a workshop rather than a burial), and one of the most fascinating is the doctor's grave at Obermenzig (Bavaria) where three surgical instruments were found with a sword, spear and shield-boss (de Navarro 1955). One would like to conclude with a positive identification of the craft practised by this warrior from Whitcombe, but unfortunately the tools are not now sufficiently distinctive.

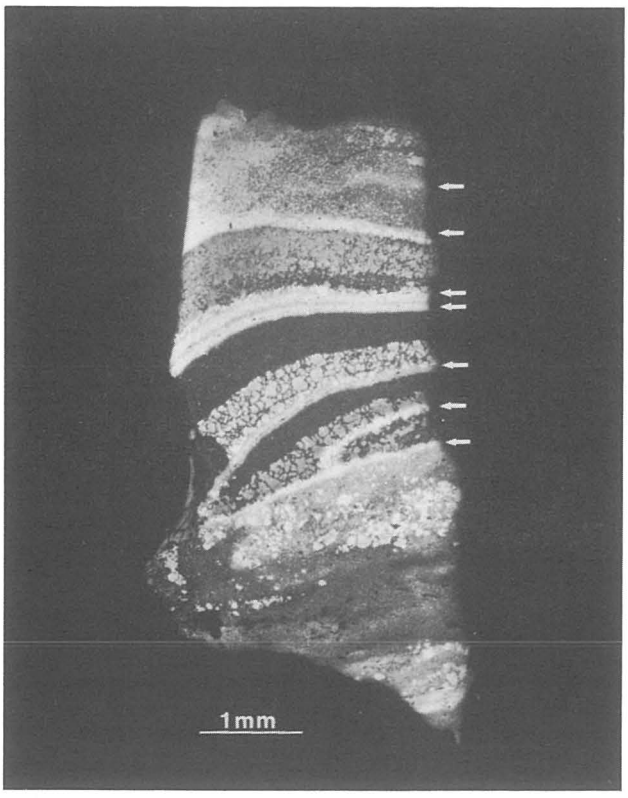


Plate 17. Metallography sample from the hammer, nital etched. Light-etching lines arrowed.

METALLOGRAPHIC EXAMINATION OF THE HAMMER-HEAD (NO.7) FROM BURIAL 9

VANESSA FELL

The hammer-head (Figure 10 no. 7) was examined by metallography in order to investigate method of manufacture, carbon composition and heat treatment.

A transverse section was taken 8 mm from the tip of the narrow rectangular face, yielding a sample 6 × 3 mm, which was mounted and polished according to standard metallographic techniques. Unetched, the sample revealed narrow bands of single-phased and duplex non-metallic inclusions aligned across the sample. Etching with 1% nital (Plate 17) revealed martensite, nodular pearlite and irresolvable pearlite at both ends of the sample (top and lower in Plate 17 and Fig. 11; equivalent to the upper and lower sides of the hammer-head). The centre of the sample comprised bands of massed nodular pearlite and bands of martensite with grain-boundary nodular pearlite (Plate 18). Aligned with the bands were numerous light-etching lines with associated fine particles of non-metallic inclusions indicative of welding. Scanning electron microscopy coupled with energy-dispersive X-ray analysis facility determined high arsenic concentrations (to 0.7%) in these lines, which is consistent with surface oxidation and enrichment of arsenic as an impurity during pile-forging (cf. Tylecote and Thomsen 1973). Macrohardness values ranged from 251 to 435 HV 5; microhardness 208 to 550 HV 0.2 (Fig. 11).

The metallographic evidence suggests that the hammer-head was pile-forged from a bloom comprising medium-carbon steel. The differences in microstructure may be due to localised variations in elemental or carbon composition – which can be expected in bloomery iron. The hammer-head was finally quenched from the fully austenitized condition (above *c.* 800°C) achieving relatively

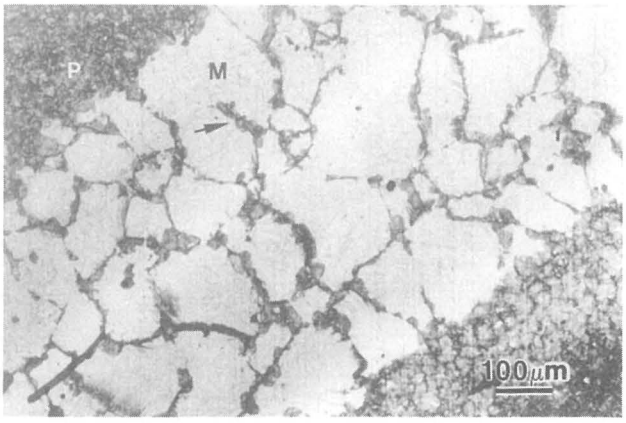


Plate 18. Detail of microstructure at the centre of the sample showing martensite (M), grain-boundary nodular pearlite (arrowed) and massed nodular pearlite (P).

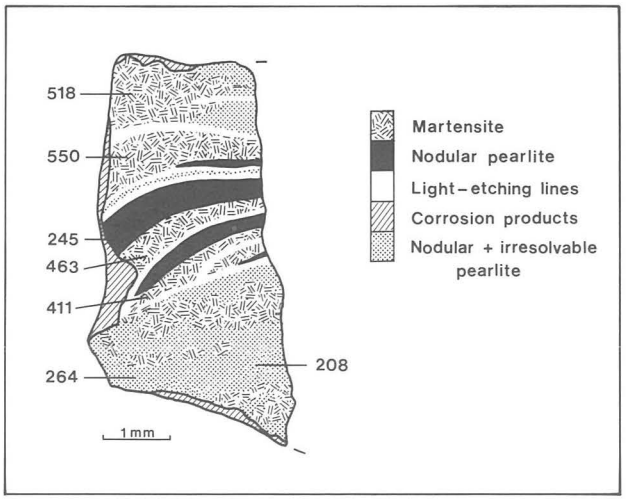


Figure 11. Diagram of sample of the hammer showing microstructure and hardness (HV 0.2).

high hardness, the microstructure commensurate with a mild or 'slack quench'. Condition of the hammer-head only permitted sampling away from the face and the microstructure and hardness may not be the same at the tip of the face. There was no evidence to suggest that the hammer-head had been tempered.

Acknowledgement

I am grateful to R. N. R. Peers for permission to sample the hammer and to Ian Brough, Department of Metallurgy, UMIST, for the SEM-EDXA analysis.

THE BEADS

MARGARET GUIDO

Figure 12.

These beads from grave 8 are interesting as a group closely dated by the associated Durotrigian and Samian ware of about 70-85 AD. But, although this date and the Samian ware itself might lead one to suppose that the beads themselves were of Roman manufacture, all of them may be considered as representing the native element in a burial of the Romano-British period. It is significant in this context to remember the two wooden beads (no. 10) from the same necklace and separately reported upon by Dr Roy Newton, for these are almost certainly imitations of the polygonal, generally green, beads of characteristically Roman type which may, during the first century, have been difficult for the native peoples to acquire.

Nos. 1-6 – The blue beads with white wave. (Guido 1978, group 5). All similar, all annular, made of translucent glass with opaque white wave decoration. This type is impossible to date accurately, since it began to arrive in England as early as the 5th to 4th centuries BC. (the Arras culture in Yorkshire, etc.) and continued to be popular right through into post Roman times. No. 6 is rather less regular, in opaque blue on a lighter blue ground which shows signs of weathering or possibly paint. This would need to be analysed before anything could be said of it.

No. 7 – opaque green melon bead, not closely dateable.

Nos. 8 and 9 – The translucent amber-coloured annular beads. These are characteristic of the early Roman period, and may also be found a little before the conquest. (Guido 1978 – group 6). No. 9 is from Grave 3.

Brownish opaque bead. This needs analysing and care to prevent it from disintergrating. Badly weathered, but appears, under magnification, to have been made either of clear glass without colour, or of the opaque yellow glass very common in the 1st century BC and 1st century AD. The brownish colour may be due to accidental overheating or chemical change (not illustrated).

Fragments of a small, pale-yellow, translucent, annular bead. This bead of about 1 cm in diameter, is unusual. It is more likely to belong to the native pre-Roman culture than to the Roman one (not illustrated).

Summing up. The beads are interesting, not so much in themselves but because they provide us with a closely-dated group, which is invaluable for the comparison of other beads of the same types. The only two exceptional beads are the two wooden ones already reported on by Dr Roy Newton. These, by some rare association of soil conditions, were able to survive, though such imitations of Roman beads may have been commoner than we imagine. Roman glass may not have been readily accessible at the beginning of the Roman period. Later, it was perhaps manufactured in this country. Although the necklace under discussion was not buried until towards the end of the 1st century AD, it could have been comprised of beads made at least a generation earlier.

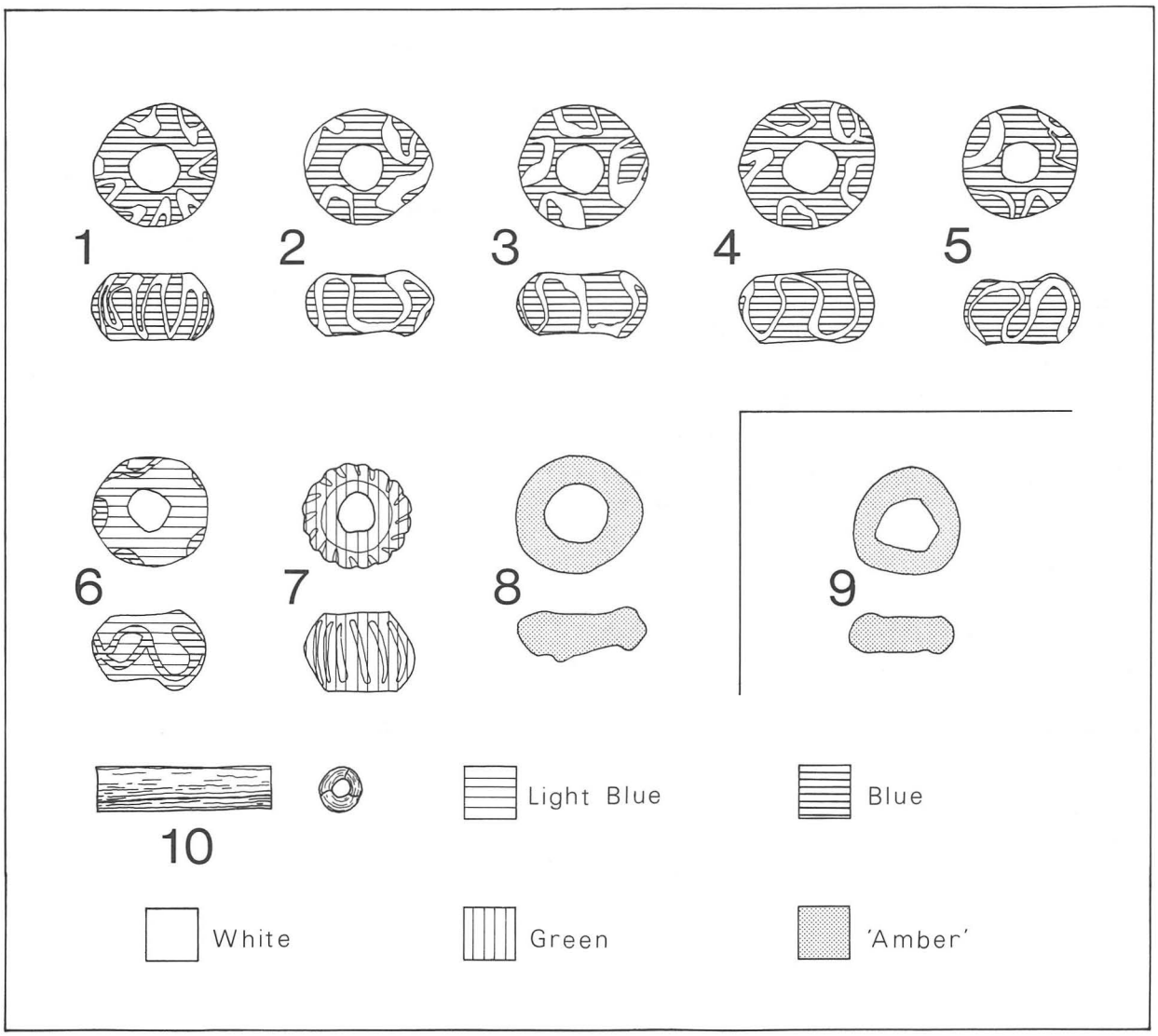


Figure 12. The beads. Nos. 1-9 glass; no. 10 wood. All at life size.

AN EXAMINATION OF A ROMANO-BRITISH BEAD-SPACER FROM WHITCOMBE, DORSET

R. G. NEWTON, O.B.E., D.Sc., D.I.C., F.I.Ceram., F.S.G.T., F.S.A

In an excavation of a Romano-British burial at Whitcombe, Dorset, Mr and Mrs G. N. Aitken found some round glass beads in the grave, and also two cylindrical bead-spacers (Figure 12 no. 10). The bead-spacers appeared to be made of glass but proved, instead, to be made of wood and the paper discusses their origin; there is, however, no doubt that the round beads are made of glass.

The spacers were about 12 mm long and 3 mm diameter and had an axial perforation about 1½ mm diameter (see Plate 19). The surface had a dark glassy appearance, with numerous longitudinal fissures, as is shown in Plate 19. The iridescence of the surface and the fissuring was reminiscent of the weathering crusts which are found on some ancient glasses and it is easy to understand why the spacers were described as 'glass'. When viewed from the ends the surface layers were darker and appeared glazed as if they were made of a very dark glass, but the density and thermal conductivity seemed to be too low for glass; these properties were not actually measured but the spacers 'felt very light and warm'. In addition, one was slightly damaged at the end and the interior substance seemed to be striated, as if the longitudinal grain of wood was exposed under the 'glaze'. Some indication of such striations can be seen in Plate 19. A well-known expert on ancient glass took the view that the spacers really were made of glass and he accounted for the low density, the low thermal conductivity, and the striated appearance by suggesting that a foamed glass had been used. The striations could then have been formed when the glass had been drawn into a tube from which the spacers had been cut. The author's opinion, however, was that the spacers were likely not to be made of glass, but could have been made of wood, the exterior having been covered with a dark glaze or varnish.

These opinions were so diverse that it became important to seek more objective methods of determining the nature of the material, and the author offered to carry out a study in the laboratories of the British Glass Industry Research Association at Sheffield, England. One of the spacers was found to be very brittle and it split into three pieces when subjected to slight pressure (see plate 20). It was then evident that the interior was made of wood, as can be seen from the damaged end of the piece at the top of the picture and the detached fragments at the bottom.

A portion was then shown to Mr L. F. H. Merton, B.A., of the Department of Botany of the University of Sheffield, England. After carrying out a detailed examination under the microscope he was able to report that much of the cellulose of the wood had been destroyed, no doubt by fungal action, during the 1700 years or so that the beads had been buried in a grave in well-drained chalk, but enough of the anatomical structure of the wood remained to enable an identification to be made.

The wood had a diffuse-porous structure (i.e. it was not ring-porous) and the original stem had a rather large central pith cavity. These two characteristics together distinctly limit the number of British woody species which could have been used to manufacture the bead-spacer. There are in fact only two likely candidates, i.e. elder (*Sambucus niger*) or the guelder rose (*Viburnum opulus*). In the wood of *Sambucus* the vessels are grouped into two's and three's but in *Viburnum* the vessels are scattered, as is the case in the bead-spacer. Two other pieces of confirmatory evidence were available; first, the vessels in the bead-spacer still possessed a faint tertiary spiral, despite the destruction of the cellulose, and this is also characteristic of *Viburnum*. Secondly, the pith channel of *Viburnum* is fluted, and the bead-spacer shows the same characteristic, as can be seen in Plate 20, which shows the internal faces of the three major portions. The top portion has a ridge along the upper edge of the cavity, which can be seen in an enlarged view in Plate 21. It represents one of the flutings of the pith cavity, and another can be seen in the top of the cavity of the piece at the bottom of Plate 20. All the evidence, therefore, is that if a local wood had been used the bead-spacers were fashioned from small stems of the guelder rose. Mr Merton also commented that the stem had originally been cut cleanly with a sharp knife, and it appears that the spacer had been carefully made by a craftsman.

It seems that the axial hole in the bead-spacer had been made by pushing the pith out with a probe, thus leaving the internal woody flutes undamaged. If the hole had been made by burning or by drilling, the flutes would have been destroyed. It also seems unlikely that the flutes could have been artefacts introduced by using a non-circular probe because the hole is likely to have been made from both ends and any artificial flutes would have been neither continuous nor straight; moreover, the holes boxed from both ends are generally waisted in the middle and there is no evidence of this in Plate 20 or 21.

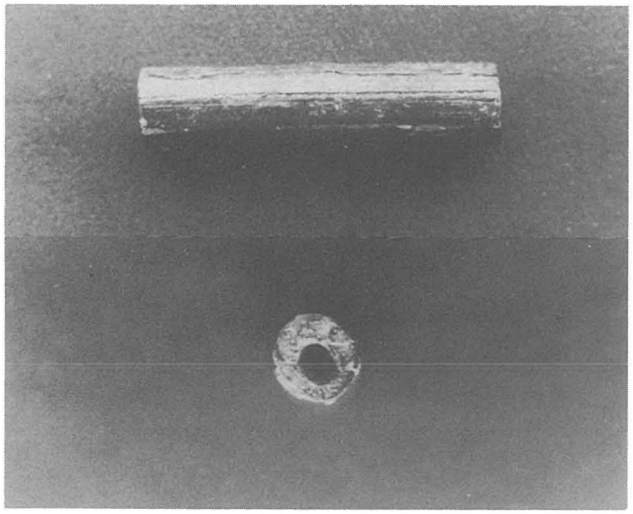
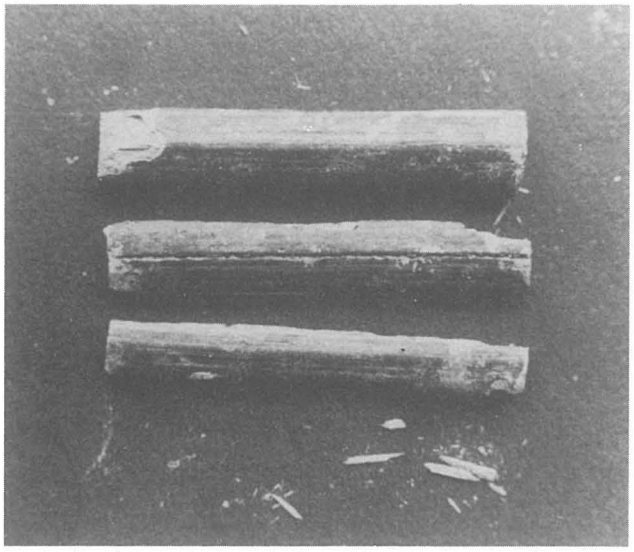


Plate 19. One of the bead spacers, showing the dark 'glassy' appearance and the axial perforation. At four times life size.



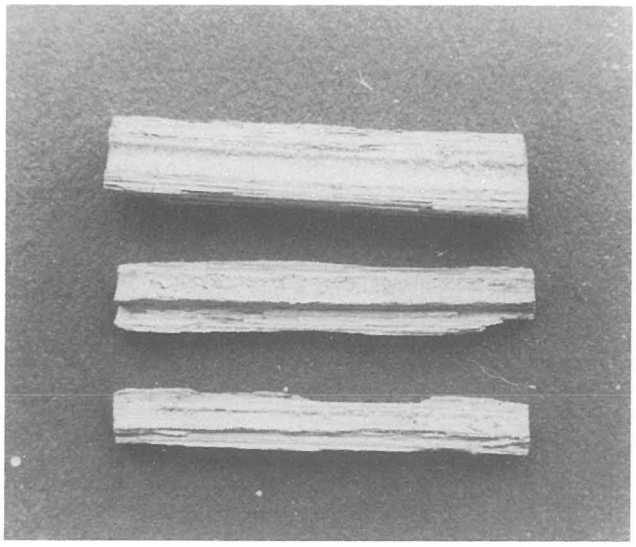


Plate 20. The bead spacer after it had split, internal and external views, at about four times life size.

At this time it was still thought that the dark shiny external surface had been formed by applying a glaze, enamel or varnish. Thus the dark marks in the wood at the top edge of the portion in Plate 20 were regarded as indications that this varnish had penetrated cracks in the wood. When it was realised that the bead was made of wood it was also evident that progressive deterioration of the substance would rapidly occur. Plate 20 taken only two weeks later, shows how much deterioration took place. Parts of the dark exterior and pale interior can still be seen but the deteriorating fabric of the unpreserved wood is evident. Plate 23 is an enlarged view of some of these fragments and the very thin nature of the dark external coating can be seen on some of them, especially the long piece lying just above and parallel to the scale of millimetres.

The next problem concerned the identification of the 'lacquer', and parts of the dark exterior were therefore sent to the Research Association of British Paint, Colour & Varnish Manufacturers, Teddington, England, where, through the kindness of the Director of Research, Dr G. de W. Anderson, their Mrs S. M. Rybicka carried out a spectrographic investigation in the infra-red region. Much to everyone's surprise she reported that very little organic material was present, that the 'wood' was mainly silica, and the coating was not a varnish or lacquer but seemed to be a deposit of metal oxides.

On receipt of this surprising information, arrangements were made for chemical analyses to be carried out in the BGIRA laboratories by Mr Paul Hunter under the direction of Mr W. W. Fletcher. Unfortunately only very little of the material then remained and hence partial analyses had to be carried out, rather than the full analysis which would have been preferred. A blended sample was prepared using both dark and light-coloured fragments and heated first to 110°C (to determine the moisture content) and then to 1 000°C (to determine the total organic content, plus any carbonates). The silica content was also determined gravimetrically as silicic acid, giving the following results:

	%
Loss of moisture (at 110°C)	13
Loss on ignition (at 1 000°C)	25½
Silica content	25½
Remainder – metal oxides	36

A spectrographic analysis of the remainder showed that substantial concentrations of Ca, Fe, Mn, Al and Cu were present, together with smaller amounts of Sn, Pb, Zn, Mg, Na, Ti, Co, Ni and Cr. Some selective quantitative analyses were then carried out, but the small amount of material still available rendered the results imprecise. Nevertheless, it would appear that there was approximately 12% of CuO (plus PbO) + SnO_2); about 10% CaO; about 9% Al_2O_3 (plus Cr_2O_3); and about 5% each of Fe_2O_3 and MnO. The total of these oxides amounts to 41% which is in reasonable agreement with the 36% of material shown as the remainder in the table above.

The presence of the lime and the alumina can readily be attributed to the chalk and the associated clay in which the burial occurred but the high proportion of colouring oxides present (CuO, Fe_2O_3 and MnO), although accounting for the dark colour of the coating, cannot be explained by reference to the surrounding soil. Miss E. M. Samuel, B.Sc., F.G.S., A.M.A., the geologist to the the Dorset County Museum at Dorchester, states that neither the chalk nor the soil are at all ferruginous nor are there substantial traces of manganese present; also it seems unlikely that copper would occur in the chalk. Another important feature is that the dark coating is found only on the *outside* of the spacer, even though the central cavity had been penetrated by the surrounding soil. It thus seems probable that these metallic oxides had been deliberately applied to the outside of the spacer to form a dark lustrous decoration likely to appeal to the owner of the necklace, a woman whose cultural background was that of the late Iron Age and who was buried in accordance with its tradition.

Attractively-coloured compounds of copper and iron would certainly have been available, if only as articles of trade, and they may have been applied as a paste in some way which we can only conjecture. Copper compounds have fungicidal properties and, as can be seen from Figs. 3, 6 and 7, the outer portions of the spacer are noticeably less brittle, and had deteriorated less, than the inner portions. No doubt it was the presence of the copper which preserved the bead spacers in the form in which they were found, and also during the two years between the time of the excavation and the time of the examination. Hoop stresses in the protected outer layer would have prevented the disintegration of the sample but,

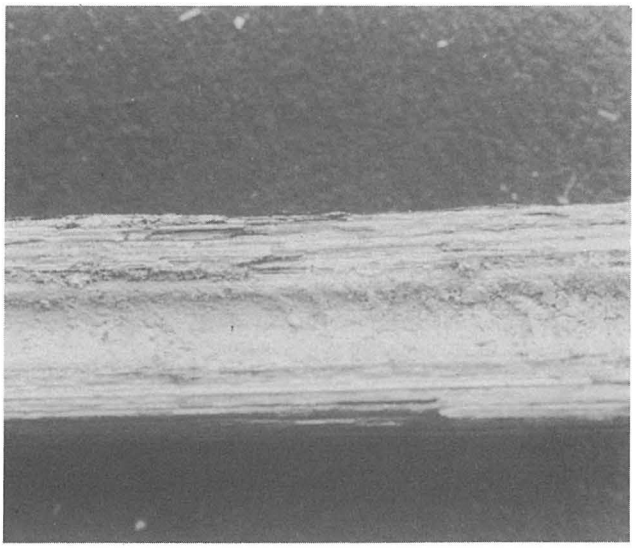


Plate 21. Enlargement of part of plate 20, showing the fluting in the pith cavity.

Plate 22. The spacer two weeks after it had spit. Scale in mm.

Plate 23. Enlarged view of part of plate 22. Scale in mm.

once the surface had been broken, disintegration could readily take place.

Finally, the *maximum* amount of residual organic material was certainly less than 25% (the loss on ignition). Probably it was much less because carbonates were definitely present but any organic material was probably in the form of lignin. It seems that most of the cellular structure of the wood had been replaced by silica which, together with the accretion of other oxides, yielded an average chemical composition which, paradoxically, was not unlike a glass! Thus there is a strong possibility that, had a chemical analysis alone been carried out on the bead-spacer (instead of the preliminary botanical and microscopical examination) the conclusion might have been that it was made of a foamed glass! The loss on ignition would have been recorded as 38% and, although high, could have been attributable to the porous nature of the foamed glass because much moisture might have collected in the long pores. The remaining material would then have appeared to have the approximate composition:

SiO_2	39%
CuO, PbO, SnO_2	18%
CaO	10%
Al_2O_3, Cr_2O_3	13%
Fe_2O_3	7½%
MnO	7½%
	100%

This composition might by some people be considered to be that of a leached glass, i.e. one from which the original alkali had been removed during burial for nearly two millennia. This possibility raises the question as to whether other 'glass' objects may have had their nature 'confirmed' by such an analysis!

Finally, in addition to thanking all those mentioned in the text, the author wishes to acknowledge the kindness of Mrs M. Guido, F.S.A., for having brought the problem to his notice. Mr R. N. R. Peers, M.A., F.M.A., Curator of the Dorset County Museum, and Mr and Mrs G. N. Aitken, the excavators, who gave invaluable assistance in interpreting the influence of the local conditions of the burial site.

SAMIAN FROM BURIAL 8

DR GRACE SIMPSON

Figure 13

1 Dr.67 from La Graufesenque, a typical design, with the man holding a torch D.577=0.977=Hermet 98. Oswald and Pryce illustrated several Form 67s, including the two from Newstead in Scotland which are contemporary with this little vase, see plate XXI, nos. 11 and 12. Also contemporary is the Form Knorr 78 found in a Barrow at Knob's Crook, Woodlands, Dorset (Peter Fowler, *Antiquaries Journal* XLV, 1965, pp. 36-37). Probably made about AD 70-85.

2 Ritterling 12, see Oswald and Pryce, plate LXXI, Claudio-Neronian (AD 41-68). The inner surface is pitted in many places, and the flanged rim is broken symmetrically. The 'point' is burnt over the breaks.

THE POTTERY

CAROLINE SKINNER

The excavations at Whitcombe produced approximately 1064 sherds of pottery weighing 31.74 Kg. This excludes a number of sherds which were not marked. The pottery has been recorded using the Trust for Wessex Archaeology pottery recording system.

The assemblage contained no less than 520 featured sherds (rims, bases, handles and decorated body sherds). The ratio of featured sherds to body sherds (1:1) implies that the latter were either not intentionally collected on site or have been discarded since the excavation.

The pottery was recorded on site using a 'bag number' system, with a grid reference and brief description of the layer. These grid references are reproduced here and key into figures 2 and 5.

Table 5 shows all the pottery from the site with vessel forms (estimated vessel equivalents) correlated to contexts, and Table 6 correlates vessel types and fabrics.

THE FABRICS

The assemblage was sorted into fabrics on the basis of type and size of macroscopic inclusions, identified with the aid of a hand lens (×10 magnification). 12 fabric categories were identified, which on occasions have been subdivided.

The Wareham/Poole Harbour derived fabric (1a and 1b)

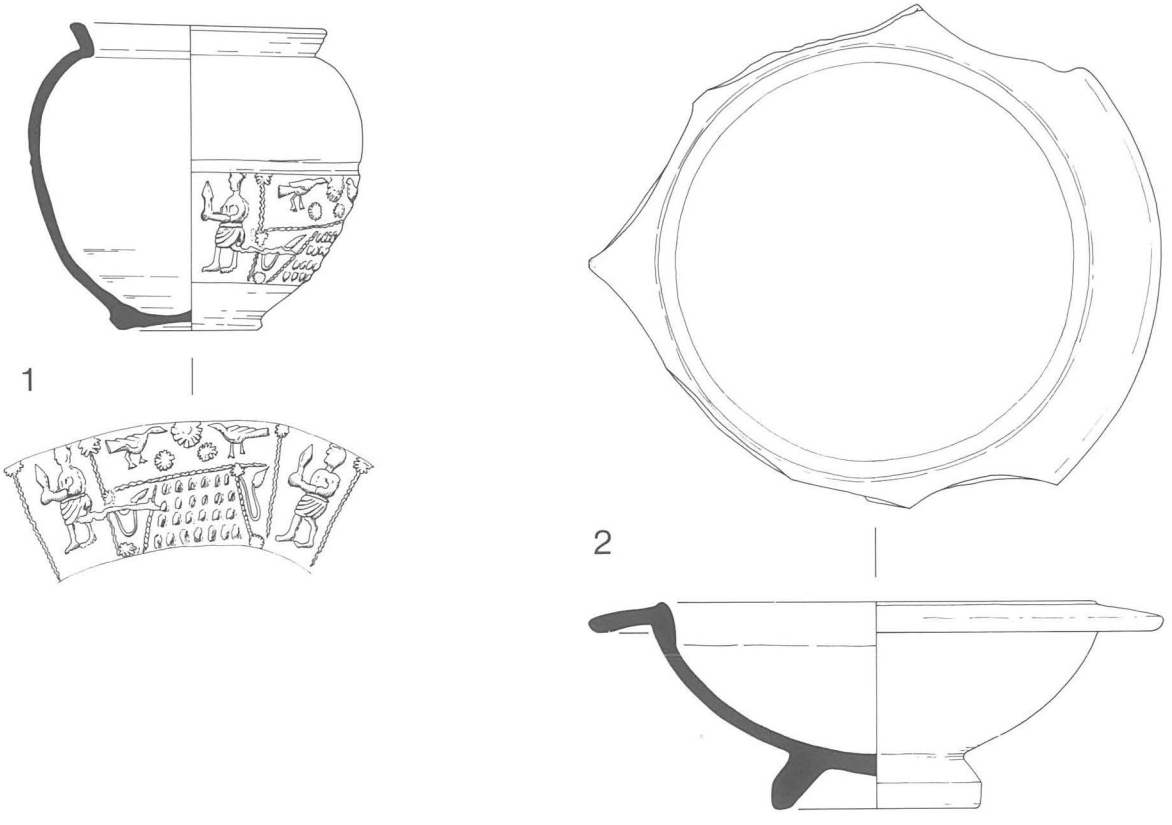


Figure 13. The samian from Burial 8 at half life size.

accounts for 85% of the entire assemblage, with all other fabrics accounting for less than 1% each.

1 Quartz sand tempered fabrics derived from sources in the Wareham-Poole harbour area, (examined by David Williams at Southampton University and Liza Brown at the Institute of Archaeology Oxford). Fresh fracture displays abundant light coloured angular quartz grains in a black or dark grey background, although the colour varies considerably from light/dark grey (Munsel: 2.5YR 4/-3/) and light/dark reddish brown (5YR 6/3, 2.5YR 4/4). The hardness also varies from soft to very hard on occasions imitating stoneware. The sub groups of this fabric are based entirely on the grain size of the quartz.

1a Coarse ware: average grain size is 1 mm or larger.

1b Finer ware: average quartz grain size is less than 1 mm.

2 Soft, coarse grit tempered fabric containing angular flint of varying size, with inclusions of chalk, shell, organic material, chert and haematite in differing quantities. It is on the basis of these inclusions that the sub divisions have been made. The origin of the fabric is unspecified without petrological analysis but probably derives from the local Wessex chalklands (examined by Liza Brown).

2a A dark grey/brown (10YR 4/2) fabric with dark grey/black (10YR 3/1 2/1) core. Quartz of medium size dominates this fabric with moderate inclusions of ill sorted medium sized flint, rare inclusions of coarse chalk and sparse inclusions of medium sized shell.

2b A dark brown (10YR 3/3) fabric with a black core (10YR 2/1). Fine quartz grains are abundant with rare inclusions of medium sized flint.

2c A dark/light brown (10YR 3/3 7.5YR 5/2) fabric, colour remains consistent throughout. Ill sorted, coarse flint predominates with common inclusions of very coarse chert (up to 4 mm) and fine quartzite. Rare inclusions of coarse haematite also present.

2d A dark brown (7.5YR 3/2) fabric with black (10YR 2/1) core. Very coarse flint predominates (up to 5 mm), with common, medium sized quartz grains and rare inclusions of coarse chalk.

2e Fabric displays an orange/brown (2.5YR 4/6) external surface with brown/grey (10YR 4/2) internal surface and grey/black (10YR 3/1) core. Rectangular shaped voids are common, suggesting inclusions of organic material possibly grass or straw, with rare coarse inclusions of flint and quartz.

2f A dark grey fabric (10YR 4/1), colour remains consistent throughout. Medium sized quartz grains are common, with rare inclusions of coarse flint, medium sized chalk grains and coarse rectangular voids.

3 A fine, hard, sandy, red colour coated fabric orange/red (2.5YR 6/8) in colour with slightly darker orange core (2.5YR 5/8), and no visible inclusions. Characteristic of the Oxford region.

4 A fine, soft, smooth light beige/cream (7.5YR 7/4) coloured fabric, coated in a dark purple/brown (2.5YR 2.5/2) slip and painted with white paint. Origin: New forest area of Hampshire, (examined by Mike Fulford at Reading University).

5 A coarse, hard, sandy fabric light/dark grey (10YR 5/1 3/1) in colour with common inclusions of medium sized quartz. Origin: New Forest area of Hampshire (examined by Mike Fulford).

6 A fine, fairly hard, light grey (10YR 6/1) fabric with no visible inclusions. Coated in a light/dark brown (10YR 3/3) slip. Origin: New Forest area of Hampshire (examined by Mike Fulford).

7 A hard, fine textured, moderately rough, slightly micaceous, creamy pink (7.5YR 8/2 8/4) fabric. Origin: Southern France, predominantly around the mouth of the Rhone in Languedoc (examined by David Williams).

8 A soft, sandy fabric with common inclusions of medium sized quartz grains and sparse medium sized haematite granules. Haematite coated giving rise to red/orange (10YR 4/8), soapy textured surface. Origin: unspecified without petrological analysis but similar in composition to the Wareham/Poole Harbour fabric 1.

9 A hard, very sandy light beige/brown (7.5YR 4/2) fabric with common inclusions of medium sized, well sorted quartzite, sparse, medium sized chalk, and rare, fine, flint inclusions. Origin: unknown.

10 A soft, sandy, dark brown/grey (10YR 3/2) fabric with a red/brown (2.5YR 2.5/2) core. Medium sized, well sorted grog predominates the inclusions with moderate medium sized flint and quartz and rare medium sized chalk grains. Origins: unknown, possibly another variation to the fabric 2, although very different to those already identified.

11 A soft, sandy, dark brown/orange (2.5YR 4/6) fabric with a dark grey (5YR 4/1) core. It displays rare inclusions of fine chalk, flint and quartz grains. Origin is unknown, paste is similar to the Wareham/Poole Harbour fabric 1, but lacks the characteristic sand temper.

12 A soft, sandy brown/cream (7.5YR 7/4) fabric with rare, coarse quartz inclusions and very rare medium sized haematite grains. Origin: Area around the Rhineland.

VESSEL FORMS

Four basic classes of vessel forms have been identified from Whitcombe: Jars (J), Bowls (B), Dishes (D) and Flagons (F). Each classification has been subdivided to include the variations within each group and is marked by a number after the main class letter e.g. J1. Two additional minor groups have also been created to include bases (b) and miscellaneous vessels (m).

Mortaria and amphorae are dealt with separately.

The pottery collection spans the period from between 700-600 BC to AD 300-400 and can be divided, for the purpose of the form descriptions, into four chronological phases. Early Iron Age (EIA) which covers the period preceding 400 BC, Middle Iron Age (MIA) from 400 BC to 100 BC, Late Iron Age (LIA) from 100 BC to AD 50 and Romano British (RB) period from AD 50 to AD 400. In the latter two phases the variety of forms overlap and are difficult to allocate to a particular period.

The material has been compared with a number of other sites. The Iron Age pottery resembles, in terms of forms present, the assemblages from Tollard Royal (Wainwright 1968), Gussage All Saints (Wainwright 1979), Maiden Castle (Wheeler 1943), Hengistbury Head (Cunliffe 1987) and Hod Hill (Richmond 1968). It is these reports which have been considered in detail for identification and dating evidence for the Iron Age assemblage from Whitcombe.

The Roman coarse and fine ware is comparable to that found on numerous sites around Dorset and further afield. The main excavation reports considered here are Poundbury (Green 1987), Norden (Sunter 1986), Ower (Woodward 1986), Wadham House (Draper and Chaplin 1982) and Dorchester Prison (Draper and Chaplin 1982).

Jars

J1 This vessel comes in a variety of different shapes. It is evident with both high, prominent shoulders and low slack shoulders. Rims can appear upright, slightly flaring or flattened. Fingertip or fingernail decoration on the shoulder is common. The quality of the finish also varies greatly from a wiped roughly finished surface to a relatively fine burnished surface. A local traditional style evident at Maiden Castle (situlate jars fig. 57), Hengistbury Head (type JB1.1 and 1.2) and Gussage All Saints (Vessel type 1.). EIA

J2 Jars with high shoulders and rounded profile. Rims are slightly inturned. Small sherds can be confused with lid rims. Comparable to Gussage All Saints vessel type 20 and Maiden Castle Iron Age B pottery (Miscellaneous B types fig. 70). MIA-LIA.

J3 High, curved shouldered, rounded jar with short beaded rims. Finely burnished surface, possibly wheel finished, decorated with burnished linear designs. Comparable to Hengistbury Head type JC 2.0. MIA-LIA.

J4 A pear shaped vessel with a small upturned rim, narrow mouth and curved but pronounced shoulders. It is supported by a small flat base. Traditional Durotrigian form, comparable to Brailsford (1958) type 7. LIA.

J5 A very small jar with a small beaded rim and curved but pronounced shoulders. Supported on a plain, flat base. Traditional Durotrigian form, comparable to Brailsford type 4 although much smaller. LIA.

J6 Flat beaded rim jar with rounded body, often decorated with pinched finger thumb decoration. Surface finish varies from rough to quite finely burnished. Evident at Hengistbury Head (type JC4.2) and Gussage All Saints (Vessel type 40). Comparable to Brailsford type 12. LIA.

J7 Upright, slightly out-turned rim jar with fairly rounded shoulders and convex sides. Often decorated with either burnished or incised linear decoration or more rarely rouletted. Traditional Durotrigian form, evident at Gussage All Saints (vessel type 38) and Hengistbury Head (type 4.12). Comparable to Brailsford type 5. LIA.

J8 Countersunk lug jars with rounded profile, evident with a variety of rim forms including an elongated lipped rim, short outturned rim and a beaded rim. Traditional Durotrigian form of Gussage All Saints type 55, and Hengistbury Head type 4.41. Comparable to Brailsford type 6. LIA.

J9. High shouldered jars, with short upturned rim, roughly burnished external surface. Flat often perforated base. Standard Durotrigian form, comparable to Gussage All Saints type 36. Brailsford type 4. Distinguishable from VT; J5, by its size and

rounded shoulders. LIA.
J10 Very rounded, jar with high shoulders and short slightly out-turned rim, often decorated with burnished or incised linear decoration. Comparable to example from Norden (fig. 11 no. 9). LIA-RB.
J11 A jar which takes a variety of forms, it displays a rounded body, with everted rim which generally does not extend beyond the body. It is supported by a plain flat base and is often decorated with burnished or incised linear decoration. Type J11, J12 and J13 are all characteristic of the established Black Burnished 1 (BB1) pottery industry located around the Wareham/Poole Harbour area. Comparable to Gillam types 119-131. RB.
J12 A slightly rounded, straight necked jar with everted rim and slack shoulders, often decorated with incised or burnished linear decoration particularly around the girth. Comparable to Gillam types 132-143. RB.
J13 A fairly straight vessel, only slightly curving sides with a large overhanging rim which often extends further than the sides of the vessel. Again this form is often decorated with incised or burnished linear decoration particularly around the girth. Comparable to Gillam types 144-150. RB.
J14 Large, straight necked storage jar with a fluted rim and sharply angled shoulders, often perforated around the base of the rim. Characteristic of the BB1 industry. Comparable to examples found at Wadham House (fig. 8 no. 132) and Dorchester Prison (fig. 35 no. 66). RB.

Bowls
B1 A flat rimmed bowl with a slight inner lip and convex sides. Early Durotrigian form evident at Maiden Castle (Iron Age B-C pottery fig. 69 nos. 143-147). MIA-LIA.
B2 Bowl with straight or slightly curved sides, and footring base. Finely burnished external and internal surface, possibly finished on a wheel. Comparable to Brailsford type 1 and 1a. Evident at Maiden Castle. ('war cemetery' type bowls fig. 72 nos. 171-182), LIA.
B3 Bowl with small upright rim, high shoulders and rounded body and base. Almost certainly a roughly made and finished variation of the Durotrigian 'war cemetery' bowl (type B2). LIA.
B4 A bowl with a small outurned/beaded rim and rounded profile. LIA-RB.
B5 Bowl with curved sides and slightly expanded grooved rim. Fragmentary examples difficult to distinguish from lids. Comparable to Hengistbury Head type BC 3.42. LIA.
B6 Very shallow slightly curved bowl with narrow upturned rim with a slight lip at the point where body curves in from the base of the rim. Evident at Maiden Castle (fig. 75 no. 244). LIA-RB.
B7 Straight sided bowl with short, flat out-turned rim, often decorated with burnished or incised linear decoration. Characteristic of the BB1 industry located around the Wareham/Poole area. Comparable to Gillam type 219, evident locally at Poundbury, Ower, Norden, Dorchester Prison and Wadham House. RB.
B8 Straight sided, sharply out-turned flanged rim bowl. Often decorated with burnished or incised linear decoration. Characteristic of the BB1 industry. Comparisons can be found on all the sites listed for type B7. RB.
B9 A necked bowl with out-turned rim, sharp shoulders and curved body. Characteristic of the Roman pottery industry of the Oxford region. Comparable to Young (1973) type C45. RB.
B10 A small finely finished bowl with slight, out-turned rim. Characteristic of the New Forest area of Hampshire. RB.

Dishes
D1 Plain, grooved or beaded rimmed, straight sided dish often decorated with burnished or incised linear decoration, surfaces generally finely finished, possibly wheel finished. Characteristic of the BB1 industry, examples being found at Poundbury, Ower, Norden, Dorchester Prison and Wadham House. Comparable to Gillam types 317-331. RB.

Flagons
F1 Fine, globular bodied flagon with flanged neck to which a grooved handle is attached, decorated with colour coating and white painted lattice. Characteristic of the New Forest pottery industry. Comparable to Fulford (1975) type 11-13. RB.
F2 Large corrugated necked flagon/jug with 'mortice and tenon' joint between the body and grooved handle. Fairly coarse vessel but finely burnished externally and decorated with burnished line decoration. Characteristic of the BB1 industry. RB.
F3 Narrow necked flagon/jug of unspecified character. Two rim sherds of this type have been recorded but detail of body is missing. Both sherds appear to be of BB1 tradition. RB.

Bases
b1 Bases with footring. Possibly representing Durotrigian bowls.
b2 Flat base with out standing foot. Possibly belonging to Durotrigian 'war cemetery' type and other forms of bowl.
b3 Plain flat base. These may belong to EIA, MIA, LIA or RB types.

Miscellaneous
m1 A beaker with an upright, slightly beaded rim and sharply angled shoulders. Characteristic of the New Forest pottery industry, comparable to Fulford type 27. RB.
m2 Grooved or plain rimmed lids. They are generally finely burnished both internally and externally and are often decorated with burnished linear decoration. RB.
m3 A lid/bowl of standard Durotrigian form, with flat base/handle and sharply angled body. Finely burnished externally but fairly coarse vessel overall. Comparable to Brailsford type 9. LIA.
m4 A large two handled bowl with evidence of burnishing on external surface. Characteristic of the New Forest pottery industry. Comparable to Fulford types 17-20.

ILLUSTRATED EXAMPLES

Figures 14 & 15
The illustrations have been laid in roughly chronological order within each vessel type group. Each illustration has been described under three classifications; fabric group (FG), vessel type (VT) and context (CT).

Where possible reference to a precise comparison has been made.

Early Iron Age
1 VT; J1, thick walled jar with upright rim and slack shoulders. Coarse burnishing marks evident on the external surface. FG; 2a, CT; Building 1. (grid ref.15/11.) Gussage All Saints fig. 55 no. 615, from a phase 1 context dated by calibrated radio carbon ages of 730-420 BC and 790-430 BC.
2 VT; J1, a coarse vessel with upright rim and defined shoulders. Coarse burnishing marks evident on the external surface. FG; 2e, CT; Pit 11. (grid ref. 7/13.) Gussage All Saints fig. 55 no. 612, also from a phase 1 context. Maiden Castle fig. 57 no. 31, from an Iron Age A level on site F.
3 VT; J1, a relatively fine vessel with what appears to be sharp angled shoulders although difficult to determine the precise detail due to the nature of the break. Burnished on both internal and external surfaces. FG; 2e, CT; Grave 2. (grid ref. 5/15), residual or redeposited. Gussage All Saints fig. 54 no. 602, from a phase 1 context. Hengistbury Head ILL. no. 200 Key group 1 no. 1337, from an undisturbed ETA post-hole sealed by Roman plough soil.
4 VT; J1, a coarse upright rimmed jar decorated with finger/thumb imprints on the curved shoulders. FG; 2c, CT; Grave 2 (grid ref. 5/15), residual or redeposited. Similar in form to illustration no. 1, only varying by decoration detail.
5 VT; J1, coarse shouldered jar with slightly out-turned rim. Roughly burnished on the external surface. FG; 2D, CT; surface (grid ref; 4.16). Although larger and coarser, very similar in form to illustration no. 3.

Middle Iron Age
6 VT; J2, very rounded vessel with roughly burnished exterior. FG; 1b, CT; Pit 3 (grid ref. 2/19). Gussage All Saints fig. 59 no. 199, from a phase 2 context dated by calibrated radiocarbon dates of 410-140 BC Maiden Castle Iron Age B pottery fig. 66 no. 112-115, found in pit A8 which suggests a date of late 1st century BC. The 1986 excavations at Maiden Castle has produced many sherds of a similar form classified as Middle Iron Age (Liza Brown forthcoming).
7 VT; J3, a very rounded vessel with a finely burnished internal and external surface. Decorated with two incised lines around the shoulders and burnished linear decoration directly below the rim. FG; 1b, CT; Pit 11 (grid ref. 7/13). Decoration and form would suggest a parallel with the middle to late Iron Age, St Catherine Hill-Worthy Down tradition evident at Hengistbury Head (Ill. 135 nos. 660, 1720 and 2133). Characteristically, the fabric used for this Hampshire-based tradition is tempered with crushed flint which is not evident in the sherd from Whitcombe.
8 VT; B4, Curve sided, out-turned proto bead rim bowl. FG; 1b., CT; Pit 2 (grid ref. 2/19). Reference; Maiden Castle fig. 70 no. 158, found in Bii pit (B49) dated to end of 1st century BC. Gussage All

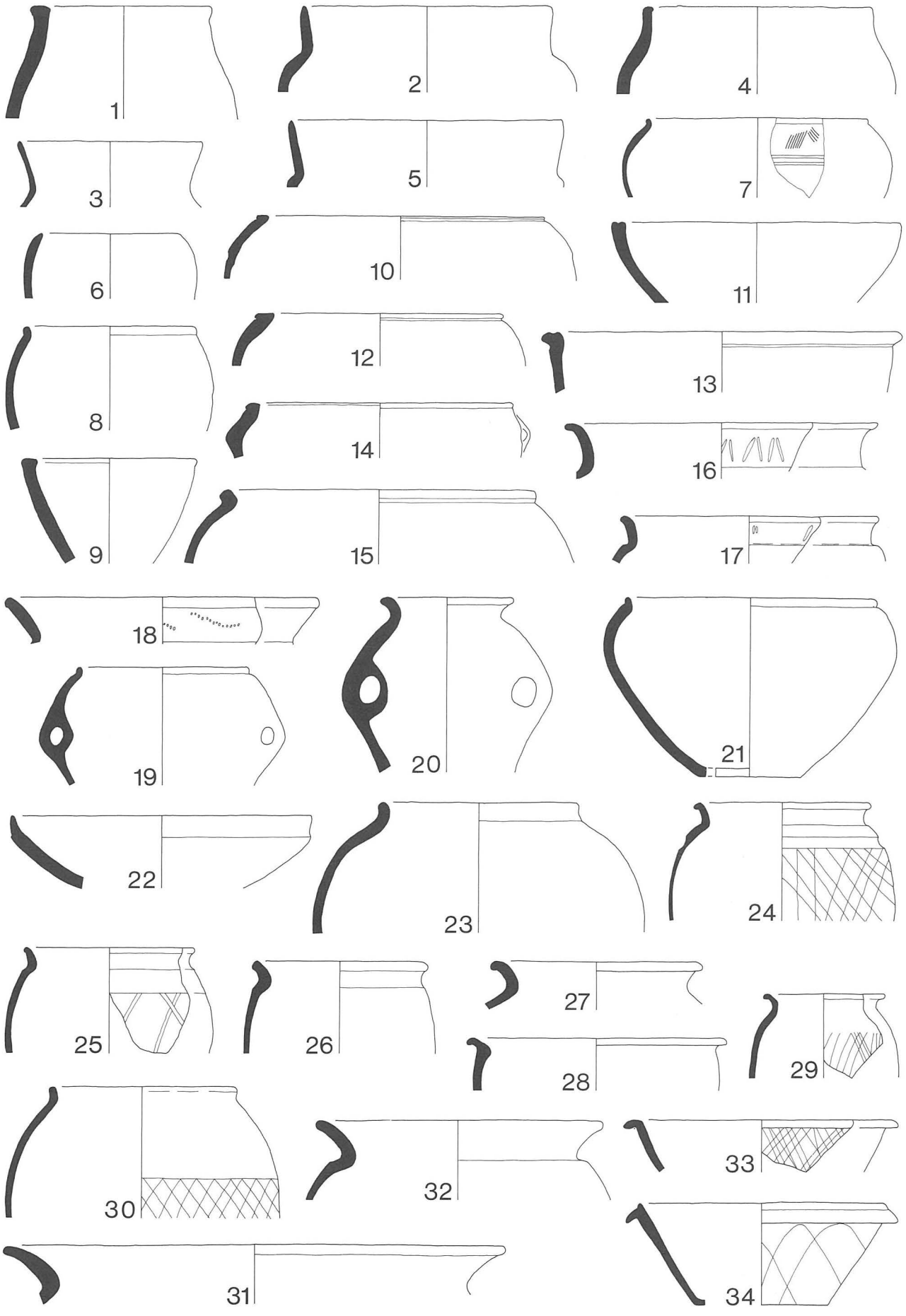


Figure 14. The pottery nos. 1-34 at one-quarter life size.

Saints fig. 65 no. 704 from a phase 3 context dated by a calibrated radiocarbon age of 60 BC-130 BC.

Late Iron Age

9 VT; B1, with a burnished exterior. FG; 1a, CT; Building 1. (grid ref. 14/11). Rope Lake Hole (Woodward 1987), fig. 80 nos. 33 and 34, from a Middle Iron Age phase. Maiden Castle fig. 69 nos. 143-146, found in a pit dated to the last quarter of the 1st century BC.

10 VT; J6, with pinched finger/thumb decoration on curve of the body. FG; 1b, CT; Pit 10 (grid ref. 2/18). Hengistbury Head Ill. 209 no. 72 from a pit of Late Iron Age date.

11 VT; B5, with burnished interior and exterior surface. FG; 1b, CT; Pit 2 (grid ref. 2/16). Hengistbury Head Ill. 158 no. 1984 from a Late Iron Age context.

12 VT; J6, prominent burnishing marks externally FG; 1a, CT; Building 3 (surface over 18/17 FG; 18). Rope Lake Hole fig. 81 nos. 69 and 70, from phase VIB dated to late Iron Age (Durotrigian). Hengistbury Head Ill. 204 no. 3029, from a gravel spread dated 100 BC to 50 BC.

13 VT; B5, with burnished interior and exterior surface FG; 1b, CT; Pit 3 (grid ref. 2/19). Maiden Castle fig. 73, no. 196 from a layer dated AD 40-50. This example appears much shallower than the Whitcombe example but it is suggested that this form derives directly from an Iron Age B type, which could indicate an earlier date of late 1st century BC.

14 VT; J6, with pinched finger/thumb impressions just below the rim. FG; 1b, CT; Pit 2 (grid ref. 2/16). Rope Lake Hole fig. 81 no. 69, from phase VIB context dated to late Iron Age (Durotrigian).

15 VT; J6, with burnished external surface and wiped interior. FG; 1b, CT; Pit 10 (grid ref. 2/18). Maiden Castle fig. 68 no 134 from a pit dated to around 50 BC. This example is haematite coated, which is not evident on the Whitcombe sherd.

16 VT; J7, burnished externally with burnished line decoration along upright rim. FG; 1b, CT; Surface (grid ref; 4, 5 and 6/16). Gussage All Saints fig. 64 no. 685 from phase three context dated by a calibrated radiocarbon age of 60 BC-AD 130.

17 VT; J7, burnished externally with burnished, incised linear decoration on the slightly out-turned rim. FG; 1b, CT; Pit 11 (grid ref; 7/13 and 6/13).

18 VT; J7, with diagonal, rouletted decoration along the upright rim. This is unusual decoration for this typically Durotrigian type vessel and might indicate an adventurous potter within an otherwise conservative industry. FG; 1b, CT; Pit 11 (grid ref. 7/13).

19 VT; J8, with burnished exterior and small counter sunk lug handle. FG; 1b, CT; Pit 3a (grid ref. 2/19). Rope Lake Hole fig. 81 no. 54, from phase IVB of Late Iron Age (Durotrigian) date.

20 VT; J8, with burnished exterior and large countersunk lug handle. FG; 11, CT; ditch 1 (grid ref. 0/16). Maiden Castle fig. 74 no. 216, from a layer dated AD 24-45. This vessel displays the everted rim believed to be a later development of the earlier bead rim type (fig. 4 no. 19). The Whitcombe example is unusual, it is of the standard Durotrigian form, but the fabric lacks the sand temper characteristic of the Wareham/Poole Harbour area.

21 VT; J9, coarse burnishing marks evident on the external surface. FG; 1b, CT; Pit 2 (grid ref; 2/17). Maiden Castle fig. 74 nos. 220 and 221, found in a layer dated AD 25-45. Variations of this form are evident on a number of sites in contexts dating from 50 BC-AD 75.

22 VT; B6, finely burnished internal and external surfaces, possibly wheel finished. FG; 1b, CT; 16/16: topsoil). Maiden Castle fig. 75 no. 244, from an early Belgic context dated AD 24-45.

23 VT; J10, coarsely burnished on external surface. FG; 1b, CT; Pit 2 (grid ref. 2/16). Poundbury fig. 86 no. 17, from a context which suggests a date in 1st century AD.

24 VT; J11, burnished to the edge of the decorated band. Burnished linear decoration of acute lattice, typical of the BB1 industry around the Wareham/Poole Harbour area. FG; 1b, CT; (grid ref. 17/16: topsoil). An exact parallel has proved difficult to find, with the unusual grooved band around the base of the rim. This may represent a local variation of Gillam (1970) type 120.

25 VT; J11, burnished externally from the rim to edge of decorated band. Burnished linear decoration typical of the BB1 industry. FG; 1b, CT; Ditch 1 (grid ref. 0/17). Gillam type 123 (AD 120-160). Nos. 25-37 (excluding no. 30) are all common local types.

26 VT; J12, finely burnished external surface. FG; 1b, CT; Pit 11 (grid ref. 7/13). Gillam type 121 (AD 120-180).

27 VT; J11, burnished internally to base of the rim and externally from the base of the rim. FG; 1b, CT; Building 3 (grid ref; 18/16). Gillam type 117 (AD 130-150).

28 VT; J11, with small everted/overhanging rim and burnished exterior. FG; 1b, CT; Surface (grid ref. 4, 5 and 6, 16). Gillam type 128, (AD 130-180).

29 VT; J12, with irregular burnished line lattice decoration. FG; 1b, CT; Pit 11 (grid ref. 7/13). Gillam type.136 (AD 180-210).

30 VT; J10, external surface above decorated band is finely burnished. Decoration created with burnished lines. FG; 1b, CT; Surface (grid ref. 4/14/15 and 16). Although typical of the BB1 industry, this type does not appear in Gillam's type series for Northern Britain, suggesting that production was aimed at a more local market. Poundbury fig. 86 no. 15, from a pit dated 1st-2nd century AD.

31 VT; 13, a large vessel with overhanging rim, burnished external surface and wiped internally. FG; 1b, CT; Building 3 (grid ref. 18/18). Gillam type 148 (AD 230-300).

32 VT; J13, smaller version of illustration, no. 31. FG; 1b, CT; Building 2 (grid ref. 18/18). Gillam type 148 (AD 230-300).

33 VT; B7, with finely burnished internal and external surfaces, with burnished line, lattice decoration. FG; 1b, CT; (grid ref. 17/13) Gillam type 219 (AD 120-150).

34 VT; B8, Finely burnished internal and external surfaces. Burnished linear decoration in the form of interlocking arches. FG; 1b, CT; Building 1 (grid ref. 14/11). Gillam type 228 (AD 290-370).

35 VT; B8, roughly wiped internal and external surfaces. FG; 1b, CT; Surface (grid ref. 4, 5, & 6/16). Gillam type 228 (AD 290-370).

36 VT; D1, roughly burnished external surfaces, finely finished internal surface. Decorated with interlocking arches on the body and interlocking loops on the external surface of the base. FG; 1b, CT; Building 3 (grid ref. 18/17). Gillam type 329 (AD 190-340).

37 VT; D1, finely burnished externally, possibly finished on a wheel. FG; 1b, CT; Ditch 7 (grid ref. 4/18). Gillam type 333 (AD 350-400).

38 VT; m2, a fairly common lid form, although pierced top and burnished linear decoration of this type is unusual. FG; 1b, CT; Surface (grid ref; 3/16). Poundbury fig. 89 no. 64, from a context dated to 1st century AD.

39 VT; m2, another fairly common lid form with slightly inturned rim. Burnish linear decoration in the form of interlocking arcs (?). FG; 1b, CT; Building 3 (grid ref. 18/20 16). Ower fig. 47 no. 127, from a ditch dated to the 3rd century onwards.

40 VT; m2, with a finely burnished external surface. FG; 1b, CT; Pit 11 (grid ref. 7/13). Norden fig. 14 no. 477 from a period 7 kiln/oven context dated to AD 275.

41 VT; F2, with burnishing marks on the neck and linear decoration on body. FG; 1b, CT; Among limestone slabs (grid ref. 5/16). Exact comparison difficult to find but similar in form to Ower fig. 49 no. 162 suggested as being a copy of 1st century ring necked flagon. This theory is supported by a close resemblance in form, to Gillam types 1-5 (AD 70-150).

42 VT; F3, burnished externally and internally to the base of the rim. FG; 1b, CT; Building 3 (grid ref. 19/16). Wadham House fig. 5, no. 19 for which no date is suggested. The size of the existing sherd makes precise identification difficult.

Mortaria

Only two forms of Mortaria were recognised on the site, one Oxfordshire form and an imported coarse ware mortarium, probably from the Rhineland.

43 A fine red colour coated Mortaria with rouletted decoration at top and bottom of the wall. The straight sides of the vessel take a sharp, almost 90° turn to form the bowl. Trituration grits are rounded, translucent, red and grey in colour. FG; 3, CT; Ditch 1 (grid ref. 3/18). It is believed to be a copy of the Samian form 45 (Young 1973). Most of the kiln sites in the Oxfordshire region, which were producing colour coated wares in the mid third century made this type, which conforms to Young type C 97.4-97.6. Colour coated pottery was produced from the mid third century until the beginning of the fifth. Rouletting was commonly used on certain oxidised forms between AD 240-300.

44 A coarse vessel from which one weathered sherd survives. Few trituration grits are evident although rare quartz grains are apparent on the rim. FG; 12, CT; Pit 11 (grid ref; 7/13). The legionary bath-house and basilica and forum at Exeter (Bidwell 1979), fig. 66 No. 173, found in second century deposits. This is probably an import from the Rhineland.

Amphorae

Only one diagnostic sherd of amphora was identified from Whitcombe, one other plain body sherd of fabric group 9 is possibly from an unidentified amphora type.

45 This large sherd of amphora displays a narrow flat base

supported on a footring. Regularly spaced corrugations are evident on the internal surface. FG; 7, CT; Building 3 (grid ref. 18/16). Class 27, Gauloise 4. This type was used to carry wine, it was predominantly made in southern France, particularly around the mouth of the Rhone in Languedoc, where a number of kilns are known. Distribution suggests that the Rhone-Rhine axis was a means of dispersal. This form is not known in Britain until post Boudiccan contexts (AD 60).

Roman fine wares

New Forest ware; Very few fine vessels were discovered on the site. Sherds characteristic of the New Forest potteries were recovered but only three vessels could be identified. Ten sherds of a fine globular bodied flagon of fabric group 4 coated in a dark purple/brown slip and decorated with white painted lattice decoration were recovered. It is of Fulford type 11/13 and is believed to date from about AD 300-70.

Five sherds of New Forest grey ware (FG; 5 and 6) were recovered only three of which were diagnostic; a handle from a two handled bowl (VT; m4, FG; 5) of Fulford type 17-20 (not illustrated), which compared to other New Forest types is fairly coarse; and two illustrated vessels.

46 VT; B10 a small narrow necked bowl, which proved difficult to find a comparison. The fabric conformed to the New Forest grey wares but its form is unusual. FG; 6, CT; Pit 11. (grid ref. 7/13).
47 VT; m1, An indented beaker, in a finer grey fabric than the other grey wares, with a light/dark brown slip which produces a slight metallic sheen. FG; 6, CT; Building 3 (grid ref; 18/17). Fulford type 27. This type is believed to date from AD 260-70 although later dates into the fourth or even early fifth centuries are possible.

Oxford ware

Apart from the Mortarium sherd already discussed six small sherds characteristic of the Oxfordshire potteries colour coated ware were recovered only one of which was diagnostic.

48 VT; B9, a fairly common red colour coated necked bowl. FG; 3, CT; Ditch 1 (grid ref. 4/18). Young type C75, dated to the mid fourth century and later.

Pottery from graves

Burial 2
49 VT; B3, a crudely made bowl with both curved sides and base. This type does not compare to any of the forms recognised by Brailsford as a standard Durotrigian type vessel. It is possibly a hand made bowl, made to imitate the well finished (possibly wheel turned) straight and curved sided bowls (Brailsford type 1 and 1a) which commonly appear on settlement sites as well as in burials of this period. FG; 1b.
50 VT; J5, a very small (7cm in height) jar similar to Brailsford type 4. The fabric is oxidised to a brown/orange colour (2.5YR 5/6). This type is rare in grave contexts but is generally the most widely represented in occupational deposits. FG; 1b.

Burial 4
51 VT; J4, which compares with Brailsford type 7. Examples from other sites are limited in number, but it is known to occur on as many as ten occasions in burials (Whimster 1981). The rarity of this form on settlement sites, suggest that it had some specialised function that made it particularly favourable as a grave offering. FG; 1b.
52 VT; B2, straight sided plain rimmed bowl of Brailsford type 1. FG; 1b.

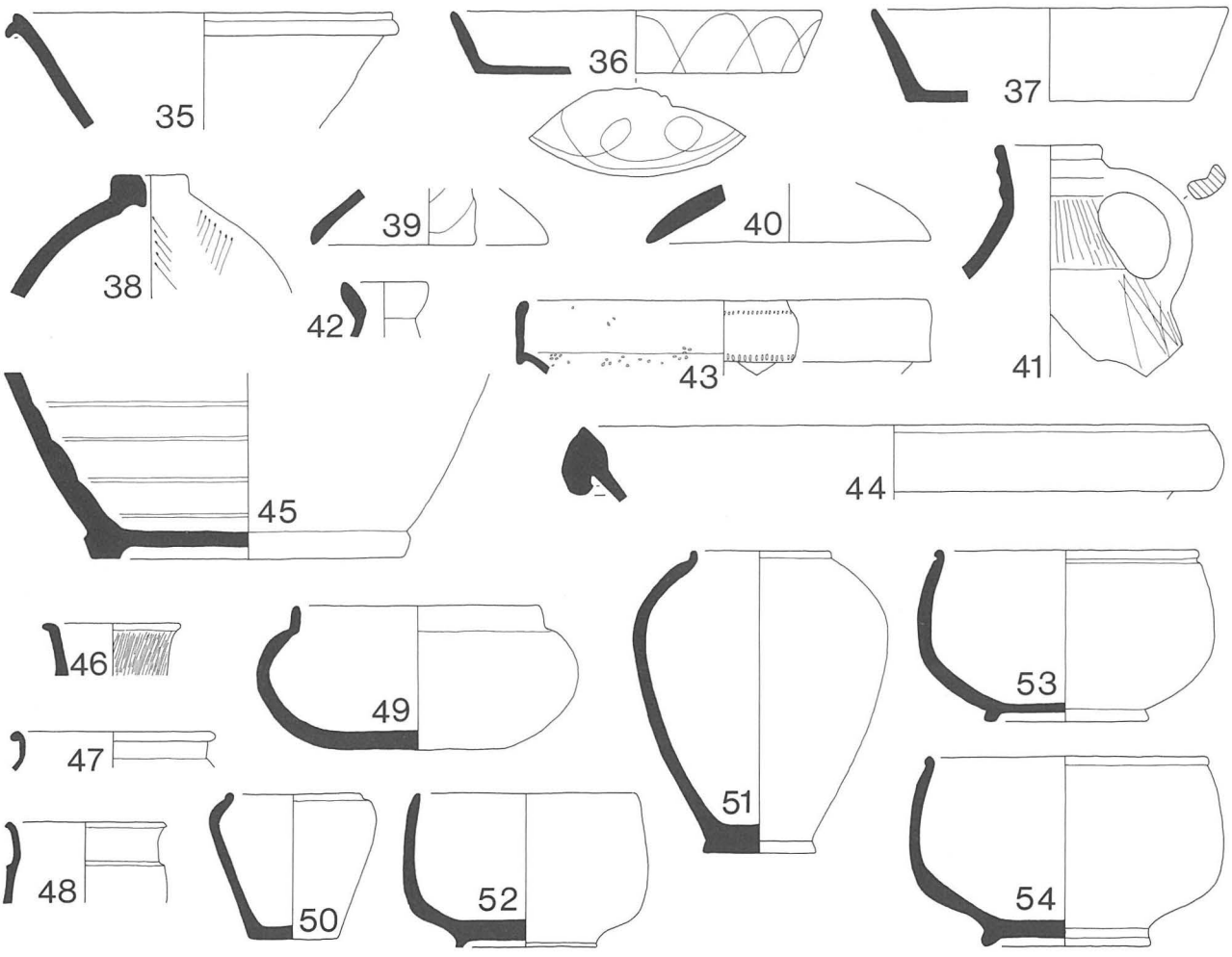


Figure 15. The pottery nos. 35-54 at one-quarter life size.

Burial 6
53 & 54 VT; B2, with curved sides and a beaded rim, comparable to Brailsford type 1. FG; 1b. The Brailsford type 1 bowl is believed to have developed fairly early and may explain the large numbers of this vessel type evident on both occupation and burial sites.

A total of 14 bowls of this type are known from Maiden Castle burials, compared to 37 from non burial contexts (Whimster 1981). At Whitcombe an estimated equivalent of 5 (including no. 49) type 1 bowls were found in undisturbed burial contexts and 14 from the occupation areas illustrating its popularity in both areas. It is however impossible to distinguish between the beaded rims of bowls and jars when the sherds are small and this may have caused misrepresentation in these figures.

Burial 8
55 VT; B2, with curved sides and beaded rim. Brailsford type 1. FG; 1b.
56 VT; m3, this vessel can be regarded as either a shallow saucer-like bowl or as a lid for a larger vessel. It is of a standard Durotrigian form comparable to Brailsford type 9.

This type appears to have strong connections with Birchall's continentally-derived Type 8 lids from cremations at sites such as Hitchin Herts and Creeksea in Essex (Whimster 1981). They are generally rare in the Durotrigian Zone of Dorset, but are known from Jordan Hill (RCHM Dorset 1970) and Maiden Castle war cemetery graves.

See also Samian report (*supra*) for the two samian vessels from this burial (no. 8).

EARLY IRON AGE

The Early Iron Age pottery (nos. 1-5) is hand made and of local origin, the forms and fabrics typical of the region. The potters made use of the locally available flint, shell, quartzite, chalk, chert, haematite, and organic material as tempering agents.

The earliest pottery is represented by slack shouldered, situlate jars all of which show individual characteristics, probably due to localised features of style in the period before pottery industries were established with their characteristic fabric and form. However, the fact that this pottery shows marked resemblance to vessel forms identified at Hengistbury Head, Maiden Castle and Gussage All Saints suggests a certain amount of conservatism amongst the local potters.

Only 11 sherds of this period were found which accounts for less than 1% of the surviving assemblage. All appear to be residual or redeposited. Those included in the fill of grave 2 can undoubtedly be interpreted as redeposited.

There were no recorded sealed groups of Early Iron Age pottery found.

MIDDLE IRON AGE

Only three sherds of pottery of possibly Middle Iron Age date were identified (nos. 6-8), Vessel types J2, J3 and B4 can only tentatively be interpreted as being of Middle Iron Age date, since variations of these forms continued to be produced well into the Late Iron Age period. This very small quantity cannot justify a discussion on the possibility of occupation on the site during this period.

LATE IRON AGE

This is a particularly difficult period to define with regard to pottery. The dominance of the Wareham/Poole Harbour fabric has caused many problems in distinguishing between the Durotrigian industry and that of the BB1 industry.

Evidence from Hengistbury Head (Cunliffe 1987) and Maiden Castle (Brown forthcoming) suggests that new techniques of manufacture and decoration were imported from 100 BC with the appearance of Italian amphora and a range of wheel made vessels imported from Armorica.

The effects of the new types can be seen in the adoption of some of the newly introduced techniques of manufacture and decoration by local potters, giving rise to the classic Durotrigian forms as first defined by Brailsford (1958).

Until recently, the utilisation of the Poole Harbour derived fabric has generally only been discussed in the context of the first century BC-AD Durotrigian industry, and the Roman BB1 industry.

TABLE 5. Correlation of vessel forms and contexts expressed as estimated vessel equivalents

								Burials												
VT	Bldg.1	Bldg.2	Bldg.3	Ditch 1	Ditch 2	Surface	G1	G2	G3	G4	G6	G7	G8	Pit 1	Pit 2	Pit 3	Pit 3a	Pit 4	Pit 5	Pit 10	Pit 11
J1	1			1		1		2													3
J2																1					
J3																					1
J4										1											
J5								1													
J6			2	2	2	1						1			1		1			2	
J7	1		2	1	1	1													1	1	1
J8				1													1				
J9				1											1	1					1
J10			1			1									1						1
J11	1		2	1	1	1															1
J12	1		1	1	1	1															1
J13			1	1		1										1					1
J14				1		1															
B1	1	1																			
B2/B4	1		3	1	1	1		1	1	1	2	1	1		1	1	1	1			2
B3								1													
B5			1	2		1									1	2					
B6				1																	
B7	1	1				1															1
B8	1		1	1		1	1							1							
B9				1																	
B10																					1
D1	1		1	1	1	1	1		1					1							1
m1			1																		
m2	1		1	1		1						1							1		1
m3													1								
m4																					1
F1	1																				
F2																					1
F3			1																		
Mort				1																	1
Amph			1																		
Sam													2								
b1	1		2															1			
b2			2	1	1															1	1
b3	3	1	4	5	3	3						1			1	1	1			1	2

Liza Brown (*op. cit.*) in her study of later prehistoric pottery from the 1986 excavations at Maiden Castle demonstrates that the fully developed industry of the mid first century BC was clearly a product of gradual process and has proved early use of Poole Harbour fabrics in Maiden Castle phase 6E deposits which date to the early part of the Middle Iron Age. From this evidence, it is suggested that a well-established tradition was dominant in the region possibly as early as the third century BC.

Further, on all the sites on which both Durotrigian and BB1 pottery occurs there is evidence to suggest that the two industries overlapped considerably, with some Durotrigian forms existing well into the Roman period. The early Roman forts at Waddon Hill (Webster 1960) and Hod Hill (Richmond 1968) illustrate this with the quantity of Durotrigian wares exceeding the Roman types.

However, it is generally accepted that the Durotrigian wares were greatly modified by the second century AD when the BB1 industry was developed, supplying much of the basic pottery used on Roman military sites in Wales, Northern England and Scotland until the fourth century AD. BB1 forms here have been compared with the type series from Hadrian's Wall (Gillam 1970). Late Iron Age pottery is represented over most of the site at Whitcombe. Durotrigian type vessels (Brailsford types 1-12) are represented in most of the broadly defined contexts. In some area cautious interpretations can be made. The Pits show a particularly interesting pattern with regards to the type of vessels present. Pit 10 contained a total of 19 sherds of pottery of which 6 estimated vessels were represented (including illustrations nos. 10 and 15). All the forms represented are of standard Durotrigian type and may suggest that the pit was not used in the later periods of occupation. This same representation is also evident in pits 2 (illustration nos. 8, 11, 14, 21 and 23); 3a (illustration no. 19); 4 and 5 although the latter two only produced a total of six diagnostic sherds which restricts the evidence slightly.

All these pits (with the exception of pit 5) are bell-shaped, a feature of many Iron Age sites in Dorset. Other pits belonging to this group include pit 3 which produced a total of 23 sherds estimating to 7 vessels, all but one of which is of typical Late Iron Age (Durotrigian) form (illustration nos. 6 and 14). Pits 8 and 9, also of this group, did not produce any pottery.

Ditch 1 contained roughly equal numbers (estimated vessels) of both standard Durotrigian pottery forms and those associated with the later Romano-British period (illustration nos. 20, 25, 37, 39 and 43). Little can be said about this figure except to infer that the later pottery forms may have been found in the later fills of the ditch, suggesting perhaps a continuation in the use of the ditch. Similar proportions of these vessel types are also evident in Ditch 2 but again little can be said about them.

TABLE 6. Correlation of vessel types and fabrics expressed as estimated vessel equivalents

FG	1a	1b	2a	2b	2c	2d	2e	2f	3	4	5	6	7	8	9	10	11	12
VT																		
J1			1	1	1	1	1	1										
J2		1																
J3		1																
J4		1																
J5																		
J6	1	1																
J7	1	4																
J8		1																1
J9	1																	
J10		1																
J11		4																
J12		3																
J13		1																
J14		1																
B1	1																	
B2/B4		10																
B3		1																
B5	1	2																
B6		1																
B7		1																
B8		3																
B9		1							1									
B10											1							
D1		2																
m1												1						
m2		2																
m3		1																
m4											1							
F1										1								
F2		1																
F3		1																
Mort.									1									
Amph.													1					1
SAM																		
b1		1																
b2		3																
b3		4	14															

ROMANO-BRITISH

Romano-British pottery types predominated the assemblages in the area of both Building one and Building three, implying a shift further north of the settlement area in this later phase.

The pottery labelled 'surface' was mainly collected from above the limestone slabbed area (grid ref. 4/;5/; and 6/16) e.g. illustration nos. 30, 35 and 41. Again, from the vessel types present in this 'context' it is implied that this too could be assigned to the later phases of occupation.

Pit 11 appears to be a bit of an anomaly, the majority of estimated vessels represented in this context are characteristic of the later Romano-British period (illustration nos. 29, 40, 44 and 46); however, the largest proportion of vessel type J1, the earliest type of jar recorded from the site is also evident in this context (illustration no. 2), and there is also Durotrigian pottery (illustration nos. 17 and 18) mid to late Iron Age (illustration no. 7) and 2nd-3rd century AD material (illustration nos. 26 and 29). The early sherds are likely to be either redeposited or residual, the fact that the pit was seen to have cut an earlier, slightly larger one may provide the answer. Illustration no. 34 in association with Building 1 suggests late Romano-British date. Building 3 produced much more pottery, ranging from Iron Age (illustration no. 12), 1st century (no. 45), through the 2nd and 3rd centuries (illustration nos. 27, 31, 36) to late Romano-British (no. 47).

The Worked Bone

Figure 16

Identifications by C. Buckland-Wright

1 Head of femur of *Bos* sp., pierced and worked as a spindle whorl. (Pit 3, grid ref. 2/19). Probably Durotrigian.

2 Distal end of the metacarpel of *Bos* sp. worked to a point. (pit, grid ref. 16/12).

3 Fragment of proximal end and part of shaft of left metatarsal of *Equus* sp. (Pit 9, grid ref. 16/12).

4 Fragment of body of a rib from *Bos* sp. (pit, grid ref. 4/15).

5 Fragment of shaft of young *Ovis/Capra* species (topsoil, grid ref. 20/16).

6 Fragment of metapodial of *Bos* sp. (topsoil, grid ref. 20/16).

7 Fragment of cortical bone from shaft of long bone of *Bos* sp. (pit, grid ref. 15/11).

8 Bone needle. (Pit 3, grid ref. 20/16) Probably Durotrigian.

9 Fragment of compact bone from long bone of either *Bos* sp. or *Equus* sp. Disc of bone fashioned from a plate of cortical bone. (topsoil, grid ref. 18/18).

THE ANIMAL BONES

J. C. BUCKLAND-WRIGHT Ph.D.

Introduction

The animal bones recovered from the site date from the Iron Age and late Romano-British periods. The total numbers of specimens identified were 1645 in the Iron Age and 369 in the late Roman period. 561 unidentified fragments were recovered, making a total number of 2575 bone elements examined.

The bones from this site were well preserved, due to the underlying chalk and the consequently high pH values for the soil. Almost all the osseous material was fragmentary, which meant that few measurements could be taken to permit a statistically significant determination of the size of the animals or for inter-site comparisons. Emphasis was therefore placed on the remains of the animals, indications of food requirements and, where possible, economic interpretations.

Materials and Methods

All bones and parts thereof were collected during excavation and presented for examination. The bones were divided into those that were identifiable, and indeterminate fragments. No attempt was made to subdivide the latter, on the basis of the nature of the bone, into groups attributable to the different domestic species.

Rodents and other wild species were identified by direct comparison with reference material in the author's possession.

The ageing of domestic animals was based on the tables produced by Silver (1963). Ageing assessed on the degree of epiphysial fusion was avoided in view of the fragmentary nature of the bones and because the epiphyses were generally separated from the shaft. However, ageing was based on tooth eruption given by Silver for the different species. Where available, the old data listed by Silver (1963) were used for ageing i.e. for cattle: the Chauvean 19th century breed; for sheep: the semi-wild hill sheep; for pig: the late 18th century data. Although the use of these tables gives a false impression of accuracy of age at death of the different species, the data obtained has been used to establish broad groups as presented in Table 9.

The meat contribution of each species has been established on a comparative basis and not in terms of actual weight. The method follows that of Harcourt (1979), in which the weight of a sheep is taken as unity and the other species expressed as a ratio. thus, the factor used for calculating the meat contribution of each species are as follows: cattle 10; horse 12; pig 1.5; sheep/goat each 1. The factor for a particular species was multiplied by the minimum number of individuals for each period, to give the number of 'meat units' (m.u.) contributed by the species. This value was then expressed as a percentage of the total meat units provided by all species combined (M.U.). The percentage meat contribution $d = \frac{\text{m.u.}}{\text{M.U.}} \times 100$.

IRON AGE PERIOD

Results

2 197 bones were recovered, of which 1 645 were identified and 552 were indeterminate fragments. The osseous remains were found principally in the trenches and pits. The assemblage was characteristic of site rubbish, consisting largely of food debris.

Domestic Species

Cattle (Bos sp.) At least 18 individuals were present (Table 7), of which 11 were adult, 3 immature, 1 had an estimated age of 3-4 years, 1 of 30 months and 1 of 6-9 months. The estimate for the number of individuals was determined from the number of mandibles. A large number of skull fragments (Table 8) were found including 2 neurocrania and half a skull. The rest of the bone fragments were largely from the appendicular skeleton. In general the cancellous region of the bones had been lost. Only two bones were complete, a humerus and a metatarsal.

Butchery One axis vertebra had been chopped in half, the cut was consistent with the use of a heavy-bladed instrument. This method either of decapitation, or separation of the first two vertebrae from the rest of the neck, would have been preceded by cutting through the nuchal muscles. One horn core had been severed at its base from the frontal bone by a sharp, heavy instrument. Indications of the removal of flesh from limb bones was indicated by the presence of knife marks scoring the surface of the distal end of a humerus, 3 radii and ulnae, on the ilio-pubic ramus of the os coxa, the shaft of a tibia and on the proximal end of a metatarsal. Other limb bones exhibited signs of butchery consistent with preparation for broth. These included 3 tibia and 1 metatarsal which had been split through their long axis by a sharp heavy-bladed instrument. Nearly all the remaining long bones were incomplete. The type of bone fractures observed on these bones was consistent with their having been broken by means of a blow across the shaft with a heavy, blunt instrument, resulting in many cases in a spiral or 'twist' fractures of the shaft to expose the marrow cavity.

Sheep/Goat (Ovis sp./Capra sp). Of the bones found of these species, it was not possible to separate the two genera. At least 40 individuals were present (Table 7). This estimate was based on the number of mandibles and metacarpals (Table 8). The age of the individuals was estimated at 14 adults, 3 between 3-4 years, 5 immature, 1 at 18 months, 5 at 6-9 months, 11 at 3-6 months and 1 neonate. Of the 40 individuals recovered from the site, 13 were of complete or part skeletons found in a shallow pit (4/16), of which 11 were 3-6 months old, 1 immature and 1 adult, the skull and forelimbs of the latter were absent. Apart from this assemblage the skeletal remains were fragmentary, only 3 bones were complete, a humerus, a tibia and a metatarsal.

Butchery The neurocranium of an immature sheep exhibited a possible cause of death, as the cranial vault had been pierced by a pointed instrument. One skull had been split in the mid-sagittal plane, apparently for the removal of the brain. One femur, with possible flesh still attached, had been chopped with a heavy blade in preparation for cooking. The remaining bones had been broken open and one tibia split longitudinally.

Pig (Sus sp.) A minimum number of 10 individuals was estimated from the number of maxillae. The ages were estimated at 2 at approximately 2 years, 3 immature and 5 adult. Very little of the appendicular skeleton was found at this site, most of the remains were fragments of the skull.

Butchery The lack of skeletal remains was largely due to the cortical bone of pigs being not as thick or as dense as that of other domestic species. Further, the bones would have been fractured and boiled to extract the rich marrow. The remains of 3 skulls indicate that they had been split in the mid-sagittal plane to obtain the brain and/or for ease of cooking the head.

Horse (Equus caballus) The remains of 3 individuals were identified from the cranial remains and aged: 1 at 4 years, 1 at 4-5 years and 1 at 11 years. Apart from the teeth most remains were of the

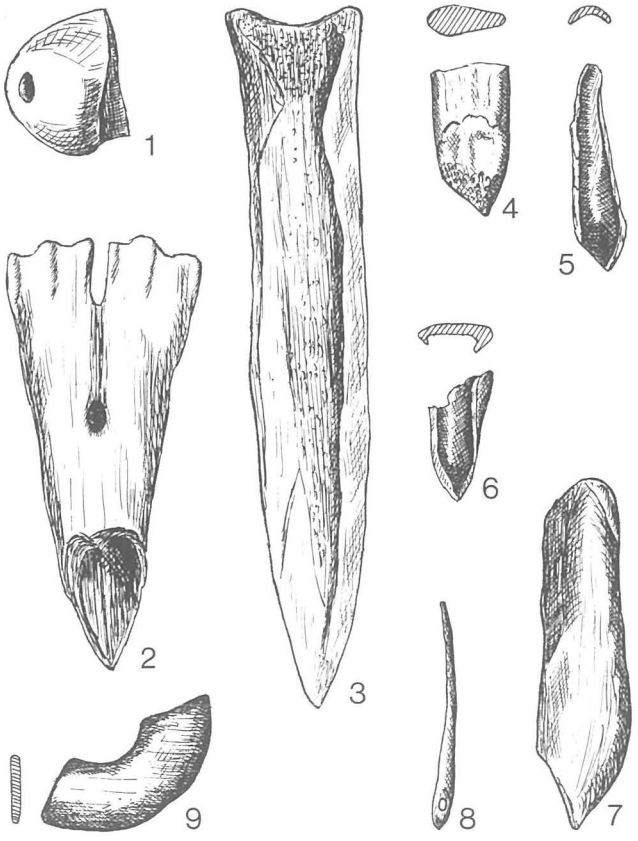


Figure 16. The worked bone at half life size.

TABLE 7

Iron Age: *Minimum number of animals identified*

Species	*Number*
Cattle	18
Sheep/Goat	40
Pig	10
Horse	3
Dog	7
Cat	7
Weasel	1
Wood Mouse	8
Field Vole	4
Common Shrew	1
Frog/Toad	11
Corncrake	1
Jackdaw	1
Domestic Fowl	2

TABLE 8

Iron Age: *Total number of large animal bone elements identified*

	Cattle	*Sheep/ Goat*	*Pig*	*Horse*	*Dog*	*Weasel*	
Skull	54	146	20	7	4	1	
Mandible	49	80	9	4	8	-	
Separate Teeth	66	116	25	18	5	-	
Scapula	16	27	2	2	-	-	
Humerus	13	44	1	1	1	-	
Radius	19	33	-	2	-	-	
Ulna	8	20	2	3	-	-	
Metacarpal	33	38	-	3	-	-	
Phalanges	40	75	-	4	1	-	
Os Coxa	22	32	-	2	3	-	
Femur	15	17	1	1	-	-	
Tibia, Fibula	17	49	-	4	-	-	
Calconeum	11	13	-	2	-	-	
Astragalus	5	16	-	1	-	-	
Metatarsal	22	30	-	3	-	-	
Cervical Vertebrae	20	39	-	1	1	-	
Thoracic Vertebrae	14	70	-	-	-	1	
Lumbar Vertebrae	11	27	-	-	1	-	
Sacral Vertebrae	2	5	-	-	-	-	
Caudal Vertebrae	3	2	-	-	-	-	
Rib	52	128	-	-	1	-	
Total for each sp.	492	1007	60	58	25	2	Indeterminate 552
Total number of bones identified							1644
Grand total							2196

skull, among which was a nearly complete skull with cranial vault missing and mandible present (Pit 1). In Pit 2 were the remains of the left half of a skull.

Butchery The presence of the left half of a skull in Pit 2 was indicative of butchery practice, as was the presence of the limb bones, which had been either split longitudinally (shaft of femur) or fragmented to expose the marrow cavity (tibia).

Pathology A right radio-ulnar joint exhibited ankylosis with osteophyte formation, and the proximal end of a metatarsal was osteoarthritic. These lesions were consistent with joint degeneration. Harcourt (1979) suggests that its high frequency in Iron Age horses may be due to their use for draught purposes.

Dog (Canis sp.) 8 individuals were present, estimated from the number of mandibles recovered. The ages were estimated at 5 adults, 1 young adult and 2 immature animals. The lack of osseous remains was probably due to cannibalistic activity, resulting in the destruction and scatter of the skeleton. One complete adult skeleton was recovered from the bottom of Pit 2.

Cat (Felis sp.) The remains of 2 new-born kittens and 5 immature animals were obtained from the bottom of Pit 2 (2/16), and the lower canine of an adult from Ditch 1 (4/17). At the time of excavation this was the second Iron Age site in Dorset, the other being Gussage All Saints, at which the remains of cat had been found. At both sites the material is that of neonates and immature animals. Harcourt (1979) suggests that these cats were domesticated. Further, these findings tend to strengthen the hypothesis that domestic cats arrived earlier than in the Roman period.

Non-domestic species

No identifiable deer bones were recovered from this site. As the settlement was not completely excavated, deer-hunting cannot be excluded.

Weasel (Mustela nivalis) The remains of the facial bones of a skull and one thoracic vertebra were recovered from the backfill of Grave No. 3.

Small animal remains The number of animals was estimated from the most frequent limb bones present for each individual. Nearly all the finds were obtained from different layers in the pits. The most common small mammal was the wood mouse (*Apodemus sylvaticus*) of which 8 individuals were identified. There were 4 field voles (*Microtus agrestis*) and one common shrew (*Sorex araneus*). The bones of 12 frogs or toads were found.

Bone destruction by gnawing and weathering

The marks of gnawing observed on the bones had been made by a carnivore, probably dog, although fox, not recovered from the site, cannot be ruled out. Just under half the cattle bones gnawed were those from the pedis. In the sheep/goat, pig and dog all the bones gnawed were from the proximal appendicular skeletal elements. In the horse, nearly all the bones gnawed were from the pedis. The percentage number of bones gnawed and weathered for the main species, and the total percentage, are given in Table 9. Only a very small percentage of bones had been exposed to the process of weathering, exhibiting characteristic splitting and flaking of the corticla surface. This suggests that bones did not lie on the surface of the ground for any length of time. The site rubbish was either deposited in the pits and trenches or burnt, as indicated by the number of charred bone remains.

Bird remains

The right humerus of a corncrake (*Crex crex*) and of a jackdaw (*Corvus monedula*) were recovered from the site and are indicative of an environment similar to that of the present, viz. open fields adjacent to a woodland. The remains of two domestic fowl (*Gallus gallus*) were recovered from inhumations 3 and 8. These were immature specimens, suggesting that this species was bred on the site and eaten, at least on special occasions, as indicated by their presence as burial goods. The keeping of domestic poultry is consistent with the practice on other Iron Age sites (Harcourt, 1979), although it did not become widespread until Romano-British times.

LATE ROMANO-BRITISH PERIOD

378 bones were recovered, of which 369 were identified and 9 were indeterminate fragments. The osseous remains were found principally in association with the Romano-British dwellings. The assemblage was characteristic of site rubbish, consisting largely of food debris.

Domestic species

Cattle (Bos. sp.) At least 5 individuals were present (Table 10) of which 3 were adult, 1 at 2½ years and 1 at 2 years. The estimate for the number of individuals was determined from the number of left radii and right metacarpals.

Butchery One tibia had been chopped in half with a heavy-bladed instrument. The remaining limb-bones exhibiting signs of butchery had been split longitudinally, consistent with preparation for broth viz. distal and humerus, radius and a metatarsal.

Sheep/Goat (Ovis sp./Capra sp.) Apart from separate teeth, the most frequent element was the mandible (Table 5). The latter formed the basis for determining the number of sheep identified as 18. The presence of the horn core of a goat identified one adult of

TABLE 9

Iron Age: *Number, percentage and total number of bones gnawed and weathered for the principal species. Also, the percentage of the total number of bone elements found.*

	Cattle	*Sheep/ Goat*	*Pig*	*Horse*	*Total*
No. of bones gnawed	47	14	1	7	69
% gnawed to bones identified	2	3	1.7	12	1.94
No. of bones weathered	11	-	-	-	11
% weathered to bones identified	0.5	-	-	-	.003

TABLE 10

Late Romano-British: *Minimum number of animals identified*

Species	*Number*
Cattle	5
Sheep/Goat	18
Pig	4
Horse	2
Dog	3
Mole	1
Wood Mouse	1
Field Vole	1
Skylark	1

that species. The ages of the sheep were estimated at 1 at 18 months, 1 at 2½ years, 1 immature and 14 adults. As in the Iron Age period, the skeletal remains were fragmentary and there were no complete bones.

Butchery The bones showing marks of butchery had been split in their long axis or broken open for cooking.

Pig (Sus sp.) A minimum number of 4 individuals was estimated from the number of mandibles. The ages estimated at 1 immature, 1 at 2½ years, 1 at 3 years and 1 adult. As in the Iron Age, there was very little skeletal material apart from that of the cranial region.

Horse (Equus caballus) The remains of 2 adult individuals were identified from the number of scapulae and tibiae.

Butchery The shaft of one metacarpal showed evidence of having been broken open.

Dog (Canis sp.) 3 individuals were present, estimated from the number of cranial remains, of which 1 was adult and 2 were young adults. The remains were found in association with Building 11

Non-Domestic Species

As in the Iron Age period, no identifiable deer bones were recovered.

Small Animal Remains

All the bones of these animals were found in association with Building 1;1 mole (*Talpa europaea*), 1 woodmouse (*Apodemus sylvaticus*) and 1 field vole (*Microtus agrestis*).

Bird Remains

The right humerus of a skylark (*Alauda arvensis*) was recovered. This confirms the presence of open fields around the site.

Bone destruction by gnawing and weathering

The teeth marks on the bones which had been gnawed were consistent with those of a carnivore, probably dog. Two thirds of the cattle bones gnawed were from the pedis, a half of those of sheep/goat were from the same region. The percentage number of bones gnawed and weathered for the main species found, and the total percentage, are given in Table 12. A larger percentage of bones had been gnawed and exposed to weathering compared to those of the Iron Age period, suggesting that the site, in the late Romano-British period, was not kept as clear of food debris.

DISCUSSION

Sheep in the Iron Age pit

Of the 40 individuals found on the site, 13 were of complete or part skeletons found in a shallow pit (4/16). Of these, 11 were 3-6 months old, 1 immature and 1 adult. On excavation, a number of the limbs and vertebrae were articulated, as well as the ribs with the thoracic vertebrae. The condition of the bones was good and showed relatively little damage. There was complete absence of butchery marks, and there were no positive indications that these skeletal remains were the product of food refuse. This has been observed at two other sites, in the early Romano-British period at Poundbury (Buckland-Wright, 1987) and in similar assemblages known from a late 3rd or 4th century site at North Castle, Corfe (Startin, 1987). Startin was unable to offer a satisfactory explanation for these finds. However, as suggested by Buckland-Wright (1987) the explanation lies in two main facts, (a) the smallness of the pit, so that it would have been impossible to fit 13 normal healthy lambs and sheep into the small space, and (b) the age at death of the lambs (3-6 months). This places their death at about early to middle of the winter months, and suggests that these animals died from disease or, more probably from acute starvation resulting from a hard winter without fodder. The condition of starvation, haxia, renders the individual emaciated and unpleasant in appearance, as wool drops away from the skin. Individuals in these conditions would have been of no use to the farmers. Animals dying of cold are more likely to have been consumed than those in the condition described above.

Species Meat Contribution

The minimum numbers of individuals of the major domestic species are given in Table 7, together with the percentage meat contribution for each species. This table does not include meat obtained from small wild mammals and birds.

Although it is important to remember that, in subsistence economies, sustained yield of animal products is more important than the terminal product of meat. Nevertheless, the percentage species meat contribution based on Harcourt's (1979) method (Table 13) shows that cattle provided two thirds of the meat yield in the Iron Age, and a half in the late R-B period. The percentage contribution from sheep/goat is slightly greater in the later period and is approximately equivalent to the percentage contribution of the horse. The figures for the percentage meat contribution of the latter are probably inflated, as the number of bony elements representing the horse are low relative to the bony elements expected for the same number of cattle. This suggests that the bones of horse may have been dealt with differently from those of cattle.

Supplementation of meat by hunting, in the Iron Age period, although present a few miles away at Poundbury (Buckland-Wright, 1987) and at Gussage All Saints (Harcourt, 1979) was

TABLE 11

Late Romano-British: *Total number of large animal bone elements identified*

	Cattle	*Sheep/ Goat*	*Pig*	*Horse*	*Dog*	
Skull	9	5	1	-	4	
Mandible	8	29	4	-	1	
Separate Teeth	41	78	8	8	2	
Scapula	4	5	2	2	-	
Humerus	3	8	-	-	-	
Radius	5	5	-	-	2	
Ulna	3	1	1	-	-	
Metacarpal	11	7	-	2	2	
Phalanges	7	6	-	1	-	
Os Coxa	4	3	-	-	-	
Femur	2	6	2	-	1	
Tibia, Fibula	6	16	-	2	-	
Calconeum	1	-	-	-	-	
Astragalus	4	3	-	-	-	
Metatarsal	4	5	1	1	-	
Cervical Vertebrae	2	6	-	-	-	
Thoracic Vertebrae	4	-	-	-	-	
Lumbar Vertebrae	1	1	-	-	-	
Sacral Vertebrae	-	-	-	-	-	
Caudal Vertebrae	-	1	-	-	-	
Rib	10	5	-	-	3	
Total for each sp.	129	190	19	16	15	Indeterminate 9
Total number of bones identified						369
Grand total						378

TABLE 12

Late Romano-British: *Number, percentage and total number of bones gnawed and weathered for the principal species. Also, the percentage of the total number of bone elements found.*

	Cattle	*Sheep/ Goat*	*Pig*	*Horse*	*Total*
No. of bones gnawed	9	4	2	1	16
% gnawed to bones identified	7	2	10	6	4.3
No. of bones weathered	4	-	-	1	5
% weathered to bones identified	3	-	-	6	1

TABLE 13

Species Meat Contributions

	Cattle	*Sheep/Goat*	*Pig*	*Horse*
Iron Age				
M.N.I.	18	40	10	3
% M.C.	66.4	14.8	5.5	13.3
Late Romano-British Period				
M.N.I.	5	18	4	2
% M.C.	51	18.4	6	24.5

M.N.I.: Minimum Number of Individuals
% M.C.: % Meat Contribution

TABLE 15

Age at death of Cattle, Sheep/Goat and Pig, based on the number of individuals of an estimated age.

	neonate/foetal	*up to 1 yr.*	*up to 2 yrs.*	*up to 3 yrs.*	*adult*	*adults as % of total*
Cattle						
I.A.	-	1	1	1	11	79
L.R.B.	-	-	1	1	3	60
Sheep/Goat						
I.A.	1	17	1	4	14	38
L.R.B.	-	-	1	1	15	88
Pig						
I.A.	-	-	2	-	5	71
L.R.B.	-	-	-	2	1	33

apparently absent at this site. Inter-site variation of this nature is supported by the absence of deer hunting at Eldon's seat, Encombe, Dorset (Cunliffe and Philipson, 1968).

Economic Interpretations

All the evidence from the two periods indicates that Whitcombe was a true subsistence site and that the bones mirror what actually happened in the animal population from birth to death. All parts of the body of all the domestic farm species were represented to a greater or lesser extent, from a neonate and juvenile through to mature adults (Table 15). Not all the bones were those of animals deliberately killed for food, as indicated by the number of complete skeletons of lambs and sheep found in the Iron Age pit. These had apparently died of haxia.

Although the animal sample from the Iron Age and early Roman periods was small, it is possible to discern a number of principal features. Table 14 shows that the percentage of the different farm species in the two periods did not alter substantially. Namely, that sheep/goats predominated, followed by cattle, pig and horse respectively. This is further confirmed by Table 16, where the ratio of pig to grazers (cattle and sheep/goat) remains the same in the two periods. The population sample from Whitcombe is too small to permit a satisfactory account of husbandry practice based on the age at death of the different species (Table 15), apart from confirming the existence of a normal population at that site.

TABLE 14

Number and percentage of different species present in the two periods.

	Cattle		*Sheep/Goat*		*Pig*		*Horse*	
	No.	%	No.	%	No.	%	No.	%
Iron Age	18	25	40	56	10	14	3	4
Late Romano-British	5	17	18	62	4	14	2	7

TABLE 16

Ratio of Pig to Grazers (Cattle and Sheep/Goat), based on the minimum number of individuals in the two periods.

Iron Age	Late Romano-British
1 : 58	1 : 57

In conclusion, the dry well-drained chalklands, free of liver fluke, on which Whitcombe is situated, would have favoured the breeding of sheep/goats. Further, the dominance of these animals at this site confirms Cunliffe's (1974) observation of their increased importance during the Iron Age and Early Roman periods in Southern England.

Acknowledgements

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DISCUSSION

NIALL SHARPLES

The earliest clear evidence for settlement at Whitcombe consists of about 12 Late Iron Age grain storage pits of classic size and shape. Amongst the pottery from these pits were a small number of vessels of Early Iron Age form which might suggest an earlier settlement in the vicinity, and two pits (1 and 10) cut an earlier gully. The few middle Iron Age forms in the assemblage are more likely to represent continuing use of archaic forms than early activity. The settlement defined by the pits appears to have shifted focus and the area excavated appears to have been peripheralised as the pits were succeeded by a field boundary. There are good reasons for assuming that this change occurred in the Late Iron Age as they contained large quantities of Late Iron Age pottery (see above) and two burials were found over or in ditch 1 and must give a *Terminus Post Quem* for the creation of this ditch. Burial 8 is particularly useful as it contained two Samian vessels which can be accurately dated to AD 41–68 and AD 70–85, indicating this ditch was infilled by the last quarter of the first century AD. The only other accurately dateable find from the cemetery is the brooch from the warrior burial, 9. This can be dated to the first half of the first century AD; *and* such a burial is likely to precede the Roman conquest (Stead above). It is convenient to use these two burials to mark the beginning and end of the cemetery's use, but it should be emphasised that this may have started before the turn of the millenium and continued into the second century AD.

The duration and extent of the Roman occupation of the site is also not secure. Most of the pottery and the coins suggest an abandonment of the site at the beginning of the second century AD, and a fourth century reoccupation which includes badly preserved evidence for three rectangular buildings and several pits or scoops. Some of the vessels (see above) suggest, however, that there was an ephemeral second to third century occupation associated with Building 3.

We are fortunate that in recent years there has been considerable amount of work in and around the town of Dorchester which has a direct bearing on the pattern revealed by these excavations. When the site was first excavated there were very few parallels for the combination of Late Iron Age open settlement, enclosure ditches, a cemetery and a late Roman settlement. Today there are direct parallels with nine sites within 18 km or 11 miles of Whitcombe. These are: Poundbury (Green 1987) in a coombe on the eastern side of Dorchester; the complex of Alington Ave. (Davies *et al* 1986), Flagstones (Woodward and Smith 1988) and Mount Pleasant (Wainwright 1979) on the western edge of Dorchester; Fordington Bottom (Chowne 1988) and Maiden Castle Road (Woodward and Smith 1988) on the Dorchester by-pass; Quarry Lodden (Bailey and Flatters 1972) next to Chalbury above

Weymouth and further afield Pins Knoll (Bailey 1967) on the northern edge of the Bride Valley. Unfortunately many of these sites have only seen small scale excavations and some of these excavations are not yet fully published. Thus though the general characteristics are clear detailed comparisons are difficult.

Table 17 shows the chronological span of the different occupations at each of these settlements and also includes the occupation of Maiden Castle and Roman Dorchester for comparison. A number of features are immediately apparent in this table. The relative absence of Early Iron Age and Middle Iron Age settlement outside of the hillforts, particularly in the area close to Maiden Castle. The only sites with definite Early to Middle Iron Age occupation are Pins Knoll and Quarry Lodden both of which lie beyond the natural catchment area around Maiden Castle. The situation in the Early to Middle Iron Age contrasts markedly with the appearance of several settlements in the century immediately before the Roman conquest. Whitcombe is in this respect part of a trend which includes settlement at the sites of Flagstones, Mount Pleasant, Fordington Bottom and Poundbury, with the last site possibly starting slightly earlier than all the others. The only sites which do not have clear evidence for settlement in this period are Maiden Castle Road and Alington Avenue. However, excavations at the former have so far explored only the periphery of this large settlement and it is likely that a Late Iron Age core awaits discovery. Alington Avenue is very close to the settlement at Flagstones and there are features including a number of burials and a series of field boundaries which may begin in the Late Iron Age. In most cases occupation continues into the Roman period and there is noticeable continuity in the Durotrigian burial rite at the sites of Whitcombe, Alington Avenue, Poundbury and Maiden Castle, possibly Pins Knoll.

At the end of the first and the beginning of the second century, however, there are signs of significant changes to this settlement pattern. The Durotrigian burial rite appears to be abandoned as are the settlements at Whitcombe, Mount Pleasant, Quarry Lodden and possibly Pins Knoll. It is difficult to be precise but this may coincide with the abandonment of Maiden Castle and the establishment of the town at Dorchester. It is noticeable that in the second and third centuries Roman occupation is most visible at the settlements close to Dorchester: Poundbury, Maiden Castle Road, and Alington Avenue.

In the fourth century AD there was a considerable expansion of settlement with the substantial reoccupation of the settlements at Pins Knoll, Quarry Lodden and Whitcombe, the continued occupation of Maiden Castle Road, and Alington Avenue, the establishment of a temple at Maiden Castle and a municipal cemetery at Poundbury. In Dorchester itself occupation expanded to the limits defined by the town defences and many elaborate stone-walled townhouses were constructed.

Interpretation of these patterns is difficult prior to publication of some of the sites, and this is particularly significant when one comes to deal with the Roman period. It is crucially important to relate the smaller published excavations at Pins Knoll, Whitcombe and Quarry Lodden to the large, as yet unpublished area excavations at Alington Avenue, Maiden Castle Road and Fordington Bottom, as well as with the excavations in the town itself. Consequently this discussion will focus on the Iron Age sequence as the author has access to the unpublished documentation for this period.

The obvious reason for the absence of Middle Iron Age settlement on these sites and in this locality in general is because of a movement into the hillfort of Maiden Castle. Recent excavations (Sharples forthcoming) have emphasised that there is a major expansion of the earthwork defences at the beginning of this period and continued growth in the settlement to a peak density around the beginning of the first century BC. In the following two

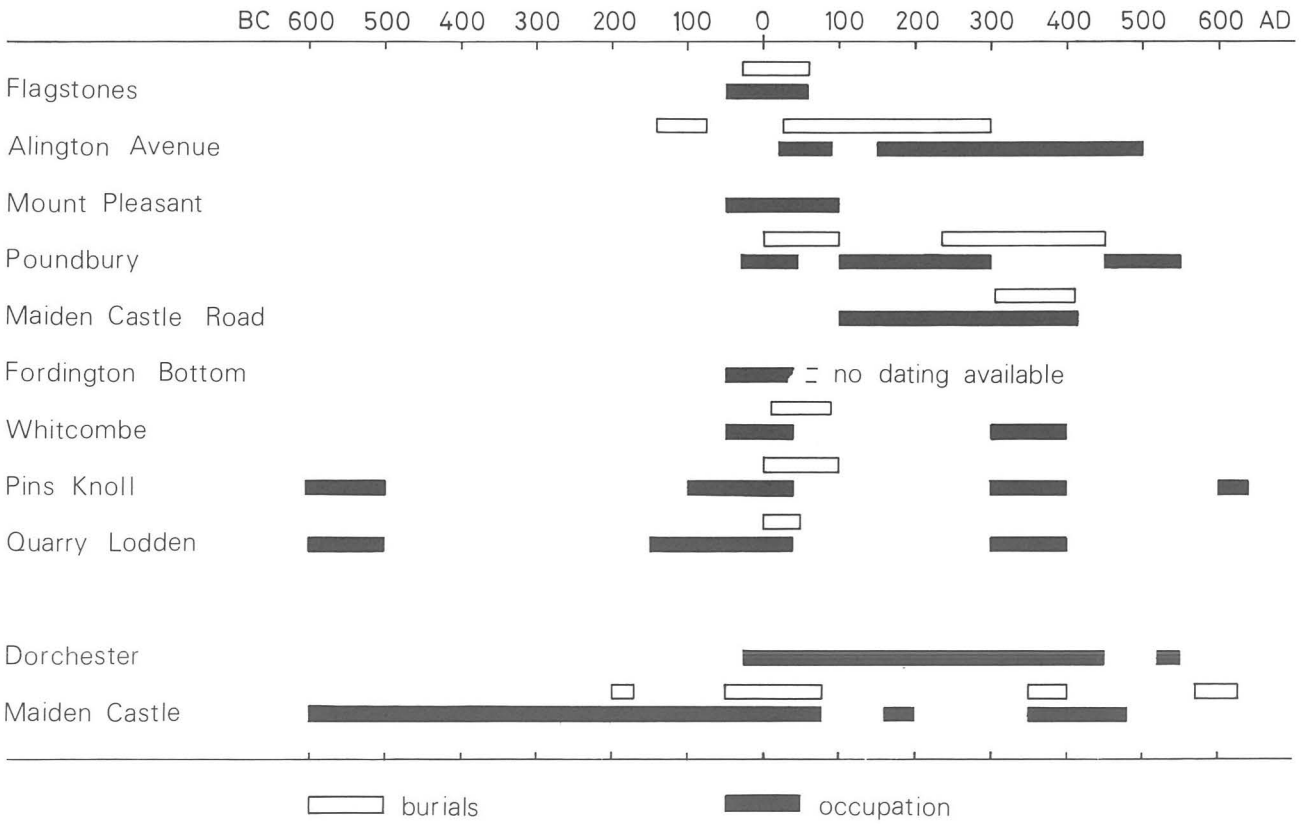

Table 17. *The chronological span of Iron Age & Roman settlements and cemeteries in the Dorchester/Maiden Castle area.*

centuries the hillfort gradually loses its occupants to the undefended settlements discussed above.

The important feature of this movement back into the landscape is that it can be linked to several other important changes visible at Whitcombe: the appearance of a formal burial rite and the reintroduction of field boundaries. The creation of field boundaries is a feature which has tended to be underemphasised in recent years but it is striking that boundaries and field systems in general are found in either the Middle to Late Bronze Age or the Late Iron Age to Early Roman period but not in the Early or Middle Iron Age, when existing and disused systems appear to be all that was required. The largest exposed area of field system around Dorchester is at Alington Avenue, but boundaries of a similar date have also been identified at Flagstones, Poundbury and Fordington Bottom. A parallel sequence was exposed in the excavations at Easton Lane (Fasham *et al.* 1989) and Oswelbury (Collis 1970) in Hampshire and it seems that this was not just a localised phenomenon but occurred throughout Wessex.

The Late Iron Age boundary systems appear to be different to those created in the Middle Bronze Age. The areas enclosed are smaller, the enclosures cluster together and the clusters are isolated in large areas of unenclosed land. They are also directly related to settlements, and in Dorset there is a tendency, clearly visible at Alington Avenue, for burials to be situated beside them. The function of these field boundaries is difficult to interpret, but the presence of droveways at Alington Avenue may suggest they are largely concerned with stock control rather than crops. Whatever their function the creation of these enclosure units in the Late Iron Age suggests the appropriation by small farmsteads, perhaps family units, of land that had hitherto been held communally and controlled by the inhabitants of Maiden Castle.

The form of burial found at Whitcombe is characteristic of the Late Iron Age in Dorset. It is distinguished by: the posture of the body, normally crouched on the right hand side with the head oriented to the east; the size and shape of the grave, shallow and oval; and the presence of a distinctive and constrained range of grave goods. The most common grave goods are animal bones and ceramic vessels. These must be regarded as food for the deceased particularly as the animal bones are normally in the form of joints of meat. There are also many burials with ornaments, and, more rarely, weapons, which indicate the role and status of the occupant. The sex of the deceased can be clearly expressed by the accompanying artefacts or by the species of animal present. The three female burials at Whitcombe were associated with pig whereas the two males with identified animal bones were associated with sheep/goat. A wider study of all Durotrigian burials (Chalmers 1978) has, however, shown that while pig is always associated with female burials and cattle, male burials, sheep/goat can be found in either.

The restricted occurrence of these burials in Dorset clearly expressed the regional identity of this area and they, along with a specific type of coinage and a range of ceramic vessels, are identified with the tribe known as the Durotriges at the Roman conquest. Both the burial rites

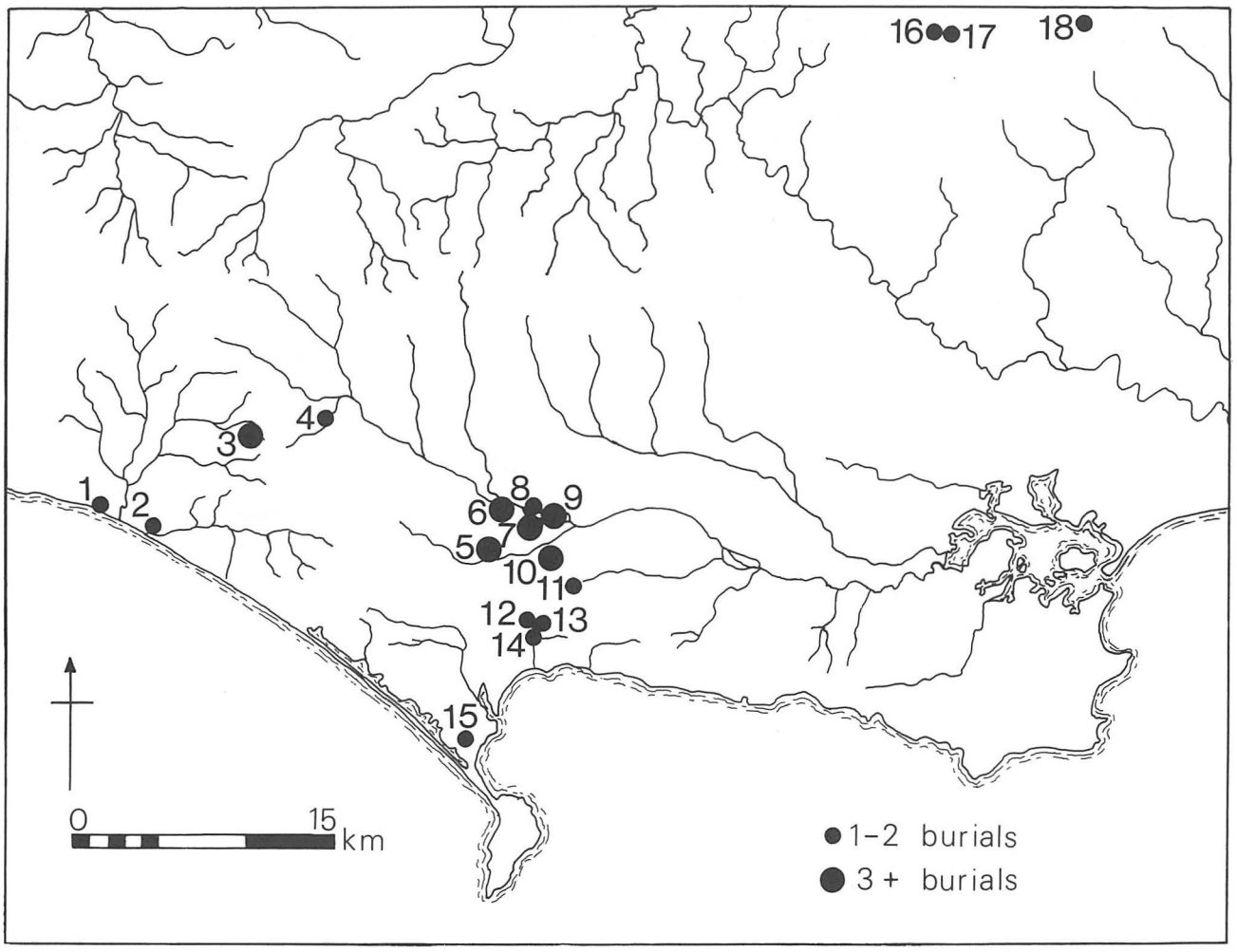

Figure 17. The distribution of Durotrigian burials. 1: West Bay. 2: Burton Bradstock. 3: Pins Knoll. 4: Wynford Eagle. 5: Maiden Castle. 6: Poundbury. 7: Alington Avenue. 8: Wareham House. 9: Flagstones & Max Gate. 10: Whitcombe. 11: Broadmayne. 12 & 13: Weymouth. 14: Sutton Poyntz. 15: Wyke Regis. 16: Tollard Royal. 17: Rotherley. 18: Woodyates.

and the ceramic tradition can be related to the pre-existing Middle Iron Age forms of pit burial (Chalmers 1978) and ceramics (Brown in Sharples forthcoming) and indicate evolution by the local Iron Age communities. The changes effectively emphasised a difference between the inhabitants, of Dorset and south Somerset, and their neighbours, in Hampshire, north Somerset and Devon, which had been created in the Middle Iron Age.

The significance of these cultural divisions are, however, relatively little studied. We know there is little difference in the economies of these different territories as the range and nature of; the tools used in everyday activities, the type of house inhabited, the species of crop cultivated and the animals kept are all the same. Though there is some difference in the nature of the settlement this needs to be carefully explored. In the past considerable importance was placed on the continued occupation of hillforts in Dorset and their abandonment elsewhere, but this can be seen to be exaggerated as we now know that Maiden Castle was largely depopulated in the Late Iron Age and that settlements such as Whitcombe can be closely paralleled in Hampshire.

Furthermore it is also clear that there are territorial divisions of some significance within the area of the Durotriges. The distribution of Durotrigian burials is perhaps the best indication of this. These are almost exclusively found in central south Dorset, around Weymouth and Dorchester, with only isolated individual examples in Purbeck and Cranborne Chase (see Fig. 17). It could be argued that this distribution reflects modern activity and is not an historical pattern. The absence of Durotrigian burials at the settlements of Gussage All Saints, Marnhull, Woodcuts, Cadbury Castle and Hod Hill and the presence of only one or two individuals in the extensively excavated areas at Rotherly and Tollard Royal, however, must be significant. This is particularly so when compared to the distribution of Durotrigian coinage (Cunliffe 1978, Fig. 7.6). These are found throughout the territory, but appear to be significantly concentrated in north and east Dorset, precisely the area without the distinctive burials.

The difference between south Dorset and north and east Dorset can again be related to the situation in the later Middle Iron Age when it seems likely that these two areas were controlled from, respectively, Maiden Castle and Hod Hill (the area to the west may have been controlled from the hillfort of Cadbury Castle). These hillforts are much larger than any other hillforts in Dorset and excavation at both suggests they were very densely occupied at the beginning of the first century BC. This archaeological division of Dorset into regions which shared a common cultural heritage supports the historical records that the Late Iron Age societies of this area were loosely structured confederacies when the Romans invaded. Clearly, however, there is considerably more work to be done on the nature and significance of cultural definitions in the Iron Age of southern Britain.

This presence of a warrior burial at Whitcombe further amplifies the problems of interpreting the significance of identity in the Iron Age. Warrior burials have been frequently classed as a particular type of Iron Age burial (Collis 1973, Cunliffe 1978, 316, Whimster 1981) and a small number, about nine, of these are found scattered throughout England, largely in Yorkshire but including examples in Kent, Hampshire and Norfolk. These graves are all linked by the presence of a sword, but spears and the remains of shields are also common. Most of these burials are extended inhumations but a burial from Grimthorpe in Yorkshire was crouched like that from Whitcombe (Stead 1968). It could be argued from this evidence that there was an elite stratum in Durotrigian society which chose to identify with the elites of other tribes – this is what is called peer polity interaction. It has to be emphasised, however, that the warrior burial at Whitcombe could be regarded as a standard Durotrigian burial; the corpse is oriented to the east and lies on its right side. The associated weapons are simply a richer than normal set of grave goods. The cemetery at Whitcombe is in general characterised as rich by the frequent occurrence of grave goods. Only one of the burials was not accompanied by some form of offering. The burials at Maiden Castle in contrast are relatively impoverished with only 5 out of 20 of the burials outside the war cemetery having offerings. This suggests that some of the smaller undefended farmsteads of the Late Iron Age contained important individuals who effectively controlled many of the more important prestige goods which only began to circulate in this period.

The significance of the site is also visible in the Late Roman settlement at Whitcombe. The presence of painted wall plaster in Building 3 must be some indication of the status of the inhabitants and this may also be indicated by the presence of the warrior relief. Henig's inventive interpretation of this carving (see above) would require either the Iron Age warrior burial to be carefully excavated by a Roman farmer then equally as carefully reburied with all the associated artefacts arranged in their original position, or the presence of a second 'warrior' burial excavated at that time. The presence of a partly Norman church (possibly incorporating pre-Conquest masonry) in the present-day hamlet of Whitcombe, just over half a kilometre to the east, gives some indication of the nature of the settlement in the period after the excavated area was abandoned.

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A Temporary Section in the Gault at Fontmell Magna, North Dorset

C. R. BRISTOW and H. G. OWEN

ABSTRACT

A temporary section at Fontmell Magna exposed some 1-2 m of clayey, fine-grained sand within the Gault. The fauna, dominated by the bivalves *Birostrina sulcata* and transitions to *B. concentrica*, indicate a late *orbignyi* and early *varicosum* Subzone age (*inflatum* Zone, Upper Albian). The sands are named the Fontmell Magna Sands Member within the Gault.

INTRODUCTION

Within the Shaftesbury area, very little was known about the stratigraphy of the Gault until the remapping of the 1:50,000 Shaftesbury (313) Geological Sheet from 1986-1990. The only locality from which a stratigraphical sequence of the lower beds and a fauna has been obtained is the old brickpit (ST 815108) at Okeford Fitzpaine (Newton 1896; 1897; Jukes-Browne 1900; White 1923; Owen 1971). There, the Gault-Lower Greensand junction beds is of Lower Albian, *Douvilleiceras mammillatum* Superzone age (?*kitchini* Subzone age below and ?*steinmanni* Subzone age above) and the overlying Gault clay, exposed to a thickness of 5.5m, is of Middle Albian age, ranging from the *lyelli* Subzone probably up to the early *intermedius* Subzone. Jukes-Browne (1900) recorded a section in the sandy basal beds of the Gault in an old brickpit (ST 85401635) 1.5 km south west of Fontmell Magna (Figure 1), but no fauna was obtained. White (1923), however, recorded a cast of '*Inoceramus* cf. *anglicus* Woods' from this locality. Further south west, Jukes-Browne (1900) saw another unfossiliferous section in the basal beds of the Gault in the brickpit (ST 84851495) east of Farrington. White (1923) noted the presence of '*Syncyclonema orbicularis*' in an ironstone with phosphatic nodules in the basal Gault on the west side of the Fontmell Brook (*ca.* ST 856171). Jukes-Browne (1900: 161) saw a temporary exposure (ST 86691705) in fossiliferous sands at the northern end of Fontmell Magna, but erroneously thought that the deposits were part of the Upper Greensand. His exposure lies very close to that which forms the subject of this paper (Figure 1). No other stratigraphical information about the Gault sequence was available until, in 1989, a temporary exposure (ST 86701708) at the northern end of Fontmell Magna revealed poor sections, up to 1 m in height, in bluish grey, clayey fine-grained, micaceous sand and very sandy clay. On the surface of the site, several blocks of yellowish brown, fine-grained shelly sandstone and some harder concretions of grey sandstone were found. Unfortunately, the exact stratigraphic position of these blocks was not determined, but their fauna suggests that they were thrown out from excavations a little above the bluish grey sand and sandy clay.

Material from the shelly sandstone was collected by one of us (CRB) and Mr C. J. Wood, and determined by HGO, Dr N. J. Morris and Mr R. J. Cleevely of The Natural History Museum, London. The specimens collected are housed in the Palaeontological Collections of the British Geological Survey, Keyworth (numbered Zt 9469-9501) and in The Natural History Museum, London (numbered BMNH GG 14523, LL 35363). Unfortunately, Jukes-Browne's material from Fontmell Magna is not in the BGS collection and its whereabouts is unknown.

Because of their distinct lithology and fauna, the sands are here named the Fontmell Magna Sands and are regarded as a member of the Gault (Formation).

STRATIGRAPHY

The Gault extends southwards from Shaftesbury in an irregular outcrop between 150 and 1000 m wide, to Fontmell Magna and beyond. Around Shaftesbury in the north, most of the Gault is covered by landslips and there is virtually no solid outcrop. A BGS borehole (ST 85532220) on the edge of Shaftesbury, proved about 20 m of Gault beneath landslipped Upper Greensand. Undisturbed strata appear west of West Melbury (around ST 856206). From there, to just north of Fontmell Magna, the dominant lithology of the Gault is a micaceous, fine-grained sandy, patchily glauconitic clay.

The junction with the overlying Upper Greensand, although possibly transitional over a metre or so of thickness, is fairly sharp and is commonly marked by springs. North of Fontmell Magna, the base of the Upper Greensand can be readily traced by springs in an arc through Crofts Farm (ST 85951765), to the west of Manor Farm (ST 868178) and up to Compton Abbas (Figure 1). At this last locality, a powerful spring (ST 87021837) issuing from the base of the Upper Greensand was the former source of water for the village. The Upper Greensand rests on typical sandy micaceous clay of the Gault.

Some 10 m below the base of the Upper Greensand, the clayey fine-grained sand of the Fontmell Magna Sand is developed. There are small, intermittent exposures in clayey, thinly bedded, fine-grained, locally shelly sandstone along the Fontmell Brook (ST 86941769; 86961740; 86901727 and 17851717). The exposure described in this paper occurred just south of the Fontmell Brook, and the fossiliferous sands seen by Jukes-Browne (1900) lie some 30 m further to the south west. West of the A350 road, the stream bed is cut in alluvium and there is no exposure of the solid strata. A temporary exposure (ST 86781687) just east of the old Fontmell Brewery showed 1.2 m of made ground resting on 0.7 m of glauconitic clayey fine-grained sand. West and south-west of Fontmell Magna, there is no evidence of the development of sands within the Gault, although a large part of the outcrop immediately west of the village is obscured by river terrace deposits (around ST 860166).

The thickness of the clay underlying the fossiliferous sands is uncertain. Southwards from Twyford, where no sand is developed, the total thickness of the Gault is about 15m. The same applies to the area west of Sutton Waldron, but a little further west on Pen Hill (ST 851167), the Gault may have increased to a thickness of 25 m, and this appears to be the case also to the south of Crofts Farm (around ST 860173). A well at the old Fontmell Brewery (*ca.* ST 86701688), which must have commenced in, or just beneath, the Fontmell Magna Sands, is reputed to have passed through 45 m of clay before entering coarse-grained sand that was presumed to be Lower Greensand (Jukes-Browne 1900). Such a thickness of Gault seems excessive, especially when compared with the log of a borehole (ST 86721657) to the south of the village. This commenced in Upper Greensand and proved about 23 m of Gault above Lower Greensand. At Okeford Fitzpaine (ST 815108), some 4.5 miles to the south west, where the Gault is about 15 m in thickness, the lower 5.5 m falls within the lower part of the Lower Gault (Owen 1971). There is no other evidence available of the detailed stratigraphy of the Gault in the area of Sheet 313, but there are useful sections and borehole records

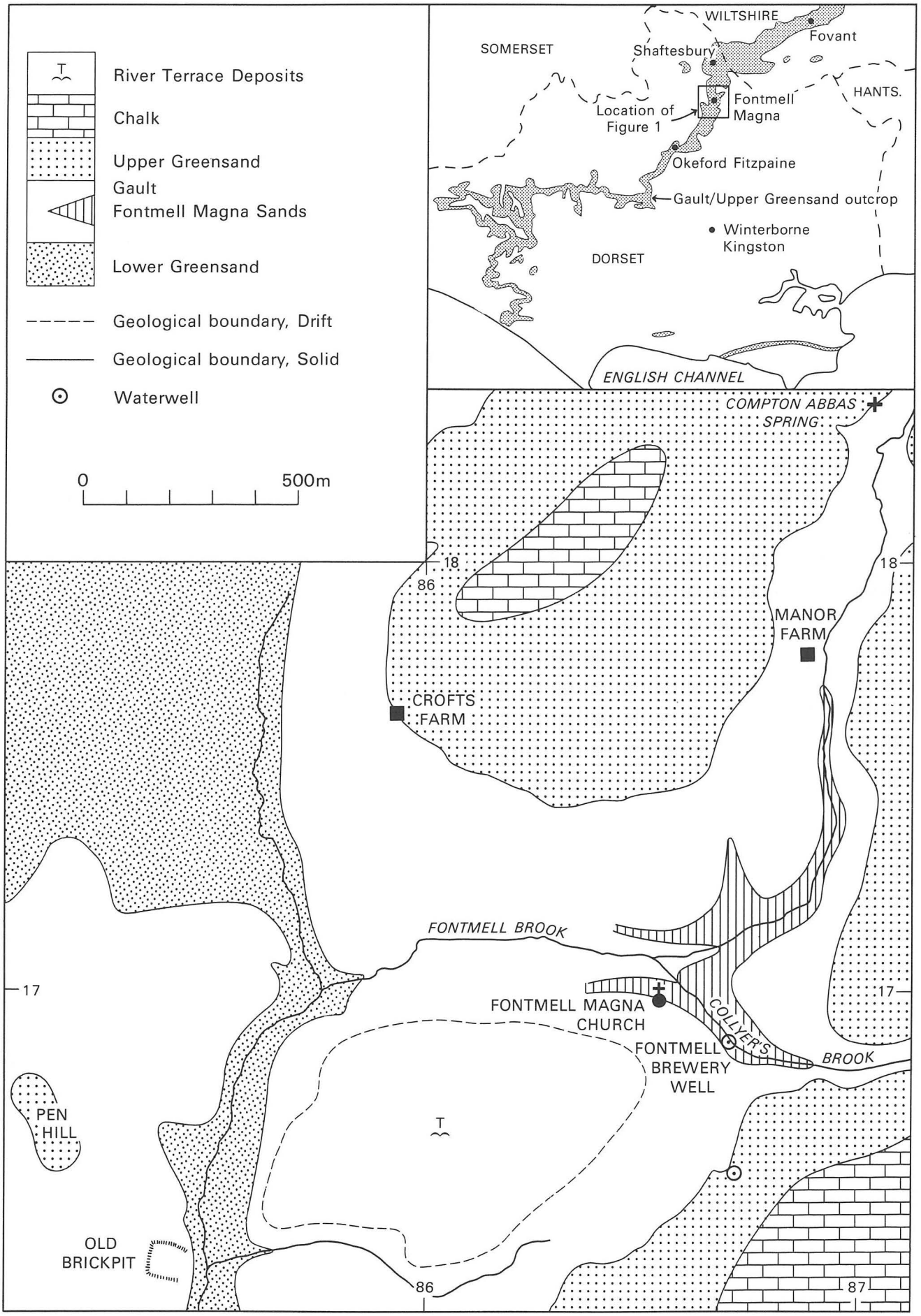

Figure 1. Sketch-map of the Solid geology and River Terrace Deposits of the Fontmell Magna area.

from adjacent areas discussed under Regional Setting below.

FAUNA OF THE FONTMELL MAGNA SANDS

The molluscan fauna collected from the loose blocks dug from the Fontmell Sands Member can be divided into two preservational groups.

Group A preserved in grey sandstone concretions.

Bivalvia: *Birostrina sulcata* (Parkinson), *Entolium orbiculare* (J. Sowerby), *Neithea syriaca* (Conrad), *Limaria gaultina* (Woods), *Leptosolen* sp. Gastropoda: *Jurassiphorus granosus* (J. de C. Sowerby).

Although *B. sulcata* ranges in age from the base of the *cristatum* Subzone to the top of the *orbignyi* Subzone (*inflatum* Zone, Upper Albian), when combined with the evidence of the Group B fauna found in the closely associated blocks, an *orbignyi* Subzone age for the assemblage is most likely.

Group B preserved in soft, fine-grained ferruginous buff sandstone.

Bivalvia: *Birostrina* of the form at the point of reversion from the *sulcata* form of the *Hysteroceras orbignyi* Subzone, to the *concentrica* form of the *varicosum* Subzone, *?Oxytoma* or *Meleagrinella* sp., *Entolium orbiculare* (J. Sowerby), *Limaria gaultina* (Woods), *Plagiostoma globosum* (J. de C. Sowerby). Ammonoidea: *Hysteroceras binum* (J. Sowerby).

The form of *Birostrina* from this assemblage shows the typical reversion of *B. sulcata* to the form of *B. concentrica* (Parkinson) which occurs at the extreme base of the *Hysteroceras varicosum* Subzone. The occurrence of the ammonite *H. binum* is consistent with this dating.

REGIONAL SETTING

Within the area of the 1:50,000 Shaftesbury Sheet, there is no other occurrence of mappable sands within the Gault, nor have higher beds of the Gault (or the base of the Upper Greensand) been precisely dated. In the collection of the Gillingham Museum there is a specimen of *Prohysteroceras (Goodhallites) applanata* Spath from 'Boyne Hollow', Shaftesbury. If this specimen came from the Boyne Hollow pit (ST 87372227) described by Jukes-Browne (1900, p. 160), its preservation suggests that it probably came from the lowest part of the exposed section, that is, within the Shaftesbury Sandstone Member of Bristow (1989) and below the '*Exogyra Sandstone*'; the lower part of the Upper Greensand. This ammonite is of *Hysteroceras varicosum* Subzone age and, when taken in conjunction with the faunal evidence from the Fontmell Magna Sands, suggests that the passage from Gault to Upper Greensand, together with a substantial thickness of the lower part of the Upper Greensand, falls within that Subzone. Additional evidence is provided by the Winterborne Kingston Borehole to the south-west of the district and by a section at Fovant in the Vale of Wardour to the north-east.

The Winterborne Kingston Borehole (SY 84709796) (Rhys, Lott and Calver 1982) penetrated the whole of the Upper Greensand and Gault. This interval was cored, but there was only 50% core recovery. The palaeontology and biostratigraphical classification of this core was given by Morter (1982). On the basis of the gamma-ray log, combined with recovered lithological samples, the base of the Upper Greensand was taken at a depth of about 324m, but this excluded an approximately 3 m thick bed of argillaceous sandstone at the top of the Gault which might represent the Fontmell Magna Sands. Within the Upper Greensand, between depths of 309 m and 312 m, a fauna of *varicosum* Subzone age was obtained, but this is a different and later assemblage to that of the earliest *varicosum* Subzone fauna recovered from the Fontmell Magna Sands at Fontmell Magna.

To the north east of Fontmell Magna, there is a section in the Vale of Wardour at the watercress beds, Fovant (SU 002290). There, some 3.6 m of 'silty rock' forms a transition from the Gault to the Upper Greensand (Mottram 1957). One of us (HGO) who saw the exposure in 1960, noted that the top part of the Gault was clayey and it was this impervious sediment that caused the issue of the spring from the base of the overlying Upper Greensand. A number of fossils were collected from the Gault at this locality (Mottram 1957) and indicate the *varicosum* Subzone.

Thus, the limited evidence indicates that at Fovant, the top part of the Gault is within the *varicosum* Subzone and this is probably true also for the sequence at Fontmell Magna. Whether this is true for the Winterborne Kingston sequence is not known in the absence of diagnostic fossils at the top of the Gault. Certainly, the lower part of the Upper Greensand in the Winterborne Kingston Borehole is also of *varicosum* Subzone age as at Shaftesbury, but the faunal evidence indicates that both are younger than the Fontmell Magna Sands. It should be emphasised that at Fontmell Magna, some 10 m of sandy clay intervenes between the Fontmell Magna Sands and the base of the Upper Greensand. If these clays were absent, it would not be possible to separate the lithology of the Fontmell Magna Sands from the basal part of the Upper Greensand. Although there are facies changes in the upper part of the Gault between Fovant and Winterborne Kingston and, what is taken as the base of the Upper Greensand might vary slightly in age, it appears likely that the transition between these two formations is within a single Subzone; that of *Hysteroceras varicosum*.

ACKNOWLEDGEMENTS

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The Kimmeridge Clay of the Darknoll Brook, Okeford Fitzpaine, Dorset

C. R. BRISTOW and B. M. COX

INTRODUCTION

Inland exposures of the Kimmeridge Clay are generally rare in Dorset, but during the recent resurvey of the 1:50 000 Shaftesbury (313) Sheet by the British Geological Survey, a number of fossiliferous Kimmeridge Clay localities have been encountered (Figure 1). These are mainly isolated sections which do not expose a stratigraphical sequence, but in the Darknoll Brook near Okeford Fitzpaine (ST 8010), there are intermittent exposures of the Mutabilis Zone up to the Scitulus Zone (Figures 2 and 3). A single locality in the stream (ST 80661218; see below) was collected by H. G. Dines in 1921 (White 1923). The section lies *c.*35 kilometres north of the type Kimmeridge Clay sections on the Dorset coast (Cox and Gallois 1981).

In the following account, Kimmeridge Clay (KC) bed numbers relate to Cox and Gallois (1979; 1981) and Gallois and Cox (1976). All specimens collected are housed in the Palaeontological Collections of the British Geological Survey, Keyworth, Nottingham.

STRATIGRAPHY

Darknoll Brook

The stratigraphically lowest part of the Kimmeridge Clay is seen in the northern part of the stream, and the sequence is ascended southwards as it is followed upstream.

LOWER KIMMERIDGE CLAY

Mutabilis Zone

KC20 or KC21

The oldest strata were exposed in the stream bed (Figure 2, Locality 1; ST 80481276) and consisted of medium and brownish grey, fissile mudstone with shell plasters of small bivalves (including '*Astarte*'), common *Aulacostephanus eulepidus* (Schneid) and fish fragments. Some pale grey burrowfills were also observed.

Some 70 m upstream, a second exposure (Locality 2; ST 80461269) revealed medium grey mudstone with poorly preserved shells including indeterminate bivalves and *Aulacostephanus* ex gr. *eulepidus.*

?KC23

A further 30 m upstream, a section (Locality 3; ST 80461266) exposed medium grey mudstone with *Lingula*, common bivalves (including *Corbulomima* and '*Lucina*' [=*Isocyprina*] *minuscula* (Blake)), *Aulacostephanus* ex gr. *eulepidus* fragments and shell debris.

The Supracorallina Bed (KC22) was not seen along the Darknoll Brook, probably due to lack of exposure. It has been found by Dr E. C. Freshney and BMC in the River Divelish (ST 77780832) near Ibberton, some 5 km to the south-south-west (Figure 1).

Eudoxus Zone

The next twelve exposures upstream were in shales of the Eudoxus Zone (Figure 2, localities 4-15).

?KC24 or KC25

At Locality 4 (ST 80481253), 130 m upstream from Locality 3, medium grey, slightly silty and silty, shelly mudstone yielded ?serpulids, *Lingula*, *Grammatodon*, *Aspidoceras*, *Aulacostephanus eulepidus*, *Aul. mutabilis* (J. de C. Sowerby) and more coarsely ribbed *Aulacostephanus* fragments, *Sutneria*, shell debris and burrowfills.

?KC28

At Locality 5 (ST 80571234), medium grey shelly mudstones with a hackly fracture yielded small '*Astarte*', *Isocyprina minuscula* (Blake), relatively common *Nanogyra virgula* (Defrance), poorly preserved *Aulacostephanus* and *Laevaptychus.*

?KC29

At Locality 6 (ST 80611229), 190 m further upstream, there was an exposure of medium grey, blocky and slightly hackly fractured, shelly mudstone with *Lingula*, *Dicroloma*, *Isocyprina minuscula*, *Nanogyra virgula*, nuculoids, *Placunopsis*? juv., *Protocardia*, *Amoeboceras* (*Nannocardioceras*), *Aspidoceras*, *Aulacostephanus* ex gr. *eudoxus* (d'Orbigny) – *pusillus* Ziegler and *Laevaptychus.*

A further 30 m upstream (Locality 7; ST 80631226), fissile, brownish grey, foraminifera-spotted oil shale yielded *Amoeboceras* (*Nannocardioceras*), *Aspidoceras* and several *Sutneria* ex gr. *eumela* (d'Orbigny).

Locality 8 (ST 80661218), 80 m upstream, is the same as that collected by H. G. Dines in 1921 (White 1923). There, slabs of fissile, brownish grey, shelly, foraminifera-spotted oil shale yielded serpulids, *Parainoceramus*, *Protocardia* (including burrowfill concentrations), *Aspidoceras*, *Aulacostephanus* ex gr. *eudoxus*, *Sutneria eumela* and fish fragments, together with *Lingula*, *Nanogyra virgula*, *Amoeboceras* (*Nannocardioceras*) and *Laevaptychus* collected by Dines.

?KC29 or KC30

Locality 9 (ST 80691209) exposed fissile, medium grey, shelly and very shelly mudstone with *Nanogyra virgula*, *Protocardia* and other bivalves, *Amoeboceras* (*Nannocardioceras*) and indeterminate shell fragments.

The next 300 m of the stream either had no exposure or only very poor exposure.

?KC31

A section (Locality 10; ST 80731179) in medium and brownish grey, fissile mudstone with some interburrowing of paler grey mudstone, yielded serpulids, *Dicroloma*, *Protocardia*, pyritised *Thracia?* juv. and other bivalves, iridescent *Amoeboceras* (*Nannocardioceras*) in partial plasters and shell debris.

At Locality 11 (ST 80711174), medium and dark grey, very shelly mudstone yielded very common *Nanogyra virgula*, together with *Protocardia* and other bivalve fragments, rare *Amoeboceras* (*Nannocardioceras*) and a fragment of *Aulacostephanus.*

KC32

Some 40 m upstream (Locality 12; ST 80671169), a tabular bed of dark grey recrystallised limestone, 50 mm thick, cropped out in the stream bed; this may correspond to the level of the Hobarrow Bay Stone Band of the Dorset coast (Cox and Gallois 1981).

In the stream bed, a further 10 m upstream (Locality 13; ST 80661169), there were several shelly, calcite-veined cementstone doggers up to 1 m diameter. The fauna included *Lingula*, *Isocyprina minuscula*, *Protocardia* and *Amoeboceras* (*Nannocardioceras*) in solid preservation. This is the Nannocardioceras Cementstone which forms a useful marker on the Dorset coast (Figure 3). It has also recently been identified by BMC amongst material collected in 1952 from near Ansty (ST 74860380), 10 km south-west of the Darknoll Brook (Smart 1955) (Figure 1).

At Locality 14 (ST 80671167), some 10 m upstream from Locality 13, brownish grey, fissile, very shelly, 'bituminous' mudstone and oil shale were exposed. These yielded *Lingula*, *Isocyprina minuscula*, *Liostrea* (juveniles quite common), *Nanogyra virgula*, *Protocardia*, *Amoeboceras* (*Nannocardioceras*) in plasters, and shell fragments, debris and spat. The fauna is essentially that of the Nannocardioceras Cementstone, but the host sediment lacks the calcite cement.

A further 10 m upstream (Locality 15; ST 80671166), the following fauna was collected from similar mudstones: *Isocyprina minuscula*, *Liostrea* (common juveniles), *Nanogyra virgula*, *Protocardia*, *Amoeboceras* (*Nannocardioceras*) in plasters (as whole specimens, fragments and dust), *Aspidoceras*, *Aulacostephanus*, *Laevaptychus* and fish fragments. *Sutneria rebholzi* (Berckhemer), which is commonly found in KC33, was not recorded from either Locality 14 or 15.

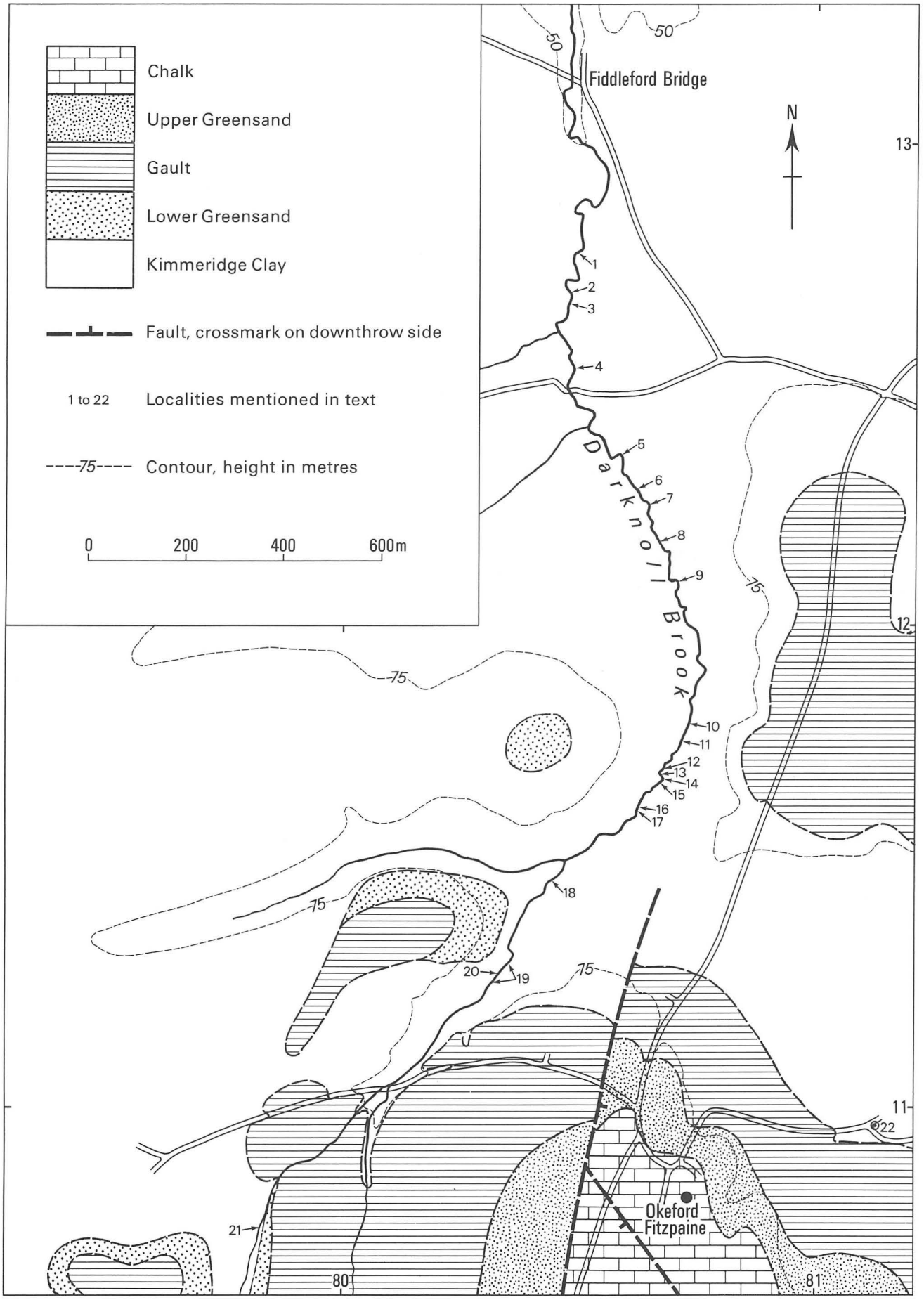

Figure 1. Geological sketch-map of the Solid geology in the environs of the Darknoll Brook.

Autissiodorensis Zone

?KC34

About 40 m upstream (Locality 16; ST 80631162), an exposure of tough, brownish grey, silty textured oil shale yielded *Corbulomima suprajurensis* (d'Orbigny), common *Isocyprina minuscula*, *Amoeboceras* (*Nannocardioceras*), coarsely ribbed *Aulacostephanus* fragments and a woody lens, together with a large *Aulacostephanus autissiodorensis* (Cotteau) in a pyrite-cemented oil shale. At Kimmeridge Bay, on the Dorset coast, cemented bituminous mudstones, concretions and weak cementstones occur in the Autissiodorensis Zone above the Washing Ledge Stone Band; large *A. autissiodorensis* are commonly found between the Washing Ledge and the Maple Ledge stone bands (Cox and Gallois 1981).

Some 5 m upstream (Locality 17; ST 80621162), there was an exposure of brownish grey, fissile, very shelly mudstone (oil shale) with burrowfills of less shelly, medium and dark grey mudstone. The fauna includes *Protocardia*, common *Amoeboceras* (*Nannocardioceras*) (but not as plasters), *Aulacostephanus* fragments and

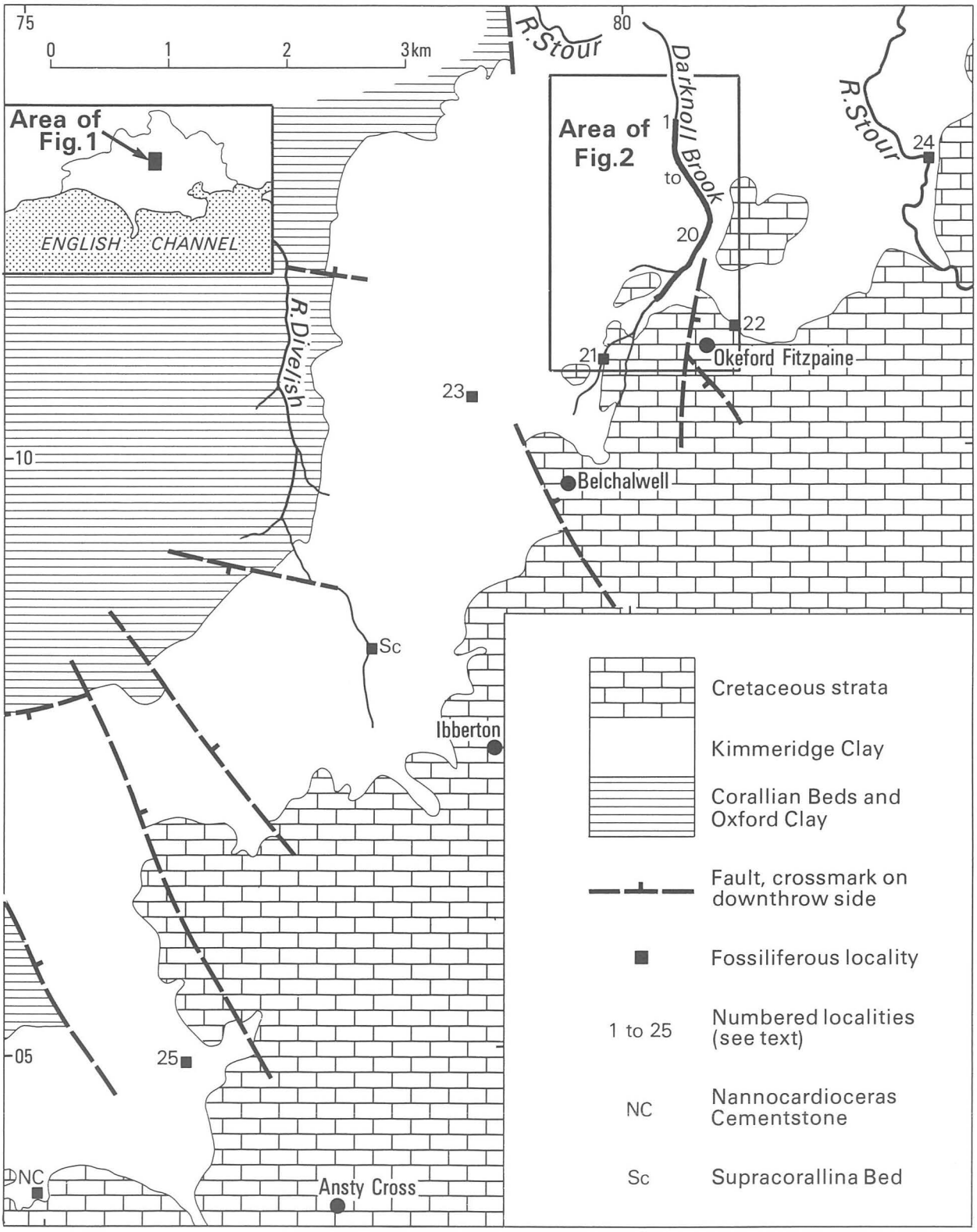

Figure 2. Geological sketch-map of the Solid geology of the Darknoll Brook showing the position of localities mentioned in text.

other shell fragments, debris and spat.

For 200 m upstream from Locality 17, there is patchy exposure, at water level, of dark and medium grey, sparsely to moderately shelly mudstone with *Isocyprina minuscula*, pyritised *Liostrea*, *Protocardia* and *Aulacostephanus* spp.

?KC35

The next exposure to be collected (Locality 18; ST 80431146) showed brownish grey, fissile, shelly and moderately shelly mudstone with small bivalves including *Isocyprina minuscula*, *Protocardia*, *Aulacostephanus* including *A.* ex gr. *pseudomutabilis* (de Loriol) – *fallax* Ziegler, and shell fragments, debris and dust.

UPPER KIMMERIDGE CLAY

Elegans and Scitulus zones

A bed of septarian cementstone doggers, overlain by a 'cemented' oil shale, undulates above and below stream level over a 40 m length of the stream (Locality 19; ST 80361130 to 80311123). At the

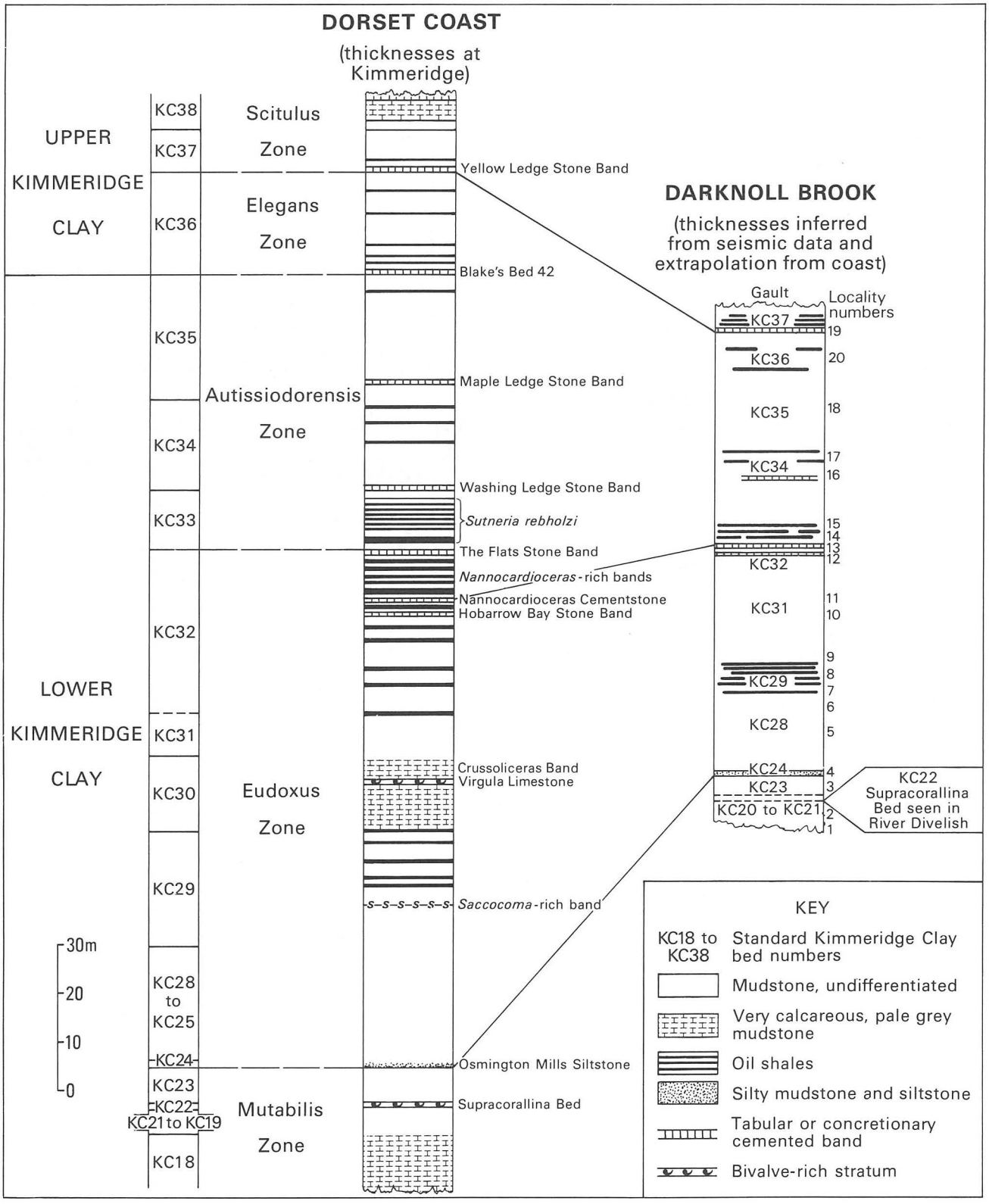

Figure 3. Simplistic correlation of the Kimmeridge Clay of the Dorset coast (revised version of Cox and Gallois (1981)) and the Darknoll Brook.

eastern end, this foraminifera-spotted oil shale yielded small trochiform gastrapods (*Semisolarium hallami* Wignall MS), small '*Astarte*' and other indeterminate shells and fragments. From the overlying fissile, friable, brownish grey oil shale with sulphur-yellow staining, small trochiform gastropods, '*Astarte*' and *Nanogyra virgula* were collected. The cementstone band corresponds to the level of the Yellow Ledge Stone Band (basal Scitulus Zone and base KC37) of the Dorset coast. A somewhat similar sequence and fauna, with in addition *Pectinatites*, was found at the western end of the section. In between these two points, a third section (Locality 20; ST 80341128) exposed fissile, shelly mudstone with small '*Astarte*', *Nanogyra virgula* and a poorly preserved *Pectinatites* fragment; it probably falls within the underlying KC36 (Elegans Zone).

These Upper Kimmeridge Clay localities lie about 5 m below the base of the unconformable Gault (Cretaceous) across which, after crossing the road south-west of Locality 19, the Darknoll Stream then flows. A tributary which flows sub-parallel to it, *c.* 150 m to the west, has a few additional exposures in the Upper Kimmeridge Clay. Most of these expose a maximum of *c.* 0.5 m of shelly mudstone but, at Locality 21 (ST 79821076), an uptilted block of shelly oil shale with small trochiform gastropods, small pyritised *Camptonectes*, plasters of *Isocyprina minuscula* and poorly preserved *Pectinatites* fragments, probably falls within the Scitulus Zone (KC37), although no cementstone bed corresponding to the Yellow Ledge Stone Band was seen in this part of the stream.

Other fossiliferous Kimmeridge Clay localities near Okeford Fitzpaine

Specimens collected by Osborne White in 1921 from a well (Locality 22; ST 81131095) at Okeford Fitzpaine have been re-examined by BMC. The material, said to have come from between 0.9 m and 6.1 m depth, consists of medium grey, moderately shelly mudstone with common tiny '*Astarte*', *Protocardia* and iridescent ammonite fragments showing bifurcating ribs (*Pectinatites*?). The assemblage possibly indicates KC35 (Autissiodorensis Zone). A bed of "black-and-white septaria" occurred 3.7 m from the top of the well.

Two other localities which lie fairly close to the Darknoll Brook have yielded datable Kimmeridge Clay material (Figure 1). These are important because, by combining their zonal position with that obtained from the Darknoll Brook section, the local dip and strike of the Kimmeridge Clay can be calculated. A temporary exposure (Locality 23; ST 78621039), 530 m at 295 from Stroud Farm, Belchalwell, revealed brownish grey, fissile, very shelly mudstone (oil shale) with shell fragments, debris and dust including quite common *Amoeboceras* (*Nannocardioceras*), together with *Aulacostephanus*, faecal pellets and wood fragments. Some burrowfills of paler grey mudstone occur. The assemblage indicates the Eudoxus (or possibly low Autissiodorensis) Zone.

Locality 24 (ST 82611251) is a cliff on the east bank of the River Stour where *c.* 2.5 m of poorly exposed brownish grey, fissile, shelly mudstone (oil shale) yielded small bivalves including *isocyprina minuscula*, small *Liostrea*, *Protocardia*, *Aulacostephanus* ex gr. *mammatus* Ziegler, A. ex gr. *pseudomutabilis* (de Loriol) – *fallax* Ziegler, 'perisphinctid' fragment, fish scales and shell fragments, debris and spat. The fauna and lithology, including the absence of *Amoeboceras* (*Nannocardioceras*), are very similar to Locality 18 in the Darknoll Brook and almost certainly indicate the Autissiodorensis Zone (?KC35).

For completeness, we also record material collected by Dr E. C. Freshney from a stream section (Locality 25; ST 76110497) near Hatherly Farm, north of Ansty Cross (Figure 1). There, brownish grey, highly fissile, shelly mudstone yielded '*Astarte*', *Isocyprina minuscula*, *Protocardia*, plasters of *Aulacostephanus eulepidus*, ?fish fragments, faecal pellets and other indeterminate shell fragments and debris. These suggest KC16 or KC20 in the Mutabilis Zone.

Lower levels of the Kimmeridge Clay were exposed in a section (ST 78671320) at Broad Oak, south of Sturminster Newton (Woodward 1895) and, further afield, in the former Gillingham brickpit (ST 810260) (now restored and largely built over) (Pringle *in* White 1923; Arkell 1933; Edmunds 1938).

THICKNESS

It is unfortunate that the lack of continuous exposure along the Darknoll Stream does not allow a vertical section of the Kimmeridge Clay to be compiled. With the exception of Locality 21, all exposures were in sub-horizontal strata in which it was not possible to measure dip and strike; because of minor valley bulging, such measurements would not, in any case, necessarily be reliable. A calculation of dip and strike using the localities which fall in, or close to, KC35 gives a regional dip of 3.5° to the south-east, and a thickness for the Lower Kimmeridge Clay of *c.* 40 m. This is at variance with the thickness deduced from seismic data (see below), and probably means that there is faulting in the Kimmeridge Clay which has not been detected at outcrop. Faulting which affects Cretaceous strata, and therefore also presumably the Kimmeridge Clay, is recognised in the Okeford Fitzpaine area (Figure 2). If this faulting extends northwards, it should pass to the east of the Darknoll section, where no significant fault was seen crossing the stream and the succession appears to be complete.

Using seismic data provided by Dr I. E. Penn of the Seismostratigraphy Section of BGS, the so-called top of the Corallian Group can readily be identified beneath the Okeford Fitzpaine area. Depending on the exact sonic velocity of the Kimmeridge Clay, this datum lies at *c.* 50 m below O.D. In fact, this position for the boundary excludes from the Corallian Group the topmost unit of clays and sands (Sandsfoot Formation) whose thickness (*c.* 5 m) is often included in seismic interpretations at the base of the Kimmeridge Clay. Bearing this in mind, the total thickness of the Kimmeridge Clay at Okeford Fitzpaine is *c.* 120 m, of which *c.* 113 m belongs to the Lower Kimmeridge Clay; this is about half the thickness of the comparable beds in the coastal sequence of the Kimmeridge Bay area (Cox and Gallois 1981; Figure 3).

ACKNOWLEDGEMENTS

The authors thank their colleagues Dr E. C. Freshney, for making available field data for the Kimmeridge Clay to the south-west of the Darknoll Stream, and Dr I. E. Penn, for help with the computation of the thickness of the Kimmeridge Clay in the Okeford Fitzpaine area. This paper is published with the approval of the Director, British Geological Survey (NERC).

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Dorset Dolines: Part 1, The Higher Kingston Road Cutting

MICHAEL R. HOUSE

Of the many geological features of Dorset which have received scant attention in the literature are the irregular solution pits and collapse structures found especially on those upper parts of the Chalk where the Tertiary Beds form an unconformable feather edge or where the Chalk is overlain by gravels. It is planned to discuss Dorset examples in several short articles. Basically such structures result from enhanced solution of the chalk by waters percolating from overlying gravels, usually of the Tertiary Beds. This leads to the formation of caverns, pipes and pits in the chalk surface. Often sudden collapse of the overlying material occurs into the hole below. There are several examples of this happening in recent times, but many Dorset examples are extremely ancient. These structures pose many problems and not all can be explained in the same way. It is hoped that by drawing attention to these some explanations will be forthcoming.

INTRODUCTION

There are many names for present-day limestone solution and collapse structures which form topographic features. Where they form open holes at the surface terms such as swallow holes and solution holes are appropriate; in Kent deneholes are open vertical shafts in the Chalk which have been claimed to result from human activity but for most this is unlikely. Often no open hole is visible because collapse has closed the opening, and in such cases the terms swallet, sink, solution pit, solution pan and compaction subsidence structure are best used, although in the literature these terms are used interchangeably and the distinction made here has not been made. In geological examples of these structures the pipes or pits are almost invariably filled with later sediment which is often lithified, yet the terms solution holes and solution pipes have been used although the more appropriate terms neptunian, more rarely neptunean, dyke (a pipe or fissure filled by marine sediment), or subaerial dyke (when formed terrestrially) are available. Cenotes are similar structures formed at low levels of the sea during the Pleistocene. As a general name for all such solution structure the term doline is useful which Fay defined as 'one of the natural funnel-form tubes worn down vertically through limestone strata to their underground drainage' (Fay 1920). Since this term refers to the form of the holes or pipes, rather than their origin or their present-day appearance, it is a good broad term to embrace all these structures and following usual practice it is broadened to include the subsidence and collapse features which result from the actual solution structure.

The best known, and perhaps most spectacular Dorset example of a doline and one which was formed relatively recently is Culpepper's Dish (SY 814926), one mile southeast of Affpuddle. This is part of an extensive doline field and Clement Reid (1899, p.19) referring to the Puddletown Heath and Bryant's Puddle area wrote 'attention should be called to the extraordinary development of swallow-holes over these heaths. I do not know of anything equal to it in Tertiary strata, either for size or abundance; upwards of three hundred of these pits are indicated on the six-inch Ordnance Map, and at least double that number can be found'. The Roman road east from Dorchester close to Rainbarrows near Higher Bockhampton (SY 736933) has been said to owe its odd diversion to such a cause, showing that modern examples may be of great antiquity. The doline field on Bronkham Hill, southeast of Hardy's Monument, has swallets which cut Bronze Age burial tumuli indicating more recent activity. Records in our *Proceedings* and newspaper reports show that collapse and the formation of topographic sinks and holes can happen today spectacularly and virtually overnight (House 1965).

The more ancient Dorset geological examples have received brief comment. The solution holes and hollows at the Chalk/Tertiary junction in Studland Bay were noted by Strahan (1898, p.181) and discussed by Arkell (1947, p.221) and similar examples near Creechbarrow (Arkell 1947, p.241) have been noted. The spectacular examples in the chalk cliffs above St Oswald's Bay have been briefly discussed (Arkell 1947, p.227, 228, 232; House 1965; Cope 1974) but no detailed account has been published. Other examples are known near Bincombe (Arkell 1947, p.232, 256) and Hardy's Monument (Strahan 1898, p.195). Some of these clearly date from the interval between the deposition of the Chalk and the early deposits of the Reading Beds or Bagshot Beds. Yet others seem to be intra-Tertiary in age but to post-date the early Tertiary folding. Others may even be Pliocene in age.

The Higher Kingston Road Cutting

It seems appropriate in this first note to illustrate the structures associated with ancient dolines near the Chalk/Lower Tertiary boundary when they are well exposed since, whilst many of the other structural types are spectacular to see, intimate examination of their make up is usually impossible. It is clear that the top surface of the Chalk below the basal Tertiary is very irregular on the large scale in several parts of Dorset. The example given here illustrates a small-scale doline topography.

In the summer of 1961, one of several attempts was made to improve the A35(T) road northeast from Dorchester and road widening was undertaken 0.5 miles south-southeast of Higher Kingston Farm 0.75 miles west of Higher Bockhampton (at SY 714023). The following account is based on notes made on 14 August 1961 when the writer was driving by and the spectacular exposures demanded a stop and immediate examination. Inevitably the cutting was soon revetted and 'improved' when the road-widening was complete and it is now grassed over and shows nothing of the interest once so well exhibited. A stretch some 28 metres long was sketched to approximate scale along a section striking N 50° E (Figure 1) along the north side of the road. The cutting sloped towards the road at about 45° and the field sketch recorded an approximate horizontal profile.

The top of the cutting along its length comprised a thin, sandy lime-rich soil which was well rooted (Level A of Figure 1). Beneath this at the southwestern end was a coarse flint and chert gravel, the fragments up to 0.2 m across and mostly flat (Level B). A more sandy level (C) below expanded irregularly to the northwest. Levels A-C seem all to represent made ground.

The exposed chalk in the cutting was rather soft and friable without discernable bedding but with occasional small tabular and nodular flints. There was no obvious jointing, but this may have been obscured by the mechanical digger being used. The surface of the Chalk was continuously indented by broad pits or narrow pipes reaching one to two metres below the upper limit of the Chalk, but at the northeastern extreme was considerably deeper. The pitting into the chalk occured at an average spacing of about one metre. The examples with pipes below invariably opened out into funnel shaped pits above often with the semblance of a bowl shape and an asymptotic outline. The peaks between

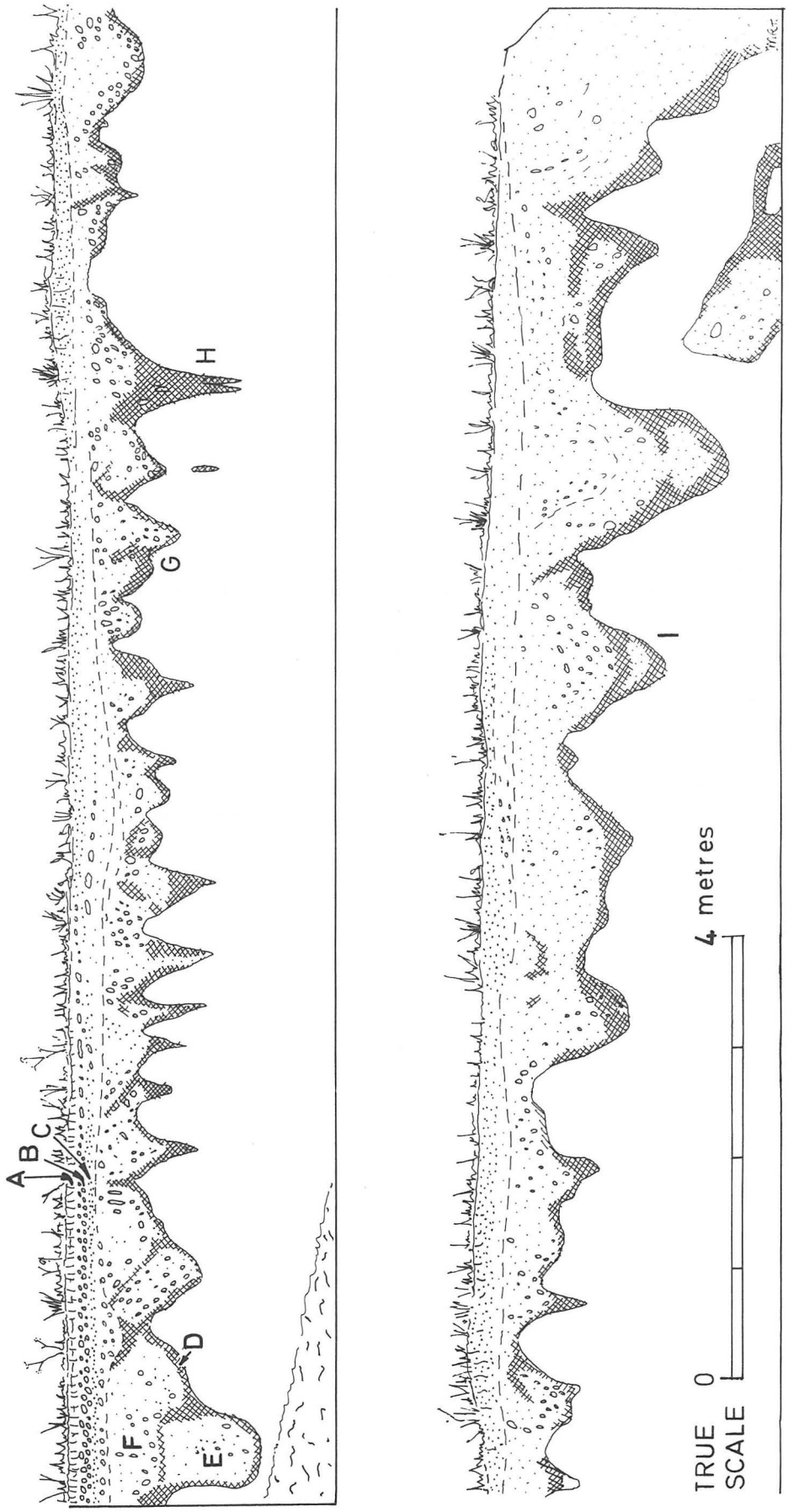

Figure 1. Profile of road cutting near Higher Kingston Farm showing solution structures in the chalk surface. Based on field sketches. For explanation see text.

the pits were often very sharp, often with a radius of only a centimetre or so; the chalk appeared more shattered at the tips of the peaks. Two photographs taken at the time (at points H and I on Figure 1) illustrate the pattern (Figures 2 and 3).

Between the probably made ground of levels A-C and the irregular surface of the Chalk were densely packed sediments whose distribution was clearly related to the form of the solution surface. Lining the pits and generally filling the pipes was a rich chocolate-brown clayey silt (marked D on Figure 1) with a red tint, and this in places rose irregularly into the gravels above in a way which might have been related to a chalk morphology which was not visible. Generally this clayey silt was of even grade but where small flint fragments occurred along the sides of the clefts, the fragments tended to be aligned parallel with the sides and to have a dark brown patina.

Filling the remainder of the pockets was a sandy gravel (E, F on Figure 1) of ginger-yellow colour mostly of flint fragments of up to 0.1 m across and occasionally more, and the fragments tended to lie parallel to the margins of the pockets. In several places the filling gravel appeared leached. It was noticeable that the largest flint fragments were not at the bottom of the pits or pipes.

The Chalk/Tertiary boundary, as marked on the Geological Survey map, lies a few hundred metres south east of the cutting, but it seems likely that the section exhibited was close to an exhumed surface of the Chalk although, apart from the filling material of the pits, the basal Tertiary Beds had been removed by erosion.

Interpretation

The problems posed by the cutting are several. Does the surface of the Chalk represent a post-Chalk karstic weathered surface subsequently filled by early Tertiary deposits? No evidence to date the infills was found but this interpretation seems unlikely because there is no stratification to the sediment within the pits to suggest infill under a fluvial regime. Was the surface of the Chalk completely smooth at the scale represented by the cutting before the deposition of the gravels? A crest line drawn on the peaks between the pits is roughly linear which suggests this may have been so, but no trace on an original surface was obvious. Were the pits developed subsequent to the deposition of the early Tertiary Beds? Both the earlier factors suggest solution and early movement of superincumbent material, into the pits rather than collapse into an open hole. The packing of fine grade material to line the pits and fill the pipes suggests that there was a sieving action against the porous chalk and accumulation *pari passu* with the etching of the doline margins. Even given a gravel overburden of a few metres, when waterlogged there could be considerable hydrostatic pressure forcing water down through the doline. Therefore, whilst dissolution may have been enhanced by levels of humic, silicic or other acids in solution in the water, long continued high water pressure may have been the major erosive factor. On this model the clayey silts (D in Figure 1) could represent force-strained material, but surely when the pipes were plugged by such material then water migration would be blocked. Three-dimensional observation was not possible to determine whether the pipes were cross sections of joints or fractures but both photographs (Figures 2 and 3) illustrate why this hypothesis was not favoured since they show pipes backed by solid chalk and hence chalk dissolution is preferred as a major cause. There was no evidence of open cracks or small caverns so it seems clear that the Higher Kingston dolines had been inactive for some time.

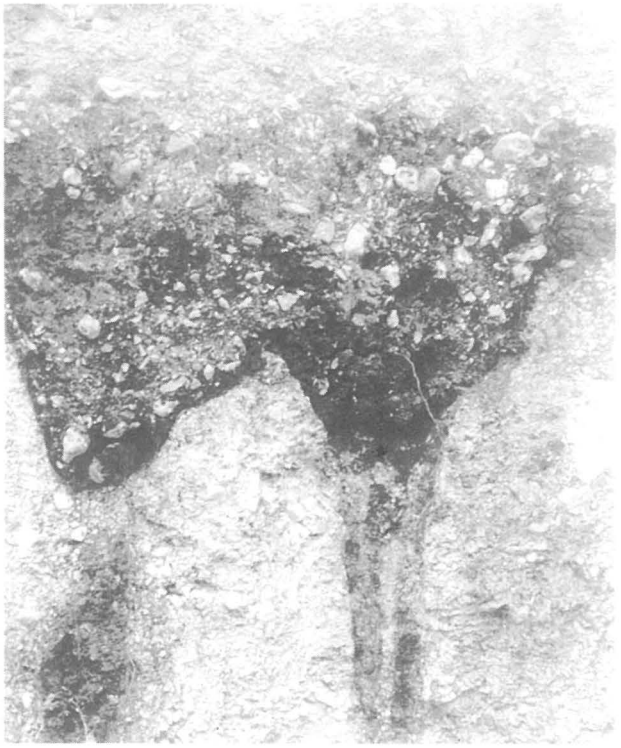

Figure 2. Photograph of a single solution pit extended into a double solution pipe. Position of photograph marked as 'H' on Figure 1.

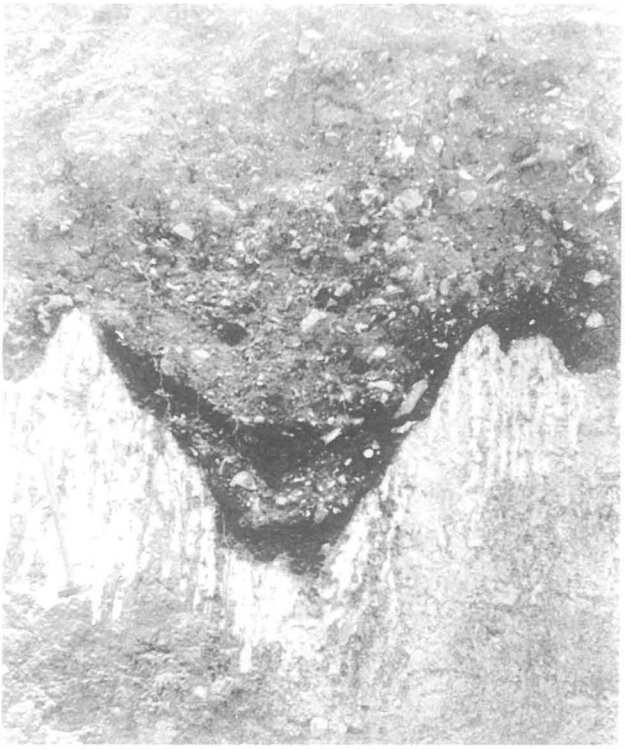

Figure 3. Photograph of a solution pit with the extension into a pipe below removed to show it is not a joint-controlled structure. Position of photograph marked as 'I' on Figure 1.

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Chesil Beach: changes in crest height 1969-1990

ALAN P. CARR and DENNIS R. SEAWARD

ABSTRACT

Comparisons of the changes in beach crest height along a 15.5 km length of Chesil Beach over a 21-year period indicate a variable, but almost universal lowering. On average this was 0.5 m with a maximum fall of almost 2.4 m opposite the Abbotsbury swannery. The implications of these changes are discussed.

INTRODUCTION AND METHOD

Anecdotal evidence suggested that the crest height of Chesil Beach had undergone substantial lowering through storm conditions during the 1989-90 winter. It was therefore decided to survey the crest from just E. of Castle Hill Cottages, Abbotsbury – that is the western end of Abbotsbury Beach – to the beginning of the Chiswell (Chesilton) sea wall, a distance of 17 km. This work was undertaken between mid-November and mid-December 1990, i.e. prior to the incidence of winter 1990-91 gales. (All places referred to in the text are shown in Figure 1). A total of approximately 830 height readings were taken, typically varying in number between 20 and 30 per 0.5 km, mainly depending upon the irregularities in the crestline. The survey was tied into Ordnance Survey benchmarks at each end of the traverse and to intermediate survey points established between 1965 and 1969. The opportunity was taken to establish additional height control along much of the length of the beach.

Earlier surveys had been carried out by John Coode in 1852 (Carr and Gleason, 1972), and by one of the authors of this paper (APC) for the Nature Conservancy in 1969 and, again, for the Institute of Oceanographic Sciences, NERC, in March 1979. The latter survey was limited to the beach southeast of the Portland Boundary stone and was intended to examine the cumulative effects of storm waves in December 1978 and the 'surge event' of February 1979 (Carr, 1983a).

The 1990 field data was subsequently superimposed on a plot of the 1969 and 1979 surveys. Four approximately 2 km lengths are reproduced as Figure 2(a-d). They extend between about 2.4-4.5, 5.9-8.0, 11.4-13.5 and 14.9-17.0 km E. of Castle Hill Cottages, respectively.

Mean crest heights were calculated for each of the 34

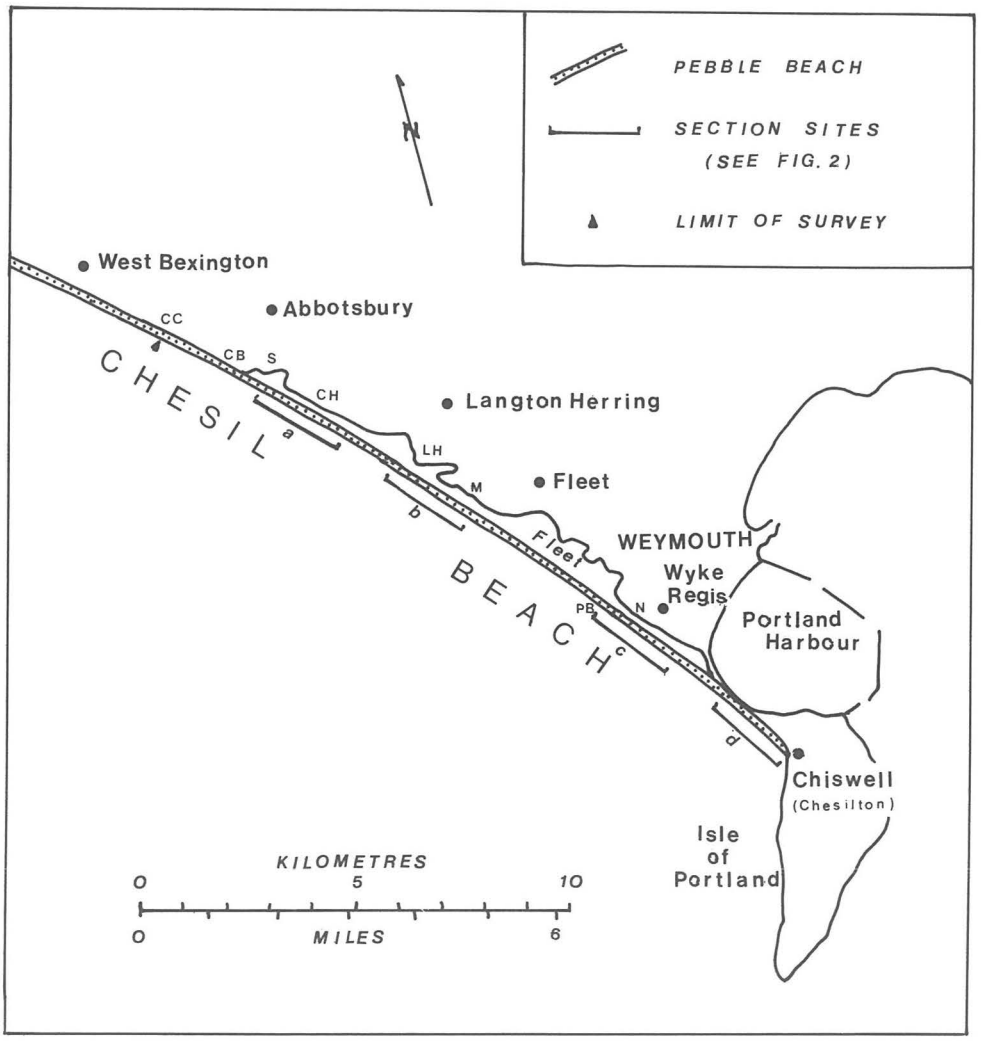

Figure 1. Chesil Beach: site map. (CC = Castle Hill Cottages; CB = line of concrete blocks; S = swannery; CH = Clouds Hill; LH = Langton Hive Point; M = Moonfleet; PB = Portland Boundary stone; N/TN = The Narrows).

half-kilometre units between Abbotsbury Beach and the W. end of the Chiswell sea wall. These were compared with analogous values for 1969 and, where applicable, 1979. The data are shown in Figure 3 and Table 1. Correlation coefficients were calculated between the mean crest height values and the respective positions along the beach.

RESULTS AND DISCUSSION

Figure 2a shows that part of the Beach opposite, and immediately E. of, Abbotsbury swannery. It demonstrates the unevenness of the loss in crest height between 1969 and 1990 and includes the position where maximum change (almost 2.4 m) was recorded.

Figure 2b covers the area from just W. of Langton Herring coastguard building (i.e. opposite Langton Hive Point) to just E. of Moonfleet and includes the best examples of parts of the Beach which have been least altered over the 1969-90 period. Two of the four data points (out of the total of some 830) where the crest is higher in the later survey occur along this 2.1 km stretch while short lengths of the crest retain the same profile over the 21-year period.

Figure 2c runs from the Portland Boundary stone site for 2.1 km towards the SE. Both in this Figure, and Figure 2d, 1979 data are also available. While the 1990 survey is nearly always below that of 1969 the relationship between 1979 and 1990 is less clear and there are a number of localised examples where the crest height in 1990 is, in fact, higher. These instances are, at least in part, man made. The sequence shown in Figure 2d is largely the effect of emergency repairs at the time of the 1979 survey and thereafter, together with subsequent sea defence works, principally the construction of gabions and mattresses in 1980-81 (Carr, 1983b).

The way in which the extent of the changes in crest height varies along the Beach is probably partly a response to the initial elevation, partly the effect of the sea bed offshore (e.g. the Corallian limestone is believed to crop out offshore of The Narrows (Carr and Blackley, 1973)), and partly a reflection of the focus of energy of a particular storm (Carr, 1983a).

Figure 3 depicts graphically the mean crest height for each half-kilometre unit from Abbotsbury southeastwards. One of the generally accepted concepts concerning Chesil Beach is the belief in the systematic increase in crest height from Abbotsbury towards the Isle of Portland. However, a striking feature of this diagram is the irregularity of such an increase from W. to E. during any one survey, with the result that the mean height of the Beach opposite The Narrows, Wyke, is comparable to that at Chiswell, some 5 km the E. It is tempting to conjecture that the high values opposite The Narrows may be a response to the underlying geology or to the greater difficulty of the Beach to retreat landward (the 'in-rolling' of Strahan, 1898; Carr and Blackley, 1974) as compared with, say, the length of the Beach opposite Portland Harbour. Carr (1969) noted that mean beach and crest pebble size were atypically large seawards of The Narrows, while the overall longshore alignment of the Beach is also anomalous there. Table 1 lists the mean crest heights for each of the 34 half-kilometre units, and the difference in height between 1969 and 1990. Only the last, most easterly, half-kilometre, which includes the wire-mesh mattress crest, shows an increase in mean height over the period. This change is entirely artificial and reservations also apply to the next kilometre, where dragline operations in particular have affected the crest to varying degrees over time. It was at the E. end of this kilometre length that the maximum height, of 14.7 m O.D., was recorded in 1969. (In 1990 the height of the crest at the same location was 13.7 m). Excluding the artificial crest length, mean losses vary between 0.13 m (Abbotsbury Beach) and 0.19 m (opposite

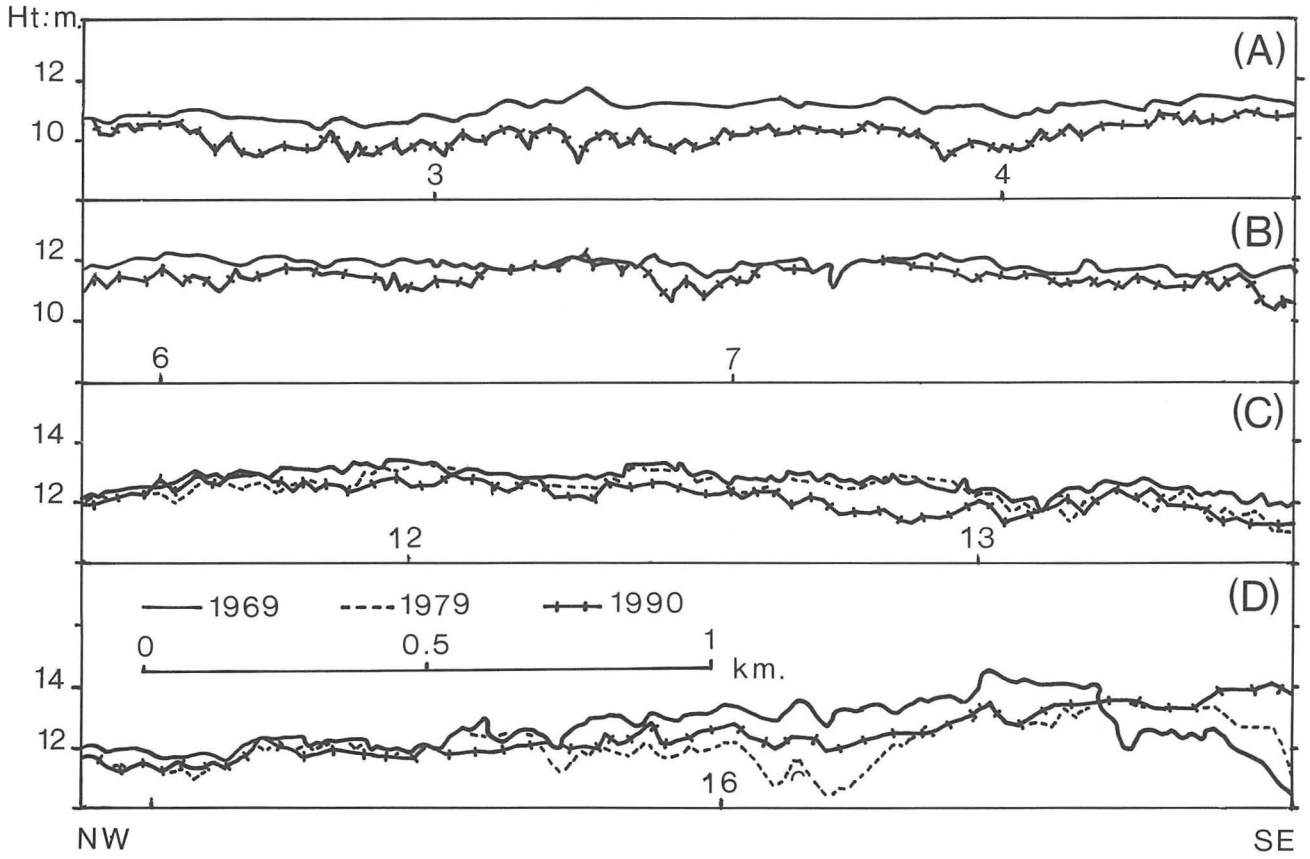

Figure 2 a-d. Comparative beach profiles showing crest heights (in metres above Ordnance Datum) for 1969, 1979 (where applicable) and 1990. For location, see Figure 1.

Moonfleet) to 0.87 and 0.83 m (opposite the Swannery) and 0.81 m (E. of The Narrows). Because the Beach is lower at the W. end the losses opposite the Swannery represent a far larger proportion of the exposed Beach there than at The Narrows.

Mean height for the Beach was calculated for 1969 and 1990 for a) all units; b) all units excluding the 1.5 km stretch immediately northwest of Chiswell sea wall. This gave values for: (a) 1969 = 11.66 m; 1990 = 11.24 m; (b) 1969 = 11.55 m; 1990 = 11.09 m. The correlation coefficients calculated between crest height and position along the beach (where n = 33 and n = 30 respectively) gave: (a) 1969 = 0.90; 1990 = 0.83; (b) 1969 = 0.87; 1990 = 0.79. These correlation coefficients are very high and give confidence limits exceeding .001 (i.e. statistically there is less than 1 chance in 1,000 of the progressive increase of the crest towards the Isle of Portland being a chance phenomenon). What is interesting, however, is the way in which the correlation, whether all 34 or only 31 units are included, has deteriorated over time. This is probably what would be likely if the Beach were ultimately to break up into two separate parts, one to the W. of The Narrows, and a separate beach to the E. Carr (1969) noted that the grading of the shingle at the back of the Beach, E. of The Narrows, was anomalous when compared with that of the (then) crest and beach face, and suggested that it might be the legacy of a separate, earlier, feature.

Both along this stretch of the Beach, and at various locations towards Abbotsbury, the 1990 beach face showed conspicuous scalloping due to large-scale ('mega') cusps of the order of 100 m in length. The horns of these cusps protruded seaward and were generally the highest points in their locality. This is what might be expected if they represent the vestiges of an earlier crest to seaward.

Substantial changes were observed on the backslope in 1990, especially opposite the Fleet. They were either the result of overwash, or seepage through the beach fabric. Most overwash features were ill-defined but in one case, at a site approximately opposite Moonfleet, there was a clear indication of shingle from the crest having been swept down the rear slope and redeposited in the form of a fan. Elsewhere seepage hollows ('cans') appeared to be the main causative mechanism of changes in the backslope, with substantial new ones having been created during the 1989-90 winter. An upper, high level (approximately +6 m O.D.), series of about 10 small cans, situated immediately E. of The Narrows, were also reactivated.

The changes recorded between 1969 and 1990 go some way towards reversing the rise in the crest height between Coode's unpublished survey of 1852 and that of the N.C. in 1969 (Carr and Gleason, 1972). This was of the order of 2 m at Langton Herring and 1.5 m between there and E. of Wyke Regis (Carr, 1983a). In both of these examples the crest is now about 0.5 m lower than in 1969. Individual locations along the Beach, notably those opposite Abbotsbury swannery, have approached the Coode values much more closely.

Between 1965 and 1969 sextant angles were taken at vari-

TABLE 1: Mean beach crest height alongshore for each 500 m unit, together with difference in height between 1969 and 1990 surveys. Height data (only) are also included for 1979 where available. Sites run from 1 (Castle Hill Cottages, Abbotsbury Beach) to 34 (Chiswell). Heights are in metres above Ordnance Datum (approximately mean sea level).

Site No.	Mean height (m)			Height Difference	
	1969	1979	1990	1990-1969	
1	(10.16)		10.03 (9.88)	(−0.28)	() = part surveyed 1969
2	10.33		10.12	−0.21	
3	10.83		10.70	−0.13	
4	10.89		10.48	−0.40	
5	10.53		10.24	−0.29	
6	10.56		9.86	−0.70	
7	10.95		10.08	−0.87	
8	10.94		10.11	−0.83	
9	10.92		10.64	−0.28	
10	11.15		10.88	−0.27	
11	10.97		10.39	−0.58	
12	11.42		11.19	−0.23	
13	11.79		11.41	−0.38	
14	11.73		11.47	−0.26	
15	11.76		11.57	−0.19	
16	11.56		11.08	−0.48	Lowest values at E. end
17	11.23		10.69	−0.54	
18	11.80		11.25	−0.55	
19	11.80		11.49	−0.31	
20	11.54		11.30	−0.24	
21	11.85		11.41	−0.44	
22	12.22		11.53	−0.69	
23	12.15		11.69	−0.46	
24	12.96	12.62	12.55	−0.41	
25	13.01	12.90	12.49	−0.52	
26	12.70	12.51	11.89	−0.81	
27	12.30	11.80	11.82	−0.48	
28	12.12	11.70	11.40	−0.72	
29	11.78	11.35	11.09	−0.69	
30	11.84	11.23	11.33	−0.51	
31	12.28	11.85	11.68	−0.60	
32	12.66	12.10	12.11	−0.55	Modified
33	12.90	12.01	12.60	−0.30	Modified
34	12.80	13.04	13.52	+0.72	Artificial

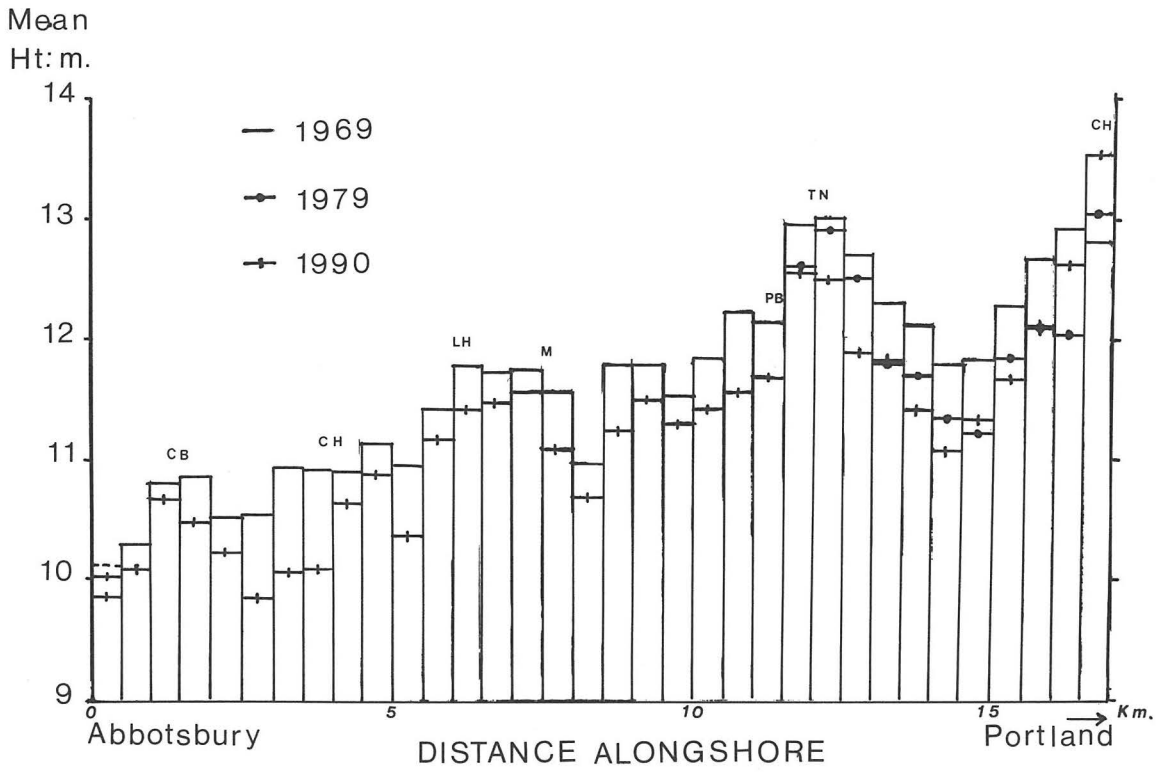

Figure 3. Mean variation of beach crest height alongshore (in metres above Ordnance Datum) for each 500 m unit. Initials for site location correspond with those in Figure 1. (The most westerly unit was not completely surveyed in 1969; the lower value for 1990 corresponds). The number of observations generally falls between 20 and 30 per unit. See also Table 1.

ous positions along the Beach crest to prominent features to landward. Additionally, in places, it was possible to superimpose Coode's 1846-53 and other nineteenth century, Admiralty, beach profiles, on 1960's ones. Both these lines of evidence lead to the conclusion that 'in-rolling' (Strahan, 1898) was minimal over the century in between. In their 1972 paper Carr and Gleason could only find one area of Chesil Beach where recession between 1852 and 1969 exceeded the plottable error. This was some 17 m retreat opposite Portland Harbour. In 1977 the, by then, Nature Conservancy Council, repeated some of the earlier profiles across the Beach and these, too, showed negligible retreat. (A limited amount of this information was published in Carr, 1983a).

However, in the partial survey of 1979, horizontal circle readings were taken from time to time along with the height values. These, like the sextant angles, were only accurate to 1' of arc. But they did suggest that along the beach from Portland Bounds to Chiswell some (further) retreat had taken place. (This was readily apparent immediately following the February 1979 surge event opposite Portland Harbour (Carr, 1983a)). No measurements were taken during the 1990 survey but observations showed undercutting of the foundations of various structures along the beach from Abbotsbury eastwards. These included the two observation buildings at the ends of the army firing range W. of the Portland Boundary stone. These buildings were erected in 1980/81, with the western one then 8 m landward of the crest ridge (Major Leonard, oral communication). At the Portland Bounds site itself the 1907 boundary stone had become exposed 4 m seaward of the beach crest. According to S. Morris (oral communication) a 1930's photograph clearly shows this marker 2⅓-3 m landwards of that crest. Judging from the height of its top relative to beach level it could have been as much as 10 m landward of the crest when built. The army 'obelisk' 367 m E. of the Portland Boundary stone was erected in 1911. By December 1990 it was 7 m seawards of the beach crest, implying beach retreat there of at least that amount over the 80-year period. Most, if not all, of this erosion is recent as the date of the army buildings testifies. It suggests that, once again, a single event, such as the 1989-90 winter, can be far more influential than an apparent long-term trend. Further work on the recession of the beach is clearly called for.

CONCLUSIONS

Substantial changes in the crest height of Chesil Beach have taken place over the period 1969-90. While at the eastern, Chiswell, end a large proportion of the alterations occurred over the 1978-79 winter it is probable that further westward it was the 1989-90 season of storms that was most significant. The net result is that part of the accretion which took place between 1852 and 1969, much of which was attributed to the single 'swell event' of 1904 (Carr, 1983a), has been reversed.

ACKNOWLEDGEMENTS

The authors would like to thank the West Dorset District Council for the loan of surveying equipment; and Neville Copperthwaite and John Fair, of Ilchester Estates, for logistic support.

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Dorset Archaeology in 1990

RECENTLY DISCOVERED HANDAXES FROM EAST DORSET

The purpose of this note is to record the five following handaxes, four from Cranborne Chase and the fifth from Lytchett Matravers.

No. 1 (Figure 1) was found by Mr R. Thorpe whilst beating at Manswood, Moor Crichel SU976081. It is made from a nodule of chalk-flint, patinated off white and has a distinctly glossy appearance on some of the flake scars. There is slight iron-staining of the ridges and numerous frost cracks suggest long exposure on the surface. It is made entirely by 'hard hammer' flaking which is characteristic of early Acheulian industries, e.g., Kent's Cavern and Fordwich.[1] A handaxe of this type was recorded from Christchurch,[2] and others are recorded from the ballast hole at Corfe Mullen.[3] If this handaxe does belong to the Early Acheulian it would either place it within the Inter-Anglian or Pre-Anglian say 350,000-500,000 years ago. It must be stressed however, that with no stratigraphic context the suggestion of date is based entirely on typological grounds.

No. 2 (Figure 2) was also found by Mr Thorpe whilst crossing a field close to his home at Brockington Beeches, Wimborne St Giles. SU011118. There is a spread of vestigial clay with flints in this area and Mr Thorpe has also collected several broken Neolithic axes from the same vicinity. It has a white patina, iron-stained ridges and small patches of exfoliation of the surface all suggest long exposure on the surface. Probably finished with 'soft hammer' flaking, this is a good example of a medium sized 'Middle Acheulian' handaxe. It has an acute point fashioned on a deliberately reserved cortex butt and has lost its extreme tip in antiquity. Handaxes of this type are widespread and many of these were found in the middle gravels at Swanscombe, Kent (Barnfield Pit) the deposit that produced the Swanscombe Skull.

No. 3 (Figure 3) was found by the late Mr W. Golden on his land at Middle Chase Farm, Bowerchalk SU00862122. This was on a partially denuded clay with flints deposit just over the Dorset boundary into Wiltshire. Taking into consideration its closeness to the county boundary and its relevance to the two other handaxes to be described, it seemed only sensible to include this example in this note. It has an off-white patina and has lost its tip in antiquity. Completely flaked by 'soft hammer' technique, this axe could either be Late Acheulian or Mousterian. Although it is fairly large for Mousterian, it is not outside the size range,[4] although it does not have the characteristic Bout-coupe shape.

No. 4 (Figure 4). This axe was found by Mr D. J. Bowsher whilst

Figure 1. Handaxe no. 1, at half life size.

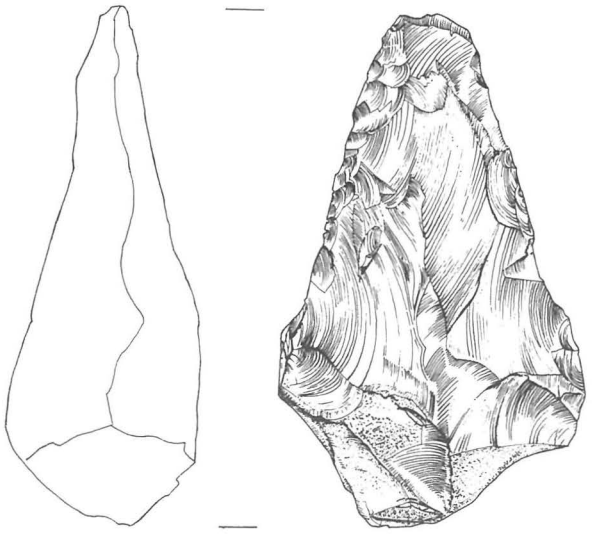

Figure 2. Handaxe no. 2, at half life size.

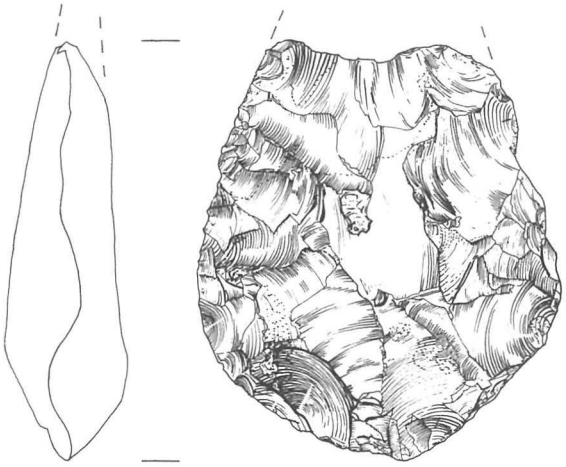

Figure 3. Handaxe no. 3, at half life size.

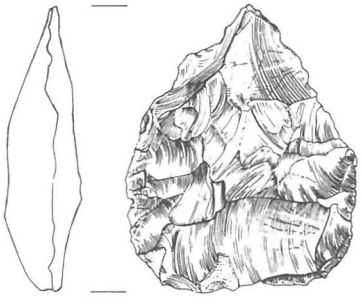

Figure 4. Handaxe no. 4, at half life size.

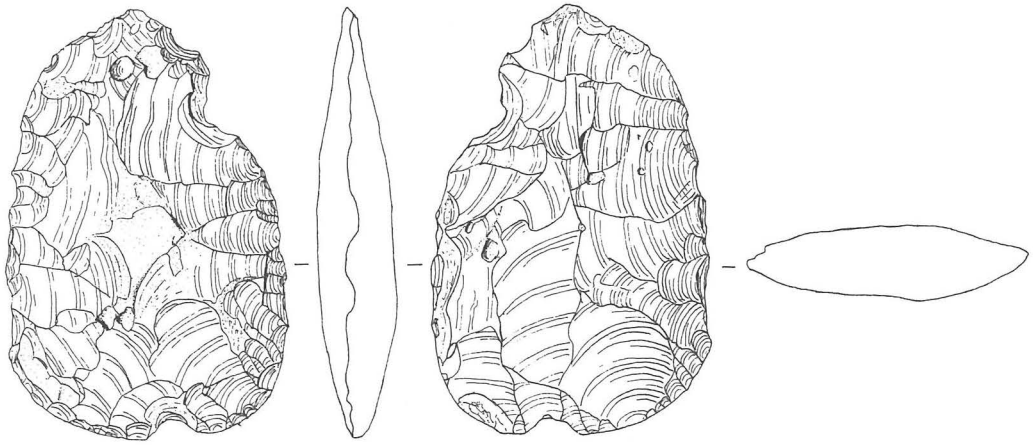

Figure 5. Handaxe no. 5, at half life size.

digging drainage ditches at Lytchett Matravers SY95909585 and was brought to my notice by Mr L. Baker. The find spot is located on London clay but remnants of decayed plateau gravels are also present. It has a yellowish overall patina with some blueish patches and its tip has recently broken off along a frost crack. Further frost cracks and abrasions of the ridges suggest long exposure. Like No. 3 this finely made ovate/cordate handaxe could equally be Late Acheulian or Mousterian.

No. 5 (Figure 5). This axe was found by Mr J. Arnold in 1977 whilst searching a field on Sixpenny Handley Common ST980175 for Mesolithic flints.[5] The area is on the edge of a major clay with flints deposit close to one of the now dried up upper tributaries of the River Allen. It has a grey overall patina with smaller ochreous areas. There is some frost pitting and occasional chips from its edge caused by recent agricultural damage. This axe is of classic Mousterian Bout-coupe type, very finely flaked on both sides from 'soft hammer' work. Fifteen axes of this type have been recorded by Roe[6] in Dorset mostly from the Bournemouth area. This type of handaxe appears to be produced during the close of the Ipswichian and the beginning of the Devensian.

Acknowledgements

I am greatly indebted to Dr Derrick Roe for examining the axes and providing most helpful information and to the respective finders for allowing me to make the following notes. Axe No. 5 is now in the author's possession and the remainder are retained by their finders.

Martin T. Green

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THE STOUR VALLEY GRAVELS PROJECT. 1990 INTERIM REPORT

Gravel Extraction

A fall in the demand for gravel has resulted in a reduced work load to record in advance of quarrying. In the north-west quadrant of the Strawberry Field (SZ046974), soils were removed from an area of approximately one hectare, under archaeological supervision. A further seven hectares will probably be stripped of soils in 1991.

Strawberry Field

Ten pits were recorded.

A group of three adjacent pits produced pottery and flint work of early to mid neolithic type. Two pits contained evidence of in situ burning and five were devoid of dating evidence.

Aerial Photography

Advantage was taken of very dry conditions, in mid summer, to take aerial photographs of the Stour Valley within the Borough of Poole. Several interesting anomalies were detected, consisting of areas of differential parching in pasture land. One such anomaly is in an area from which medieval pottery was recovered from field-walking.

D. R. Watkins and K. W. Collins
Borough of Poole Museum Service

A NEW RING DITCH IN WOODLANDS PARISH

During autumn cultivations this year (1990) one of the writers (J.M.) noticed the soil mark of a ring ditch on the north side of Knowle Hill at SU02990973. On investigation its diameter was revealed as 19 metres and the width of the ditch about one metre. This ring ditch is on the periphery of the Great Barrow cemeteries which cluster around the Knowlton Henges only 300 metres or so to the north-west.

John Milner and Martin T. Green

LEWELL FARM, WEST KNIGHTON

A watching brief was maintained during the summer of 1990 in the course of the topsoil stripping stage for gravel extraction by ARC (Southern) from three fields centred on SY736883 to the east of Lewell Farm. This exercise was undertaken on behalf of the gravel extraction company following a preliminary field walking assessment made early in 1989 and the recommendations arising from it (Woodward 1989). Approximately 10 hectares of the total 18 hectare concession was topsoil stripped and monitored in 1990, a further phase of monitoring will be required when topsoil stripping continues in 1991.

Only two manmade features were recorded at subsoil level, one, an L-shaped alignment of spread clay bank which almost certainly represents an earlier,, but undated, field enclosure. The second was a small shallow pit *c.* 1 m diameter lined with closely packed burnt flint nodules, and containing a red-brown oxidized clay silt with charcoal, flint flakes and some pottery of early Bronze Age type.

Over 7 kg of worked flint was recovered from the subsoil horizon surface and topsoil residue following mechanical stripping. The assemblage included scrapers, arrowheads, blades, cores and polished axe fragments, and supplements the assemblage recovered by fieldwalking from these fields in 1989 which was identified as being of predominantly Late Neolithic or Early Bronze Age type.

P. J. Leach
Birmingham University Field Archaeology Unit

Woodward, A. B., 1989, *Lewell Farm, West Knighton, Dorset: A Preliminary Archaeological Evaluation*, BUFAU, 1989.

WARMWELL QUARRY, WEST KNIGHTON

An archaeological assessment was made of a field close to Warmwell Quarry on behalf of ECC Quarries Ltd, prior to an application for gravel extraction. The site, centred upon SY742888, was examined in the autumn of 1990 by intensive fieldwalking supplemented by a series of evenly-spaced 1 m square trial pits, over an arable area of almost 8 hectares (Bevan & Dingwall, 1990).

The application of both assessment techniques recovered an assemblage of almost 300 marked flints, a sparse scatter of post-

medieval ceramics and one Romano-British pottery sherd. The test pits revealed a plough-marked gravel subsoil horizon, and the truncated remains of a hollow containing charcoal, burnt flint and a few flakes. An examination of the worked flint assemblage from the fieldwalking and test pit excavations revealed two significant concentrations within the field. To the north an artefact cluster included several scraper types, blades, cores and hammerstones among other struck flakes. To the southwest were clusters of burnt flint and worked flakes along with a few artefacts.

Artefacts of characteristics early Bronze Age type were identifiable among this flint assemblage, which may be compared with that obtained at Lewell Farm, and referenced above. A further phase of investigation and monitoring may be required immediately prior to the gravel extraction programme.

These lithic assemblages from the sands and gravels, and any surviving archaeological sites which they may represent are of potential interest in charting what may have been a relatively short-lived prehistoric exploitation of what became the Dorset Heathlands. Furthermore, comparisons with assemblages from the adjacent chalk downlands could be instructive.

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Birmingham University Field Archaeology Unit

Bevan, L. and Dingwall, L., 1990, *Warmwell Quarry, West Knighton, Dorset: A Preliminary Archaeological Evaluation*, BUFAU, 1990.

LAMBERT'S CASTLE, MARSHWOOD, W. DORSET

Storm damage to the earthworks of Lambert's Castle (SY371990) in January 1990 afforded an opportunity to examine the rampart construction before reinstatement. Two fallen trees growing at the north-west corner of the earthwork left craters on either side of an 18th/19th century boundary bank built on top of the earlier rampart which were cut back to give a staggered section across the defences at this point and to recover any dateable finds.

The geology of the site comprises a cretaceous bed of chert boulders and gravel in a matrix of calcareous sand about 2 m thick. Below it is a bed of glauconitic greensand of indeterminate depth. The whole is characteristic of the capping of the high ground forming the western boundary of the county.

The earthworks form a sub-rectangular enclosure at the northern end of the flat hill top which is bounded on all but the south side by a steep escarpment.They consist of a single bank, ditch and counterscarp built along the edge of the escarpment with a substantial bank and ditch forming a cross-dyke at the southern end. Aerial photographs reveal internal features which are thought to be associated with medieval and post-medieval use of the enclosure as a fair and market. The site enjoys spectacular views across Marshwood Vale to the east towards Eggardon and Abbotsbury and to the west across the Axe Valley to the hill forts lining the E. Devon boundary. The site is mentioned in Hutchin's *History of Dorset* (1st ed. 1773, vol. 11, p. 330) and in Warne's *Ancient Dorset* (1872, pp. 156-157) though in modern times until the recent boundary changes it has been in Devon. There is no archaeological survey of the site but a sketch plan is in the Devon volume of the *Victoria County History*. The 1904 edition of the 25-inch Ordnance Survey map gives the best available site plan.

The sections revealed that there had been more than one and possibly three construction phases. The interior of the bank was severely disturbed by root growth from the 19th century plantation along the western side of the enclosure which was here composed of damp calcareous gravel. This rapidly dried out to form a white crust concealing features visible while it was still damp. The earliest feature was a box rampart of dump construction, originally perhaps 2 or 3 m thick, built on the original land surface of the hill top and some 1½m back from the edge. The bottoms of two post holes, about 20 cm in diameter and set 30 cm apart, were found in T1 forming a palisade lining the inner face of this rampart and sealed by the collapse of the interior. A pattern of root growth through the probable position of the outer face of the box may have been the remains of a similar palisade along the outside. A scatter of small boulders and chippings on the berm between the box and the edge of the hill top suggest that the box may have had a stone facing. The present edge is extremely steep by comparison with the natural slope of the flanks of the hill and it may be that the edge has been artificially steepened and the spoil used to fill the box. The external ditch is cut almost entirely into greensand and no part of the upcast is in the fill of the box so it is probable that it was not cut at this time.

At a later stage the collapsed outer face of the box rampart was cut back vertically and a dry stone retaining wall was built at the edge of the escarpment, resting on the base of the cretaceous bed. The space behind was then filled with chert debris and greensand from the ditch which appears to have been cut at this time. A post hole at the foot of this wall, penetrating the greensand suggests that this wall had a vertical timber reinforcement and another post hole, slightly further down the ditch slope may have been associated with it. The chert boulders forming the wall had at least one face struck off to form a flat exterior. There was also some suggestion in the pattern of root growth that the fill might have been laid on a horizontal timber lattice to prevent it falling into the ditch. Debris over the inner slope of the ditch was sealed in by a hard layer of sandy clay forming a kind of glacis extending to within 75 cm of the bottom. A counterscarp, along the outer edge of the ditch, consisted of a dry stone wall of large chert boulders laid directly on the greensand. It was not properly excavated as it lay outside the disturbed area but appeared to be about 1 m thick. It had collapsed into the ditch – or was pushed – before the main rampart collapsed on top of it.

There were traces of what appeared to be a second 'skin' on the outer face of the stone rampart, the surviving chert boulders of which were bedded in a yellowish sandy clay which might have associated with the lower post hole referred to above. There were also traces of a weathered surface on the inner slope of the ditch between 5 and 10 cm above the glacis and some evidence that the ditch itself had been re-cut. It proved impossible to say whether this was part of the original structure or, perhaps, a repair.

No dateable finds were recovered. The soil was very acid and it is probable that nothing but the most durable material would survive. An erratic discoidal flint flake and two 5 mm fragments of charcoal were recovered from the original land surface under the bank. It is not, therefore, possible to assign any reliable dates to the site. It is generally accepted that box ramparts occur either very early or very late in the Iron Age and dry stone timber revetted walls feature throughout the later Iron Age to the Saxon period. The size of the defences, about 10 m wide and 5 m from the bottom of the ditch to the present summit, are small compared with those of the major hill forts in Dorset, and thus militarily weak.

I must acknowledge the help and advice I have received from David Thackray, Archaeological Advisor to the National Trust, who was brave enough to let an amateur record the sections. To Martin Papworth, the Trust's regional archaeological officer for supplying equipment, advice and his own labour during some of the work and for his help in the preparation of the interim report. To members of an Acorn Camp who spent a day testing their enthusiasm for excavation and to William Keighly, the Trust's warden, who took my attempts to make the natural damage to his charge worse in good part and who so ably restored the site afterwards. A final report on the trenches will follow.

M. J. Lester
'Satyrs', Bridport Road, Beaminster, Dorset

POUNDBURY FARM TRACK, DORCHESTER, DORSET

A watching-brief was carried out during the construction of a farm track from the Bridport Road northwards to an existing track under the Western Link SY66429040 to SY66659082. The construction involved topsoil stripping and levelling across two pasture fields, in an area adjacent to the Roman aqueduct and two sites, of Bronze Age to Roman date, excavated in advance of the construction of the Western Link road.

The track cut through two undated lynchets 100 m and 125 m north of the Bridport Road. At the northern end of the track, in the valley bottom immediately adjacent to the Western Link Road, was a substantial build-up of colluvium. Cutting through this were the footings of a Roman building, and floor or yard surfaces which produced a small quantity of Roman pottery, animal bone and a 2nd- or 3rd-century copper alloy penannular brooch. This Roman settlement is probably the same one previously excavated along the line of the Western Link.

The work was carried out in May 1990 by M. J. Heaton, D. Coe and A. V. C. Jenkins, and was financed by the Duchy of Cornwall.

Susan M. Davies
Trust for Wessex Archaeology

EXCAVATIONS AT CHARLES STREET (WESSEX COURT), DORCHESTER

Interim Note on Stage 3, October-December 1990

Introduction

Excavations in advance of development were carried out between 15th October and 19th December 1990. The development site (centred on SY69359045), approximately 1.7 ha in extent, is situated in

the southern part of the Roman town, stretching northwards from the late 2nd-century defences for some 200 m across several Roman *insulae*, and covers about 6 per cent of the Roman town. The work in 1990 was a continuation of that started in 1989, and examined a further 2.8 per cent of the development area.

Before excavation commenced a ground radar survey was carried out by Harry Stanger Ltd, partly as a test for a developing, non-destructive method of survey for archaeological sites. The survey results are still undergoing refinement for the final report, but it was generally successful in revealing the basic layout of the Roman structures described below.

One trench sited in the gardens of 5-7 Acland Road was excavated over a nine-week period (Plate 1). The location was chosen mainly for practical reasons, being in the only area not currently used for car parking; but it was also designed to extend and amplify the information pertaining to the layout and chronology of the Roman town that was gained from the 1989 excavations in areas 1 and 2 (Davies and Farwell 1989, 107-109). It was also hoped to expose more of the Late Neolithic monument, which had been found on the nearby site of Waitrose in 1984 as well as in areas 1 and 2 in 1989, with a view to further investigation of its alignment and nature.

Preliminary Results

A rectangular trench, *c.* 476 m² in area, was excavated; its exact position being determined in relation to the proposed basement for the shopping area. The modern and medieval soils were removed by machine down to the level of post-Roman soil accumulation and surviving late Roman structures. The archaeological deposits were very well preserved, as anticipated, as the area fell within the open fields of the medieval town with no disturbance until the 20th century. This disturbance consisted of one domestic building, occupying the easternmost 10 m of the site, with 0.6 m deep foundations – some 0.6 m above the latest surviving Roman deposits.

A complex, but clearly defined, sequence of archaeological levels was uncovered. This included post-Roman layers (late 4th and 5th century AD) as well as very late Roman layers and structures (possibly post-Roman), which are uncommon in excavations in Dorchester. The latest structures were represented by a number of post-holes and a patch of stake-holes which cut through the *opus signinum* flooring of one room of a 4th-century Roman building (Building 1 below). The post-holes appeared to form a roughly rectangular timber structure on a north-south alignment, but were not in alignment with the Roman building.

Plate 1. The Charles Street, Dorchester, excavations looking west from Acland Road.

In addition parts of two, probably very large, late Roman buildings were uncovered, one in the eastern and one in the western half of the site (Buildings 1 and 2 respectively), with an earlier building of similar size (Building 3) found below the eastern structure. There was also evidence for a fourth building between these two phases in the south-east corner of the site (Building 4). All of these structures had masonry walls. The buildings in the eastern half of the site had rooms floored with *opus signinum* and occasional chalk repair, while the western structure was more basic with a mud floor surface. Cut into this flooring were ten post-holes which ran parallel with the structure's walls. A single masonry wall was observed to run out from the south-west corner of the western structure on a north-east to south-west alignment. This wall was contemporary with the western structure and may be the remains of a property boundary.

The late Roman building (1) in the east of the site seems to have been multi-storey, at least at its western end, with wall foundation trenches 1.8 m deep enclosing the westernmost room, while the remainder averaged *c.* 0.8 m deep. At the western end of this building a stone-walled 'annex' appears to have been added on. This had a mud floor and wall foundations consisting of one course of flints suggesting a slight, perhaps single storey structure. Two walls in the south-east corner of this structure appear to predate the construction of the rest of the building.

Below Building 1 another structure was found, consisting of one room floored with *opus signinum* and a walled courtyard to the west. One robbed wall was also located running parallel with the northern boundary of the site. This was not connected with any of the structures excavated but was probably part of another late Roman building underlying the present car park to the north.

The interiors of these structures were well preserved with *opus signinum* flooring surviving in an almost complete state in one room in Building 1, something that was not found in 1989. Along with this were the remains of two tesselated floors with *tesserae* found *in situ* against the bases of two partly-robbed walls. One room in Building 1 contained the remains of an oven flue, while two rubbish pits were found within Building 2 to the west. No internal structures were encountered, although the remains of a drain associated with the earliest eastern structure was uncovered. The bones of several human infants were found scattered across the site in the late Roman levels but no formal burials were located. Two baby burials were located however within the fill of a probable boundary ditch which underlay Building 3 in the eastern half of the trench. Child burials are not uncommon in Romano-British buildings, although the number of burials was proportionally much smaller than that encountered in 1989.

At present the construction dates for all of the structures are uncertain. However the shallow boundary ditch, which contained the infant burials appears to have carried water at some stage in the past. This theory is supported to some extent by the discovery of a spread of clean silty clay to the north, which suggested some kind of small flood from this ditch. This material and the ditch were then buried below dumps of soil filled with Roman pottery of 1st- and 2nd-century date. This soil dumping occurred across the whole of the site and may have been upcast spoil produced by terracing close-by, similar to the terracing found on the Waitrose site in 1984. All this information seems to suggest that the main masonry structures excavated on this site were built from the later 2nd century AD onwards.

Below the levels of Roman construction and soil dumping, two shallow linear features were uncovered which were provisionally dated to the Neolithic period. The Neolithic monument found in 1984 and 1989 was not located suggesting that the swing to the east noted in area 2 in 1989 continues. The shape and nature of the monument remain obscure, a picture which can only be improved through further survey or excavation.

As a whole the excavation yielded an important set of data which complements and amplifies the results of 1989. The volume of artefacts was proportionally lower than that recovered in 1989, although their range was very similar. In general the quality of preservation was better than in 1989 and hence more detailed information on the structural details and chronology was recovered.

Acknowledgements
The excavation was again financed by the developers, the West Dorset District Council and MEPC Developments Ltd, and Wessex Archaeology is particularly grateful to David Crowhurst (WDDC) and Kevin Higgins (MEPC) for their assistance and interest in the project. The ground radar survey was financed by English Heritage. The excavation was directed by Christine Farwell, and supervised by Neil Adam and Rachel Seager Smith.

Neil J. Adam
Trust for Wessex Archaeology

Davies, S. M. and Farwell, D. E., 1989, 'Charles Street, Dorchester, Wessex Court Development', *Dorset Proceedings* 111, 107-109.

ROMANO-BRITISH BUILDING REMAINS AT SHAPWICK

The Roman fort at Shapwick was identified following the examination of aerial photographs taken by J. Boyden in 1975 and 1976 (Field 1976, 280). These photographs NMR ST9402/3-6 show details of many other crop-marks in the vicinity of the fort. They have been interpreted as settlement features dating to the Iron Age and early Romano-British periods (Bowen 1990, 45).

In September 1990 the field south-west of the crop marks was examined after ploughing and three discrete scatters of building debris were identified. The debris consisted of numerous flint nodules with occasional Purbeck limestone and heathstone lumps. Amongst the debris, roof and box flue tile fragments were found also sherds of Samian, Black Burnished, New Forest and Oxford ware pottery dating from the 2nd-4th centuries. Part of a greensand rotary quern was found and the head of a marble female figurine (see Figure 6). A scatter of tesserae included heathstone, clay, mudstone, purbeck and chilmark limestone fragments.

To the south-east of the Shapwick Road Romano-British occupation material was found immediately south-west of the fort rampart. This was associated with slag indicating metal working in the vicinity.

The concentration of rectilinear crop-marks visible on NMR ST9402/3 appear to represent building foundations or small enclosures. They lie in the field on the north-west side of the fort and are aligned with the fort rampart. Occasional sherds of Romano-British pottery were visible here after the 1990 ploughing.

Woodward's map of 1774 (D/BKL) indicates an extension of this site to the south-west on the land flanking the Roman road. At this time this area was part of the Shapwick middle common field and the furlongs adjoining Shapwick village were called Blacklands and Wall Furlong, names often associated with ancient settlement sites.

Evidence of the Romano-British settlement continuing further south-west, beneath the present village, is limited to the discovery of a pit at ST94190190 (Leighton 1955, 138) containing pottery of the 1st-2nd centuries.

The settlement site lies on a gentle south slope north-east of the Dorchester Roman road crossing of the River Stour. From this position the hillforts of Spettisbury and Badbury are visible. The evidence from aerial photography and field walking indicates that an Iron Age settlement became the site of a fort following the Roman conquest. The fort was probably abandoned after a short occupation and the Roman road to Dorchester was built across it. A settlement continued to develop around the road and the fort site. The presence of tesserae and box flue tiles together with the imported figurine head indicate that by the 4th century at least one of the buildings was occupied by an individual of some status. It seems likely that Shapwick village represents settlement continuity from the Roman period.

Much of the site has been ploughed since the medieval period. Stratified deposits probably only survive where they fill features cutting chalk bedrock. A small evaluation excavation will be carried out in 1991 to determine the survival of deposits.

The site is affected by metal detector activity and night patrols have now been organised by the National Trust to deter such activity. Grid references for the above sites can be obtained from the National Trust Sites and Monuments Record for Kingston Lacy a copy of which will be deposited with Dorset County Council.

Martin Papworth
The National Trust

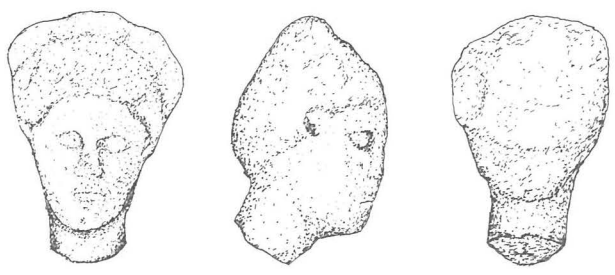

Figure 6. The marble head from Shapwick at half life size.

Dorset Record Office, Bankes Archive, Woodward Estate Maps, 1774.
Leighton, O., 1955, A Romano-British rubbish pit from the Roman road at Shapwick, *Dorset Proceedings* 77.
Field, N. H., 1976, The discovery of a Roman fort at Shapwick near Badbury Rings, Dorset, *Britannia* 7.
Bowen, H. C., 1990, *The Archaeology of Bokerley Dyke*, RCHM.

A ROMAN BUILDING IN GUSSAGE ST ANDREW

During field-walking in the winter of 1987/8 the writer noticed a substantial spread of Romano-British building debris, about 50 m across, on a terrace immediately above the stream. The rubble comprised Purbeck limestone and clay roof tiles, sandstone and tufa blocks, limestone and clay tessarae, the latter of small size. The site may well be more extensive but is truncated to the west by a track and to the east by the road to Cashmoor. The fields beyond the track and road are both permanent pasture and show no obvious earthworks. Hutchins[1] records the discovery in a field called Oak Hill of 'remains of Roman houses'. He mentions tiles of Tisbury stone, plastered walls, red and white tessarae the size of dice. Although the similarity of finds to the present site is noteworthy his description leads one to believe the earlier discovery was nearer to the hamlet of Minchington. The reasonably high status building debris found would suggest we may be dealing with a villa or villas. The small amount of pottery of Romano-British date found spans the 3rd-4th centuries. Medieval pottery found over the site together with the re-use of Roman tiles in the fabric of the church of Gussage St Andrew suggests extensive robbing during this period.

Acknowledgements
I am grateful to Nigel Mayne, the former owner, for permission to field-walk and to Mark Corney for examining the pottery.

Martin T. Green

(1) Hutchins, John, *Dorset*, 3rd ed. (1861-70), Volume II, p. 547.

BUCKNOWLE FARM, CORFE CASTLE, 1990

In this penultimate season, excavation took place in three areas of the farm-complex that formed part of the Roman villa:

AREA A: Plough damage over the centuries made it impossible to recover the full plan of the barn (or barns) that once stood here. The foundation courses of the east wall remained but no traces of either west or south wall. The one on the north was, however, suggested by the fact that a small tank lined by clay and flagstones had probably been built externally against it. A stone-lined drain to the south of the villa-courtyard continued into this year's excavation, but had not survived farther eastward. In its final length the edges of the drain underwent a structural change from vertical slabs of limestone to blocks of chalk laid herring-bone style.

Pre-Roman occupation here was less intense than in other parts of the site, although ditches produced pottery spanning most of the Iron Age. On the south side of the excavated area remains of a hut were betrayed by part of a circular gully associated with substantial post-holes and stone rubble. Close by were the post-holes of a four-post feature.

The most unexpected discovery of this year's excavation occurred in this area in the shape of a small Bronze Age cremation cemetery. A round barrow had been levelled in Iron Age and Roman times, leaving its ring-ditch traceable with a diameter of 6 m. Four cremation pots of LBA type were recovered *in situ* with the remains of two others not far away.

AREA B: A retaining wall was found to have extended from the south-east corner of Building 11 (reported in 1988), similar to the one already noted running from the south-west corner of that structure.

AREA C: In this southernmost excavation a further look at the parallel ditches discovered in 1986 showed them to be conclusively of 4th century date suggesting they were the boundary of the villa precinct during the courtyard phase. These ditches were pre-dated

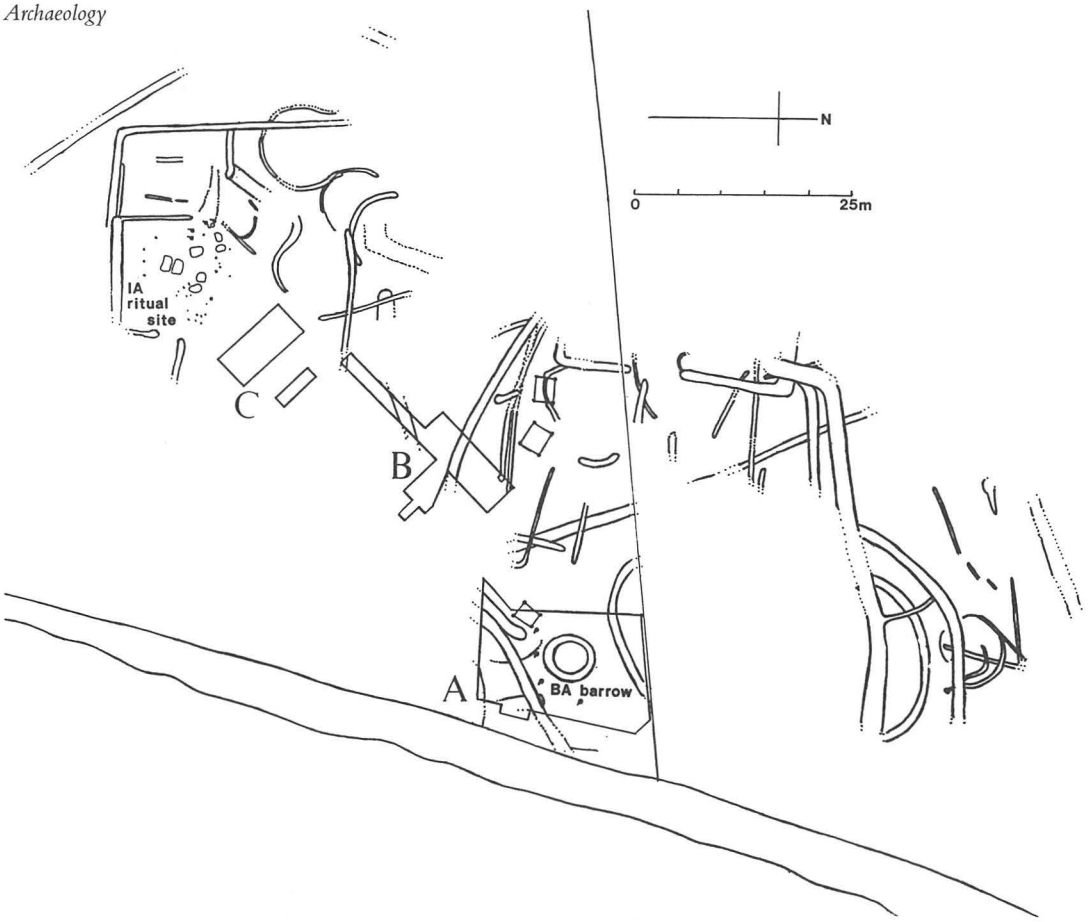

Figure 7. Bucknowle excavations, Pre-Roman features, 1990 trenches indicated by A, B & C.

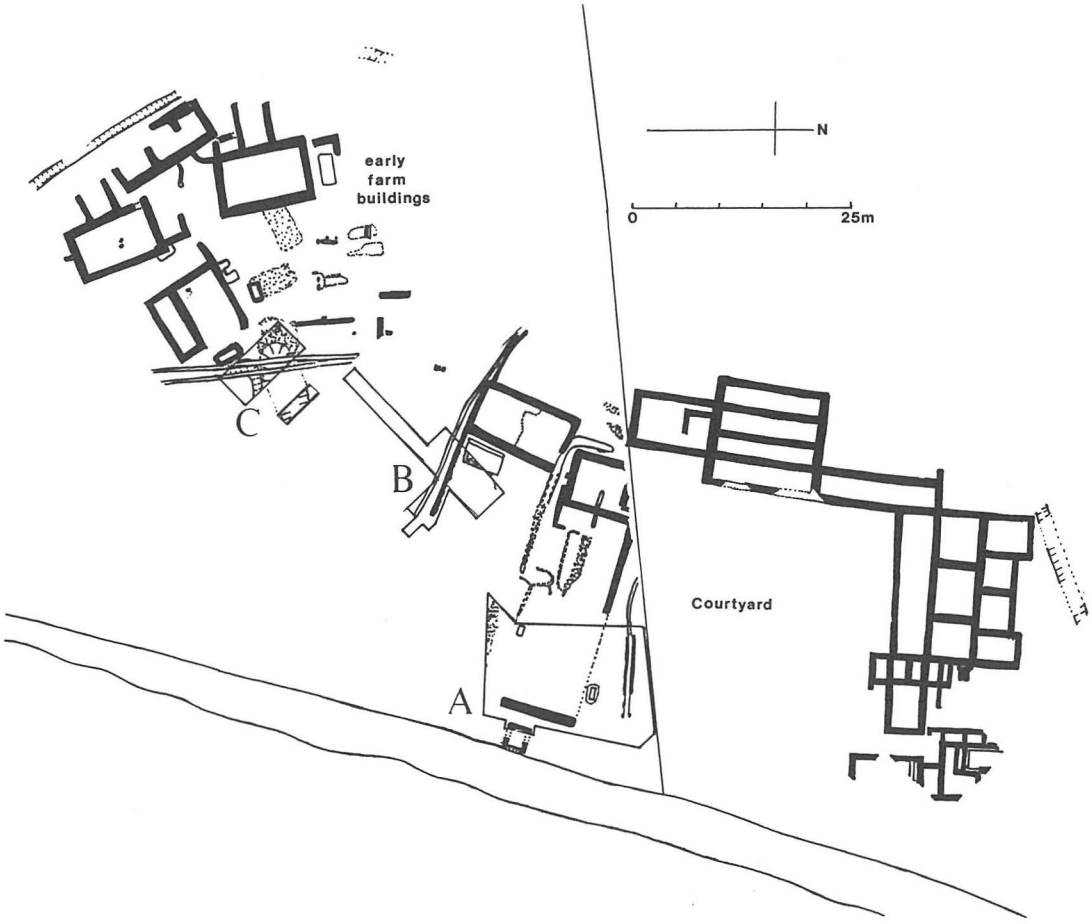

Figure 8. Bucknowle excavations, Romano-British features. 1990 trenches indicated by A, B & C.

by a contoured hollow 5m wide which may be explained as a catchment basin taking surface water from the early farm buildings on the west.

In 1991, the last season, work will concentrate on the south side of the villa-courtyard.

J. Collins, N. Field and A. Light

A ROMAN BUILDING AND MEDIEVAL EARTHWORKS NEAR WOODYATES MANOR

Whilst helping to field walk some Mesolithic sites discoverd by John Arnold, the writer noticed the site of a former building indicated by a spread of flint nodules and Purbeck stone tile fragments at SU01271920. The spread covered an area of about 35 × 25 m and further searching uncovered some pottery of 2nd/4th century date, plaster, clay tile, a large lump of lead and the base of a leaf shape seal box. Five 4th century coins were also uncovered, only one of which was identifiable as of Constantine II. The site occupies the end of a south facing slope, capped by clay with flints, close to the springhead of the Allen river, which is an occasional winterbourne at this point. In the parkland immediately south-west of the Manor House, Eastwood,[2] recorded the finding of Roman pottery and coins during the digging of a sewage pit in 1919. Enclosures to the west of the Manor SU013195 are revealed on an aerial photograph[3] although field walking over this area has failed to reveal any finds to indicate a date. However, 250 m to the west of this area at approximately SU01101955 slight earthworks can be seen running for over 150 m westwards towards Horse Leys Pit. Field walking over this area has produced much medieval pottery which may indicate the position of a small DMV.

Acknowledgements

I am most grateful to the Hon. Timothy Palmer for readily allowing the investigations on his land and to John Arnold for helping to field walk the area. The Romano-British finds are retained by the landowner.

Martin T. Green

(1) Arnold, J., *et. al.*, 1988, 'The Mesolithic of Cranborne Chase', *Dorset Proceedings* Vol. 110, 117-25.
(2) Eastwood, F. B., 1928, 'West Woodyates Manor', *Dorset Proceedings* Vol. 49, 77-88.
(3) Bowen, H. C., 1990, *The Archaeology of Bokerly Dyke*, p. 95.

A SAXON STRAP-END FROM TARRANT CRAWFORD

The object described was found by Mr Nelson a few feet from the churchyard fence in a paddock south of Tarrant Crawford church (ST924035).

The strap-end (Figure 9) is of copper alloy with a few minute traces of red enamel. It is 50 mm long and has decoration on both sides. The end is split and the single rivet survives. The decoration is divided into two parts: the top part has an animal's head at the point where a terminal would be. However, a shaft emerges from the animal's mouth to form a second, lower part. The animal head is in relief with long, deeply-hollowed ears, pronounced eye ridges, snout and upper jaw, and elongated eyes on the sides. The lower jaw, on the reverse, is rounded. On both front and back there is a panel decorated with shallow grooves arranged to form v-shapes, within a border defined by engraved lines. On the border around the panel on the front there are nicks.

The shaft of the lower part has an animal's head at the terminal, seen from above in relief on the reverse side. The head has ears joined together with shallow hollows; there is a medial groove on the brow. At approximately halfway between the terminal and the animal head from which the shaft comes, there is another head on the front, seen from above in relief and facing towards the terminal. The ears of this head, like those of the terminal head, are joined together and have shallow hollows. The squared snout is divided by a shallow groove and on each side there is a small depression for the nostril, below a very worn eye. Where the head joins the main shaft there are small nicks, perhaps representing teeth.

The form of the strap-end is unusual: no other strap-ends of this type are known. The moulded relief of three animal heads is of good quality, although the simple decoration of the panels is unremarkable. The strap-end is also of interest as both front and back are decorated, when so many strap-ends are decorated on only one side. A single rivet is less common than two, but there are parallels enough for single rivets (Wilson 1964, nos. 97, 98 and 114). While the complete object is exceptional, the top half with an animal-head terminal would not be uncommon. The shape of the top half, the style of decoration and the moulding of the animal heads suggest that the object dates to the 9th century.

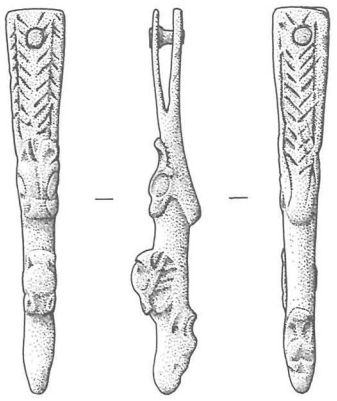

Figure 9. Saxon Strap-end from Tarrant Crawford at life size. Drawn by N. Griffiths.

The traces of enamel are interesting. There is an enamelled strap-end from Poundbury, Dorchester, and other examples are known from Woodeaton (Oxfordshire), Wharram Percy (N. Yorks), Owmby and Horncastle (Lincolnshire) (Keen 1986). Another example has been found during excavations at Trowbridge (Wiltshire) (ex info. D. Hinton).

Strap-ends are relatively common in Wessex, and the number of known examples increases as the result of treasure hunting. Examples in Dorset, however, are few. This object is an important addition to the seven other strap-ends recorded for the county (Keen 1986): it has been acquired by the Dorset County Museum.

Acknowledgements

The writer is grateful to David Hinton and Leslie Webster for commenting on this note and for searching their notes for a parallel. Roger Peers kindly made the object available for study and arranged for it to be drawn.

Laurence Keen

Keen, L., 1986, 'Late Anglo-Saxon Strap-ends of Dorset', *Proceedings of the Dorset Natural History and Archaeological Society*, 108, 195-6.
Wilson, D. M., 1964, *Anglo-Saxon Ornamental Metalwork 700-1100.*

KINGSTON LACY MANORIAL BUILDINGS

Kingston Lacy was an important royal estate from Saxon times. During the medieval period it was held by various influential members of the nobility, reverting occasionally to the crown. In the 12th century it was held by the Dukes of Leicester and in the 13th-14th centuries by the de Lacys, the Earls of Lincoln. From the 14th-16th centuries it was part of the Duchy of Lancaster.

It is clear from documents within the Bankes Family Estate Archive at DCRO that there were numerous manorial buildings at Kingston. They formed the administrative centre of the Estate lands which extended for many thousands of acres. The extent of the manor is indicated by several medieval surveys in particular the inquisition following the death of Henry de Lacy (D/BKL Red Book).

The site of the manor buildings has been a matter for conjecture in recent centuries. Hutchins (1863, 88) mentions a tradition that the site of the present Kingston Lacy House was 'anciently the seat of West Saxon kings' but he doubts the truth of this. Recent fieldwork within Kingston Lacy Park has revealed no evidence of Saxon occupation and given that pottery evidence is sparse in Dorset for this period the site may prove difficult to identify.

Medieval pottery of 12th-15th century date has been uncovered within the Park. In 1983 during the creation of a lay by at ST97960130 (A on the plan) numerous sherds of pottery were uncovered, the majority of 12th-13th century date. A sherd of medieval pottery was also found at (N) where a ha-ha ditch was excavated in 1983. This ditch cut through the alignment of the Roman road to Hamworthy. The pot sherd was associated with another road which lay above the Roman road but on a slightly different alignment (Field forthcoming).

During the storm of January 1990 numerous trees fell within the Park and two of these uncovered medieval deposits. At ST98120131 fragments of 12th century pottery were found in a dark brown to black loam mixed with animal bone fragments but no building material. At ST97830138 (B on the plan) a sequence of yard surfaces were excavated.

The tree roots disturbed an area measuring 2.5 m from north-south and 1.7 m wide. The topsoil covered a gravel path which extended across 50 per cent of the root bowl and was aligned north-west to south-east. This lay above a surface of broken Purbeck Limestone tiles which lay above a dark brown loam containing fragments of glazed ridge tiles and pottery of 14th-15th century date. This layer covered a surface of large flint nodules. In the south-east corner of the tree root hole, sealed by the flint surface and cutting natural chalk was a post-hole measuring 0.3 m dia. and 0.2 m deep. It contained charcoal and an oyster shell but no diagnostic finds.

These find spots indicate that an extensive medieval site lies to the north of Kingston Lacy House. Stone, tile and mortar fragments found in mole hills together with the earthworks surveyed in the vicinity (see plan) seem to indicate that this is the site of medieval Kingston Lacy.

The remains of several buildings are clear from the earthworks. At (C) the foundations of a rectangular building aligned east-west, 65 m long and 15 m wide. At (D) another building is less distinct but covers an area 60 m east-west by 55 m. A tree planted on the site before it was recognised, unearthed lumps of heathstone and flint nodules with lime mortar adhering to them.

It is possible to obtain considerable detail of the manorial buildings from the manor accounts which exist in the Bankes Archive for the period 1380-1457. They record details of repairs to various buildings within the manor, the sums paid to workmen, the cost of their materials and sometimes where the materials were obtained.

Occasionally there are locational references which imply the geographical relationship of one building to another. While these references are not explicit enough for a detailed plan to be made of the complex they do provide enough evidence for a rough reconstruction of the site.

Two distinct elements of the manor buildings are indicated, the inner court and the outer bailey. The inner court was surrounded by a wall and contained the important domestic buildings.

'And on the wages of one tiler roofing various houses within the court per annum 40s.' (1388-1389 D/KL: CG3/2).

'And on the wages of two men chopping wood for making "prayes" from it for mending the roof of the court wall for one day 6d.' (1380-1381 CG3/1).

Surrounding the inner court was an outer bailey which contained the farm buildings, store houses and workshops.

'And on keys purchased for refastening the broken gate next to the granary in the outer bailey 3d.' (1391-1392 CG3/3).

A list of buildings recorded in the accounts can be divided into those lying within the court and those lying outside it. The following are buildings which lay within the court. The chapel (1388 CG3/2), the chamber at the west end of the chapel (1399 CG3/5), the long chamber called 'knyth' chamber (1399 CG3/5), the bakehouse (1391 CG3/3), the inner stable (1422 CG3/15), the dovehouse (1422 CG3/15).

The manor house probably contained the following, the new kitchen (1388 CG3/2), the large kitchen (1399 CG3/5), the great hall (1408 CG3/10), the old hall (1401 CG3/7), the passage between the hall and the kitchen (1427 CG3/19), the lord's large chamber and the latrines of the same chamber, the lord's other chamber (1401 CG3/7), the chamber of the lord king and the queen's chamber (1427 CG3/19), the chamber between the old hall and the lord king's chamber (1427 CG3/19).

Other chambers may be part of the manor house or separate houses within the court. The chamber of the Earl of Derby (1401 CG3/7), the chamber of the lord's chancellor (1401 CG3/7), the steward's chamber (1415 CG3/11), the green chamber (1445 CG3/22), the counting house (1415 CG3/11) and the receiver's chamber (1422 CG3/15).

There were two gates in the court wall the south gate which had a chamber above it and the west gate (1401 CG3/7).

The outer bailey contained the following buildings: the great stable or long outer stable (1422 CG3/15), the pound (1380 CG3/1), the dairy house, the cattle shed, the granary (1388 CG3/2), the wool shed (1391 CG3/3), the granges, the sheepfold (1401 CG3/7), the manor storehouse (1408 CG3/10) and the mason's workshop (1422 CG3/15).

The repair work indicates that many of the buildings were timber framed. Carpenters and plasterers are frequently mentioned.

'And on the wages of one carpenter named John Stote and two other carpenters hired with him for remaking and mending anew the broken down long chamber between the bakehouse and the manor gate and on making ground-sills, wall-plates and other necessaries . . . And on wattling and daubing the walls of the aforesaid chamber . . .' (1391-1392 CG3/3).

Numerous references to roofing materials are also made. For example ten carters are sent to the quarries in Purbeck in 1388 (CG3/2) to bring back 3,000 stone tiles. In the same year straw is purchased for roofing the cattle shed and three dozen ridge pieces are purchased for roofing a house in the court.

There are fewer references to repairs in stone but the existence of a mason's workshop indicates that regular repairs were being carried out. Four carts of stone were purchased in 'Lytchet' in 1401 (CG3/7). Other repairs include replacing glass in a chapel window in 1401 and repairing the drains of the chambers with lead in 1399 (CG3/5).

The accounts give other interesting glimpses into the life of the manor. Hygiene seems to have been lax; in 1401 (CG3/7) men were paid to dig and carry away dung from the hall and courtyard. Perhaps the hall had been neglected and allowed to fall into disrepair as in the same year three men are hired to mend the windows to 'keep the birds outside'. The reason for this activity in 1401 was 'the coming of the auditor and other ministers of the lord'.

Visits by other important people are mentioned.

In 1380 (CG3/1) goblets, dishes and platters were purchased 'for the coming of the lord's council in September this year'. The council was probably that of the Duchy of Lancaster. The lord, John of Gaunt, visited the manor in 1388 (CG3/2).

In 1444 the lord at that time, John Beaufort, died at Kingston Lacy and the manor was returned to the crown. The profits of the manor were then granted to thirty-one different people. Perhaps it was this diffusion of the lordship of Kingston which allowed the manorial buildings to fall into disrepair. By 1493 a grant of Henry VII indicates the state of the buildings.

'And we are given to understand that the mansion of our manor at Kingston Lacy and the chapel of the manor in which the chaplain was wont to celebrate are very much in ruin and decay, and so also are the dwellings of the inhabitants adjoining the said chapel.' (Warren 1966, 189).

In the following decades the buildings were robbed of stone and other building materials. This is indicated in a survey of the manor of 1552.

'Item, there was lead and a bell upon the manor house, which the said Mr Thornhille has taken down three or four years past.'

'Item, there is a great spoyle of the manor house in glass, iron and stone.' (D/BKL: Gilt Book.).

The 1552 survey describes the site of the manor as part of the demesne farm of Kingston Lacy. At this time a dove house existed on the 'site of the manorii' and a field called 'court close' is described as part of the farm.

Two maps within the Bankes Archives show Kingston Lacy Park in the 18th century. The 1742 map records the land to the north of Kingston Lacy House as 'court close' as does William Woodward's map of 1774.

These two maps show other features in this area of the park which were surveyed as earthworks or parch marks in 1990. The earthworks in the vicinity of (H) are the remains of barns and yards standing in 1774 and associated with Kingston Farm. The foundations of a brick building were exposed at (M) in the roots of another fallen tree. At (F) a circular earthwork 9 m in diameter is the foundation of a classical temple folly first shown on the 1742 map, the linear earthwork (G) was flanked by an avenue of trees and was the main approach to Kingston Lacy House at this time. The earthwork (J) was the road from Blandford to Wimborne in 1742 which had been moved to its present course to the north by 1786 (D/Wimborne Inclosure Map).

In September (K) was visible as a parch mark corresponding with the shape and position of a walled forecourt. On the croquet lawn at (L) the parch marks of the foundations of the stables were visible. Both of these features are recorded on the 1774 map.

The medieval earthworks have been partially covered and disturbed by this 17th and 18th century park landscaping, particularly along the course of the north-west driveway built between 1742 and 1774 which is now the main approach to Kingston Lacy House. The medieval earthworks end abruptly along the north-east edge of this drive. To the south-west no further medieval earthworks are discernable and landscaping for a car park here in 1983 revealed no archaeological material.

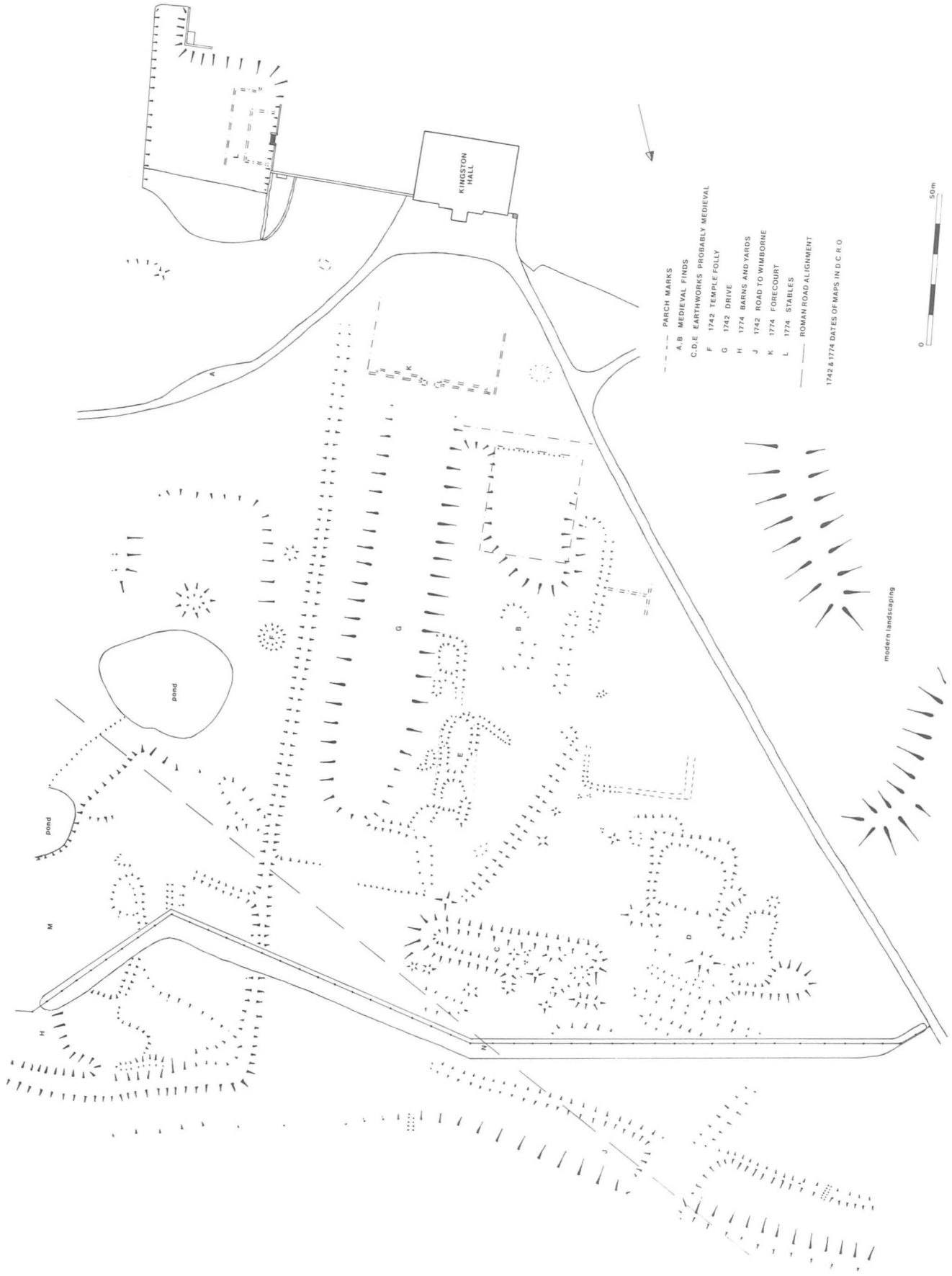

Figure 10. The earthworks at Kingston Lacy.

The documentary and place name evidence seems to support the archaeological findings that this is the site of medieval Kingston Lacy. It would be reasonable to suppose that when the present Kingston Lacy House was built in the 1660s it was sited close to the ruins of the old manor house. There is also a possibility that the park landscape was designed with the ruin in mind. The aspect of the house, the position of the driveways and features such as the ponds and temple folly shown on the 1774 map all avoid the buildings (C), (D) and (E) but enhance their setting. More information concerning the manor buildings and the development of the park is likely to be discovered as the documents within the Bankes Family Estate Archives are studied.

A geophysical survey is being carried out by Bournemouth Polytechnic on the site.

Thanks are due to Sarah Bridges of Dorset County Record Office for her translations of the manor accounts and to Jo Draper and Paul Spoerry who examined the medieval pottery from the site.

Sarah Bridges, DRO
Martin Papworth, The National Trust

Hutchins, J., 1863, *The History and Antiquities of the County of Dorset.* (3rd edition). iii. ed. Shipp, W. and Hodson, J. W.
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Field, N. H., forthcoming, 'Kingston Lacy Park, Early Road'.

Manuscript Sources: Dorset Record Office
Bankes of Kingston Lacy and Corfe Castle Family Estate Archive (reference D/BKL).
'The Red Book', Inquisition of the Manor of Kingston, 1311. CG3/1-CG3/23.
Kingston Lacy manorial accounts 1380-1457 (CG3/1-3/23).
'Gilt Book'. Survey of Kingston Lacy manor 1552.
Plan of Kingston Lacy 1742.
Maps of Kingston Lacy estate by W. Woodward 1774.
Wimborne Minster Inclosure award and map 1786 (I1).

GILLINGHAM RELIEF ROAD, DORSET

Summary of Excavations 1990

Evaluation work on the line of the Gillingham Relief Road continued in 1990; previous evaluation work was briefly reported in *PDNHAS* 111, 1989, 111. Earthworks in Chantry Fields to the south of the River Stour had been identified by P. W. Cox. Small scale evaluation work suggested that these were early medieval in date and indicated possible industrial activity; one trench revealed a possible stone building footing. In view of the potential importance of the site, further excavation, commissioned by Dorset County Council, was carried out in November and December 1990. An earthwork survey was carried out by the Salisbury office of the Royal Commission on Historical Monuments (England).

The earthworks ST806264 comprise a series of intersecting linear features delineating raised areas or platforms. On one of the platforms which will be partially destroyed by the road several early medieval ditches were identified partly sealed by a dump (probably also medieval) of building stone. Excavation on another small platform uncovered the remains of two ovens which are also believed to be of early medieval date, and which are tentatively interpreted as iron-ore roasting ovens associated with iron smelting.

The ovens lay just inches beneath the surface of a meadow that has remained virtually unploughed since the Norman Conquest. The ovens consisted of shallow pits lined with stone and fired clay, with evidence that they had been redesigned and rebuilt on at least three separate occasions. A third oven, consisting of a long stone-lined flue connecting a stoke-hole and a stone-lined chamber was constructed on a completely different orientation, cutting across the ends of the two earlier ovens. Samples of the *in situ* fired clay lining from one of the first phase kilns have been taken by Dr Tony Clark to provide an archaeo-magnetic date for the use of the ovens. The shallow soil build-ups within and around the ovens suggest a short timespan between the first and last uses.

Although medieval iron working sites are well known from other parts of the country, particularly the Weald, the process of roasting poor quality local ores to improve them prior to smelting is represented by only a few sites in Britain and Europe, and at present there are no known parallels for the Gillingham ovens.

A watching brief will be carried out during the construction of the road in the vicinity of the site.

M. Heaton and S. Lobb
Trust for Wessex Archaeology

BLACK BARN FARM, CHALBURY

A non-intensive field survey was undertaken of some 115 hectares of primarily agricultural land in November 1990, within the parishes of Chalbury and Hinton Martell, Wimborne. This was prompted by proposals for the creation of a golf course and carried out on behalf of Belddir Estates Ltd. (Hollinrake, C.&N., 1990).

No specific archaeological sites were recorded previously from within the survey area, which comprised over 100 hectares of arable land and smaller areas of pasture, woodland and hedgerows. Examination of the latter suggested that the present area of woodland had at one time been more extensive, particularly to the south. Within the surviving woodland extensive clay quarry pits may in part have been linked with local earthenware tile production in the wider context of the post-medieval Verwood and District Potteries. The woodland character itself indicates a fairly ancient origin, and the presence of woodbanks within it and in adjacent pasture fields suggests some medieval or later management.

The non-intensive fieldwalking programme covering the remaining arable fields revealed a background noise of worked flint, including occasional artefacts, but no apparently significant clusters. Little material of Roman date was recovered but a more abundant and extensive spread of medieval and post-medieval ceramics were recorded. The most significant concentrations centred on areas adjacent to the village of Chalbury and to the north-west of Black Barn. Smaller concentrations were recorded in fields adjacent to the settlement of Hinton Martell. What may have been a medieval extension to the now shrunken settlement of Chalbury is probably indicated here, while the pottery concentration near Black Barn may suggest the site of a former medieval farm or hamlet there. The deserted village site of Didlington, also within the parish, lies just outside the survey area to the west and may have been the original settlement focus (RCHM 1975, 2).

P. J. Leach
Birmingham University Field Archaeology Unit

Hollinrake, C. & N., 1990, *Black Barn Farm, Chalbury, Dorset: A Preliminary Archaeological Assessment*, BUFAU, 1990.
Royal Commission on Historical Monuments (1975), *Dorset, Vol. 5, East.*

WIMBORNE MINSTER

Excavations in the garden plot behind 5 King Street (SX09009998) were carried out between October and December 1990, for Stephen Price, Curator of the Priest's House Museum Wimborne, by students of Bournemouth Polytechnic. Stimulus for the project was the discovery of several sherds of 12th-century pottery when small-scale excavations took place inside the building during a survey in 1989. The site lies within the area of the Saxon monastic 'inner enclosure' defined by Blair (1983). Graham found evidence of late-Saxon and 12th-century occupation some 60 m to the west and south-west (Graham 1984). Other excavations in Wimborne are published or summarised by Woodward (1983).

The excavation uncovered several possible medieval post-holes with associated coarse pottery. A large depression, possibly the butt end of a large ditch at least 5 m wide, was discovered. Dating for this large feature is uncertain, but initial pottery analysis suggests that it is an early post-conquest construction. Its fill comprised silt, followed by a deep layer of cess, completed by backfilling with domestic rubbish. Post-dating the backfill was a ?late-medieval stone wall which collapsed or was dismantled in the 16th century. This may be part of a structure removed to make way for the first phase of the present house. Considerable amounts of post-medieval pottery were found including imported fine wares of German and Flemish origin.

Post-excavation work is now being carried out by Bournemouth Polytechnic.

We wish to thank Stephen Price for inviting us to excavate, and for his practical help and advice throughout the project; and also Norman Field, for his advice.

Joshua Hull, Steven Membery, John Percival and Robert Waterhouse

Blair, J., 1983, 'Wimborne Minster – the early development of the town', in 'Proceedings of the Summer Meeting of the Royal Archaeological Institute at Weymouth in 1983', *Archaeol. J.*, 140, 37.
Graham, A. H., 1984, 'Wimborne Minster, Dorset – excavations in the town centre 1983', *Dorset Proceedings* 106, 77-86.
Woodward, P. J., 1983, 'Wimborne Minster, Dorset – excavations in the town centre 1975-80', *Dorset Proceedings* 105, 57-74.

DEANS COURT, WIMBORNE

Birmingham University Field Archaeology Unit was commissioned by the Radley House Partnership to undertake an archaeological evaluation on land to the east and west of Deans Court Lane, in advance of a proposed development (Jones 1990). A total of eight

trenches were excavated to provide an extensive evaluation of the area; in particular it was intended to examine the postulated line of an early medieval defensive circuit (Woodward 1984, Figure 1) and the possible north-eastward continuation of the medieval suburb of The Leaze (Field 1973).

Trial trenching west of Deans Court Lane revealed a series of separately indistinguishable shallow quarry pits dug into the natural gravel, located at 0.3m below the modern surface. Only one feature, a heavily truncated post-hole, survived this extensive activity. A clay outhouse floor, laid over the infilled quarry pits was associated with 18th-century pottery. Selective examination of the rear garden of Number 7 Deans Court Lane revealed no archaeological features. Further trenching to the rear of the North Lodge exposed a sequence of (undated) water-lain silts, deposited on the western bank of the River Allen. Only one feature was defined, a shallow gully cut into the silts, and sealed by an extensive spread of demolition debris.

Alex Jones
Birmingham University Field Archaeology Unit

Field, N. H., 1973, 'The Leaze Wimborne, an excavation in a medieval quarter of the town,' *Dorset Proceedings* 94, 1972.
Jones, A., 1990. *Deans Court Lane, Wimborne Minster. An Archaeological Evaluation* 1990, BUFAU, 1990.
Woodward, P. J., 1984, 'Wimborne Minster, Dorset – Excavations in the Town Centre 1975-80', *Dorset Proceedings* 105, 1983.

MEDIEVAL FLOOR-TILE FROM SHAFTESBURY

During excavations in 1974 by the Shaftesbury and District Archaeological Group at the rear of the National Westminster Bank, The Commons, Shaftesbury, Dorset (ST86212302) (only some 125 m from the Abbey), a fragment of glazed medieval floor-tile was found among the rubble infill of a cellar .

The tile (Figure 11) is 120 mm × 85 mm × 25 mm, weighs 0.3 kg and is in a pale orange, quartizitic fabric with inclusions of iron-stone up to 5 mm in diameter and occasional grog. There is one large knife scoop and traces of two others and an acute bevel. A lead glaze over white slip in an inlaid pattern (inlay to 2 mm) shows yellow on a green background. It is part of a four-tile pattern (Emden 1977, no. 74), a *fleur-de-lys* variant, and can be dated to the 14th century, representing production of tiles in Wessex at that time.

Shaftesbury Abbey had five tiles *in situ*, of this pattern, on the north side of the Sanctuary in 1902-4. There is one such tile in the Abbey Museum and two whole and four fragments in the Dorset County Museum. Full measurement of the whole tile is 140 mm × 140 mm × 23 mm with four knife scoops (*ibid.*).

The tile is now in the Shaftesbury Museum.

M. S. Ross
Shaftesbury and District Archaeological Group

Emden, A. B., 1977, *Medieval Decorated Tiles in Dorset.*

Figure 11. The medieval floor-tile from Shaftesbury at half life size.

DECORATED FLOOR-TILE FROM WINTERBORNE CAME

During work on the parish church by the Redundant Churches Fund, a small fragment of inlaid medieval floor-tile was found. The design is similar to that found on a series of tiles from St George's, Fordington and Milton Abbey (A. B. Emden, *Medieval Decorated Tiles in Dorset* (1977), designs 186, 187 and 190), but the design does not precisely match. Tiles from this late 15th- or early 16th-century series are recorded from the church and from the rectory, so this find is not unexpected (Emden, designs 71 and 196).

Laurence Keen

ARCHAEOLOGICAL ASSESSMENT AT MANOR FARM, WYKE REGIS, WEYMOUTH, DORSET

In December 1989 an archaeological assessment was undertaken at Manor Farm, Wyke Regis, in advance of proposed development of an area of 0.53 hectares centred on SY66107780. The assessment area lies within the village of Wyke Regis with the Parish Church of All Saints' some 100 m to the east. The settlement at Wyke Regis is recorded from AD 988 in a charter of Ethelred II, and the proposed development area lies within the presumed extent of the Saxon settlement. The present Manor Farm was begun in the late 16th century, partly rebuilt in the mid-17th century and was considerably refurbished in the early 19th century (RCHM 1970, 373). Romano-British inhumations and 'settlement' debris have also been recorded within 300m to the west, east and north of the site (RCHM 1970, 615; Dockrill 1981, 131).

The assessment aims and strategy, determined by the County Archaeological Officer, were laid out in a detailed proposal, prepared by Wessex Archaeology, a copy of which has been deposited along with the complete archive, the finds and a copy of the evaluation report in Dorset County Museum (Wessex Archaeology Site Code W350; Project Code 33281). A copy of the evaluation report has also been lodged with the County Sites and Monument Record, Dorchester.

Three hand-excavated trenches, totalling 23 m^2, were examined in the areas of proposed new buildings to the north-east, north-west and south of the present farmhouse.

A small quantity of residual, abraded Black Burnished ware was recovered. The presence of such material appears to be consistent with the recorded Romano-British activity *c.* 200 m upslope of the site.

The earliest deposits were recorded to the south of the farmhouse. A dark soil sealed the bedrock and contained material of 14th-century date. No material of Saxon or pre-14th-century date was recovered from this layer, which may represent a buried land-surface pre-dating the construction of the Manor Farm in the late 16th century. This soil was sealed by a series of rubble and soil layers, the lowest containing material of 16th-century date and upper layers containing material of 18th- and 19th-century date. On broad dating evidence, therefore, the sequence reflects the recorded constructional history of the Manor Farm, although some caution should be attached to this considering the small area examined.

To the north of the farmhouse a series of post-medieval features, probably none earlier than the 17th century, was recorded. These features appeared to be associated with usage of the farm and out-buildings, the quarry for example probably supplying some of the stone for the low walls around the farm. It is likely that additional terracing into the natural slope to the north of the farmhouse has similarly removed any earlier deposits that might otherwise have survived.

The assessment at Wyke Regis was undertaken by the Trust for Wessex Archaeology and financed by C. G. Fry and Son Ltd. The project was managed by Roland Smith, supervised by Paul Pearce and the finds were processed by Karen Walker.

Roland Smith
Trust for Wessex Archaeology

Dockrill, S. J., 1981, 'A Late Iron Age and Romano-British site at Wyke Regis, Dorset', *Dorset Proceedings* 103, 131-132.
RCHM, 1970, *An Inventory of the Historical Monuments in the County of Dorset*, Volume II, South-East, Part 3, Royal Commission on Historical Monuments (England).

TOLLER PORCORUM

When a garden fish-pond was dug in the garden of Toller Porcorum's village post office, during June 1990, considerable quantities of medieval pottery were recovered. The site (SY56219796) lies in the centre of the village, immediately to the south of the churchyard. At the invitation of the owners, Chris and Audrey Russell, archaeological observations and salvage were carried out by

Bournemouth Polytechnic. These observations confirmed the presence of substantial and well-preserved archaeological deposits. Landscape gardening operations were planned by the owners, and a small-scale excavation was undertaken in the area principally affected by these works, again by Bournemouth Polytechnic, during July 1990.

This excavation revealed deposits to a maximum depth of about a metre. The earliest feature was a curving gulley which terminated around the middle of the excavation. This contained very few artifacts but one or two small sherds of pottery and flints suggested that it might be dated to the iron age. More substantially, several periods of medieval occupation and construction were found. It appeared that the site was occupied by the 12th century, and perhaps earlier. Stone buildings of two periods were constructed between the 12th and 14th centuries. The site was abandoned by the 16th century and no subsequent development took place until the 1930s, when the predecessor of the present post office was constructed.

Slight earthworks, including a slight scarped boundary, were visible in the surface of the garden. This appeared to run with other scarped and banked boundaries in the field known as Woods Mead, immediately to the west of this garden (around SY56159794). The Woods Mead earthworks are well preserved and include, in addition to boundaries, a hollow-way and several, possibly five features interpreted as building platforms. All these features are regularly and conformably laid out, and seem to represent a distinct morphological unit within the plan of the village. The north-west corner of this field has been cultivated as allotments, and material brought to the surface suggests the presence of a metalled surface (a road or a yard) and possibly of buildings.

No finds have been recovered from Woods Mead but the excavated evidence from the post-office garden site might suggest that this part of the village, while substantially occupied in the high medieval period, had declined and was abandoned by 1500 or soon after. It constitutes an important and well-preserved archaeological site in the middle of this substantial village.

I am very grateful to Chris and Audrey Russell for allowing us to excavate, and for much practical help and encouragement.

Alan Hunt

STRATTON

Stratton village (SY652937) stands in the Frome Valley about 4 miles north-west of Dorchester, and is the principal settlement in the parish of the same name. Recent and current building developments are extending the village considerably, and in connection with these developments Bournemouth Polytechnic carried out archaeological assessments and building surveys which are reported at greater length in Hunt and Sutherland 1990. A summary is given below.

An initial archaeological survey and assessment of the development areas in the village was carried out in 1989. The report of this survey and assessment outlined the historical topography of the village, noted a number of historic buildings worthy of recording before they were altered or demolished, and indicated sites and areas where archaeological excavation or observation were necessary when trenching or other earthmoving took place (Hunt and Thompson 1989).

During July 1990 small-scale excavations were carried out in the area around **Plague Cottage** (SY65289377) on the south side of Dorchester Road. It comprises a two-room cottage with a small garden. The origins of its name are not known, but it is thought to be modern. The building is of mixed stone and cob construction in two phases, the earlier of which measures about 4 m by 3 m and carried a date-stone of 1619 until the 1950s (pers comm, Colin Foster). This earlier phase represents a very rare survival of a one-room cottage, and is of great importance.

Test pits to the south of the cottage, including two adjacent to the south wall, revealed post-holes containing late iron age pottery. Although the areas opened were too small to allow a clear interpretation of these post-holes, they evidently represent a timber structure or structures in this area. Medieval pottery was recovered from archaeological deposits running under Plague Cottage. The site was evidently occupied, probably as a peasant farmstead within the village, from the 13th century, but it was cleared by the late 16th century. The original (one-room) part of Plague Cottage was built during the 16th century, or in the early 17th century, and certainly by 1619. A second phase was added to the cottage in the 18th or early 19th century. The garden area to the south was cultivated from the 16th/early 17th centuries more or less continuously until the cottage was abandoned in about 1960.

To the west of Plague Cottage, at SY65269377, the cob foundation of a medieval building was found (structure B1). It was built on the same alignment as the street, and stood some 4-5 m from the present street edge, and its maximum length was about 6 m. Considerable quantities of later medieval pottery was found in association with this building, indicating that the site was occupied from the 12th or 13th centuries. The cob building was constructed over the remains of an earlier bank and ditch, which was later traced in another opening to the east of Plague Cottage (see below). By the 16th century the building had disappeared. The raised earth platform now standing on the site was probably created by the collapse or demolition of this building and by later cultivation of the site, probably as a garden or orchard.

The boundary bank dividing Plague Cottage and its garden from the garden or orchard to the west was a very modern feature. It may follow the alignment of an earlier boundary, but a test trench gave no evidence of this. It is possible that this area was a single undivided curtilage until Plague Cottage was built, and perhaps later.

Observations and salvage excavations were carried out on several construction trenches as and when they were opened, mainly in July and August 1990. To the east of Plague Cottage the construction of a new road at SY65299377 exposed the base of a substantial medieval bank and ditch, which ran along the south side of Dorchester Road, the east/west village street. The upper layers of the ditch fill contained much medieval pottery. This ditch was also traced below structure B1, west of Plague Cottage (above); it seems to be a medieval land boundary, and its alignment can be traced in surviving and mapped boundaries further to the east. It clearly pre-dates the laying out of this part of the village in the 13th century.

A trench between SY65479366 and 65459360, from the village street to the stream, brought several archaeological features to light. The most obvious of these was a ditch 1 m wide, filled with a dark silty soil. Two flint ?wall foundations were also observed in this trench a little to the south of the ditch, and further to the south again was an area of small chalk rubble near the stream, at the southern end of the trench.

It rested on a layer of clay which in turn lay over large flints. This feature contained a great deal of late medieval pottery but no later material.

To the west of Dairy House farm the remains of at least one 18th- or 19th-century brick and stone building, or at least some walling of this period, were noted, around SY65489363. There was evidence of some rammed chalk surfaces, and at least one adjacent area of cobbling. Some large pits or scoops were noted. Post-medieval pottery and a little glass was recovered from the upcast. None of this material need be earlier than 18th or 19th century, and all could be 19th or early 20th century.

To the north of Manor Farmhouse a section was exposed at SY65059378, revealing a flint wall whose date and relationship to the farmhouse could not be determined. It may have been a boundary wall. Earlier archaeological deposits, to a maximum depth of almost 2 m, could be seen in the section. Medieval pottery was recovered throughout its depth. Some of this pottery dated from the 12th century or earlier. Only the very latest layers (up to 0.3 m from the surface) contained post-medieval pottery.

A service trench running east/west on the north side of Dorchester Road, across the front of the former Bull Inn, and terminating immediately to the west of Sawyers Lane (SY65079382-65159381) was excavated to a depth of approximately 0.75 m, exposing several features, including flint and cob walls, mortar ?floors and pottery ranging in date from late Saxon to the 17th century. This site lies at the northern edge of the parish church/manor farm area, which seems to be of some importance as an early settlement nucleus. Medieval pottery (12th/early-13th centuries and later) was also found in building trenches to the north and north-east of the Bull Inn in 1989.

To the west of the village, at SY649938, two parallel ditches were observed in the subsoil after topsoil stripping. One of these ditches continues the alignment of a ?Saxon/early medieval estate boundary to the north; the other probably represents a later realignment of this boundary. Both ditches were sectioned, and both produced medieval pottery. They have prompted further study of early boundaries in this area.

Discussion

The finds and records derived from these observations need detailed analysis, and conclusions drawn at this interim stage are necessarily rather tentative. The limitations of evidence produced

by investigations of this kind are also to be borne in mind. Nevertheless it seems that the broad framework of Stratton's historical development, outlined in Hunt and Thompson 1989, may be confirmed by the observations summarised here. In particular it is worth noting that the earliest pottery (late Saxon-12th century) is found in the area around the church and the Manor Farm, which seems to confirm the interpretation made on topographical grounds. This area seemed likely to be the primary settlement; it was probably a late Saxon lordship farm or an early medieval manor farm. Subsequently further expansion took place eastwards along the Dorchester road, though it is not yet clear when the village reached its maximum extent in this direction. Certainly this area seems to have been occupied by the 13th-14th century, and its development may have been rapid and intensive. Formerly it was probably agricultural land, and the boundary bank and ditch observed near Plague Cottage may belong to this period and activity.

The abandonment of buildings in the late medieval period points to a time of retrenchment and village shrinkage, which is recorded in many villages at this time. It may be that the farm which formerly occupied the site of Plague Cottage was abandoned, and the site cleared, some time before this comparatively humble cottage and its garden were established in the late 16th/early 17th centuries.

Building recording

Several buildings throughout the development area have been surveyed and recorded. They are:

Dairy House	SY65539360
Agricultural buildings	SY65529360
Row of terraced cottages	SY65409370
Albany Cottage	SY65379371
Barn	SY65339375
Plague Cottage	SY65279377
Manor Farmhouse	SY65039379
Agricultural buildings	SY65029378
Barn	SY65029376
Barn	SY65079373

Acknowledgements

We acknowledge with thanks the help and cooperation given by Messrs Ryan Fairbriar, and in particular by David Rees and David Knowles. The assistance and advice of Mrs Maureen Putnam, Stratton Parish Clerk, was very much appreciated. We also thank Mr Colin Foster for his information about Plague Cottage. A number of Bournemouth Polytechnic students took part in these excavations and surveys, and we thank them for their contributions.

Alan Hunt and Tim Sutherland

Hunt, A. M., with Thompson, S., 1989, *Stratton, Dorset: An Archaeological Survey and Assessment of Village Development Proposals, 1989* (Dorset Institute Archaeology Unit Reports Series).

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CORFE CASTLE EXCAVATIONS 1990. INTERIM REPORT

During April and May 1990 work continued within the third and fourth towers of the Outer Bailey.

In the third tower the floor surface was reduced from the 19th century pitched stone surface, uncovered last year, to that of the flagstone floor dating to the early 17th century. The early 13th century archers steps were seen to continue as two semicircular curves leading down from the back of the three arrow-loop embrasures into the centre of the tower.

The open north-east side of the tower was crossed by a low wall. This was bonded to the south-east side of the tower indicating that it was part of the early 13th century construction. A doorway was cut through this wall in the early 17th century. Remains of a door jamb of brick and limestone abutted the north-west side of the tower and was built on the edge of a limestone threshold stone. Set in the flagstone floor and 0.8 m south-west of the dwarf-wall was a raised line of Purbeck slabs 5 cm wide and 5cm above the floor surface. These ran parallel with the dwarf-wall but stopped on a line corresponding with the tower entrance. Wooden screens probably existed on the line of this feature and above the dwarf wall. Evidence for these screens was found as a scatter of iron objects lying on the flagstone floor including numerous nails, hinges and a bolt.

The 9 m length of curtain wall to the south of the third tower was cleared of demolition rubble down to the 1645 level. Against this length of wall the skeleton of a cow was found amongst the rubble. It was associated with a tobacco pipe bowl of late 17th century date.

The ground surface between the fourth tower and the bridge across the great ditch was lowered to the 17th century level revealing a surface of limestone and mortar fragments with occasional broken flagstones abutting the tower wall.

In the West Bailey the small postern gate and the remains of the curtain wall to the south-east of it, uncovered last year, were consolidated by masons. Archaeological recording took place while this work was in progress.

The surviving ashlar stones facing the entrance through the curtain wall were found to be built against chalk bedrock. For 7.5 m to the south-east the curtain wall had been almost entirely demolished with the exception of six stones of the bottom course of the inner wall face. From the bottom of these stones chalk bedrock sloped away steeply. There was no foundation trench for the curtain wall at this point. The bedrock and bottom course of the wall lay below the 18th century rockery (Thackray 1988, 156) which raised the ground surface at that time to create a level edge for the path to the Inner Ward.

A similar edge for the new pitched stone pathway was needed and part of the curtain wall was reconstructed to enable this. The south-east side of the postern gate was raised to the same height using ashlar. The original stones were distinguished from the new by separating them using clay tiles.

The mortar differences within a length of curtain wall 8 m south-east of the postern gate indicated that it had been substantially rebuilt probably in the 19th century. The north-west edge of this length of wall was repaired and consolidated this year.

The archaeological work was carried out with the help of National Trust Acorn volunteers, supervised by Nancy Grace with grant aid from HBMC.

David Thackray and Martin Papworth
The National Trust

Thackray, D. and Papworth, M., 'Corfe Castle, West Bailey Excavations 1988 – Interim Report', *Dorset Proceedings* 110, 156-157.

WOOLCOMBE

Archaeological research involving survey and excavation continued at Woolcombe (SY551951) in the parish of Toller Porcorum during 1990.

Prehistoric features

At the higher end of the valley in which the medieval settlements lie, to the south-west of the present farm, excavations began in 1989 to explore two groups of earthworks which appeared to be 'celtic' fields (Site 10; SY55129512) and a ?prehistoric enclosure (Site 11; SY55019517; Hunt 1989). Surveys in 1990 placed these sites in the context of other late prehistoric landscape features in the vicinity. The 1989 excavation at Site 11 examined a slight and curving boundary bank which was thought to be part of a near-circular enclosure, disturbed by a modern quarry. This excavation was extended in 1990, cutting the earth bank and the alignments of potential internal and/or external ditches, which might be expected if this were an enclosure. No ditches were identifiable in section or plan, and it was concluded that the bank was formed by cultivation. This evidence, and the plan of other features in this area strongly suggest that they are all parts of 'celtic' field systems. One system, on the east slope of the valley, includes Site 10 and is markedly more regular in plan than the western system, some of whose component banks and scarps are slightly curved rather than straight. Similar features are better preserved further to the east, around SY551947 in West Compton parish.

To the north west of the excavated bank in Site 10 a buried soil horizon was found containing abraded and mainly small sherds of medieval pottery, interpreted as a manuring scatter. Neither the buried soil nor the pottery was found to the south of the bank. It seemed clear that medieval cultivation had used this prehistoric earthwork as a boundary. The site lies around 600 ft above sea-level, on a slope facing north-east, and the soil was shallow. These considerations suggest short-lived cultivation of a marginal area.

The medieval settlement

Excavations also continued in the field known as Lower Bottom to the south-east of the farmhouse. Work begun in previous years was continued in Subsites IX and VIIN, and pipe trenches re-excavations were extended. The sites of these excavations are shown in

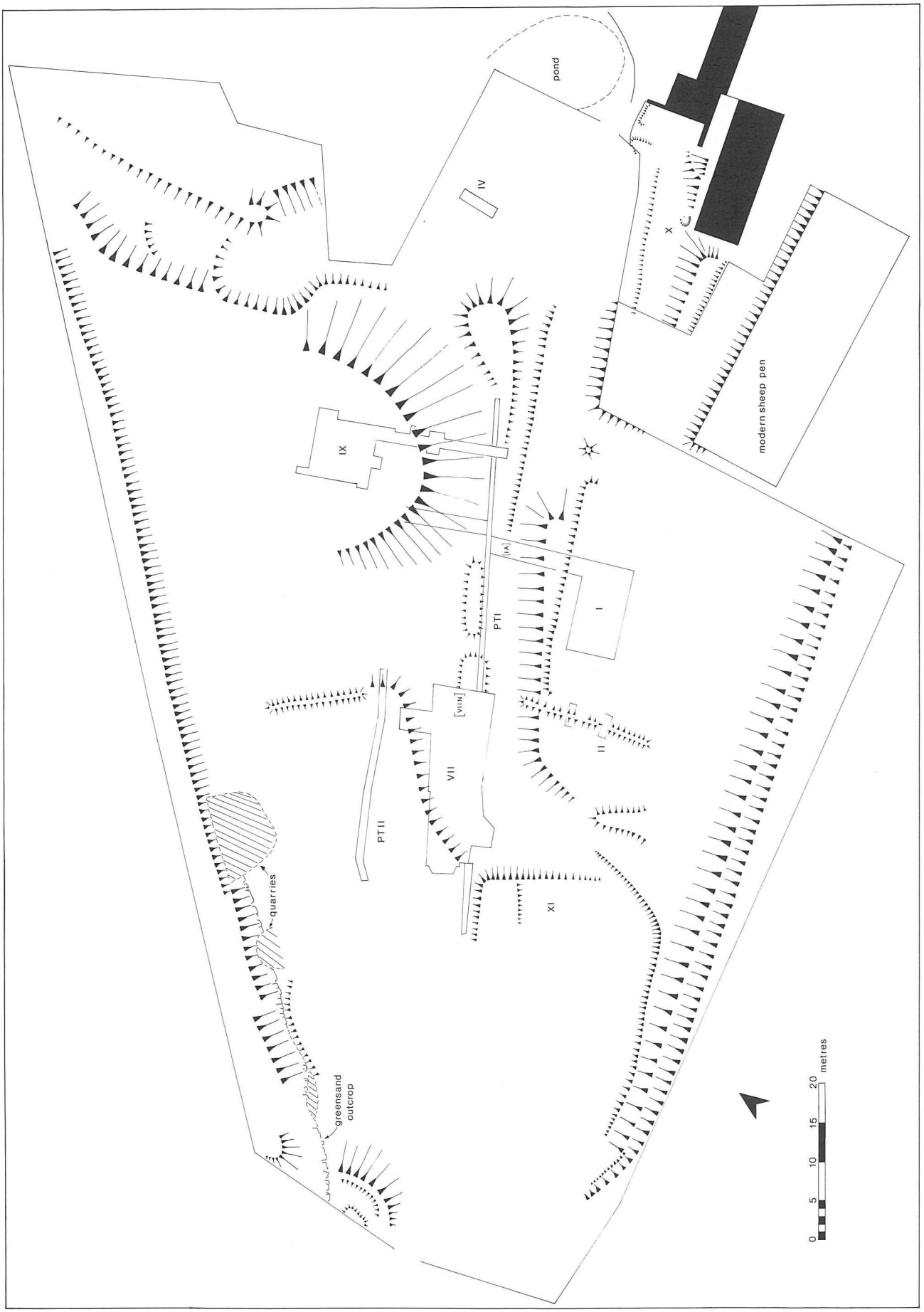

Figure 12. Woolcombe: earthworks and excavations in Lower Bottom, south-west of Woolcombe farmhouse (Jenny Yates).

Figure 12, which is based on a revised survey of the earthworks and other features carried out in 1989-90. In Subsite IX excavation of the Period A hamlet (12th-early 13th centuries) is the main priority, while in Subsite VIIN we continue to explore features and deposits of Period B, a formally laid out hamlet of the mid-late 13th century. The layout of settlements in these periods as we presently understand them is summarised in Hunt 1989, Figure 5.

In **Subsite IX** the Period B road and boundary bank at the eastern end of the trench were removed. Running beneath the road was a gulley which was also substantially traced in pipe-trench PTI, and which terminated to the south in Subsite IA, whose excavation was completed in 1988. This gulley was evidently back-filled very shortly before the road was constructed. Its fill contained considerable quantities of pottery including at least two substantially complete cooking pots of the later 12th or early 13th centuries and a large piece of limestone rubble, of a type not previously found in this part of the site. It was matched by the disturbed rubble foundations of a wall running parallel to this drainage gulley, about 1.5 m to the west. This appeared to be a boundary wall and it also had been demolished immediately before the Period B boundary bank was constructed above it. Thus the gulley and the wall appear to have been contemporary in use and demolition, and belong to the latter part of Period A. Until now Period A features have been scattered and little or no regularity or pattern has emerged among them. Here for the first time, however, we have some evidence of settlement division and organisation. This new evidence also reinforces the view that the Period A settlement was cleared rapidly, and perhaps suddenly, to make way for the Period B settlement, which we have associated with Robert Bingham's lordship of Woolcombe from the mid 13th century to his death in 1303 (*op. cit.*).

The rest of the excavated trench in Subsite IX was occupied during Period B by metalled yards. Much of this metalling was cleared in 1990. It lay over a soil deposit of varying depth, containing numerous and mainly small sherds. It may be that this soil had been cultivated in Period A, or perhaps in period B if the metalled yards were not laid down immediately the Bingham hamlet was established, but further analysis of the pottery will be necessary to establish this. The soil was deeper to the west (higher up the valley slope), a variation probably due to hill-wash. In the north-west corner of the trench the Period B metalling sealed a rubble wall foundation of Period A. Little can be said about this until the excavated area is extended and more of the structure is exposed.

A very disturbed rubble wall on a different alignment appears a little to the east. This also cannot be interpreted within the limits of the existing excavation but it is clear that stone buildings of at least two periods remain here, and will be traced further in the next phase of excavation.

In **Subsite VIIN** the very well-constructed metalled road was further excavated, and more details of its construction emerged. It was very carefully and deliberately built with longitudinal bands of stones and soil compacted together. The stones used were carefully sorted into gravel and medium flint rubble, which were alternately dumped, raked level and compacted before subsequent layers were brought and treated in a similar way.

The small but well-built cottage excavated in previous years (EB1) was not reopened in 1990, but attention was concentrated on the soil deposits, interpreted as a midden, which lay immediately to the north of EB1 and extended to the south wall of an apparently similar building (EB2) at the very northern limits of the present excavation. It remains possible that this midden is a Period A deposit, which was cut by the construction of EB1 and EB2 and was covered by metalling at a subsequent stage of Period B occupation. Alternatively it may be that the midden accumulated during the earlier years of Period B (i.e. while the cottages and associated yard were occupied) and later development of the site led to the extension of metalled yards over the midden.

Further evidence of such development during Period B came in the western extension of this trench, where removal of a slight Period B metalling exposed a deep cultivated soil, containing considerable quantities of pottery deposited in the later 13th or perhaps early 14th centuries. The western limit of the Period B metalled yard was marked by the very disturbed and fragmented remains of what appeared to be a boundary wall. This wall had been demolished, at which point the garden soil appears to have fallen out of cultivation and the metal surface extended over it.

The date of this demolition and yard extension is not yet confirmed, but may have occurred during the latter years of Period B (?early 14th century). If so, it is noteworthy that the construction of the later metalling, lying over the former garden soil, was very inferior to the original Period B metalled yard, which were very carefully laid with dense and well compacted metalling. This would suggest that the founding investment in the Period B, which was of a markedly ambitious kind, was not matched by later developments in this Period. Perhaps this settlement suffered a decline before its final abandonment in the early 14th century, a decline reflected by hasty and ill-constructed developments. It also remains possible, however, that this secondary yard extension and the demolition of the boundary wall post-date the abandonment of the Period B hamlet and fall into Period C (14th-16th centuries), when the area was occupied as a farmyard, without domestic occupation.

Part of the road in VIIN was completely removed in 1990 and the material below it, apparently redeposited natural or colluvium, contained possibles features (not yet excavated) and a small, soft, possibly prehistoric sherd was recovered from the top of this material. The date of this redeposition is still uncertain, but it is clear that the medieval material lies over earlier deposits of unknown date.

Re-excavation of pipe-trenches **PTI and PTII** were extended to the north. In PTI the contents of the Period A drainage gulley (see account of Subsite IX, above) were further sampled, the Period B road surface was traced further and the trench was extended to the edge of a small but very marked building platform, where remains of another Period B building were recorded. No distinct new features were noted in PTII.

Acknowledgements

As ever we are deeply indebted to Dinah, Simon and Michael Austin for allowing us access and facilities to excavate and carry out surveys, and for their constant interest and support. Our thanks are also due to the Dorset Archaeological Committee for their continued financial assistance. I am very grateful to all my colleagues involved in this year's work: Tim Sutherland (deputy director); Jenny Yates (site manager; archive manager; illustrations); Ian Hewitt (finds manager; metalwork research); Sarah Austin (supervisor); Mark Brisbane and John Gale (finds research); Julian Fox (discussion of project management); Bill Putnam (accommodation; catering); Angela Heron (cook); John Beavis, Graham Dumas and George Macleod (transport); Linda Poulsen (organisation of schools' programme). Students of Bournemouth Polytechnic, and others from overseas, took part in the excavations; they were joined by pupils from several Dorset schools and by local volunteers. I am very grateful to each one for their important contributions.

Alan Hunt

Hunt, A. M., 1989, 'Woolcombe', *Dorset Proceedings* 111, 114-117.

HAMWORTHY OBSERVATIONS

Sydenham's Timber Yard, 16 Blandford Road, Hamworthy

Observation (PMO 46) of sixteen 2 m by 2 m by 1 m deep foundation holes showed 0.5 m-0.7 m of disturbed modern topsoil overlying natural sand. There was no evidence of IA/RB occupation, or of the Hamworthy-Badbury Roman road thought to pass through, or very near to, the south corner of the site.

The holes were located along the sides of a 48 m by 28 m area, the corners of which have the co-ordinates SZ0045490312, SZ0043790302, 0046090260 and SZ0047790270.

No 2 Branksea Avenue, Hamworthy (SY98920902700)

A watching brief on footing trenches revealed no evidence of IA/RB occupation, though surface finds included one rim sherd of late Durotrigian type pottery.

Kevin W. Collins
Borough of Poole Museum Service

WAREHAM OILFIELD, WAREHAM

Archaeological evaluation, excavations and a watching brief were carried out prior to and during the construction of a 0.80 km long pipeline within the Wareham Oilfield across Worgret Heath SY90128721 and area.

The results from test pits dug at 20-25 m intervals along the proposed route were taken into consideration in the planning of the finalised alignment, and demonstrated that little of archaeological significance would be disturbed other than at the above grid reference, where the pipe trench passed close to a round barrow and crossed a scheduled section of the Worgret Dykes. Contour and geophysical surveys were undertaken in these areas but provided little additional information, and a watching brief along the whole length of the pipeline maintained during construction also yielded only negative results.

The pipe trench was excavated by hand by the archaeological team where it crossed the scheduled monument and passed close by the barrow. Sections across the Dyke ditches will add to an understanding of the form of the monument, but no dating evidence was recovered.

Duncan Coe and John Hawkes
Trust for Wessex Archaeology

PARLEY COURT FARM, NR CHRISTCHURCH

Archaeological evaluation of a 14 ha site of proposed gravel extraction SZ10309890 was carried out by means of a series of hand-dug test pits coupled with a scan of exposed and ploughed surfaces. No sub-soil features, artefacts, or enhanced soil profiles which might indicate human activity were present.

Duncan Coe and John Hawkes
Trust for Wessex Archaeology

29 HIGH STREET, WIMBORNE MINSTER

Excavations and limited standing building survey were carried out prior to the refurbishment of the interior of a 17th-century town house in the centre of Wimborne (SZ09709998). All stratigraphy related to the structure had been truncated, but sub-soil features included pits and a shallow boundary ditch all of later 12th or 13th century date. The contents of the ditch included quantities of processed grain and iron smelting residue.

Duncan Coe and John Hawkes
Trust for Wessex Archaeology

AERIAL PHOTOGRAPHY: NEW SITES

The following previously-unrecorded sites have been provisionally identified from examination of aerial photographs:

ABBOTSBURY
SY57378515 Crop-mark of regular elongated oval ditch with no discernible break. Approximately 50 m × 30 m. (FR 37/13).

BRADFORD PEVERELL
SY66739226 Soil-mark of possible barrow. (FR 5/31).
SY66799219 Soil-mark of possible barrow. (FR 5/31).
SY64489299 Crop-mark of ring-ditch. (FR 5/31).

BURLESTON
SY77929645 Soil-mark of small square enclosure. (FR 37/41).

LONG CRICHEL
ST96011159 Soil-mark of ring-ditch. (FR 8-10/30).
ST95871183 Soil-mark of ring-ditch. (FR 8-10/30).
ST95871178 Soil-mark of irregular rectangular enclosure. (FR 8-9/30).

MAPPERTON
SY50359973 Crop-marks of garden lay-out in grounds of Mapperton Manor. (FR 4/14).
SY50359930 Earthworks of square enclosure. (FR 15/38).

MILBORNE ST. ANDREW
SY815964 Crop-mark of large irregular oval enclosure. Approximately 250 m × 180 m. (FR 32/41).

MILTON ABBAS
SY78629960 Crop-mark of slightly irregular square enclosure. Approximately 50 m × 50 m. (FR 33/14).
SY78489993 Crop-mark of ring-ditch. (FR 33/14).
SY78469978 Crop-mark of small rectangular enclosure. (FR 33/14).

PIDDLEHINTON
SY73239852 Soil-mark of irregular square enclosure, apparently consisting of a bank and external ditch. Approximately 40 m × 40 m. (FR 16/14).

SWYRE
SY53098886 Crop-mark of possible double-ditched enclosure. Approximately 150 m × 110 m.

TARRANT HINTON
ST93641233 Soil-mark of wide ditch forming a circular feature with a single break. Possibly associated with landscaping of the park at Eastbury House. Overlying soil marks of prehistoric field system. (FR 19/23).

TARRANT KEYNESTON
ST91710572 Crop-marks of square enclosure. (FR 18/30).

TARRANT LAUNCESTON
ST95661132 Crop-mark of ring-ditch. (FR 6-7/30).
ST95721161 Crop-mark of ring-ditch. (FR 6-7/30).
ST95791124 Crop-mark of ring-ditch. (FR 6-7/30).
ST94070925 Crop-mark of possible ring-ditch. (FR 12/30).

WINTERBORNE CAME
SY69068644 Soil-mark of double ring-ditch. (FR 14/7).
SY69148648 Soil-mark of rectangular enclosure. Approximately 75 m × 35 m, narrowing to 25 m at one end. (FR 14/7).

WINTERBORNE ST MARTIN
SY63988850 Crop-mark of ring-ditch. (FR 8/39).

F. Radcliffe, G. Romanes, C. Pinder

Shorter Contributions

THE EXCAVATION OF A CREMATION BURIAL ON LITTLE PIDDLE DOWN, PIDDLEHINTON

Excavation Description by Martin Papworth

The Bronze Age round barrow RCHM Piddlehinton (15) (SY69509571) was visited as part of the Dorset Barrow Survey in October 1985. This survey was carried out by the Trust for Wessex Archaeology for HBMC (Papworth 1988, 143). In 1985 the barrow was visible as a faint swelling 18 m dia. and 0.2 m high. The field had recently been ploughed and harrowed and the mound was discernable from the surrounding land as a concentration of chalkier soil. Grinsell (1959) records the mound as measuring 18 m dia. and 0.45 m high. At that time a ditch was visible surrounding the mound but no trace of this ditch was found in 1985.

Piddlehinton (15) is situated at the top of a gentle north facing slope above Holcombe Bottom. It lies just below the crest of a ridge forming the saddle between two knolls, Little Puddle Hill to the east and Charlton Higher Down to the west. RCHM (1970, 212) records two barrows on Little Puddle Hill, Piddlehinton (18) and (19), and one on Charlton Higher Down, Charminster (43). Piddlehinton (16) and (17) are the closest barrows to (15) and lie 65 m and 365 m south-east of it. This line of three lies 75 m north-east of the parish boundary with Charminster. (see Fig. 1.)

The field inspection of Piddlehinton (15) revealed four fragments of unabraded Bronze Age pottery scattered on the surface near the centre of the mound. After consultation with the farmer and HBMC a salvage excavation was carried out before further plough erosion took place.

The excavation revealed that plough disruption to the stratigraphy of the mound was almost complete. Stubble from the most recent ploughing had been turned under to a depth of 0.25-0.30 m below the surface leaving a thin band of undisturbed soil 0.03-0.05 m above the natural chalk.

The extent of the excavated area is shown in Fig. 2. In the central part of the mound no features were found cutting chalk natural. To the south-east a concentration of charcoal flecks and small fragments of urn mixed with the plough soil indicated the location of the burial.

At a depth of 0.30 m below the mound surface a ring of charcoal was visible. This proved to delineate the top of a roughly circular pit 0.50 m dia. which had been cut 0.38 m into the chalk bedrock. The pit filling was divided into six layers (Fig. 3).

Layer 1 Mid khaki-brown clay-loam with occasional flint fragments.

Layer 2 Dark olive-brown 'greasy' clay, occasional flint fragments and charcoal flecks.

Layer 3 Light brown clay-loam with very numerous small chalk lumps and occasional flint fragments.

Layer 4 Black silt with very numerous charcoal fragments and occasional small chalk lumps. Sherds of a Bronze Age urn were concentrated towards the top of this layer while occasional fragments of cremated bone were concentrated towards the bottom.

Layer 5 Pink to orange brown silt mixed with grey silt. Very numerous cremated bone fragments with occasional small chalk and flint fragments.

Layer 6 Black silt with numerous charcoal fragments and cremated bone fragments.

No struck or worked flint was found within the pit filling.

A sample from each of these layers was taken and all of layers 4, 5 and 6 were collected and sieved through a 1 mm mesh. The excavated material has been deposited at Dorset County Museum.

THE CHARCOAL

Rowena Gale

The charcoal sample was made up of numerous fragments some of which measured over 1 cm or more in their longest axis. These fragments were all similar in structure to *Fraxinus* sp., ash, and as far as was possible to ascertain, were all from fairly young stem or branch wood.

Ash wood (or charcoal) makes an excellent fuel and burns with a very intense heat. It also has the advantage of burning well when still green.

THE CREMATED HUMAN BONE

Alison Locker

Within the charcoal layer 4 the following were identified. Two 1st phalanges, one slightly broken, the other part of a hand.

Two 2nd phalanges, one broken.

A skull fragment.

Several long bone fragments, one with transverse fractures, suggesting cremation took place when the bones were still 'green' or covered with flesh (Ubelaker 1989, 38). The total weight of the cremated bone from layer 4 was 127.5 gms.

The greatest quantity of bone was from layer 5. The bones were often grey-blue in colour suggesting burning did not take place at a very high temperature. The skull fragments were from an adult. Modern breaks showed a grey/black colour also indicative of burning at low temperatures. The following bone fragments were identified.

Eleven skull fragments.

Nine fragments of vertebral bodies, epiphyses fused.

One distal end femur, fused.

One distal articulation humerus, fused.

One proximal end ulna.

Three articulation fragments, possibly from a proximal end of humerus.

Numerous long bone fragments.

The total weight of cremated bone from layer 5 was 1077.3 gms.

Layer 6, the burnt layer at the pit bottom, contained the following identifiable bones.

Two metapodials.

One radius shaft fragment.

One fibula shaft fragment.

The total weight of cremated bone from layer 6 was 42.5 gms.

The remains suggest a single adult, whose corpse retained at

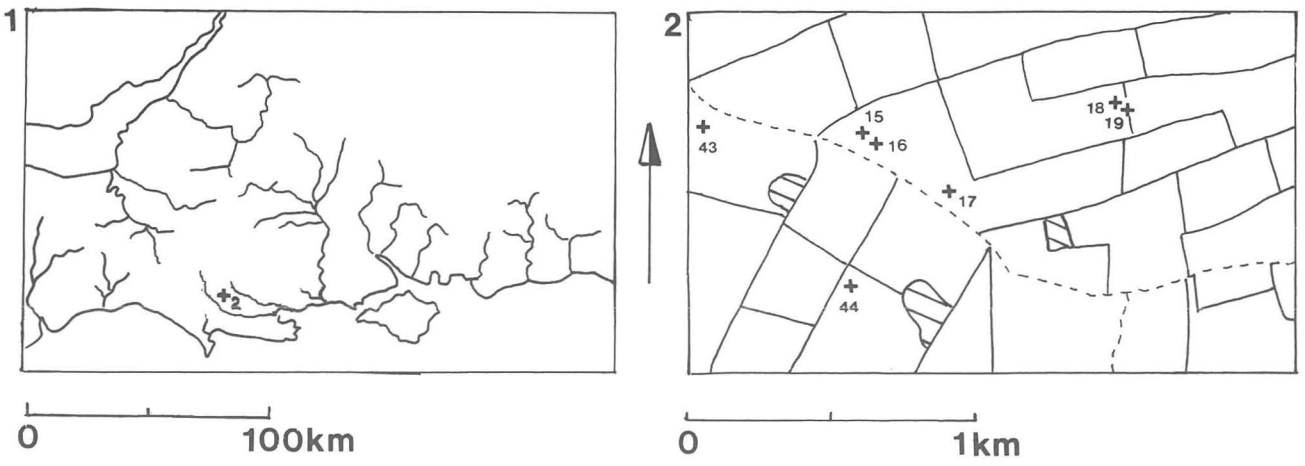

Figure 1. Location of the Piddlehinton barrows. 1: Wessex. 2: Barrow distribution on Little Puddle Hill, Piddlehinton and Charlton Highter Down, Charminster.

least some flesh and was burnt at relatively low temperatures, since the bone did not show the white colour resulting from higher temperatures.

As the cremated bone is in relatively large pieces it appears that some parts of the skeleton are absent; for instance no fragments of mandible or teeth were recovered and the articular ends of some long bones were also absent. Since the degree of burning appears to be fairly uniform it is unlikely that these are absent through destruction by a higher degree of burning.

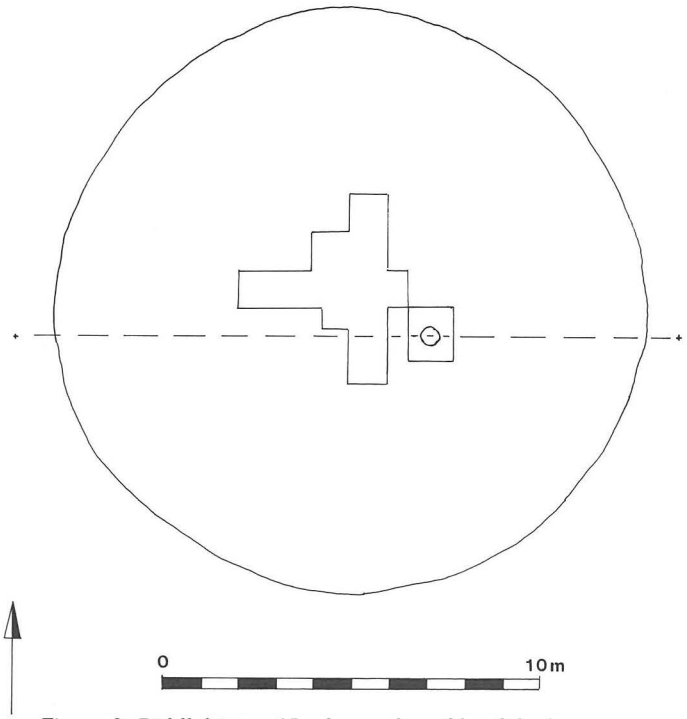

Figure 2. Piddlehinton 15: plan and profile of the barrow showing the extent of the excavated area.

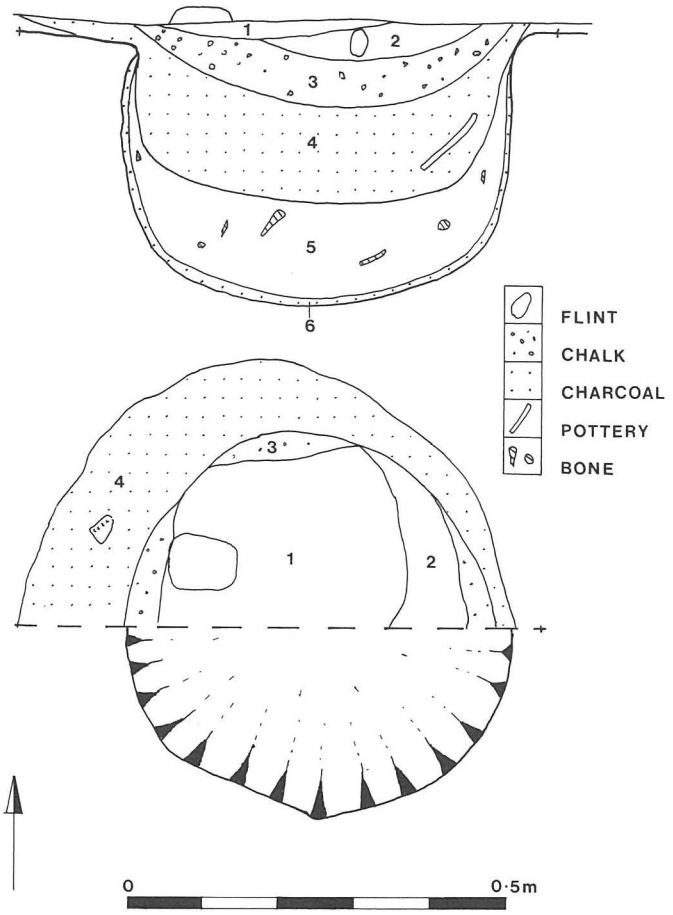

Figure 3. Piddlehinton 15: plan and section of cremation pit.

THE BRONZE AGE URN

Ann Woodward

Large fragments of an urn, which had been broken prior to interment, were found in an apparently primary burial cist, as described above. Much of the rim and body but no fragments of the base were present. The urn is of medium size, with a simple flat topped rim (Fig. 4). It is decorated with four simple oval vertical lugs located 7 cm below the rim and by horizontal rows of finger-tip impressions just below the rim, and between the lugs. The vessel is grey to brown in colour and the fabric is tempered with a medium density of small to large fragments of grog.

The urn belongs to a group of medium-sized bucket urns found in the Dorset Downs area (Ellison 1975, Dorset Downs type (d)). A close parallel is provided by one of the urns from the Deverel Barrow itself (Milborne St Andrew Grinsell No. 14; Grinsell 1968, fig. 12, 64e), and other vessels showing similar characteristics are known from the Bagber Barrow, Milborne St Andrew Grinsell No. 2 (Abercromby 1912, No. 445), Milborne St Andrew Grinsell barrow 6h/i (Ellison 1975, Pl.93 lower) and the Plush Barrow, Piddletrenthide Grinsell No. 10b (*ibid* Pl.98, 2 to 4, especially No. 4).

The urn was found in a barrow which may have been excavated previously by Cunnington in 1818 (RCHM 1970, 212). His barrow No. 44 may have been RCHM No. (15) or (16). However the lack of evidence for previous disturbance in the centre of the barrow now investigated suggests that this was not Cunnington's barrow No. 44 which had contained a primary cremation (*ibid*), and that Cunnington 44 was probably RCHM No. (16), equals Grinsell No. 2. Of the three barrows excavated by Cunnington in this vicinity, all contained cremations, and two of them produced sets of urns, five from Cunnington 45 (probably RCHM [18] equals Grinsell No. 4) and a further five from Cunnington 43 (RCHM [16] or [17] equals Grinsell No. 3). There is some confusion as to which of the five urns surviving in Dorset County Museum derived from which barrow, but Acland (1908, 139) states that DCM Nos. 85 (Abercromby 1912 No. 418), 86, 87 (Abercromby 368) and 88 (Abercromby 441) were found in the same barrow. This was probably Cunnington No. 43. DCM No. 91 (Abercromby 404) may therefore have derived from the other barrow which produced urns, Cunnington No. 45, probably equal to RCHM (18). The five surviving urns are all tempered with grog, occasionally with the addition of some fragments of chalk; they include one globular urn, three lugged or cordoned buckets, of different type to that recorded in this note, and one small knobbed cup.

On typological grounds it would be expected that the Piddlehinton urn would date from the Middle Bronze Age period and the radiocarbon determination confirms this. The date obtained was as follows:

Har-10059	3170 ± 80 BP (1220 bc ± 80)	
Calibrated ranges:	one sigma:	1540 cal BC to 1360 cal BC
	two sigma:	1670 cal BC to 1230 cal BC

This date correlates well with the dates from the Middle Bronze Age cremation cemetery at Knighton Heath (Grinsell 1982, 15)

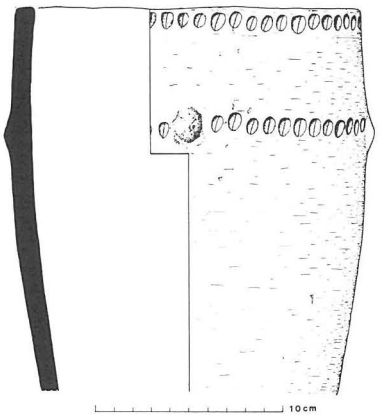

Figure 4. Piddlehinton 15: the Middle Bronze Age bucket urn from the cremation pit.

and with the earlier of the dates in the group of determinations obtained from the Simon's Ground cemetery (*ibid*) and the Deverel-Rimbury burials from the Barrow Pleck, Handley (Barrett, Bradley *et al* 1981, 234). Although an earlier origin for the Dorset Downs variant of Deveral-Rimbury ceramics is indicated by the single date for a bucket urn from Arne (1740 bc ± 90; Grinsell *op cit*), the general pattern of dates now suggests that this style of pottery was most commonly produced in the 15th to 12th centuries cal BC (12th to 11th centuries bc).

DISCUSSION

Martin Papworth

The filling of the cremation pit is unusual, particularly layers 4, 5 and 6 which contain the cremated remains of a single adult. The thin charcoal layer 6 appears to represent burning within the pit. A similar ritual was recorded at Simons Ground (White 1982, 43). The Piddlehinton burnt pit lining differed from the Simons Ground examples in having large fragments of cremated bone mixed with the charcoal. This seems to indicate that parts of the body were either burnt within the pit or collapsed into the pit from a pyre structure above.

If layer 6 indicates cremation within or above the pit then layers 4 and 5 indicate the partial removal of the cremation debris from the pit and after some ritual preparation its redisposition within the pit. Layer 5 contained no charcoal but a light pink to orange brown silt with most of the larger fragments of the cremation mixed with it. The small fragments of bone within layer 4 indicate that the charcoal from this layer also derives from the funeral pyre and that a deliberate separation of most of the cremation from the charcoal took place. At some stage in the cremation ritual parts of the body were lost or deposited elsewhere.

The Deveral-Rimbury bucket urn in layer 4 was also incomplete. Some urn fragments were lost within the plough soil but this does not explain the loss of the urn base given the broken and mixed nature of the urn deposit. At Simons Ground (White 1982, 28) worn or broken pots were found amongst the 300 urns excavated but none were broken and mixed with the pit filling as the Piddlehinton cremation had been. Grinsell (1982, 11) refers to ritual breakage of grave goods in the Bronze Age and he cites RCHM Long Crichel (16) as a possible example. It contained a primary cremation with Deveral-Rimbury potsherds which had been burned after breaking (Piggott 1944). Another example listed in Grinsell (1959), is from the urnfield excavated south-west of RCHM Sixpenny Handley (37) (Pitt-Rivers 1898). Of 52 cremations nearly all were accompanied by urns of Deveral-Rimbury type and some of the cremations were reported to have been accompanied by sherds broken before deposition.

Although the bucket urn from this burial was of a different type from those excavated in the vicinity by Edward Cunnington in 1881, it is of broadly similar date. The results of the 1985 excavation add to the information concerning Middle Bronze Age burial practice in the area and taken with Cunnington's work they indicate the existence of a Deveral-Rimbury settlement in the neighbourhood of barrows RCHM Piddlehinton (15-19).

ACKNOWLEDGEMENTS

Thanks are due to Mr Holland of Puddle Farm for allowing the excavation to take place on his land. To Peter and Ann Woodward and the Dorset Archaeological Committee for their help in enabling the post-excavation work to take place and to HBMC for providing the funds for radiocarbon analysis.

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ARCHAEOLOGICAL INVESTIGATION FOLLOWING THE DISCOVERY OF A HOARD OF PALSTAVES NEAR NEW INN FARMHOUSE, MARNHULL, DORSET

A. J. Lawson & D. E. Farwell

Trust for Wessex Archaeology

In October 1989 Mr R. J. Dyke, the landowner, scanned a paddock to the north of New Inn Farmhouse with a metal-detector and recovered 90 Bronze Age palstaves (89 intact, 1 broken). Following contact with the British Museum and Dorset County Museum, the Trust for Wessex Archaeology was asked to investigate the archaeological context of the hoard.

On 4th November D. E. Farwell, M. J. Heaton and M. R. Trott of the Trust for Wessex Archaeology met Mr Dyke and were shown the findspot (ST 788 189). The paddock surface was a short-cropped pasture which had not been ploughed in recent memory. The palstaves had been found directly below the paddock topsoil (0.15 m), packed into a small pit. The pit was roughly rectangular, 0.60 m by 0.40 m and not more than 0.40 m deep; traces of green metallic corrosion could still be seen on its sides. Mr Dyke indicated that the first palstaves to be discovered had been closer to the surface than the rest, and that the second to ninth had been placed flat in a rough crescent at the top of the pit. The rest varied between being laid flat and on-end throughout the pit.

A 2 m by 2 m trench was hand-dug around the pit. Below the topsoil was a fine flint gravel horizon which sealed 0.15 m of light brown clay loam. Natural subsoil, a well-drained deposit of Kimmeridge clay which seals beds of Corallian limestone and sands, was found directly below the clay loam. No features other than the pit were discovered and the finds from the trench consisted of three sherds of post-medieval pottery, one medieval rim sherd, three eroded fragments of ceramic roof tile and two pieces of struck flint (one flake and one possible core fragment). While the trench was being dug Mr Dyke tested other metal-detector readings from within the paddock, but these turned out to be unconnected (modern metal scrap, buttons, etc.).

A recent archaeological evaluation undertaken by the Trust 1.2 kilometres to the south-east of the findspot, in advance of a proposed quarry covering 0.6 hectares at White Way Hill, also failed to find any archaeological features. In spite of the pleasant aspect of the findspot and its surrounding paddock, a roughly flat surface slightly above the 60 m contour overlooking Chivrick's Brook, it seems that the hoard was originally deposited in an area remote from contemporary occupation. The uniform nature of the hoard suggests that it is unlikely to represent a collection of personal property or of smithing scrap which could have been deposited close to a settlement.

The hoard of 90 Middle Bronze Age pieces includes 37 looped, and 53 unlooped palstaves, one of which is broken in two. Considerable stylistic variation occurs, but the majority have elongated blades. Those with relatively narrow blades with a concave outline are characteristically Breton. At least 25 examples of this type are present. Others, some with between one and five longitudinal ribs, 'V', or trident decoration beneath the stop ridge are similar to examples in Normandy. Hence, an origin for the hoard in Western Normandy is likely. Although about 50 hoards are known from Eure and Seine Maritime (O'Connor 1980, 48) they are not normally as rich as the Marnhull hoard. Only the find from Condé-sur-Iton (Eure) is larger and that from Grandes-Ventes (Seine-Maritime) with 83 axes comparable in size. Usually the hoards in Normandy are smaller, for example Heuqueville (Seine-Maritime) with 42 axes, La Chappelle-du-Bois-des-Faulx (Eure) with 30 and 39 axes, Longny-au-Perche (Orne) with 16 axes, etc. (G. Verron pers. comm.).

Burgess (1968, 1969) has drawn attention to the contribution of French metalwork to the repertoire of British smiths and a number of recent coastal finds (Coombs 1975, Muckleroy and Baker 1979) gives clear evidence of the shipment of French products. These are probably widespread in southern England (for example Needham 1980), but the true extent of influence has not been exhaustively researched. Nonetheless, O'Connor (1980, 49; Maps 4 & 5) has noted a number of hoards near the south coast with Breton and Norman palstaves, for example, H.M.S. Sultan, Gosport; Gable Head, Hayling Island; Pear Tree Green, Southampton and Dewlish, Dorset. He also draws attention to the fact that the fragmentary palstave from the Angle Ditch on Handley Down, Dorset (Pitt-Rivers 1898, 106-7, pl.273, 1) is probably Norman.

The Marnhull find is by far the largest Middle Bronze Age hoard yet found in Dorset. With the exception of the find of ten

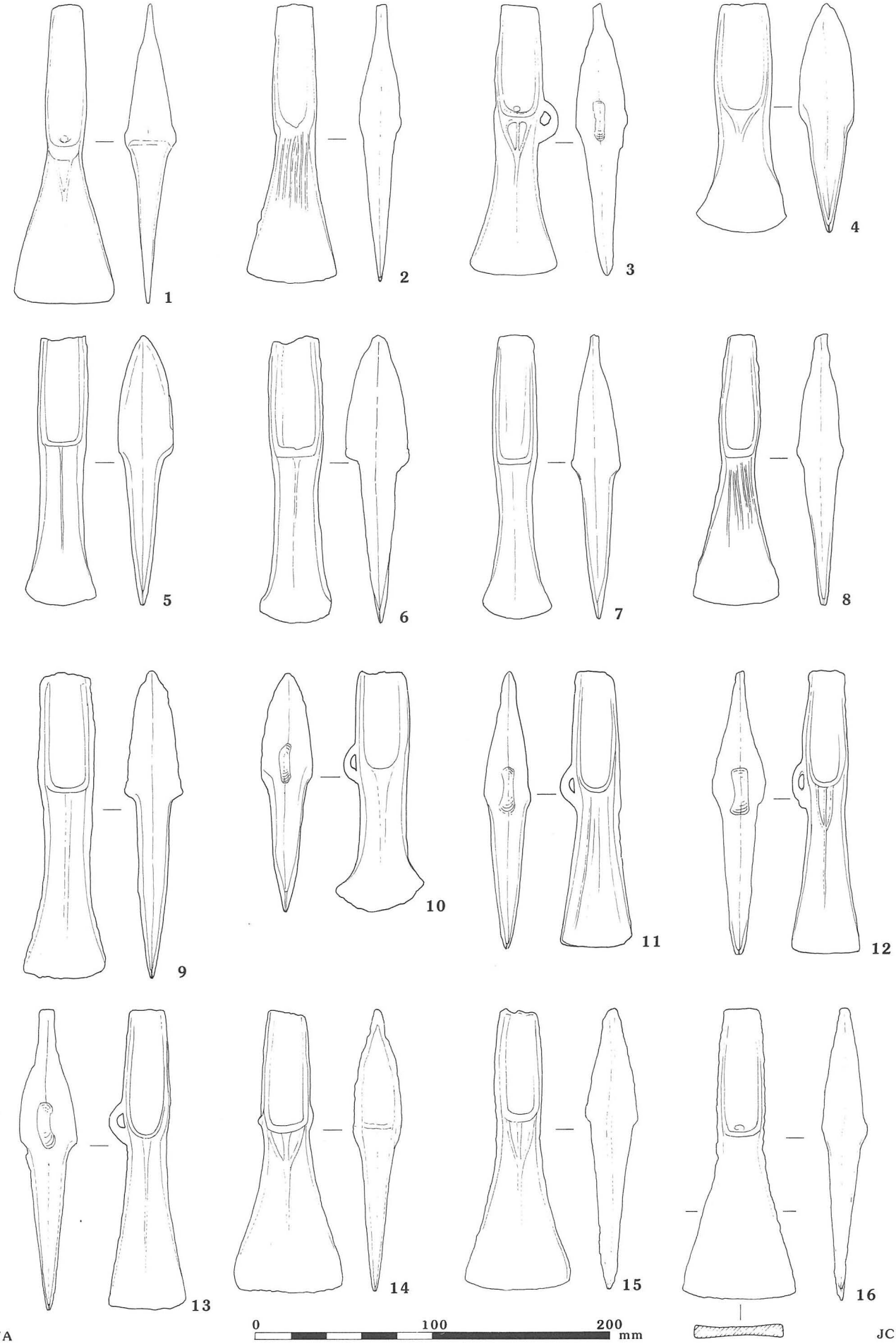

Figure 5. Part of the Marnhull hoard, at ⅓ life size.

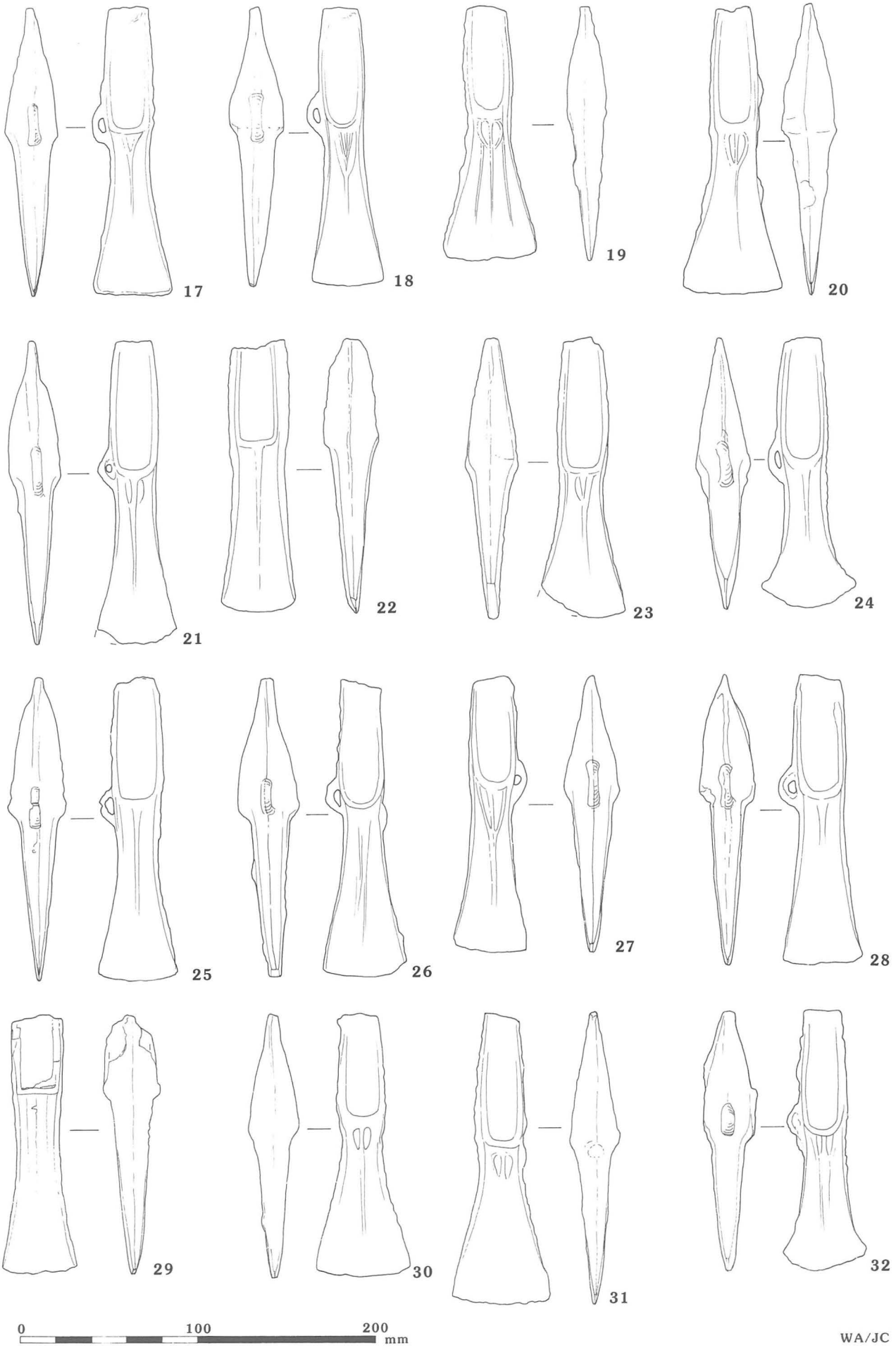

Figure 6. Part of the Marnhull hoard, at ⅓ life size.

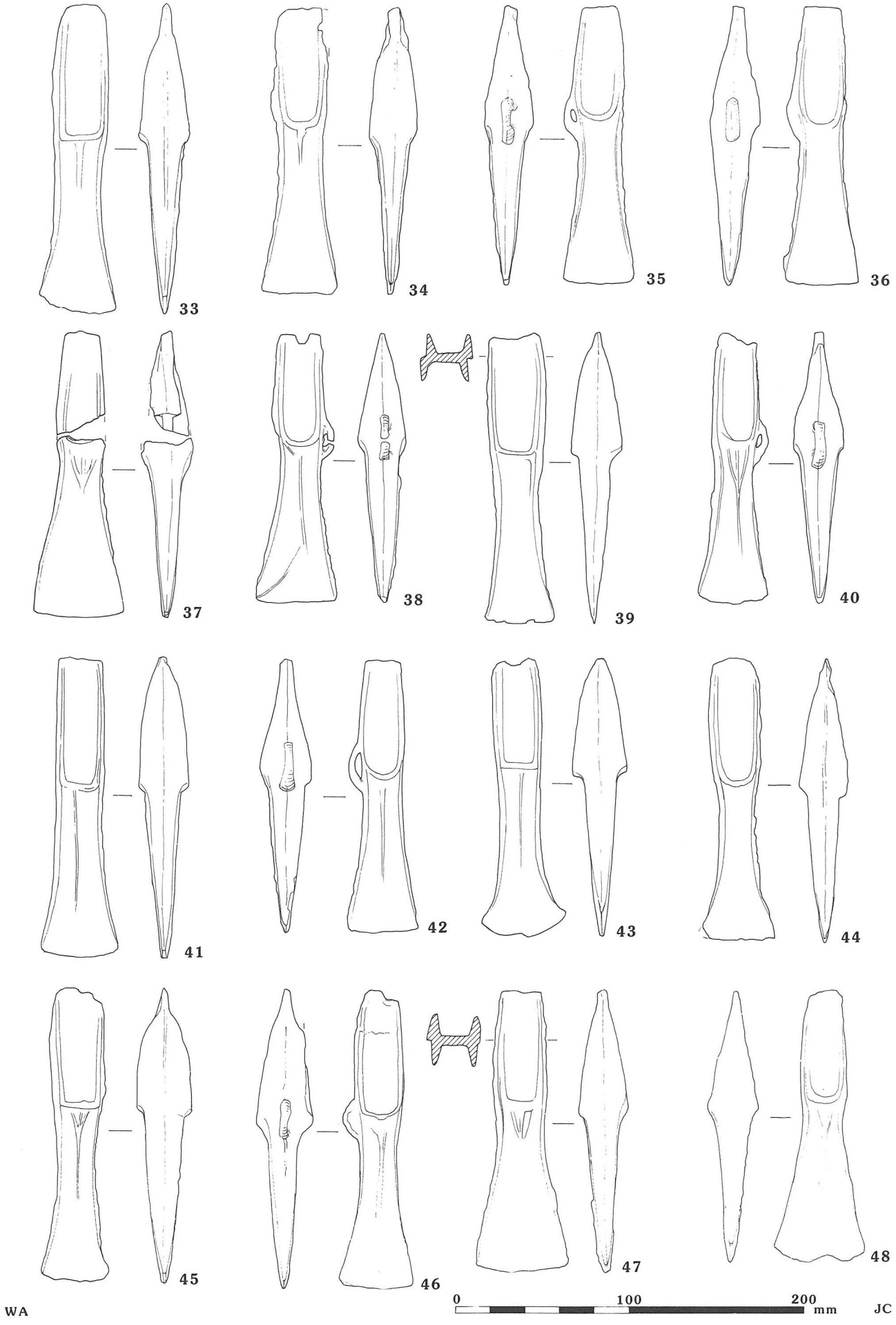

Figure 7. Part of the Marnhull hoard, at ⅓ life size.

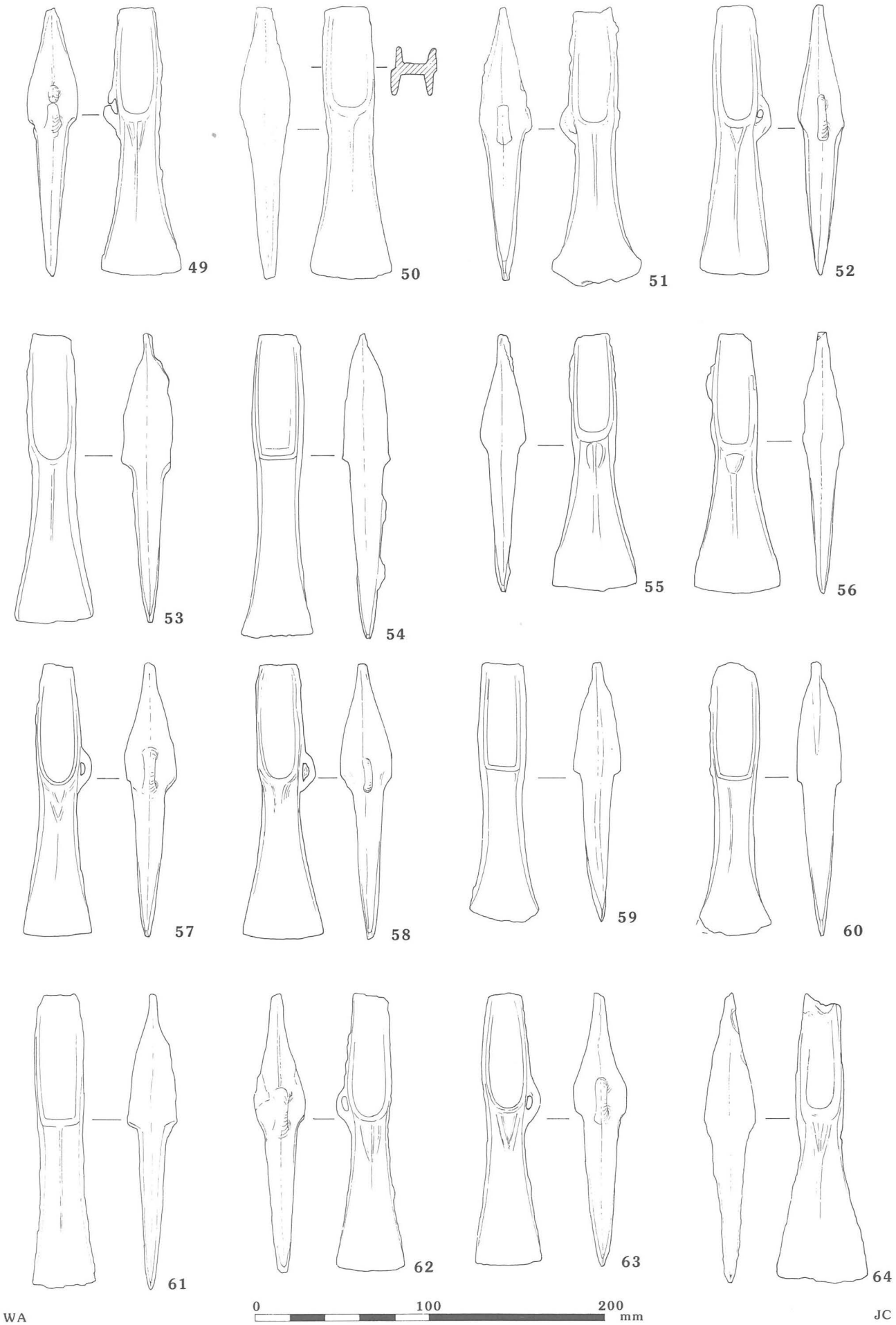

Figure 8. Part of the Marnhull hoard, at ⅓ life size.

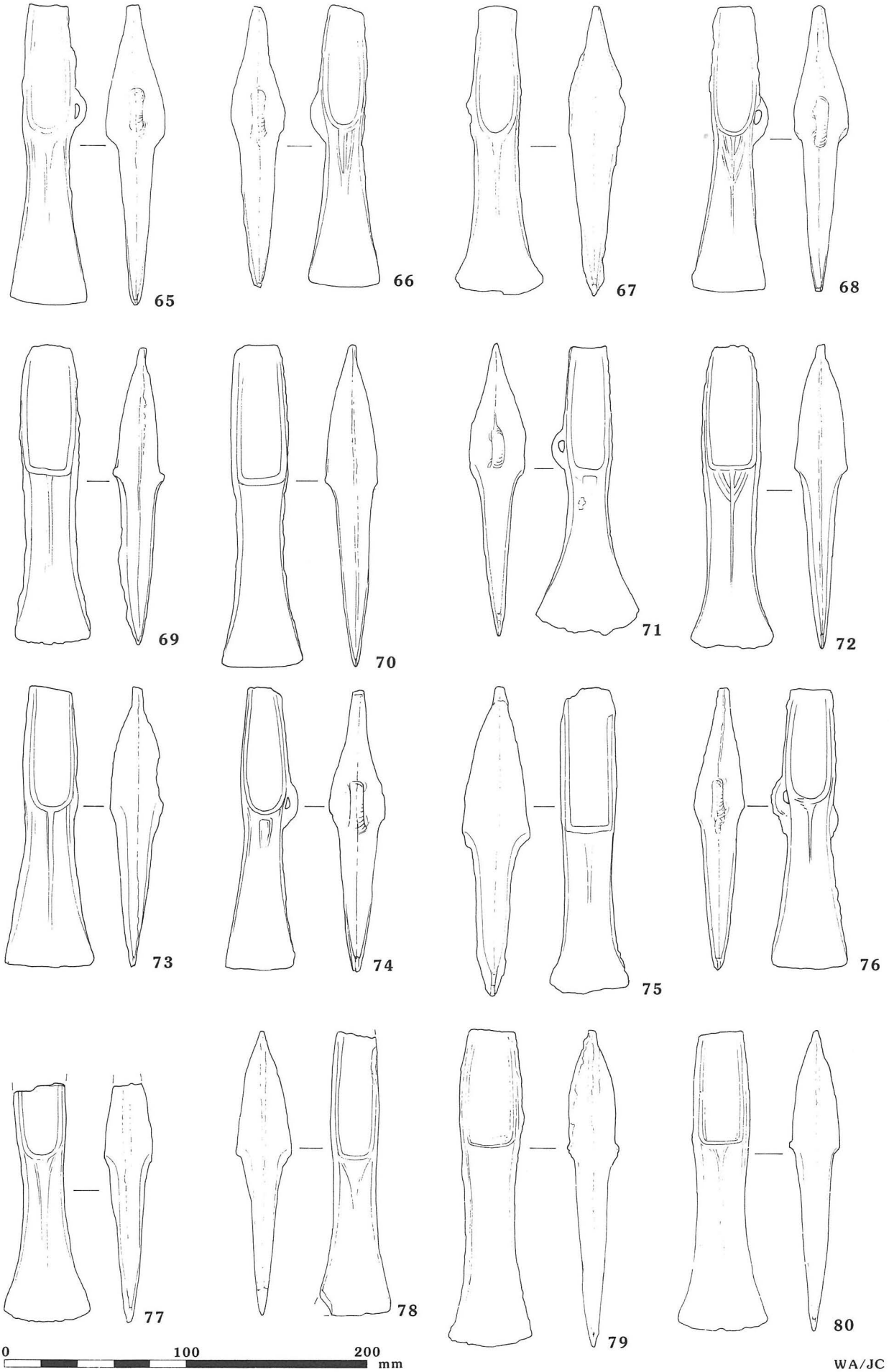

Figure 9. Part of the Marnhull hoard, at ⅓ life size.

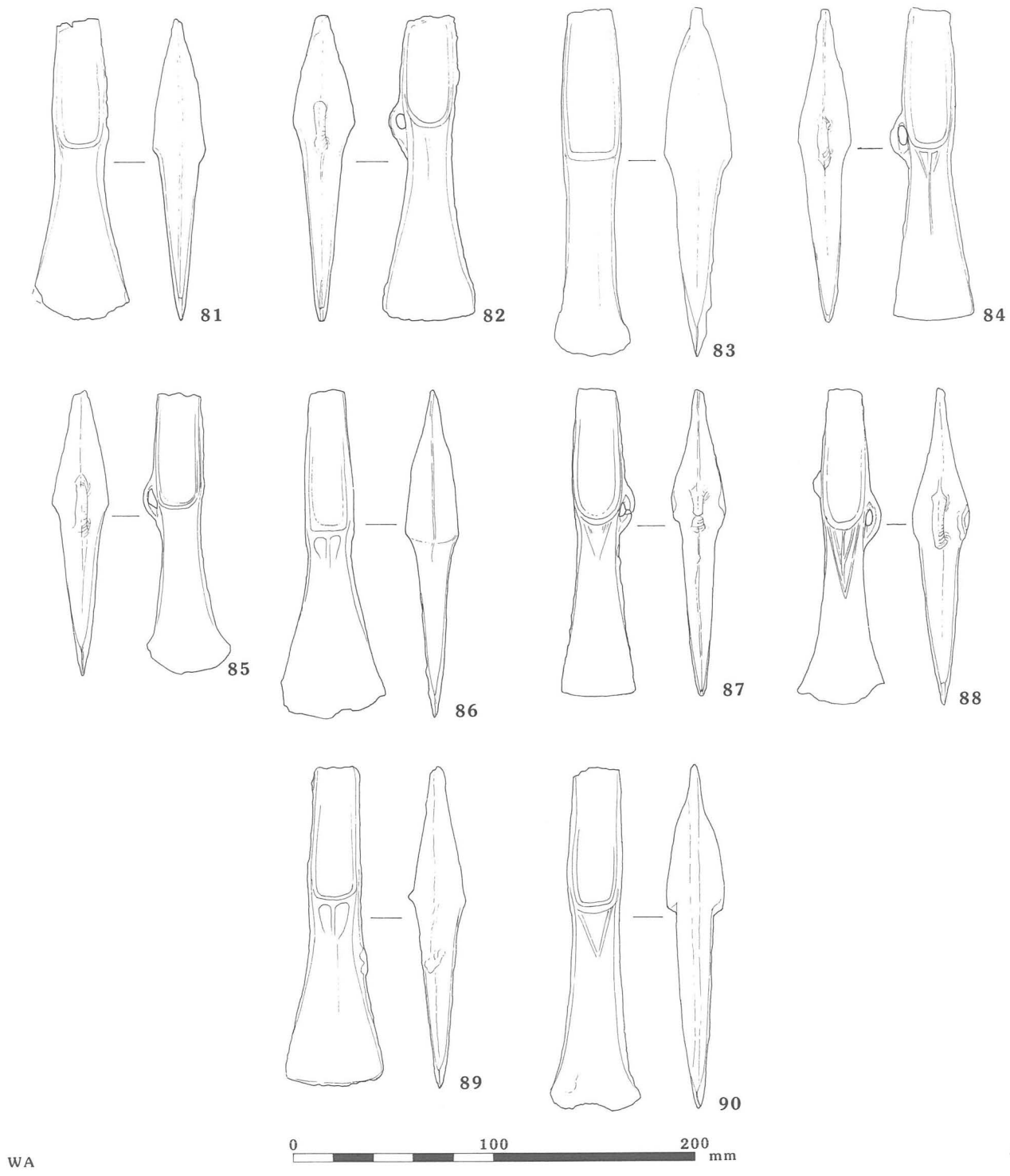

Figure 10. Part of the Marnhull hoard, at ⅓ life size.

palstaves from Bournemouth (Jarvis 1985) no Dorset hoard has more than six objects. In common with hoards from neighbouring Somerset and Wiltshire some Dorset hoards comprise ornaments only, while others contain a mixture of ornaments, tools and weapons (for details read Rowlands 1976). Although the hoards from Dewlish and Fontmell contain only palstaves (six and two respectively), the Bournemouth hoard bears closest comparison in terms of size. The Marnhull hoard belongs to a small group of larger palstave hoards found widely spaced in southern England (which includes the find of at least 41 palstaves found in 1898 at Pear Tree Green, Southampton, 11 palstaves found at Burley and a possibly redeposited hoard at Nursling, all in Hampshire). Metallographic analysis and detailed study of each object would be required to ascertain its closest French parallels, but this find is undoubtedly one of the most important Middle Bronze Age finds to be made in Dorset, and probably dates to about 1200 BC. It contributes greatly to the slowly growing corpus of material which demonstrates unambiguous links between Dorset and North-West France in later prehistory.

ACKNOWLEDGEMENTS

We are grateful to Mr Dyke for permission to examine his find and land; to Dr Guy Verron, Ministére de la Culture, Caen for his comments on the French origin of the bronzes; to Dr Stuart Needham, British Museum and Dr Brendan O'Connor for their comments on comparable English provenanced pieces; to Mr Julian Cross for the published drawings. Drawings and photographs of each object are deposited with the County Sites and Monuments Record and the Dorset County Museum, but the objects are in private possession. The Trust is grateful to the Dorset Archaeological Committee for grants to study and illustrate the find.

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SPOLIA OPINA FROM HORTON

P. Copland Griffiths

'It might do for a newspaper article or for reading at a meeting of the Field Club [i.e. the Dorset Natural History & Antiquarian Field Club, the earlier name for DNHAS] but I considered it to be too discursive and didactic for the pages of an archaeological journal. But the subject is somewhat novel and curious ...' The antiquarian T. W. Wake Smart writing to the Rev. C. W. Bingham about his article on Roman 'votive' offerings at Horton. Wake Smart summarised his findings for the *Journal of the British Archaeological Association* (1875), but his fuller manuscript account is of particular interest for the reactions of the local inhabitants to the discovery.

In 1989 trial trenches in Horton, dug to locate a 17th century kiln, led to the discovery of a Roman fibula which seems likely to relate to Wake Smart's site. The fibula was found beneath a heap of 17th century kiln wasters, which were apparently *in situ*.

'In the first week of June 1875 a remarkable discovery of Roman coins and fictile vessels was made in a meadow at the village of Horton, Dorset. It occurred thus; some boys were playing near a rivulet which rises there, and dabbling in the water, one of them found a small jar, or vase, lying on the bed of gravel; and beside it some 30 or 40 pieces of money. The news of this discovery was spread amongst the villagers, who, in expectation of finding a hoard of unbounded treasure, flocked to the spot, and quickly set to work to explore the bed of the stream. The excitement extended to the neighbouring peasantry, and for several days the explorations were continued; whilst great indeed must have been the disappointment of the multitude; as they found their labours rewarded by a number of old corroded coins, of less intrinsic value than so many brass farthings; and a few earthenware pots or jars, which were supposed to have contained the treasure! The '*auri sacra fames*' [sacred hunger for gold] led to the attractive scene one Sunday morning at daybreak, a party of sturdy navvies from the town of Ringwood, some 8 miles distant, who armed with pick-axe and shovel were bent on making short work with the El-Dorado. But, unhappily for them, the presence of the '*Numen*' in the shape of a Policeman deferred them from carrying their design into execution, and they departed '*re infecta*' [the thing not having been done]. These desultory researches were now put a stop to by the Agent of the Earl of Shaftesbury, the Lord of the Manor and of the soil, who put in his claim, and forthwith active measures were taken to collect the '*spoilia opima*' [rich booty in war] which had found their way into many hands, and were in danger of finding their way out of the locality altogether.

A further search was also made at the spot, under this gentleman's directions, but with the result of only adding a few more

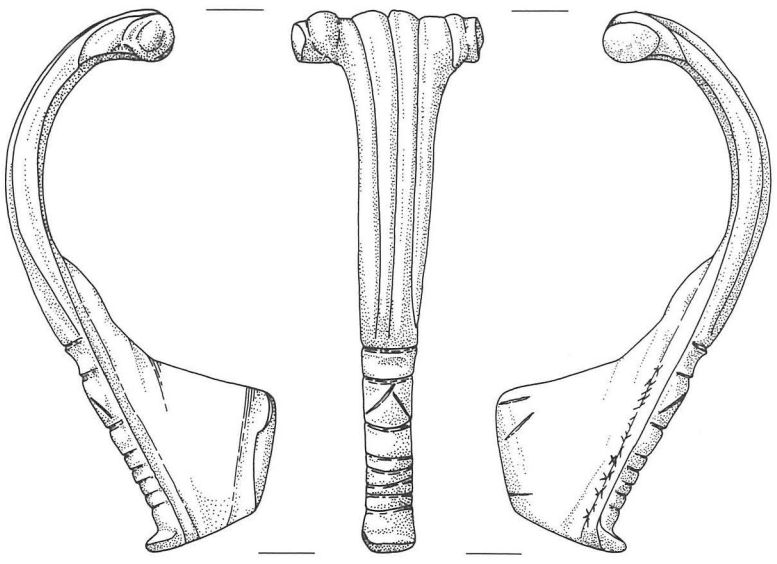

Figure 11. The fibula from Horton at life size.

corroded coins to those already collected, together with a large quantity of the debris of the same kind of pottery as the vases; a short iron spear or javelin head its socket and point eaten away by rust; some animal bones blackened by age; horses teeth; a few flints bearing the marks of having been chipped by hand, a disc of bronze and a small amber bead. Eventually recovered some 140 coins and seven small and perfect vases, which had probably been used for their deposit, or in association with them'.

Wake Smart then describes the artifacts, with coins ranging in date from 138 AD to 378 AD, and identifies the pottery as being New Forest ware. He inferred that this group of artifacts was a votive offering at a springhead, and indeed the miniature vessels are typical votive offerings. Documentary research revealed three drafts of this paper which Wake Smart finally presented at the meeting of the British Archaeological Association in London December 1875 in abbreviated form. The finds (which are in the Dorset County Museum) have not been published, but are noted by the R.C.H.M. 1975 p. 31. mon. 15.

Consideration has been given to the exact location of this site. Maps of 1620 (D.R.O., D.B.K.L.) and 1770 (Lord Shaftesbury's Archives) have been studied and from information in this paper Wake Smart describes it as being 'On the north side of a tract of pasture land formerly known as 'Horton Pond', being a fine piece of water of some 200 acres extent'. This would indicate the possibility that the site could have been in close proximity of the 1989 excavations. However, it is possible that the 17th century owner of the cottage close to the kiln was an earlier thief from the Roman site, obtaining his own *'spoilia opima'*, and later losing it in his back garden.

THE ROMANO-BRITISH BROOCH

A. P. Fitpatrick

A hinged T-shaped copper alloy brooch which, apart from its hinged iron pin is complete. The bow is decorated with-mouldings along its length and incised lines across its width. There is also geometric incised decoration on the catch plate. Tool marks suggest that there was decoration touched up after casting, apparently using a graver.

The brooch falls within the poorly defined group of hinged T-shaped brooches. This group appears to represent a characteristically southwestern English development from the mid-first century AD Colchester and Polden Hill types. The complex typological relationships within the group have yet to be explored fully.

The moulding on the bow, the broad catchplate and the snub nose terminal of the brooch find parallels in what is otherwise a more elaborate developed Poldon Hill example from No'nour (Hull 1968, fig 11, 2). That the general form of the Horton brooch also has some parallels with the slightly later Headstud type (e.g. Neal 1974, 125-7 fig. 54, 20) might suggest that it dates to the later first or earlier part of the second century AD. The length is 69 mm.

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A copy of Wake Smart's account of the finds, along with letters, is in the Dorset County Museum.

SOME MEDIEVAL POTTERY FROM SHAFTESBURY

Paul Spoerry

Pottery was studied from three small SDAG (Shaftesbury and District Archaeology Group) sites which were directed by Bill Moore in the 1970s. This formed part of a regional study of medieval ceramics that the author undertook at postgraduate level. The sites concerned were at 6 Bimport (ST 8602022913), 22 Bimport (ST 8592622837) and also at Parkwalk (ST 8621722884). In total 87 sherds and building material fragments were studied from 6 Bimport, 13 were studied from 22 Bimport and 47 sherds were studied from Parkwalk.

The excavations at 6 Bimport uncovered a sandy soil above a pit, which was in turn above green sandstone foundations at a depth of about two metres. The pottery studied was distributed throughout all these layers. At 22 Bimport the trench was intended to provide information concerning early phases of the church of St. Mary. The pottery recovered derived from a greensand rubble spread and a partly rubble-filled pit located at a depth of about 1.5 m. At Parkwalk the trench was dug prior to the construction of a garage, approximately 18 m from the 'Abbey wall'. An organically-rich soil and a lime-mortar feature identified as a probable soakaway produced most of the sherds.

The sherds were divided into the seven broad ware categories described below. The number of sherds of each type at each site, together with their weights, are shown in Tables 1-3. Separation of the data into sub-site units was not attempted because there were too few sherds present in all three collections for the data to be meaningful if broken down any further.

Ware categories

Descriptive terminology as regards inclusions derived from the Trust for Wessex Archaeology pottery recording system (Davies and Hawkes 1985).

A: Hermitage-type wares. Abundant quartz grains, 0.1-0.5 mm. This ware is, when not hard-fired, similar to that found at the kiln site in Hermitage parish (Field 1966). When hard-fired it is most reminiscent of 14th and 15th century 'ware E' material from Sherborne Old Castle (Harrison and Williams 1979, 94). It is present here as crested ridge tiles with slashed decoration, bunghole pitchers and jugs with strap handles with slashed decoration. All these types were found at the kiln site at Hermitage, and all are at earliest late thirteenth century in date. All three types are also found in 14th to 15th century assemblages at Sherborne Old Castle, suggesting that close dating by form is not possible with the material seen here. A thumbed rim in this fabric from 22 Bimport shows much similarity with post-medieval forms from the Verwood Industry (unpublished material held by the Verwood and District Potteries Trust).

B: Ilchester-type wares. Common quartz grains, 0.5-1 mm (occ. larger), assorted colours and roundness. Common quartz grains, 0.05-0.2 mm, clear and milky sub-round grains. Sparse haematite 0.2-1 mm. Rare quartzite, 0.5-1 mm, white with clear embedded quartz grains (about 0.1 mm). Common mica < 0.1 mm. The matrix of this ware is visually 'grainy' to the naked eye. The only forms identifiable from the material here are everted-necked cooking pots with sagging bases. Forms of this kind in (superficially) visually similar wares are found at Sherborne Old Castle (ware B) (Harrison and Williams 1979, 94) and also at Ilchester (wares B, BB etc.) (Pearson 1983, 171-173). In both of these large assemblages, however, the date range for this material is wide (12th to early 14th century approximately) and without further dating evidence the material here must occupy a similar bracket.

C: Coarse quartz tempered ware. This ware encompasses a large amount of variation in terms of the size of the quartz grains present. The extremes identified are shown below, but it must be stressed that there is a virtual continuum of grain sizes in the ware as a whole. Finest. Abundant quartz grains, 0.2-1 mm, sub-round, clear and milky (occ. red). Sparse haematite, 0.5-1 mm, sub-round. Rare chalk or limestone, 1-2 mm, sub-round. Coarsest. Abundant quartz grains, 0.5-2 mm, sub-round and milky.

The matrix of this ware is sometimes off-white, but is more commonly a reduced dark grey. Most of the ware C material is in unglazed cooking pot forms, with everted and/or externally-thickened rims. Some externally glazed vessels are present, particularly at Parkwalk, but also at 6 Bimport. These are probably mostly glazed jugs, but the possibility that some are tripod pitchers cannot be ruled out. The glazed sherds are, however, generally too small to be more specific about their forms. Some of the sherds from Parkwalk have red-brown slip-painted areas, sometimes under a thin yellow-green glaze. This indicates a probable Poole-area origin for this material, and a date around 1250-1350 (Jarvis unpub. and 1983, 53).

Some of the unglazed sherds from 6 Bimport exhibit scratch-marking. This surface treatment technique has long been known at sites across the south of England but the examples here may in fact derive from Laverstock, as the Laverstock cooking pot fabric is very similar to that described here (Musty *et al.* 1969, 99-107 and Spoerry unpub.)

The skillet/pipkin handles (Nos. 7 and 8) from 6 Bimport are in this fabric. No direct comparisons for these forms have been found by the author, but vessels of this type are dated to the late thirteenth century at Laverstock (Musty *et al.* 1969, 109), and are widespread in later centuries.

The eight cordoned (probable) storage vessels from 22 Bimport are not directly comparable with anything the author has seen in the region. Thick, thumbed body-cordons like that on No. 10 are found up until the sixteenth century at Donyatt (Coleman-Smith & Pearson 1988, (fig. 41 1/22; fig. 51 1/878; fig. 119 12/13, 12/20 and 12/21) but the fabric seen here is not very similar to those from Donyatt.

D: Very coarse quartz tempered ware. This ware is similar to C, but the inclusions are all coarse or very coarse. Abundant quartz grains, 0.5-2 mm+, sub-round. The roof furniture in this ware from 6 Bimport is possibly a hollow finial or chimney pot. The sherds from vessels in this fabric are not very diagnostic, but it is certain that they are cooking pots of some type.

E: Fine white ware (Surrey-Hants border type). Very common quartz grains, 0.05-0.2 mm, sub-round, clear and pink. This fabric is similar to later medieval and early post-medieval products from kilns in the Hants-Surrey border (Holling 1971, 69-70; Pearce and Vince 1988, 9-11). Its quartz temper is rather less coarse than that found in 'coarse border ware' (Pearce & Vince 1988, 9) and slightly coarser than that found in true 'border ware' (Orton and Pearce 1984, 35) as the later products of the Surrey industry are usually known. It may be an early 'border ware', or possibly a border-type ware deriving from a production site not identified in the works cited. The sherds probably represent part of a handled cup and a date of 1500-1600 may be suggested on comparison with published collections.

F: Laverstock-type quartz tempered ware. Moderate to very common quartz, 0.1-0.5 mm, clear and pink grains. Sparse grog, 0.2-0.5 mm. The number and size of quartz grains varies quite greatly, but this material is undeniably different from ware C. It appears to be present only as jugs, decorated with external glaze and clay strips, although most of the sherds present are too small to be any more specific about the forms. The fine wares from Laverstock show a similar variable amount of quartz temper and are often highly decorated. The author's knowledge of the products of this kiln site (Spoerry unpub.) suggests that most or all of the sherds in ware F derive from Laverstock. If this is so, then this material can be dated to the period 1230-1300. Some of the ware C sherds may in fact be Laverstock products as well. This was indicated for the scratch-marked material, but it may also apply to other plain cooking pot sherds. It is, however, very difficult to differentiate visually between coarse wares from Laverstock and coarse wares in non-white fabrics from much of east Dorset and Hampshire.

Discussion of the whole assemblage

It is apparent from Tables 1-3 that ware C is the most abundant over all three sites, and at all these sites individually as well. Wares B and D were only found at 6 Bimport, whereas ware F was particularly prominent in the Parkwalk collection, but not found at all at 6 Bimport.

It is doubtful whether many of these differences are very meaningful. Wares B and D are probably the earliest of all those studied, but their presence in the assemblage from 6 Bimport cannot be said to support an earlier date for this material as a whole. This is because some other pieces in this collection, notably some sherds in ware A and the skillet handle in ware C, are undoubtedly of 14th century date or later. The dominance of ware C is not a useful dating tool as examples of this ware type are common in 12th century deposits at Laverstock (Musty *et al.* 1969, 99-107) and Wareham (Hinton and Hodges 1977, 62), as well as being present in structures dated to the 13th and 14th centuries at Sherborne Old Castle (Harrison and Williams 1979, 96).

The production sources

Ware A has been described as a Hermitage-type fabric. Some or all of the sherds of this ware found here may well derive from the known kiln at Hermitage. It is, however, quite possible that other kilns existed in the medieval and early post-medieval periods in the Blackmore Vale, as discussed by the author elsewhere (Spoerry 1989, 34-35). The fact that most of this material seems to be harder fired than the main body of material found at Hermitage may suggest, along with the lack of early cooking pot forms, that other, slightly later, kilns from the same 'tradition of manufacture' may be responsible for the ware A sherds found here.

The ware B sherds show stylistic and fabric-derived similarities with the Ilchester-area products identified at Sherborne Old Castle (Harrison and Williams 1979, 96). The matrix of the ware B sherds looks similar to the Sherborne 'ware A and B' material, but the lack of flint and presence of mica in the Shaftesbury sherds indicate that they are not the same fabric type as the material from Sherborne. Despite this, a production origin in north west Dorset or south east Somerset is still possible, bearing in mind that visually and chemically similar types have only been found in this area (Spoerry unpub.). This does not rule out the possibility of this material being produced very near to the town of Shaftesbury, but it is equally likely that this material was manufactured some miles to the west, towards Sherborne and Ilchester.

It is probable that a multiplicity of production sources existed for the material described as ware C. Similarities exist between this ware and the coarse wares found at the Laverstock kiln site, as discussed above, as well as with quartz tempered material found to the south in Wimborne (Field 1972, 60 wares A and B) (Graham

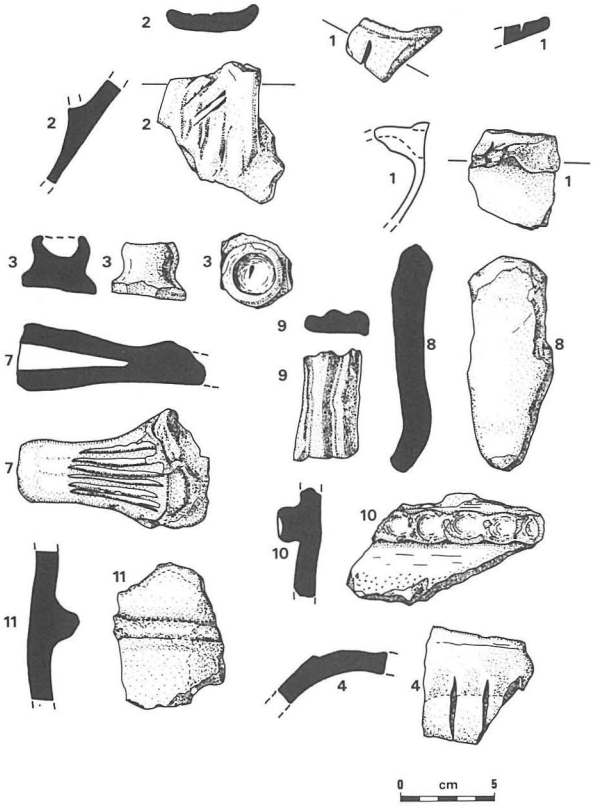

Figure 12. Medieval pottery from Shaftesbury at ¼ life size.

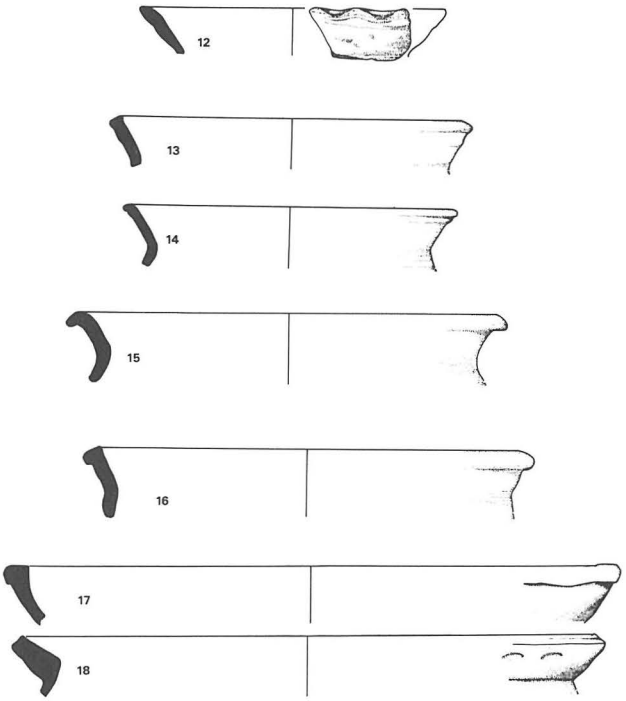

Figure 13. Medieval pottery from Shaftesbury at ¼ life size.

1984, 81 wares H, I and possibly J) and around Poole Harbour (Jarvis unpub. and author's study). Other sources further east cannot be ruled out either, as similar material is also found at Southampton (Spoerry unpub.). It is also possible that some of this material derives from an unknown production centre nearer to the town of Shaftesbury, but, as yet, no evidence for medieval kilns exists in this area. It is, however, unlikely that any producers of this ware existed to the west of Shaftesbury, as it is more common on sites to the south and east. Ware D may have been manufactured quite locally, and as it is of the same general type as ware C it is probable that it was produced to the east of the town. Wares E and F have been suggested as deriving from Surrey and Laverstock respectively.

Overall, the indications are for a wide range of producers providing ceramics for the market in medieval Shaftesbury. This includes 'industries' to the south, west and east, as well as the possibility of local coarse ware manufacture. This wide range of contacts supports Bettey's view of Shaftesbury in later centuries as a 'well-connected', prosperous town, benefitting from its position on major east-west routeways and commanding the exchange of produce between the grain-producing chalklands of south Wiltshire, and the dairy farming clay vales of north Dorset (Bettey 1987, 75).

ACKNOWLEDGEMENTS

My thanks go to Bill Moore and the Shaftesbury and District Archaeological Group for allowing me to study the ceramics used in this report, and to Pamela Griffin for drawing the pottery.

LIST OF SHERDS ILLUSTRATED

1 Jug rim and part of strap handle with slashed decoration. Ware A, red-brown margins and surfaces, grey core. 6 Bimport. Similar to an example from Wimborne (Graham 1984, Fig. 3, No. 37).
2 Base of slash decorated strap handle from a jug. Ware A, colouration as 1. 6 Bimport. Similar to an example from Sherborne Old Castle (Harrison & Williams 1979, Fig. 46, No. 22).
3 Central knob from lid with single stab-mark in recessed top. Ware A, colouration as 1. 22 Bimport.
4 Crested ridge tile fragment with slashed decoration and partial green glaze on upper surface. Ware A, red-brown surfaces, buff margins and grey core. 22 Bimport. Similar to a variety of examples including one published from the kiln at Hermitage (Field 1966, Fig. 9, No. 41).
5 & 6 (Not illustrated). Bungholes from cisterns. Ware A, splashed green glaze externally. 6 Bimport. Similar to a variety of published examples, including one from the Hermitage kiln (Field 1966, Fig. 9. No. 40).
7 Skillet or dripping dish handle. Shallow slashed decoration on upper surface and occasional spots of green glaze. Ware C, orange-brown surfaces, pink margins and grey core. 6 Bimport. Nearest parallel indentified is from Oakley Down, Wimborne St. Giles (Poulsen 1984, Fig. 14, No. 4).
8 ?Pipkin handle, flattened S-shape with occasional spots of clear glaze. Ware C, orange-brown surfaces and margins with grey core. 6 Bimport.
9 Flattened jug handle with two parallel grooves. Ware C, light brown surfaces and margins, grey core. 6 Bimport.
10 Body sherd from ?storage vessel with very thick thumbed horizontal cordon and external thick green glaze. Ware C, orange-brown surface and buff margins and core. 22 Bimport.
11 Body sherd from ?storage vessel with thick horizontal cordon and partial mottled green glaze externally. Ware C, colouration as 10. 22 Bimport.
12 Everted cooking pot rim. Ware B, mid brown surfaces, dark grey margins and core. 6 Bimport.
13 Everted cooking pot rim. Ware B, orange-brown surfaces, grey margins and core. 6 Bimport.
14 to 16 Everted cooking pot rims. Ware C, orange and brown surfaces and margins, grey cores. 6 Bimport. These types of rim form are common in many assemblages across the Wessex region, being found in similar fabrics at, for example, Laverstock (Musty *et al.* 1969) and Wareham (Hinton & Hodges 1977).
17 Externally-thickened bowl rim. Ware C, external surface blackened, red-brown internal surface and margins, grey core. 6 Bimport.
18 Thickened, squared, everted cooking pot rim. Ware C, light brown external surface, light grey margins and core. The internal surface is blackened but the rim form does not suggest that the vessel was a curfew.

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TABLE 1. Pottery and building materials from 6 Bimport.

	Ware				
	A	B	C	D	E
No. sherds	9	10	51	4	2
Weight (g)	202	146	1007	37	23
B-M frags	4	0	0	3	0
Weight (g)	218	0	0	119	0

TABLE 2. Pottery and building materials from 22 Bimport.

	Ware		
	A	C	F
No. sherds	4	5	1
Weight (g)	94	224	8
B-M frags	3	0	0
Weight (g)	135	0	0

TABLE 3. Pottery from Parkwalk.

	Ware		
	A	C	F
No. sherds	7	27	13
Weight (g)	81	162	36

MEDIEVAL AND POST-MEDIEVAL MILLSTONES FROM THE OLD MALTHOUSE, ABBOTSBURY, DORSET

Alan H. Graham & D. O. Farmer

Excavations in 1984 and 1985 within the standing building which was identified as the watermill of the Benedictine Abbey at Abbotsbury recovered a number of fragments of millstones (Graham 1987, 102-125). What follows are additional comments upon the probable sources of these stones following correspondence with Professor D. L. Farmer (St. Thomas More College, University of Saskatchewan, Canada) who has pointed out the importance of 'the substantial literary evidence on the origins of millstones used in Medieval England, recorded in manorial accounts such as those of Glastonbury Abbey and the Bishopric of Winchester'.

The excavated fragments comprise three stone types, identified by Paul Ensom; a Siliceous rock, a Basaltic Lava and an Old Red Sandstone with probable sources respectively in the Paris basin, Niedermendig in Germany and South Wales or the Mendips (Graham 1987, 122, 3, 2 and 1). None of the fragments was recovered from a layer that could be dated on archaeological grounds and no comment was then made on the possible significance of the stones and their sources.

Professor Farmer writes 'The most prized millstones were those imported – perhaps as early as Roman times and certainly as late as the 19th century – from the Seine basin east of Paris, quarried at La Ferté-sous-Jouarre. Most of those imported to England in the middle ages were shipped to Southampton or London, though the Bishop of Winchester's mills around Taunton bought them at Wareham, Weymouth or Topsham (Devon). Before the Black Death their price seldom exceeded sixty shillings a stone; by the end of the 14th century prices of four or five pounds were typical. French millstones were ideal for milling wheat, as they produced a whiter flour than other stones. Millstones also came to England from the Niedermendig district of Germany. They were quarried in one piece and shipped from Cologne, whence they derived their common name of 'cullen'. In east coast ports like Colchester, Ipswich and King's Lynn, their price was about 60% of that of French stones in the southern markets. Though a specific reference to the purchase of a cullen has yet to be found in the manorial

records of southern England, some stones were bought at lower prices than the French stones, at places like Lymington in Hampshire. These may have been cullens, appearing in the southern markets after the Black Death as rivals to the high-priced French stones.

There is no doubt that Welsh stones were available in the south. The mills at Fareham and Bishop's Twyford bought them in 1347-48 for about one third of the cost of a French stone, and Havant and Overton did so in later years. Most of the stones bought by the Bishop of Winchester's mills near Taunton were Welsh; landed at Bridgewater and carted to his mills, their cost including carriage was about one tenth of that of a French millstone delivered to Taunton.

Stones from the English Peak District seem not to have been available south of the Thames, but there was one important southern source of millstones. It remained popular in the 13th, 14th and 15th centuries, supplying mills at least thirty miles away. The accounts name it simply as 'La Penne'. It was almost certainly Penselwood in Somerset, very close to the meeting point of the boundaries of Somerset, Wiltshire and Dorset. It supplied the mill at the Glastonbury Abbey Manor of Longbridge Deverill on many occasions and the abbot's mills at Brent and Walton likewise. The Bishop of Winchester's Taunton mills often bought stones from there, as did his manor at Downton, on the Hampshire border. Stones from 'La Penne' usually cost more than Welsh stones. *The Victorian County History of Somerset* (Vol. II, 27 and 365-366) reports whetstones and quernstones from Penselwood, among the findings of 19th-century excavations.'

Professor Farmer's comments are highly relevant to the stones from Abbotsbury and in the light of them, a number of amendments to the original text can be made.

The Siliceous rock, source the Paris basin (Graham 1897, 122, 3, 5, 6, 7 and 9); there is now no reason why these fragments should not be parts of millstones used in the medieval Abbey mill. The term 'beurre' used in the report is incorrect (in fact a complete figment of the author's imagination) and should be 'burr', meaning a millstone fabricated from a number of stone segments (burrs), which by the 18th or 19th century were the standard product of the La Ferté-sous-Jouarre quarry (Tucker 1977, 2). Here, however, the term may be inapplicable. The Abbotsbury fragments, on the basis of their size (Graham 1987, 122, 3, which comprised about 40% of a stone and more recently unearthed fragment which comprised about 50% of a stone) and the absence of any evidence of the straight-cut joining edges which characterize the components of a burr-stone, may be parts of monolithic millstones, cut from a single piece of stone. If this is the case then they are likely to be early products of the French quarries (pers comm. Olwyn Williams-Thorpe) and it may be significant that Professor Farmer has not encountered the term 'burr' in any medieval document.

The probability that the Abbey mill housed two independent waterwheels, each driving a pair of stones (Graham 1987, Fig. 7) makes it possible to suggest that one wheel drove the finer French stones, the other the coarser, Welsh stones of Old Red Sandstone (Graham 1987, 122, 1, 4 and 8). It has been suggested that at least one pair of each type of stone was a typical arrangement in country mills prior to the late 19th century, 'the monolithic stones would be used for grinding fodder, including peas and beans; the French burrs were for wheat'. (Tucker, 1977, 3). Whether a similar use of stones is possible in a monastic mill of the medieval era is unclear; both types of stone were purchased for the Bishop of Winchester's mills at Taunton, and the production of a fine, white flour for those higher elements of the clergy, or perhaps more importantly for the altar bread, may have been important and desirable.

The Basaltic lava stone from Abbotsbury is clearly an example of a cullen (Graham 1987, 122, 2) but may be a post-medieval stone. The excavated fragments could indeed be parts of the pair of stones installed in the extensively altered post-Dissolution mill (Graham 1987, Fig. 3), with its single, smaller waterwheel.

To conclude; there is no evidence of the use of local sources of millstones at Abbotsbury. 'La Penne', associated by Professor Farmer with Penselwood in Somerset is situated about thirty-five miles north of Abbotsbury, on the Upper Greensand, a material frequently used for millstones and querns (information from Paul Ensom). Despite the documentary evidence for the considerable overland distances that the 'La Penne' stones may have been transported, there is no evidence of them in the archaeological record at Abbotsbury. The millstones of the Benedictine Abbey came from France and Wales and were probably shipped through the smaller ports of the South coast of England, most conveniently Weymouth, involving no more then six miles overland shipment.

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A SECOND BASTARD BAROMETER

Polly Legg

In 1985 the Dorset County Museum purchased an early 18th century ebonised wheel barometer signed 'John Bastard, Blandford'; an account of which was published in these *Proceedings* (Legg 1985). This year another ebonised wheel barometer by the Bastard family has appeared on the antiques market (Anon 1990, 76 right). The family were builders and architects in Blandford in the late 17th century and throughout the 18th century. Their enterprise was remarkable for a provincial firm; they were also cabinetmakers, clock and barometer makers, monumental masons and undertakers. During the early 18th century the younger brothers left Blandford to work in Sherborne, Hampshire and London while the three eldest sons, Thomas, John and William, remained in Blandford. Thomas died in 1731, shortly after the disastrous fire that destroyed most of the town. John and William were responsible for much of the rebuilding of the town after this. Their list of losses during the fire (DRO D6/1) contains evidence that they were making barometers as they record losing both completed instruments and a stock of barometer tubes.

This second barometer is simply signed Wm. Bastard, but the strong similarities between the two barometers make it almost certain that this is by John's brother and partner. Both wheel barometers are in ebonised cases; both have wooden dial plates and chapter rings and similar dial feet. The design of the brass carriage in each barometer is similar, although the one in William's is more substantial. The steel arbors which carry the indicating hands are fitted in each case with a wooden pulley. These are normally brass. The wording of the weather indications shows only one change – William has used 'Variable' rather than 'Changeable'. The divisions on the chapter ring are the same in each case and, as no numbered scale has been included, the direction of pressure change has been indicated, 'Air heavier' and 'Air lighter'. Both barometers were set up to show high pressure on the left of the chapter ring and low pressure on the right. This is a very unusual feature as most other 18th century wheel barometers show low pressure on the left and high on the right.

The wheel barometer, invented by Robert Hooke and first published during the 1660s, was designed with a bolt-head tube. This had a spherical enlargement at the top of the tube; the surface of the mercury in the top of the tube was intended to coincide with the diameter of the sphere in an effort to maximise the effect of the change of air pressure in the short limb of the tube. This movement is transferred to the dial by means of the carriage. Some early wheel barometers show evidence of having been originally fitted with bolt-head tubes which have since been replaced: bolt-head tubes still survive in two wheel barometers attributed to Justin Vulliamy, one now at Windsor and one at Nostell, which date from the third quarter of the 18th century. Justin Vulliamy was in partnership with Benjamin Gray, clockmaker to George II, and it is suggested that he fitted bolt heads in his wheel barometers as a consequence of seeing the tubes in the Tompion wheel and siphon tube barometers and the Quare siphon tube barometer in the Royal Collection, as all three of these were fitted with bolt heads. Regretably, the tubes in these barometers have since been replaced (Goodison, 1977, 268).

There is no evidence that the barometer by John was fitted with such a tube, although later alterations, possibly associated with fitting a new tube, may have removed the evidence. There is however some evidence that the instrument by William was fitted with a bolt head tube as a circular concave depression, which could have accommodated a bolt head, has been gouged out towards the top of the back of the case.

Another barometer by William Bastard has been recorded (Goodison 1977, 300). This is also a wheel barometer but in a mahogany case and therefore probably later in date than this ebonised one. However, as the ebonised barometer is almost certainly from Blandford, it increases the possibility that the mahogany barometer might also have been produced in Blandford.

However, comparison of the two barometers supports the suggestion made in 1985 (Legg 1985, 5) that the one by John Bastard might be a prototype. Certain features indicate this: the awkward positioning of the dial (including the obscuring of the well drawn

Plate 1. Wheel barometer by William Bastard in ebonised case. Height (including finial) 50"; maximum width 12"; maximum depth 4".

spandrel ornaments by the break arch of the glazed hood); the use of wood for the gearing to position the recording hand which, due to the tendency for wood in thin sections to warp, caused the system to fail. The recording hand is attached to a thin wooden ring fitted in a recess between the dial and the dial plate, and is operated by a brass key through the right hand side of the hood which turns a wooden arbor set with brass pins. These pins engage with a series of holes in the thin wooden ring to adjust the position of the pointer. Finally, there is no evidence of a pilaster to mask the visible tube, as in the barometer by William. Any and all of these features might occur in a trial instrument rather than in one which would be offered for sale.

This is certainly not the case with William's handsome barometer with its carved and moulded ebonised case with gilded detail in the fashionable Baroque manner.

One can easily accept John's barometer as the product of a provincial firm but wonder if William's would have been accredited to the brothers had it not been signed. This instrument demonstrates their grasp of the principles involved in producing articles to a London standard. The tube has been covered with a fluted pilaster; the dial has been carefully positioned within the break arch hood; and the drawn and gilded spandrel ornaments of scrolls, leaves and shells, while not as elaborate as the spandrels on John's barometer, seem more appropriate to the space they occupy. The decorative details owe something to the printed designs of Daniel Marot, while the case itself echoes that of the mulberry wood example made by Tompion for William III.

William has also abandoned John's use of wood in the gearing for the recording hand and used metal instead. The recording hand is attached to a brass ring with teeth on the back edge, fitted into a recess between the dial and the dial plate. A wire has been soldered on the inside of the ring which, bearing against a step in the inner wall of the recess, prevents the teeth from digging into the wood of the dial plate. To position the recording hand a key operating through the right hand side of the hood turns a five leaf brass pinion which meshes with the teeth of the brass ring.

The barometer by William incorporates a singular feature which is of the utmost importance in dating it; an elaborate frame containing an armorial has been painted on the dial centre. These are the arms of Sir James Howe of Cold Barwick or Berwick St. Leonard near Hindon in Wiltshire. Sir James was born in 1669, inherited the estate on his father's death in 1676 and died in 1736 when, as he died without issue, the baronetcy became extinct. This dates the barometer before 1736, and as William Bastard was born around 1689 and was unlikely to be signing a barometer with his own name before the age of 20, the instrument must date somewhere between 1710 and 1736.

Sir James Howe was a Wiltshire landowner; the Howe family had become established at Berwick St. Leonard in the first half of the 17th century when his grandfather, Sir George Howe, had inherited the estate from a maternal uncle, Sir Richard Grubham of Wishford, Wilts. Sir George, his son George and his grandson, James, were all to serve as MPs for Hindon. Sir James's father became a baronet after the Restoration, in June 1660. There is a fine memorial in the church at Berwick St. Leonard which incorporates portrait busts of Sir James Howe's grandparents and of his father, uncle and aunt. Sir James was the only son of George Grubham Howe and his wife Elizabeth to reach manhood; 6 of their 11 children died in childhood. Sir James married twice but had no children and his estates were inherited by Henry Lee Warner of Walsingham Abbey, his eldest sister's son.

No true impression of Sir James is possible from such brief biographical details. No information regarding his education has been traced, and even the house in which he lived at Berwick St. Leonard has been demolished. However, the happy accident of the survival of two sets of correspondence now in the Norfolk Record Office does give some more detail of the man. The first set consists of a series of letters from Henry Lee Warner while on the Grand Tour in 1713-16 to his uncle and a few copies of Sir James's replies. The second series consists of letters dating from the 1720s and 30s from Sir James to his niece Mrs Warner (N.R.O. Lee Warner, Box 9/1-15, Box 10).

In 1713, at the age of 25, Henry Lee Warner left on a Grand Tour of Europe with a Norfolk friend and neighbour, Hamon L'Estrange. The two friends had previously toured Northern England and Scotland together. On this journey they were to visit France, Italy, and back to Switzerland where Mr L'Estrange tragically died of smallpox probably contracted in Italy. Henry Lee Warner continued on into Germany and visited Holland and the Low Countries before returning to England in 1716.

The long and detailed descriptions in his letters to his uncle suggest shared interests, in landscape and agriculture, in art and architecture. He records visiting Versailles; an audience in Florence with the Grand Duke and a visit to the Medici collections of paintings and medals; 6 months in Rome studying sculpture, painting and architecture; and in Dusseldorf a visit to the Elector's famous collection of paintings. He purchased paintings for himself in Italy and was commissioned by his Uncle to buy him paintings and maps in Holland before returning home.

A more domestic picture emerges from Sir James's letters to his niece. Here his constant reference to the weather and consequent state of the corn or the roads suggest a man who might well appreciate the information a barometer would provide. He appears a lively man dividing his time between Wiltshire, London and Norfolk, constantly surrounded by nephews and nieces, attending the theatre, asking his niece's advice before buying new clothes, and, although prone to gout, indulging in at least some of life's comforts including sweetmeats specially ordered in London and tea from Twinings.

It is intriguing to consider why such a man would buy his barometer from William Bastard in Blandford. In one of his letters he records ordering furniture from a London cabinet maker (unfortunately anonymous) (*Ibid*, Box 9/5) and yet he chose to go to a provincial firm for his barometer. An attractive possibility might be that the brothers had acquired a very good reputation for supplying these instruments. Certainly there were very few firms producing wheel barometers in the early 18th century. This might also account for William omitting Blandford from the dial plate – perhaps their work was so well known that there was no need to include it!

However, an investigation of Sir James's social circle might provide another reason. As his family were Royalists and later staunch Tories, it would appear reasonable to look for some of his friends amongst his Wiltshire neighbours of the same persuasion. This would include the Seymours at Maiden Bradley and the Arundells

Plate 2. Dial plate from the barometer by William Bastard 8″ × 11″, diameter 7″. The hand is possibly a replacement.

of Wardour. There is evidence that Sir James was friendly with the Arundells; during an illness suffered on the Grand Tour Henry Lee Warner records being visited twice by Lord Arundell of Wardour, and Sir James records several visits with Lord Castlehaven, Lord Arundell's son-in-law. Another friend who is often mentioned in the letters is Mr Wyndham. This was William Wyndham, a neighbour from Dinton and Sir James's brother-in-law. Mr Wyndham was also connected by marriage to two Dorset families, the Portmans of Bryanston and the Fownes of Stepleton near Blandford, both of whom were building new houses or altering existing ones in the early 18th century. Henry Seymour Portman, the fifth son of Sir Edward Seymour of Maiden Bradley, inherited Bryanston from Sir William Portman in 1689 and he is known to have employed the Bastard family; Benjamin Bastard, a younger brother of John and William built a town house for him in Sherborne. After his death his widow, Meliora Fitch of Highall, Wimborne, married Thomas Fownes and they made alterations to the house at Stepleton together; whether they employed the Bastard family is uncertain, but seems likely. It is perhaps as a result of these connections that Sir James Howe decided to order his baro-meter from the Bastard family.

It is also curious that Sir James decided to have his armorial emblazoned on the centre of the dial. This is certainly a very rare feature on a barometer although two barometers belonging to William III bear his Royal cipher, one of these being the mulberry wood wheel barometer by Tompion. Perhaps Sir James intended the barometer for the hall together with a suite of hall chairs which were often decorated with the owner's coat of arms. Whatever the reason there is much cause to be grateful to Sir James, both for making the barometer closely dateable and for identifying his ownership. The evidence provided by this barometer, that John and William had overcome their initial difficulties and were successfully making and selling wheel barometers, encourages hope that others in this series may still appear.

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I gratefully acknowledge the assistance of Bobinet Ltd in allowing me to examine this barometer at their premises and for kindly supplying photographs and information.

In addition I thank Mr and Mrs Edward Storey and Roger Smith for their ready help in checking far-flung references and the staff of the Norfolk Record Office for their assistance. I am also grateful to my husband, Michael Legg, for his constant help and support.

A TALE OF TWO PULPITS

Jo Draper

When searching the Wimborne Minster Churchwardens' bills for quite another purpose, a bill for 'taking Down a Pulpit at Holt Chapel bringing to Wimborne church and fixing of Do' in March 1835 caused surprise. The fine early 17th century wooden pulpit in Holt church (R.C.H.M. 1975, 32 and pl.19) is known to have come from Wimborne Minster, but this bill is for a pulpit travelling in the opposite direction. The bill continues; 'for cutting up board for sounding Board and steps and Labour', which means that the pulpit was fitted up for use in Wimborne Minster, surprising since the minster already had a pulpit.

Hutchins' first edition (1774) makes no reference to a pulpit at Wimborne, but the 2nd (1803) does. 'The Pulpit is placed near the Middle of the Nave, fixed to one of the N. Pillars; and from its Workmanship; and from the Arms of Queen Elizabeth carved and painted above it, probably was built as far back as her time' (Hutchins 1803, 547). The very full churchwardens' accounts for Wimborne have the entry in 1581 'Paid for the makying of the newe pulpyt, the seates & other necessaryes abowte the same £8.12s'. (Hutchins 1873, 262). So it seems that in 1835 there were two pulpits in Wimborne Minster, one coming from the chapel of ease at Holt, which was to be rebuilt the next year, (Warren 1966, 193) and another which had been made for Wimborne church in 1581.

In 1835 a restoration of Wimborne Minster was being proposed, as the Vestry Minute Book explains. On 18th march 1835 (DRO PE/WM/VE1/2) it records that 'Mr Tullock [designer of the new church at Holt] is requested to erect temporarily the pulpit taken from Holt Church near the Eagle in the church that the clergymen may preach in next Sunday with a view to ascertain whether they can be distinctly heard in the North and South transepts in the Belfry Gallery'. The churchwardens were to pay the costs, and it is their bill which started this note.

A minute of 11 April 1835 shows that this experiment was successful, and the faculty of the same date (DRO PE/WM/CW9/1) describes the extent of the restoration: 'a new gallery in the North and another in the South Transept of the Church ... & to new seat the ground floors of both the said Transepts. And also to remove the Pulpit in the said church and place it near the Eagle'. This was financed by 'a considerable sum of money ... raised by voluntary subscription'.

This 1830s restoration is not usually recognised, but it did actually take place, as differences between the first (1830) and second (1853) editions of Hall's book on Wimborne Minster show e.g. 1853 p.23 'The gallery in each transept was erected under the direction of Mr Evans in 1836'. The pulpit is mentioned in both editions. In 1830 the description is similar to that in Hutchins: 'The oaken pulpit displays the arms of Queen Elizabeth and was probably executed in the latter part of the reign of Queen Elizabeth' (Hall 1830, 27). In the 1853 version the arms of Elizabeth are omitted, possibly because during the resiting they had been removed (see below). The second edition of the *Guide* was revised by another author, otherwise the identical description could be taken as evidence that the pulpit in 1853 was identical to that of 1830.

Drawings and specifications for a 'new' pulpit of 1837 make it clear that the 'new' parts are the steps and pedestal which are to be 'of dark oak varnished to match the pulpit' (D.R.O. PE/WM/CW 10/9). A new reading desk was built opposite the pulpit.

The earliest illustration of the interior of Wimborne Minster showing the pulpit dates from just after the 1837 alterations. Whittock's large engravings of 1839 give a superb record of the Minster

Figure 14. Part of Whittock's engraving of the transept, Wimborne Minster, in 1839, showing the pulpit which is now at Holt.

before the massive 1850s restoration, and the interior views are detailed enough to show that the pulpit reset in 1835 is the one now in Holt church. (Fig. 14). In his text Whittock describes the 'beautifully carved' oaken pulpit 'now cleared of the immense mass of paint that had been accumulating for many years' and looking 'as perfect as when it came from the hands of the carver' (Whittock 1839, 7).

The new reading desk of 1837 was removed in the massive 1850s 'restoration' of the Minster. A poster of 1858 advertises 'To Architects, Builders, Clergymen, and Dealers in Old Oak and Antique Carving' 59 lots of 'Elizabethian [sic], Decorated, Perpendicular, Oak and Deal Fittings'. The horrific list includes much medieval woodwork (which doubtless resurfaced as furniture), but also includes a 'modern oak reading desk on fluted pillar' and the circular staircase with newels and hand rails, the subsequent lot, is presumably its support.

Lot 33 was 'An Elizabethian pulpit beautifully carved in oak'. It has generally been assumed that this was the pulpit which went to Holt in about 1875, not having sold at this sale, and being re-advertised by the churchwardens in the *Salisbury Journal* of 17th April 1869 (Warren 1966, 196). In fact the sale of 1858 must have been the spare pulpit, not fitted in 1835, and the 1869 advertisement the one which was fitted in 1835, and now at Holt.

As a postscript to the 1850s restoration 'a very handsome and appropriate new pulpit of Caen Stone & Derbyshire spar' was built in 1868 (Hutchins 1873, 208). This fits well with the date (1869) of the advertisement for sale of the second pulpit by the churchwardens.

Dating of church fittings was not a precise science in the early 19th century, so the description of the pulpit sold in 1858 – Elizabethian – need not have been accurate. However, heraldry was far more precise even then, and the Arms of Elizabeth over the original pulpit at Wimborne were doubtless correctly identified. The churchwardens' accounts quoted above date the Wimborne pulpit to 1581, so there is no doubt that Wimborne's original pulpit was Elizabethan. This dating has to be emphasised because despite all the documentary evidence cited above it is impossible to be sure from that whether Wimborne's original pulpit was refitted in 1835, or whether the one brought from Holt was used.

The pulpit which survives at Holt is clearly the same one which was refitted in 1835, and it is dated by the Royal Commission on Historic Monuments to the early 17th century (RCHM 1975, 32). They suggest (*ibid.* xiii) that the Holt pulpit dates from 1608, when the Wimborne choir-stalls were renewed following the collapse of the spire. However, in the late 18th century the Wimborne pulpit was recorded as being 'near the Middle of the Nave, fixed to one of the N. Pillars' (Hutchins 1803, 547), a position likely to be original, and too far from the crossing to be affected by the fall of the spire. Styles in woodwork changed quite fast during the later 16th and early 17th century, and so if it is impossible for this pulpit to date from 1581, then it must be the one removed from Holt in 1835, and returned there about 1875. Against this conclusion is the splendid quality of the pulpit, which makes it less likely to have been made for a mere chapel.

ACKNOWLEDGEMENTS

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LONG CROSS BRICKWORKS, SHASTON (SHAFTESBURY) ST. JAMES, DORSET

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Although the estate map of these brickworks, surveyed by James Upjohn of Shaston (Shaftesbury) in 1779, is held in the archives of the Dorset Record Office (DRO D/1679A), (Fig. 16), and is the earliest such representation in Dorset (Young 1972, 221), the site had not previously been identified. With the publication of the *Place-Names of Dorset*, Part III (Mills 1989), it was relatively simple to locate the field names on the plan from the Tithe Map and Apportionment of 1838 and 1841 (DRO T/SY[SJ]) and as the field boundaries are virtually unchanged since 1779, identification on the site was straightforward.

HISTORY

This land in the parish of Shaston St. James (Shaftesbury), belonging to Gorges (*sic*) Foyle, can be traced back at least to 1757 when it was part of his marriage portion from his father, the Rev. Edward Foyle (DRO D320/T278). The estate map of 1779 shows the brickyard to be in existence, a comparative rarity then, particularly in an area of plentiful building stone, as only some twelve had been recorded in Dorset by 1770 (Young 1972, 218). There is no other information until the Tithe Map of 1838 gives Robert Downs as the owner of the land, including the brickyard. He is listed as a builder in *Pigot & Co's Directory* of 1830 and was probably using the brickyard for his business. In her book on Motcombe, Lady Theodora Grosvenor refers to 'Mrs Down's brickyard' which, from the associated field names, is obviously at Long Cross (Grosvenor 1873, 19). However, the first edition of her book is dated 1867, by which time there was a different owner, so presumably she retained the name she had always known. Additionally *Robson's Directory* of 1840 lists J. Coombs as a brick and tilemaker in Cann, a parish south of Shaftesbury. Although there are outcrops of both clays in the south of this parish, in the absence of any other reference, it is not possible to confirm this use and it may just be a misnaming of the Long Cross site. In 1859 the owner is recorded as a man of some substance, Alfred Hiscocks New, auctioneer, farmer and brickmaker of Holme Cottage, Long Cross (*Kelly's P.O. Directory of Dorsetshire)*. He again appears in 1867 having added the occupation of 'land and house agent' to his other activities (*ibid.* 1868). By 1871 his wife, Mrs (Mary Ann) New had taken over as farmer and brickmaker (*Mercer and Crockers Directory [Dorsetshire Area])* and was similarly recorded in 1875 (*Kelly's P.O. Directory of Dorsetshire*) but this was the last entry and it is assumed that the brickworks closed soon after. A brass plate in memory of the New family including their children and grandson, is set in the south wall of the nearby St. John's Church, Enmore Green. It has not been possible to identify Holme Cottage which may have been one of those now known as Brick Hill Cottages, adjacent to the site.

GEOLOGY

The estate lay on a band of Gault clay, running approximately north-south, which rests unconformably on the Kimmeridge Clay, emerging on the edge of the estate to the west, with the Upper Greensand escarpment to the east (Geological Survey Map of Great Britain [Drift] Sheet 313, Shaftesbury 1977, 1:50,000). It must, however, be appreciated that the recorded geological boundaries are arbitrary.

The Gault consists of blue-gray, mottled, yellowish-brown, micaceous clay and can be distinguished from the Kimmeridge Clay

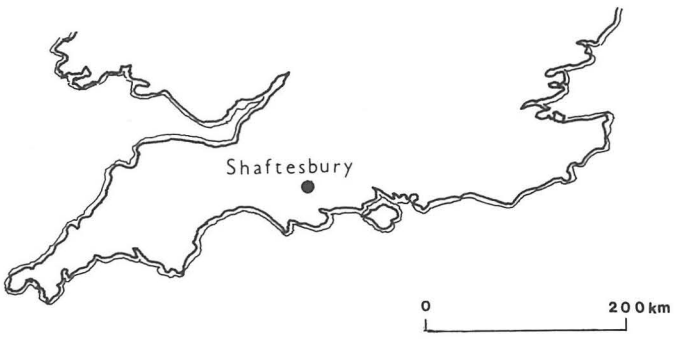

Figure 15. Shaftesbury: location map.

which is shaly and non-micaceous (White 1923, 47). Springs come to the surface at the junction of the Upper Greensand and Gault.

THE KILN SITE

An old farm building survives on what was obviously the kiln site (Fig. 17 & 18), with level ground to the east rising to the escarpment but dropping down to the west. The plan (Fig. 18) gives the outline of these structures.

They consist of a delapidated, rectangular brick building in a header and stretcher bond at A, having the interior wall extended upwards in Greensand and roofed. Obviously later in date and in a different brick (probably Gillingham), a wall with timber framing above fills what may have been an entrance at C. An extension in Greensand at B has some massive wooden beams in its roof and cattle stalls inside.

The previous owner described the building as a Dairy Farm from *c.* 1890 and, at one time, as a slaughter house (Mr R. Meaden, pers. comm.). He also referred to an adjacent Greensand wall south of this building (Fig. 18? E), which, on removal some two years ago, revealed an arch and tunnel. Other local residents described the latter as being in brick with a blackened arch, some 5 feet (1.5 m) high and about 10 feet (3 m) long (Fig. 18, F), set in a bank towards the south. They also recollected the ruined cottage of Greensand (Fig. 18, E), which was completely demolished at this time and may formerly have provided accommodation for workers firing the kiln (Young 1971, 230). Scattered brick and tile fragments with vitrified debris and clinker lie within this area, but the brick arch and tunnel are still *in situ* underground.

It is apparent that the clay workings were driven into the rising ground (*ibid.* 220) to the east (Fig. 16, IV), demonstrated by the visibly uneven surface which would confirm the hand-digging of the clay. The whole area is now much overgrown with scrub. Similar irregularities can be seen in the adjacent fields (Fig. 16, II & III), the former running on to the Kimmeridge Clay according to the geological map. Outside the area the estate, fields marked A, B, C & D (Fig. 17) also have strangely irregular surfaces which

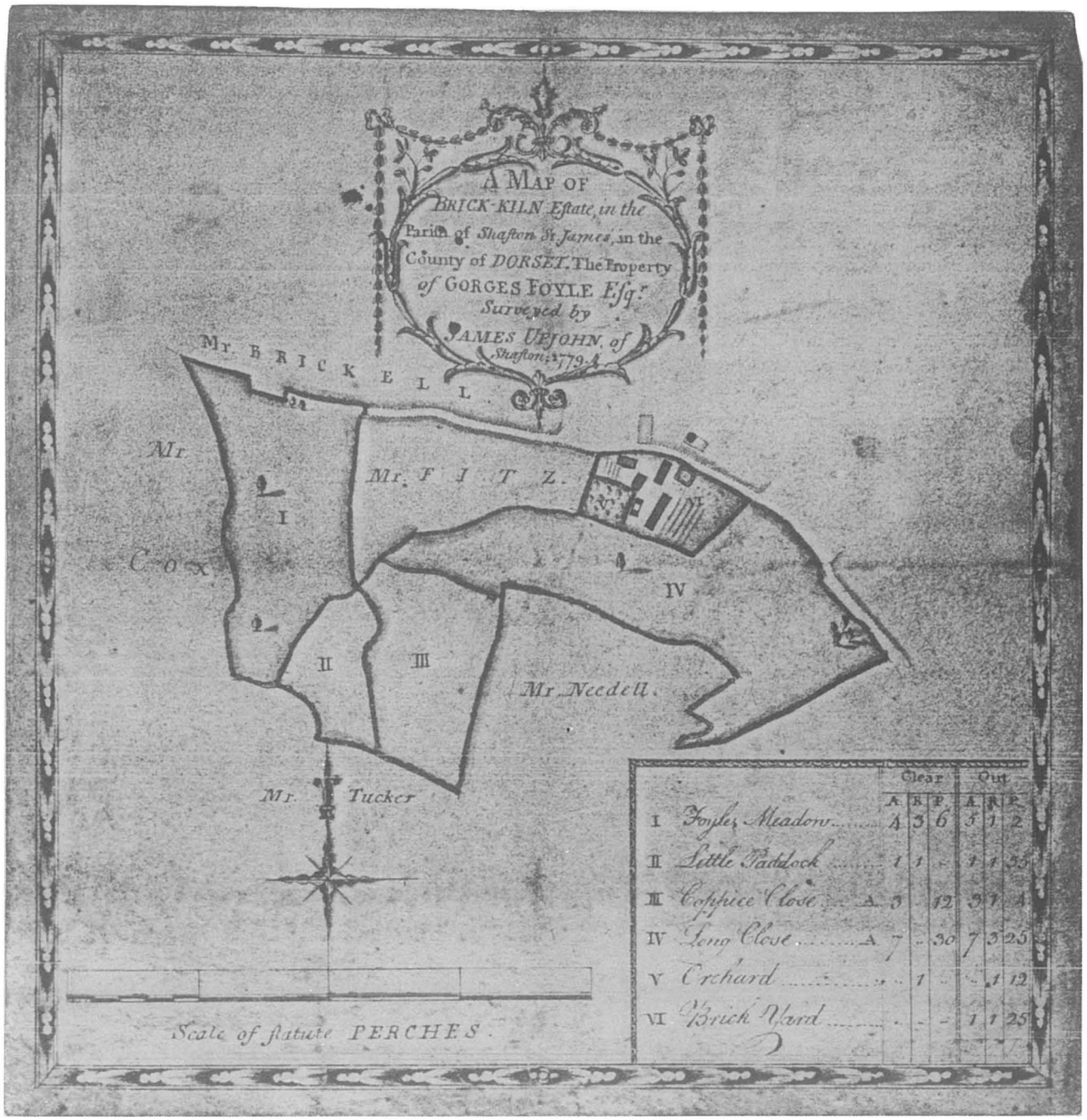

Figure 16. Long Cross, Shaftesbury: map of Brick-Kiln Estate 1779, the total length of the scale is 80 perches, 440 yards. Reproduced here at approximately 1:5,000.

cannot be natural. Again their geology seems to be clay and various ponds are possible evidence of the removal of surface material, but the distance from the kiln would have been considerable in terms of transport and labour.

The fine clays may have required the addition of sand to give stability and prevent shrinkage during firing and this would be readily available from the Upper Greensand beds.

THE KILN

The illustration (Fig. 16) shows a square kiln with pits at either end, to the north and south, lying east of the Orchard (Fig. 16, V) and apparently of the Suffolk type (Young 1971, 221), which was developed directly from Roman and medieval models and often built into sloping ground (Hammond 1981, 22). The parallel lines shown must represent the hacks or drying sheds and the black rectangles other sheds.

The updraught Suffolk kiln was built over arched fire-tunnels lying below ground level, with fire-bars extending to either side. Bricks were loaded through side openings in to the open-topped kiln and placed in over-lapping rows. At Broadmayne, Dorset, for instance, before firing, the top of the kiln was covered with old bricks etc. and the side openings blocked with bricks and sand and sealed with clay. Firing was started in the tunnels with either wood or coal and gradually the burning fuel reached the centre so that the heat could percolate. Frequent stoking was necessary. Each kiln there took 25,000 bricks and required 10 tons of coal, but this figure relates to the period 1870-1914 (Young 1968, 321).

Mr Martin Hammond has kindly examined the plans and description of the surviving building. By superimposing the 1779 map (Fig. 16) on that of 1902, he suggests that the Suffolk kiln appears to coincide with the yard between C and D (Fig. 18), with the latter as the southern firing shed, one of the pits referred to above (Fig. 16), (pers. comm.). However, the brick arch and tunnel at F (Fig. 18), whose position even though not visible was confirmed independently by two witnesses, is characteristic of a Suffolk kiln but cannot be related to a kiln between C and D (Fig. 18). In fact it would imply a kiln at E (Fig. 18) with another firing-hole and tunnel opposite, although there was no sign of this in the sloping ground to the west. It could, of course, have been demolished and the bricks reused which would account for the *c.* 0.3 m drop from the east side of the bank at D-E (Fig. 18). Such a kiln would have been fired by wood or furze but the typical blue/green/grey glaze that would result on the bricks (*ibid.*) was not seen. Orientation in this case would then have been approximately north-south.

It is further suggested by Mr Hammond that, when coal became more easily available with the opening of the Salisbury to Yeovil railway in 1859 at Gillingham, and was, therefore, less costly, a Scotch kiln was built as a replacement at A (Fig. 18), a building which has since had the walls extended upwards and a roof added. On the west side there appears to be a firing shed and coal store with possibly the remains of a similar one on the east. An opening at C (Fig. 18) would have served as a wicket for loading the kiln, with blocked-up fire-holes at the base on either side, at about 1 m centres. The purple/brown colour of some of the brick fragments and pieces of clinker confirm coal firing (pers. comm.).

The Scotch kiln has a different fire-grate arrangement with firing-holes through simple openings in the side walls of the kiln and no fire bars, so that the fuel burns in the mouth of the fire-holes, supported on brick and its own clinker (Young 1971, 222).

What is said to have been a cottage at E (Fig. 18), also described by local people, was apparently roofed in 1902 as shown by hatching on the map and is presumed to have provided shelter for workers firing the kiln. It must be a matter for speculation whether a cottage could have been built over the site of a former Suffolk kiln, unless the brick tunnel was on a different orientation.

Some idea of the labour force necessary for unmechanised brick-making as seems to have been the case at Long Cross can be given. Two men and one small kiln could mould 700-800 bricks per day, firing the kiln at perhaps monthly intervals (Young 1971, 221). Costs detailed are 25s per 1000 bricks at Bere Regis, Dorset in 1750 and, following the removal of the Brick Tax, a similar price is quoted at Weymouth in 1850 (*ibid.* 226-7).

THE ARTEFACTS

Various brick and tile fragments were collected at random from the area round the kiln site. Brick size was variable probably due to the Brick Tax imposed from 1784-1850 which led to fluctuations in size (Harley 1974, 75). Two bricks were a deep purple/brown, part vitrified with many cracks and fissures, measuring approximately 10 in × 3½ in × 2¾ in, with a thin grooved frog some 4 in long, ¼ in

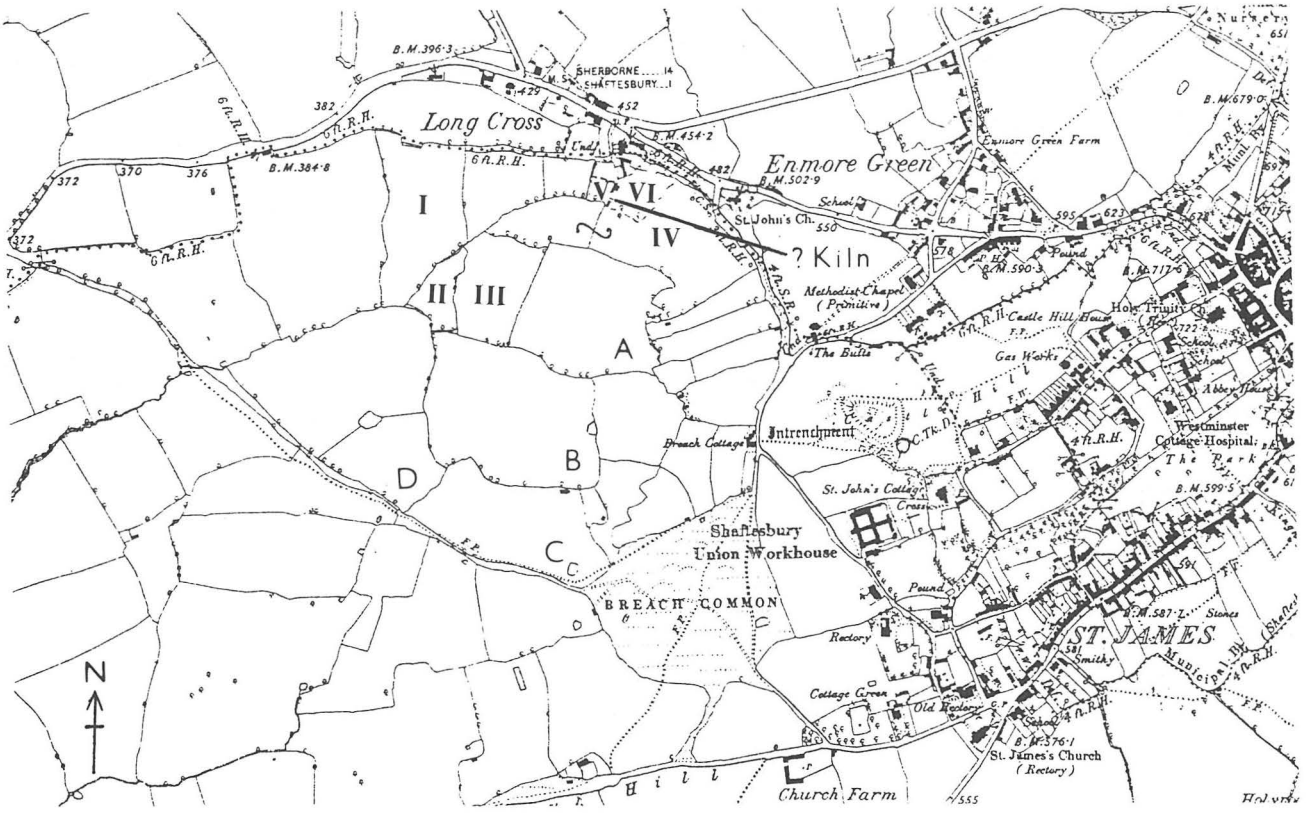

Figure 17. Long Cross, Shaftesbury: map of part of Dorset, Sheet IV SW 1886. 1:10,560.

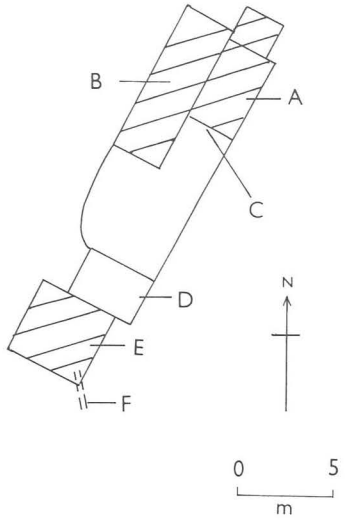

Figure 18. Long Cross, Shaftesbury: plan of Brick-Kiln site enlarged from County Map of Dorset, 1902. 1:2,500. A: Site of Scotch Kiln. B: Firing Shed and Coal Store. C: Wicket or Doorway for Loading, with Blocked-Up Fire-Holes either side. D: Southern Firing Shed for Suffolk Kiln. E: Site of Greensand Cottage and/or Earlier Suffolk Kiln. F: Brick Arch and Tunnel (underground).

deep and ⅜ in wide. These would seem to be early in date and to have been used in the kiln. Other fragments were incomplete but were 4¼ in wide and 2½ in deep. Some had no frog which is more typical of Dorset bricks or to the early 19th century (Mr M. Hammond, pers. comm.). Drag marks from the use of a smoothing implement or strike over the face and evidence of sand grains represent hand-made bricks by 'pallet moulding', i.e. sanding rather than wetting the mould (Dobson 1850, 27). Horizontal band marks on the stretcher face result from stacking in courses on the hack. Broken fragments showed rather crude mixing of the clay which contained numerous fine quartz grains and some other inclusions, possibly grog and ironstone.

One narrow drainpipe indicates the manufacture of land drains for agricultural use starting about the middle of the 19th century.

DISCUSSION

The site of the brickyard from the 1779 map has been established, in spite of some uncertainty due to the few visible remains. Two phases of activity have been determined representing the original Suffolk kiln and an apparently later Scotch kiln (Mr M. Hammond, pers. comm.).

It is assumed that the Long Cross brickworks were opened to supply a local need, possibly even before the known date of 1779, for brick was becoming fashionable and more widely used in Dorset in the 18th century (Young 1971, 216). In fact it was a builder who owned the land in 1838 (DRO T/SY[SJ]). Buildings in Shaftesbury which can be dated to the late-18th or early-19th century (R.C.H.M. 1972, 67) may have used these bricks which are seen to be generally of a mellow, rose-red colour.

Reference has been made to three yards being opened in Shaftesbury solely for pipe-making in the mid-19th century (Young 1971, 226). One of these is at Motcombe, which also made numerous bricks and other ceramic material in addition to drain-pipes, while the other two are obviously the result of confusion between Long Cross and Enmore Green, which is one site and, as recorded, bricks were made there well before the 19th century.

The Motcombe brickworks at Hawker's Hill (1858-1939) less than 1 km away from Long Cross, were created as part of the Marquess of Westminster's estate. Pre-1900 bricks are all marked with a 'W' and are, therefore, easily identified and the use of the Kimmeridge Clay gives them a more pronounced colour.

Perhaps the inability to mechanise and the demise of the New family were factors in the closure of the Long Cross brickyard, coupled with the opening of the Motcombe yard in 1858, whose presumed efficient competition may have proved too much for a failing business.

ACKNOWLEDGEMENTS

I should like to thank the landowner Mr R. S. Garratt for permission to examine the site and also Mr R. Meaden, Mr D. Farris and Mrs M. Burt for their helpful information.

I am particularly grateful to Mr Martin Hammond for reading this article. He has gone to immense trouble in identifying the sequence of the kiln and his advice and comments have been most constructive.

Permission from the Dorset Record Office to publish the Estate Map of 1779 is much appreciated. Reference: Dorset County Record Office (Dorset Natural History and Archaeological Society: Gift of E. A. Fry:) D/1679A.

THE ARCHIVE

The fragmentary brick and tile remains will be deposited in the Dorset County Museum with drawings, maps and relevant archival material, with the permission of the owner of the site, Mr R. S. Garratt.

Boxes to be stored are marked with the site number LC 90.

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ABBREVIATIONS

Dorset Proceedings – Proceedings of the Dorset Natural History and Archaeological Society.

DRO – Dorset Record Office.

A NAMED BREAD-BIN FROM VERWOOD

Jo Draper

The drawing of an earthenware bread bin illustrated as Figure 19 was discovered a couple of years ago amongst the drawings for one of the early 1970s excavations in Dorchester. The sherds did not come from that site, but must have been discovered or brought to the Dorset County Museum at that time. Enquiries to the excavators and search of the Dorset County Museum have failed to produce any more information or the sherds, which must be very bulky. A similar vessel was referred to by Algar, Light and Copland-Griffiths (1987, 7), but it seems likely that this was the one illustrated here (P. Copland-Griffiths, personal communication).

The pot is one of the typical forms made in the Verwood and district potteries in the 19th century – a large bread bin (as Young 1979, fig. 55 No. 1). The pot may have been shorter than the present reconstruction suggests. It differs from all the others known because rouletted under the rim is the potter's name – 'R. Shering'.

The Shering (or Sherring) family is recorded as potting at Verwood from the 1820s, and a Robert Shering is known to have been potting by 1821. His son, also Robert, was born in 1808 and by the date of the Tithe Map (1847) was tenant of the Cross Roads kiln at Verwood (Sims 1969, 33; Algar, Light & Copland-Griffiths 1987, 31, site 3). Robert Shering 2 was potting into the 1870s: the 1871 census lists him as Master Potter employing three boys, but he has gone by the 1881 census. There seem to have been no more potters called Robert Shering, so the vessel must date before *c.* 1881.

The form of the bread bin suggests that it dates from the middle of the 19th century, and this would fit the documentary evidence well. In the absence of the vessel detailed description is impossible, but the tool used to roulette the name appears to only have one repeat.

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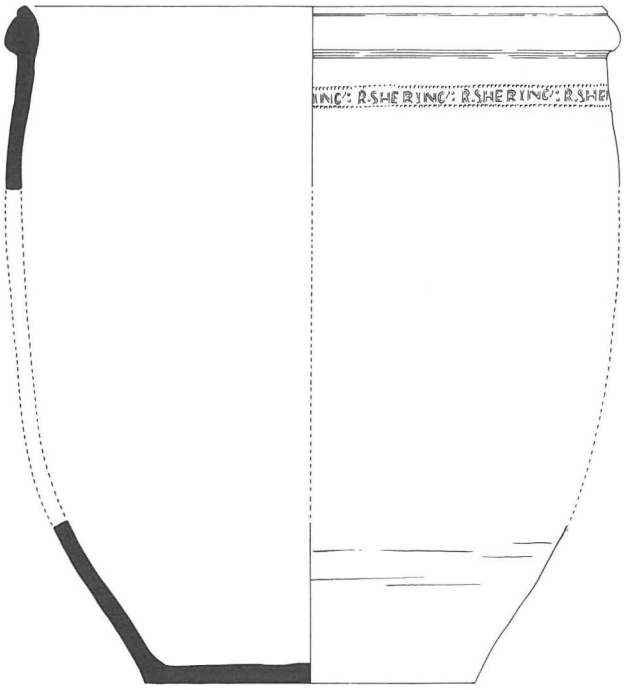

Figure 19. The earthenware bread bin with Robert Shering's name on. The main drawing is at 1/6 life size, and the rouletted band separately at 1/2 life size.

Natural History Reports

GEOLOGY

M. R. HOUSE

NATURE CONSERVANCY COUNCIL

In January 1990 The Nature Conservancy circulated a 48 page document called *Earth Science Conservation – A Draft Strategy* (with no authorship but with a foreword by C. Stevens of the Earth Science Division of NCC). This was an important consultative document circulated for discussion amongst those interested in the protection of scientific sites of geological interest. It gave a general review of the statutory obligations of the NCC and reviewed conservation policy and structure in the British Isles and conservation bodies. In particular it raised the problem of sites other than those designated SSSI's and of the increasing pressures leading to the loss of sites which could not be specifically designated SSSI's. It gave the estimate that of some 25,000 documented geological sites, only 2,200 had the high level of protection afforded by SSSI's. In view of the changes associated with the introduction of geology teaching in the National Curriculum and the likely need for sites which could be used for school instruction, as well as the need for the recording and, as far as possible, protection, of other sites, it proposed a structure to enable documentation on a county level of sites. The proposal was that there should be voluntary schemes, mostly on a county basis, to achieve this for non-SSSI sites of importance. These would be termed RIGS, that is, Regionally Important Geological/Geomorphological Sites. It would be for local voluntary bodies to stabilise sites and make them accessible, to clear sections, to provide educational material, to establish collecting stockpiles, to fence off dangerous areas and to provide interpretative material (Draft Strategy Document p. 44). This was to be achieved by active cooperation between landowners, planners, and amateur and professional geologists. Thus it was hoped to establish by consensus and cooperation, some means of protecting and using sites below the SSSI level for which the NCC felt it could not take responsibility.

On October 8th 1990, Mr M. J. Hartley of the NCC introduced the proposals to a widely representative group held at the Museum. There was good support for the proposals although some concern at the work which might be involved. It was acknowledged that, largely through the efforts of Jo Thomas whilst she was with DERC the county records of sites were probably better than many. Hugh Prudden gave an account of his work with the Geological Advisory Group for Somerset which had already accomplished a great deal. The recording and documentation of new and temporary exposures is an additional role which would add considerably to the *corpus* of scientific knowledge of the county.

EFFECTS OF STORMS

Extreme storms in late January 1990 led to a number of changes along the coast. Especially unusual was the temporary lowering of the shingle to give rare exposures. Along the Lyme Regis coast west of The Cobb an old railway for the working of cementstone beds was visible over greater lengths than seen for some while. The foreshore below Black Venn was similarly cleared. Below the parts of the vertical cliffs of Bridport Sand near Burton Bradstock the beach was temporarily cleared exposing lower beds than usually seen and there were new falls from the cliffs. All this soon reverted to its more usual state within a couple of months.

At the east end of Ringstead Bay and west of Burning Cliff Mr M. P. Oak reported exposures of the Corallian Beds dipping south which are normally concealed. Mr Oak correctly notes that the geological literature does not appear to mention these localities which are onshore and not to be confused with the offshore outcrop of upper Corallian Beds seen at low water which form Ringstead Ledges where similar levels are seen. The new exposures show that the Bran Point Fault must still continue towards white Nothe since the dip is southward and this would not permit the outcrops at the Ledges without an intervening fault. Photographs taken show trigoniids indicating the exposure of the Trigonia Beds, and also a nerineid sections, a perisphinctid ammonoid, and a cross section of a nautiloid. Copies of Mr Oak's notes and photographs are deposited with the Dorset Environmental Records Centre which is due to move to its new quarters with the County Record Office, Bridport Road, early in 1991.

Nubeculariid foraminifera from the Roach Bed (Portland Stone, Portlandian) of the northern part of the Isle of Portland

J. D. RADLEY

(Postgraduate Unit of Micropalaeontology, Department of Geological Sciences, University College London, Gower Street, London WC1E 6BT)

The Roach Bed of the northern part of the Isle of Portland comprises a highly fossiliferous oolitic limestone, and contains a rich molluscan fauna, which has been bored and encrusted by a variety of small organisms (see Townson 1971, 1975 for lithostratigraphy and sedimentology of the Dorset Portland Stone, and Wimbledon 1980, whose lithostratigraphic nomenclature and ammonite zonation are used in this work).

In addition to serpulids and bryozoans, the author has noted occasional elongate tests of nubeculariid foraminifera, encrusting former outer surfaces of the nerineid gastropod *Aptyxiella portlandica* (J. de C. Sowerby), which are now found mainly as moulds. Such encrusted fossils can be collected in quarries in the northern part of the Isle of Portland (see Townson 1971 for details) and adjacent beaches and undercliffs.

These foraminifera are provisionally assigned to the genus *Nubeculinella* Cushman, and are a new record for the Portlandian of southern England.

Foraminifera appear to be rare in the Portlandian of southern England, although low diversity faunas dominated by nodosariids have been recorded from the Portland Sand and basal Portland Stone of Dorset, and the Portland Sand and Portland Stone of the Vale of Wardour, Wiltshire (see Shipp 1989 for details and references to earlier works).

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BOTANY

D. PEARMAN

It was hoped that the hot dry summer of 1989 would encourage good displays, particularly of annuals, in 1990. Alas, 1990 was even hotter and drier, and although June was cool and damp, it was too late. Although some plants like Marsh Gentian gave spectacular displays, even the boggiest areas were very dry by September, which of course will encourage invasion by scrub and conifers.

Nevertheless many very good records were made, and quite a few records unconfirmed since Prof. Good's survey in the 1930s, were rediscovered, especially on the land controlled by the Army, at Povington, Bovington and West Moors, as well as at Blandford. We are grateful for their consent to botanize, and for protecting these habitats. Pride of place amongst the records go to the substantial population of *Wahlenbergia hederacea* (Ivy leaved Bellflower) found near Three Legged Cross, previously assumed extinct since before 1950. Excellent also was the colony of *Daphne mezerum* found near Bloxworth, together with the associated *Cladium mariscus* and *Thelypteris thelypteroides*. Another good area was around Wimborne St. Giles, where a very good second colony of *Blysmus rufus* was found, together with easily the largest of the three remaining populations of Juniper. *Eleocharis acicularis* was rediscovered after nearly 30 years. In addition there were the first definite county records for *Juncus foliosus* and *Callitriche truncata*.

On the debit side I do not think *Botrychium lunaria* (Moonwort) has been recorded since before 1980. *Leersia oryzoides* (Rice Grass) has not been found since the Wareham By-Pass was built, and as it needs a long hot summer to flower, 1989 and 1990 would

have been ideal. *Rumex rupestris* (Shore dock) has not been found again at Ringstead where there was substantial cliff erosion in the last year's gales.

This report has been compiled from records from H. J. M. Bowen, A. J. Byfield, S. Eden, B. Edwards, A. Horsfall, M. Lock, D. Pearman, R. Surry, R. Walls, J. White.

Lycopodiella inundata (Marsh Clubmoss)

Stoke Heath. A very large colony indeed in an abandoned quarry. There is little doubt that a full survey of this plant would reveal a substantial fall in sites and size of populations because the heaths are much more overgrown than in the past. Thus it is only in new open habitats that large populations are seen. Planning permission exists for tipping in this quarry.

Thelypteris thelypteroides (Marsh Fern)

Near Bloxworth. A sixth Dorset site.

Pilularia globifera (Pillwort)

Hartland; Alderholt. The Hartland site is well established in a fire pond. Mr J. White for NCC recalls seeing it in the immediate area in 1979. The Alderholt site is in a new lake, and is relatively near to the New Forest populations.

Juniperus communis (Juniper)

Wimborne St. Giles. Eleven degenerate trees recorded in the park, confirming an eighty year old record.

Single plants survive at one, or possibly two, sites in the county. It has disappeared from all other sites, including the eight recorded by Prof. Good.

Helleborus viridis (Green Hellebore)

Bere Wood; Weston, Corscombe. The first locality confirms an old record by Pickard Cambridge.

Cakile maritima (Sea Rocket)

Swanage Bay. Very few recent records for this slightly ephemeral plant.

Viola lactea (Heath Violet)

Higher Hyde; Stoke Heath; Morden. Very welcome records of this inhabitant of dry heath, now known from under ten sites in the county.

Stellaria pallida (Lesser Chickweed)

Brownsea Is., South Haven; Sandbanks. So far as is known only reliably reported twice since the war. It flowers very early and then dries up.

Radiola linoides (Allseed)

Winfrith (2 sites); Cranborne Common. The dry weather produced few extra records for this rapidly declining species. Prof. Good recorded it from 102 sites; including the 1990 records it has been recorded five times since 1980.

Geranium columbinum (Long-stalked Cranesbill)

Ulwell; Gallows Hill. See the note in last year's Proceedings – very few recent records.

Erodium maritimum (Sea Storksbill)

Higher Hyde (possibly brought by sand lorries?); Brownsea; Moreton, E of Red Bridge.

Trifolium glomeratum (Clustered Clover)

Wareham, Sandford Rd., 1 plant; South Haven. Another trefoil that is rarely recorded these days – four locations since the last war with another three in V.C.II. Prof. Good only recorded it in five sites, three of which are now destroyed. Nevertheless it may well be overlooked.

Trifolium suffocatum (Suffocated Clover)

Sandbanks, in rock gardens. The most recent record (1980) was also at Sandbanks. In the 1960s there were two records from the cafe at S. Haven. There are no other post-war records.

Vicia lathyroides (Spring vetch)

South Haven, roadside. V. rare and only reliably reported from the immediate area. There was another 1990 record for Hengistbury Head in V.C.II.

Vicia lutea (Yellow Vetch)

Abbotsbury, a good colony. Long known only from the immediate vicinity of Ferrybridge, Weymouth, this is a welcome extension of range.

Potentilla argentea (Hoary Cinquefoil)

S. Middlebere; Woolbridge Heath. Only recorded very infrequently.

Crassula tillaea (Mossy Stonecrop)

Wareham; Morden Mill; West Moors; Winfrith; Woolbridge Heath; Brownsea; Sandbanks; Ower; Stoke Heath.

A good year for this declining species. There were a total of 13 records for the 1980s.

Drosera anglica (Great Sundew)

Wytch; Shotover; Povington; Grange Heath; Hartland (2 sites).

In 1990 all of Professor Good's sites were searched, resulting in all the above records except for Grange Heath, which is a new site. Prior to this year it was known only from five remaining locations, so these are very welcome re-discoveries.

Drosera x *obovata* (D. anglica x rotundifolia)

Hartland Moor. Previously only known from Studland where it still survives, five healthy plants were found adjoining a substantial colony (± 100 plants) of *D. anglica*.

Daphne mezerum (Mezereon)

Nr. Bloxworth. Discovered in an alder swamp in good quantity. Commonly thought of as a plant of chalk woodlands, the two best remaining English sites are in similar swamps in Hampshire and Berkshire. It could be a denizen in this site but the habitat is remote and in keeping.

Callitriche truncata (Water-Starwort)

In the R. Axe nr. Forde Abbey. The river forms the county boundary at this point, but the plant grows on both sides. Observed over a period 1976 to date this is the highest upstream it has been found, and is the first certain county record.

Apium inundatum (Marshwort)

Povington Heath; Lower Common, Verwood. these are only the third and fourth records since the war. It is overlooked but much of the decline must be from drainage and changing quality of water. Both of these locations were from the twelve sites recorded by Professor Good.

Oenanthe silafolia (Sulphurwort)

The Moors, Arne, 1 clump; Stanpit (V.C.II). this rare umbellifer is known from four confirmed sites in Dorset with a generous addition of hopeful records, most of which are found to be either *O. pimpinelloides* or *O. fistulosa*.

Polygonum maritimum (Sea Knotgrass)

Christchurch (V.C.II), the first record since the nineteenth century. It was thought to be extinct on the British mainland, but was recorded in 1990 at two old Cornish sites. Perhaps the storms of last winter helped uncover old seed.

Rumex x *acutus* (*R. crispus* x *obtusifolius*)

Scotland; Crab Orchard.

Rumex x *schulzei* (*R. crispus* x *conglomeratus*)

Crab Orchard.

Rumex x *mixtus* (*R. pulcher* x *sanguineus*)

Langton Matravers. Very rare in Britain, but the specimen could be *R.* x *muvetii* (*R. conglomeratus* x *pulcher*).

Monotropa hypopitys (Yellow Birdsnest)

Barnsfield Heath.

Anagallis minima (Chaffweed)

Winfrith, 2 places; Slepe; Crab Orchard; Woolbridge Heath. As for *Crassula tillaea*, a good dry year for this species. Prior to 1990 it had been recorded five times since the war although Prof. Good recorded it at 72 sites in the 1930s. It's disappearance is very largely because the heaths are ungrazed and overgrown. It could, of course be overlooked!

Cicendia filiformis (Yellow Cicendia)

Cranborne Common. Only the third post-war record for this declining annual, which is only just surviving in Dorset. The centre of distribution has always been around and to the south of Poole harbour so this is a particularly welcome report.

Euphrasia micrantha (Eyebright)

Bloxworth Heath. V. rare and only on the heaths.

Mentha x *smithiana*

Lower Whitechurch.

Littorella uniflora (Shoreweed)

Stoke Heath. Two sites in abandoned quarries, one with thousands of plants.

Wahlenbergia hederacea (Ivy-leaved Bellflower)

Crab Orchard, Three-Legged Cross. The first native record for at least forty years, growing in open glades in a horse-grazed field dominated by *Salix* spp. Many strong clumps. The plant was discovered whilst searching for the sites recorded by Prof. Good, who recorded it from seven locations in 1938, all within a mile or two of this site. There are a number of horse-grazed fields in the area which support relics of heathy vegetation, and which might be more encouraging in a wetter season.

Chamaemelum nobile (Chamomile)

Winfrith. As noted last year, very rare now in the county except at Corfe Common, where thousands of plants were seen in at least seven areas.

Potamogeton nodosus (Loddon Pondweed)

There is a record in Proc. DNHAS 90:45 (1968) for West Mill, Stalbridge "... in considerable quantity, flowering and fruiting well". This is considerably to the north of existing records, and even of the statements in the "Concise Flora" (See Proc. DNHAS

110:170 1988). The site was carefully searched in 1988 and 1990 with no success – except for strong colonies of the normally coastal *Scirpus maritimus*.

Potamogeton alpinus (Reddish Pondweed)

Ford Heath. In the same overgrown quarry as *P. trichoides*. Otherwise known only from ditches north of Wareham where it is threatened by new by-pass works.

Potamogeton obtusifolius (Blunt-leaved Pondweed)

Little Sea; Lulworth Lake. In the "Concise Flora" mention is made of a specimen determined by J. E. Dandy from the Little Sea. It is now the most dominant species there. In Lulworth Lake it is fairly common, with P. *trichoides*, *pectinatus*, *nutans* and *berchtoldii* (N.B. There is occasional confusion in the records between Luckford Lake and Lulworth Lake. Luckford Lake is the *stream* that runs for 4 miles from Whiteway Fm. on the Povington Ranges, collecting the stream from Lulworth Lake, then to the west of West Holme Heath and West Holme to join the R. Frome just above Holme Bridge.)

Potamogeton trichoides (Hairlike Pondweed))

Lulworth Lake; Ford Heath. Abundant in the former locality, its only previously known Dorset site. At Ford Heath it just survives in a *Phragmites* swamp in the bed of a former quarry.

Juncus foliosus

Monkton Wyld Wood. The first reliable record for the county. This was a record from Slepe but it was not confirmed.

Leucojum aestivum (Summer Snowflake)

Spettisbury (an island in the R. Stour); High Hall.

Mansel-Pleydell recorded it (inter alia) from Dairy Copse, High Wood – possibly this ought to have read 'Dairy Copse; High Hall."

Hammarbya paludosa (Bog Orchid)

Stoke Heath, another site 500 yds. W. of the locality published here last year.

Ophrys apifera var. *trollii* (Wasp Orchid)

Zigzag Hill. Very rarely recorded.

Typha angustifolia (Lesser Bulrush)

North Walls, Wareham. DERC has quite a few records for this plant, but most turn out to be depauperate *T. latifolia*. The well-known colony of *T. angustifolia* at Abbotsbury was planted from Chickerell in 1959 (N. Bennett, pers. comm.).

Cyperus fuscus (Black Cyprus)

The old localities at Bere Regis and Cowgrove have been searched for the last three years with no success.

Eriophorum vaginatum (Harestail)

Creech Heath; South Heath, Wareham. The only records for this plant in V.C.9 before 1975 were "Wool to Bere Regis" (BEC 1917 5:131) and at Verwood (Graves 1921). Since then it has been recorded at Morden, E. Holme, Hyde Heath and Winfrith. It is odd it was overlooked for so long, unless it is a recent arrival.

Eleocharis acicularis (Needle Spike-Rush)

Lulworth Lake; Gallows Hill, Bere Regis. The first record for 29 years for this inconspicuous perennial. At the first locality it was abundant in a dense sward around half the lake – perhaps this year's low levels exposed a population that has been hidden for many years.

Eleocharis quinqueflora (Few Flowered Spike Rush)

Winfrith. A new site. Proc. for 1987, recorded it from Corfe Common – further searches this year revealed it in at least four areas, in considerable abundance.

Blysmus compressus (Flat Headed Sedge)

Wimborne St. Giles. In abundance in a meadow by the R. Allen. Apart from the well-known site at Bere Regis where it just hangs on, this is the first record for over forty years.

Rhyncospora fusca (Brown Beak-Sedge)

Cranborne Common. The first record for this far north since the note in Mansel-Pleydell for Alderholt Heath, which just might be the same area.

Cladium mariscus (Sedge)

Bloxworth; Lulworth Lake. The former record is most interesting. In Mansel-Pleydell there is a record for Morden Mill, and E. F. Linton (Fl. Bournemouth) states he failed to find it in 1895. Others have looked since. But it transpires there were *two* mills at Morden (Miss A. Horsfall, pers. comm.), and this current record is just above the site of the upper mill. Whether or not this is the same site is of course, not definite, but it could well be.

The latter record confirms Prof. Good's for 1936 – *c.*20 clumps on W. shore.

Carex lepidocarpa (Yellow Sedge)

Povington Heath. The Concise Flora of Dorset recognizes three possible sites of which only one, at Arne, has been seen recently. The Povington site is either helped by heightened alkalinity from china clay waste, or threatened by it (or both!).

Carex pseudocyperus (Hop Sedge)

Moreton Heath. Completely dominant in a settling pool of an abandoned works. Very rare away from the east of the county Big Copse, Hampreston.

Carex x *involuta* (C. rostrata x vesicaria)

R. Allen, S. of Witchampton. The second or third county record.

Carex humilis (Dwarf Sedge)

Tenantry Down. A substantial colony at a hitherto unrecorded site. The population at Blandford Camp, referred to in 1988, was revisited during the year and discovered to be vast, far larger than originally thought. Not only was it on unimproved steep downland, but all over the recreation areas and down the centre of dual carriageways. There is a school of thought that *C. humilis* does not spread by seed in Britain. Here it is regularly gang-mown and is either spreading vegetatively by disturbance or, much more likely, by seed.

Carex divulsa ssp. *leersii* (Tall Spiked Sedge)

Gussage St. Michael; Cranborne: Blackbush; Boveridge (2 sites).

This plant is obviously overlooked. Prior to this it has been reliably recorded from Blandford and Corfe Castle.

Carex curta (White Sedge)

Cranborne Common confirming a record from 1983 by J. White and L. Farrell, and also in a second locality nearby. This appears to be the first record for V.C.9 (Old Dorset) since the nineteenth century.

Poa bulbosa (Bulbous Meadow Grass)

South Haven, roadside. the second native V.C. record, the first being in 1988 on Portland, where the viviparous form was found. This 1990 record is the more usual normal form.

Bromus rigidus

Quarries above Church Ope, Portland, 3 plants. Apparently the second record for the county.

Deschampsia setacea (Bog Hair Grass)

Winfrith. Colonies on the north side of the road as well as the south side. These are the only recent records for this very rare grass. It was recorded in two sites by Mansel-Playdell, three by Prof. Good and occasionally by others up to 1953. It may well be overlooked but in the field can be easily separated from *Agrostis curtisii*, the only grass with which it is likely to be confused.

Alopecurus x *plectkei* (A. bulbosus x geniculatus)

Ridge, Wareham. In the Journal of Botany (Vol. 67 1929), Dr. G. C. Druce writes inter alia, that he found *Alopecurus bulbosus* with the *Scorzonera humulis*. In 1990 no A. *bulbosus* was found in the Scorzoners field. A glance at the 1930 O.S. map shows that the two fields were then one. As mentioned last year the hybrid seems to appear where the salinity is lower – as is the case here.

ALIENS

1. *Amelanchier grandiflora* East Burton, on heath.
2. *Sorbus domestica* Nottington. By stream in pasture field, one substantial tree.
3. *Crassula helmsii* Weston, Corscombe; Pulham.
4. *Soleirolia soleirolii* Upwey, and in patches all the way downstream almost to Radipole.
5. *Nothofagus pumilio* Several trees, Whitefield.
6. *Nothofagus procera* 1 seedling, Bloxworth Heath.
7. *Senecio greyii* Hedge nr. Harman's Cross.
8. *Muscari comosum* Field, Langton Herring.
9. *Allium roseum* Littlebredy and nr. Droop, in addition to the well-known site nr. Abbotsbury.
10. *Narcissus tazetta* St. Georges Churchyard, Portland, abundant.
11. *Iris spuria* ssp. *ochroleuca* Abbotsbury (since 1920s); Inmosthay Quarry and Grove, Portland.

MARINE INVERTEBRATES

J. B. HAWTHORNE

The author apologises for the omission of this report in the 1989 Proceedings.

Poole Bay is likely to stay in the news over the next few years as BP and their associate companies make plans to recover oil from under the seabed and to transport it ashore. Until recently knowledge of the bottom fauna of Poole Bay has depended on the paper by Spooner and Holme in Volume 82 of these *Proceedings* (1961).

Reference was made in these notes in 1988 to surveys commissioned by BP. Useful publications that are available are: *Poole Bay Appraisal Drilling, Vol. 1; Environmental Assessment, and Poole Bay Appraisal Drilling, Vol. 2; Environmental Review.* These documents give accounts of Environmental Impact Assessment (EIA) by BP related to the exploration drilling in Block 98/6 in Poole Bay in the months of October to February, 1988/89.

The terms of reference for the EIA were:

1. To describe the existing environmental conditions within the Poole Bay area.
2. To appraise the likely environmental impact of the drilling operations in Poole Bay.
3. To recommend, where appropriate, design features and construction/operating practices which should enable environmental impact to be kept within limits acceptable to statutory bodies and BP.
4. To define an environmental monitoring programme for the drilling operations to meet both statutory and BP requirements.

Volume 1 recorded environmental work undertaken before drilling commenced. Data on the bottom sediments and fauna were taken from Spooner and Holme's paper of 1961 and more recent studies dated 1988.

Volume 2 summarises the findings of the various environmental monitoring studies commissioned by BP and the apparent effects of the drilling in block 98/6. It also mentions further studies which include investigations of the surface, subsurface and bottom currents of Poole Bay. There is evidence of fast currents near the entrance to Poole Harbour and of stagnant conditions in other parts of the Bay. Diversity of habitat and of associated fauna is a feature of Poole Bay.

Species referred to are those considered numerically dominant at more than one sampling station. The BP view is that "It is widely held that the total benthic community is a better integrator of environmental effect than a particular sensitive physiological parameter of a single species."

Species near the limits of their range may be more susceptible to environmental stress and it would therefore seem wise for particular attention to be paid to such species.

Dr Ken Collins of Southampton University has kindly given me details of the Artificial Reef Project in Poole Bay. This is a joint project with National Power, PowerGen and the Department of Oceanography, Southampton University, investigating the use of coal-fired power station waste products for artificial reef construction. Waste materials are stabilised with cement to form blocks. These may be used to create artificial reefs for fishery enhancement.

The fuel ash contains heavy metals (eg copper, zinc, lead and nickel) which are potential pollutants. Preliminary studies of six months duration have suggested that the reef blocks would not contaminate the marine environment. The reef was formed in June, 1989. It is a grid of eight units 10 metres apart. There are two units each of three Pulverised Fuel Ash/gypsum mixtures and two concrete control units. Each unit is of some six tonnes of blocks in conical heaps 1m high and 4m across. The reefs contain a large number and variety of spaces between the blocks.

In the first six months, 90 species of animals and plants were recorded on and around the reef. Future studies will include analysis of the reef block material to determine the rate of leaching of heavy metals from the blocks and analysis of marine organisms growing on the reef blocks and living in and around the reef units for evidence of metal uptake.

R. Bamber, N. Bridgwater and S. Batten (A fleeting visit on 14 November 1990. *Porcupine Newsletter 4* (10), 1990; 244-245) have published a supplement to a fauna list for the Fleet produced after a "Porcupine" field meeting in September 1986 (*Porcupine Newsletter*, 3 (89); 215-217). They draw attention to three notable new records:

'The ostracod, of the family Bairdiacae, is remarkably hairy, has entertainingly purple limbs when alive, and is possibly a new species ... Only one specimen was collected. This clean gravel habitat would at first seem inappropriate for such an ostracod.

Three deutonymphs of a mite of the genus *Agaue* were collected; they appear to be of *A. chevreuxi* (Trouessart, 1889) as described in André, 1946 (*Faune de France*, No. 46) and recorded from the northern French coast; this genus has not previously been recorded in the U.K. . . .

The amphipod *Chaetogammarus stoerensis* is normally associated with freshwater runoff on clean gravel shores; it has not been recorded previously from this area. The two specimens collected agree closely with Lincoln's (1979; *British Marine Amphipoda*: Gammaridea) description, though having more dorsal urosome spines; the outer ramus of uropod 3 is devoid of setae.'

LAND ARTHROPODS

N. R. WEBB

This report has been compiled mainly from records sent to the Dorset Environmental Records Centre and I am grateful to Richard Surry for his help. Some records have been sent directly to me and I have obtained others by abstracting the entomological journals. The number of records received each year continues to increase and popular orders such as dragonflies (Odonata), grasshoppers and crickets (Orthoptera) and Ladybirds (Coleoptera: Coccinelidae) are now well recorded. In part this reflects the availability of identification guides. There are few records for the more difficult orders; that is mayflies (Trichoptera), the majority of the beetles (Coleoptera), flies (Diptera) and ants, bees and wasps (Hymenoptera). Yet within these orders there are easier families or genera for instance hoverflies (Syrphidae) and bumble bees (Bombus spp.).

This report includes records from C. R. Bristow, J. R. Cox, B. Edwards, D. Fieldsend, J. A. Green, J. M. Hinton, E. M. Keats, M. H. Lock, A. Mahon, J. Messer, S. J. Morrison, D. Pearman, K. J. Powerie, A. E. Rose, E. S. Rose, R. J. Surry, J. Teagle, W. G. Teagle and N. R. Webb.

Orthoptera

A good number of records have been received during the year.

Dusky Cockroach (*Ectobius lapponicus*). Studland Heath NNR.

Tawny Cockroach (*Ectobius pallidus*). Studland Heath NNR.

Lesser Cockroach (*Ectobius panzeri*). Studland Heath NNR.

Oak Bush Cricket (*Meconema thalassinum*). Studland Heath NNR and Uddens.

Great Green Bush Cricket (*Tettigonia viridissima*). Weymouth, Spyway, Grimstone, Ashill, Powerstock, Swyre, Bridport, Stratton, Sea Barn Farm, Falcon Barn, Grove Farm, Poxwell, Dorchester, Charlestown, Chickerell, Maiden Newton, Herston and Swanage.

Wart Biter (*Decticus verrucivorus*) No records this year.

Dark Bush Cricket (*Pholidoptera griseoaptera*). Higher Woolcombe, Marshwood, Birdsmoor Gate, Sunnydown Farm, Bredy Farm, Ringstead, Sea Barn Farm, Falcon Farm, Bridehead, White Horse, Bothenhampton, Butt's Lane, Pilsdon, Great Fern Coppice, Bell Hill, Stone's Common, Clift, Hilfield Hill, Blue Pool, Sovell Down, Milldown, Lydlinch Common, Kimmeridge, Worth Matravers, Langton Matravers, Kingston, Corfe Castle, Swanage, Studland Heath and Harman's Cross.

Grey Bush Cricket (*Platycleis deticulata*). Burning Cliff, Ulwell and Durleston.

Bog Bush Cricket (*Metriptera brachyptera*). Studland Heath NNR, Godlingston Heath, Stoborough Heath NNR, Slepe Bridge, Arne, Higher Hyde, and Merritown Heath.

Short-winged Conehead (*Conocephalus dorsalis*). Studland Heath, Slepe Bridge, Hartland Moor, Swineham Point, Slepe Moor and Morden Bog NNR.

Long-winged Conehead (*Conocephalus discolor*). Godlingston Heath, Studland Heath, East Holme, Stoborough Heath, Swanage, Arne, Morden Park, West Morden, Bere Heath, Bloxworth, Parkstone and Verwood.

Speckled Bush Cricket (*Leptophyes punctatissima*). Ulwell, Durlston, Swanage, East Holme, Studland Heath NNR, Kingston, West Morden and Bell Hill.

Large Marsh Grasshopper (*Stethophyma grossum*). Godlingston Heath, Higher Hyde Heath and Morden Bog NNR.

Stripe-winged Grasshopper (*Stenobothrus lineatus*). Creech Barrow and Powerstock Common.

Common Green Grasshopper (*Omocestus viridulus*). Lydlinch Common, Upton Country Park, Martinstown, Cruxton, Hardown

Hill, Batcombe Down, Hilfield Hill, Merritown Heath, Powerstock Common and Maiden Newton.
Woodland Grasshopper (*Omocestus rufipes*). Bloxworth, Bere Wood, West Morden and Girdlers Coppice.
Common Field Grasshopper (*Chorthippus brunneus*). St. Gabriel's Wood, Hardown Hill, Old Warren Hill, West Milton, Chickerell, Blue Pool, Powerstock Common, Maiden Newton, Stokeford Heath, Merritown Heath, Kingcombe, Eype, Bothenhampton, Came Home Farm, Ringstead Beach, Burning Cliff, Wareham, Slepe Heath, Arne, West Bexington, Badbury Rings, Swanage, Dorchester, Studland Heath NNR, East Holme, Stoborough Heath NNR, Wareham Forest, Cheselbourne, Herston, Langton Matravers, Christchurch, St. Catherine's Hill, Hartland Moor, Kimmeridge, Corfe Castle, Corfe Common, Harman's Cross, Sandford, Slepe, Upton Country Park, Kingston and Hogcliff NNR.
Heath Grasshopper (*Chorthippus vagans*). Studland heath NNR and Godlingston Heath NNR.
Meadow Grasshopper (*Chorthippus parallelus*). St. Gabriel's Wood, Hardown Hill, Pilsdon, Old Warren Hill, Bell Hill, West Milton, Stone's Common, Chickerell, Sovell Down, Merritown Heath, Eype, Powerstock Common, Maiden Newton, Stokeford Heath, Milldown, The Hangings, Slepe Heath, Badbury Rings, Studland Heath NNR, Ringstead Beach, East Holme, Wareham Forest, Upton Country Park, Cheselbourne, Langton Matravers, Herston, Christchurch, Over Compton, Lydlinch Common, Arne, Steeple, Kimmeridge, Corfe Castle, Kingston, Corfe Common, Acton, Harman's Cross, Sandford, Hogcliff NNR and Godlingston Heath NNR.
Lesser Marsh Grasshopper (*Chorthippus albomarginatus*). Upton Country Park, Swineham Point and East Holme.
Mottled Grasshopper (*Myrmeleotettix maculatus*). Studland Heath NNR, Wareham Forest, Higher Hyde Heath, Morden Heath, Hardown Hill, Merritown Heath and Stokeford Heath.
Common Groundhopper (*Tetrix undulata*). Chickerell and Kingcombe.
Slender Groundhopper (*Tetrix subulata*). Hooke Parke, Batcombe Hill and Ringstead Bay.
Cepero's Groundhopper (*Tetrix ceperoi*) Studland Heath NNR.

Odonata

A large number of records have been received during the year towards the Dragonflies of Dorset and these records are available at the Dorset Environmental Records Centre. In view of this I am only reporting the results of the thirteenth year of regular transect counts on Studland Heath NNR by J. R. Cox. This survey indicates that out of seventeen species monitored the numbers of three species increased and four decreased during the year.
Small Red Damselfly (*Ceriagrion tenellum*). Numbers fell for the third season running, taking it to below the average for the period 1978-87. First seen 28 May; last seen 24 August.
Azure Damselfly (*Coenagrion puella*). Numbers dropped slightly for the second season, but remain about average. First seen 24 April; last seen 23 June.
Common Blue Damselfly (*Enallagma cyathigerum*). A big drop of more than a third from the number recorded last season and below the average from 1978-87. First seen 29 April; last seen 12 October.
Large red Damselfly (*Pyrrhosoma nymphula*). A decrease of about 60% on last year taking it to the third lowest figure in the period 1978-89. First seen 30 March (earliest recorded at Studland); last seen 16 July.
Common Blue Damselfly (*Ischnura elegans*). Another small drop taking it to the lowest numbers during the thirteen years of counts. First seen 25 April; last seen 4 September.
Emerald Damselfly (*Lestes sponsa*). A drop in numbers for the fourth season in succession which took it to the lowest count since 1978. First seen 16 June; last seen 18 July.
Hairy Dragonfly (*Brachytron pratense*). As last year, no change and still in good numbers. First seen 28 April; last seen 23 June.
Southern Hawker (*Aeshna cyanea*). Lowest numbers since 1978. First seen 7 June; last seen 12 October.
Common Hawker (*Aeshna juncea*). No records on the transect, but usually only recorded in small numbers. A single record for the South Haven Peninsula.
Migrant Hawker (*Aeshna mixta*) A slight fall in numbers, but still above average. First seen 20 August; also seen 19 October.
Gold-ringed Dragonfly (*Cordulegaster boltoni*). Not recorded on the transect, but noted at South Haven on 30 June and 8 August.
Emperor Dragonfly (*Anax imperator*). Not recorded on the transect. Only one noted from Godlingston Heath on 28 May.
Downy Emerald (*Cordulia aenea*). A slight drop in numbers to just below the average for the period 1978-89. First seen 13 May; last seen 30 June.
Black-lined Skimmer (*Orthetrum cancellatum*). A large increase in numbers to the second highest total since 1979. First seen 22 May; last seen 21 September.
Keeled Skimmer (*Orthetrum coerulescens*). A drop in numbers to the lowest count since 1978. First seen 27 May; last seen 15 September.
Four-spotted Chaser (*Libellula quadrimaculata*). A two-thirds fall in numbers to the second lowest count since 1978. First seen 27 April; last seen 23 June.
Broad-bodied Chaser (*Libellula depressa*). Not recorded on the transect but recorded on the reserve on 15 May and 19 June.
Black Darter (*Sympetrum danae*). Very low numbers on the transect for the last four years.
Ruddy Darter (*Sympetrum sanguineum*). A three-fold increase on last year, taking numbers to the third highest total since 1978. First seen 4 June; last seen 4 September.
Common Darter (*Sympetrum striolatum*). Nearly a three-fold increase on the number recorded last season, bring it to the highest count since 1983. First seen 16 June; last seen 17 November.

Coleoptera

Coccinellidae (Ladybirds)
Kidney-spot Ladybird (*Chilocorus renipustulatus*). Studland Heath NNR and Spetisbury.
Pine Ladybird (*Exochromus 4-pustulatus*). Black Ven and Studland Heath NNR.
19-spot Ladybird (*Anisosticta 19-punctata*). Chickerell.
16-spot Ladybird (*Micrapsis 16-punctata*). Burton Cliff.
10-spot Ladybird (*Adalia 10-punctata*). Studland Heath NNR, Black Ven, Rampisham, St Aldhelm's Head, Worth Matravers, Weymouth and Chickerell.
7-spot Ladybird (*Coccinella 7-punctata*). Butt's Lane, Pilsdon, Filford, Pentsome Coppice, Luccombe Covert, Burton Bradstock, Hilfield Hill, Chickerell, Sovell Down, Powerstock Common, Alders Coppice, Merritown Heath, West Milton, Uploders, Mapperton, Batcombe Hill, Warmwell, Weymouth, Ibberton Hill, Woodrow, Swanage, Dorsetshire Gap, Thornford, Tadnoll, Iwerne Minster, Preston Mill, Rolf's Wood, Everley Hill Farm, Ranston Hill, Stepleton, Free Down, Stourpaine Down, Pimperne Down, Shroton, Hambledon Hill, Hanford, Hod Hill, Shillingstone, Gain's Cross, Okeford Fitzpaine, Turnworth, Bonsley Common, Ibberton, Bell Hill, Beaminster, Abbotsbury, Studland Heath NNR, Langton Matravers, Whatcombe Down, West Morden, Spetisbury, Charlton on the Hill, Bloxworth, Milton Abbas, Winterborne Whitechurch, Broadley Wood, Winterborne Stickland, Winterborne Houghton and Stalbridge.
11-spot Ladybird (*Coccinella 11-punctata*). Dorchester, Swanage and Studland Heath NNR.
22-spot Ladybird (*Psyllobora 22-punctata*). Swanage and Winterborne Houghton.
Cream-spot Ladybird (*Calvia 14-guttata*). Studland Heath NNR.
14-spot Ladybird (*Propylea 14-punctata*). Studland Heath NNR, Everley Hill Farm, Chickerell, Frome St. Quintin, Trigon, Stoke Wake and Lulworth.
Eyed Ladybird (*Anatis ocellata*). Studland Heath NNR and Merritown Heath.

Other Coleoptera

Wood Tiger Beetle (*Cicindela sylvatica*). Studland Heath NNR and Stoborough Heath.
Cicendela germanica. Black Ven.
Carabus nitens. Hartland Moor NNR.
Minotaur Beetle (*Typhaeus typhaeus*). Studland Heath NNR.
Glow Worm (*Lympyris noctiluca*). Studland Heath NNR.
Lesser Stag Beetle (*Dorcus paraallelipipedus*). Langton Matravers.
Oil Beetle (*Meloe procscarabaeus*). East Hill and Powerstock.
Bloody-nosed Beetle (*Timarcha tenebricosa*). St. Aldhelm's Head, Rollington Hill and Powerstock Common.
Lesser Bloody-nosed Beetle (*Timarcha goettingensis*). Swanage.
Garden Chafer (*Phyllopertha horticola*). Castle Park.
Summer Chafer (*Amphimallon solstitialis*). Allington Hill and Stoborough.
Scopaeus laevigatus recorded between West Bay and Charmouth; *Apion limonii* recorded from Poole Harbour and *Baris analis* between West Bay and Charmouth. These three species are all new to the County; see Cooter, J. (1990). Three species of Coleoptera new to Dorset. Entimologist's Gazette 41, 31-32.
Omophlus rufitaris. This species was reported from Chesil Beach

near the Isle of Portland in early June 1989. Previously known only from this site, this beetle had not been seen for some sixty years. See Cooter, J. (1990). *Omophalus rufitarsis* (Leske, 1785) (Coleoptera: Alleculidae) in Dorset. Entomologist's Gazette 41, 33-34.

Diptera

A separate report on hoverflies (Syrphidae) has been supplied by E. T. and D. A. Levy.

Robberfly (*Asilus crabroniformis*). Wareham and East Holme.

Hymenoptera

Velvet Ant (*Mutilla europea*). Arne and Studland Heath NNR.

Hornet (*Vespa crabro*). Arne, West Morden, Bere Heath, Morden Park, Windmill Barrow, Langton Matravers, Stoborough and a nest located in the grounds of Furzebrook Research Station.

The following species were reported from Studland Heath NNR during the year. *Chrysura radians*, *Anoplius viaticus*, *Eumenes coarctatus*, *Pseudepipona herrichii*, *Odynerus melanocephalus*, *Dolichovespula sylvestris*, *Vespula rufa*, *Vespula germanica*, *Vespula vulgaris*, *Astata boops*, *Ammophila subulosa*, *Ammophila pubescens*, *Podalonia affinis*, *Podalonia hirsuta*, *Cerceris arenaria* and *Cerceris ruficornis*.

Araneae

Raft Spider (*Dolomedes fimbriatus*). West Moors and Stoborough Heath NNR.

Argiope brunnichi. East Holton Farm, Burning Cliff, Littlemoor and Studland Heath NNR.

DORSET HOVERFLY REPORT

E. T. & D. A. LEVY

Twenty-nine localities were visited during the year for the purposes of recording and updating our county distribution maps. Including many sites noted from old museum specimen labels, the total now visited has reached 324.

The number of species recorded in Dorset this year is 115, but though new sites were found for some of the scarcer ones, no new species were added to the Dorset List as the result of our own work.

M. J. Parker has been studying the insect fauna of Oakers Wood and a full list for this locality is expected shortly. An exceptional discovery this year was identified by experts as *Epistrope melanostoma* Oakers Wood 5.5.90. This hoverfly closely resembles *Epistrophe nitidicollis* in the field and has this year been added to the UK List. Mr Parker has also recorded *Cneilosia praecox*, *Xanthandrus comtus*, two *Didea* species, *Chrysotoxum festivum*, *Dasysyrphus lunulatus*, *Eupoides nielseni*, *Neocnemdon latitarsa*, *Brachypalpus laphriformis* and *Xylota abiens*, all scarce species in Dorset.

Due to recent taxonic research, some of it involved in the integrating of the British species into the European List, a number of name changes have been made by the experts. *Sphaerophoria abbreviata* has been declared a Scandinavian species, all British syrphids previously so-named are in fact *Sphaerophoria fatarum*. There are eight locality records for this species in Dorset. As the result of recent work re-examining all the European *Platycheirus* species, a split from the '*clypeata* group' known as *Platycheirus occultus* is added to the county list from specimens found at Studland and Frome St. Quintin.

As the result of a number of records from Dr Martin Speight, an expert entomologist now working for the Forest and Wildlife Service in Bray, Co. Wicklow, Eire, the full Dorset List has now reached 207. Dr Speight originally lived in the county, and most of the 'new' records were taken in the 1960s.

W. F. Dean of Bradford Abbas, who has been one of our hoverfly work-party for several years, gave up collecting and recording in 1989. His expertise at determining difficult specimens and also his annual lists of hoverfly records, will be greatly missed. His excellent collections have been presented to The Hope Dept., University Museum, Oxford.

LEPIDOPTERA

ALAN T. BROMBY

The fine hot summer was notable for an influx of *Utetheisa pulchella* into South West England, including records from Portland, Radipole and Swanage.

Records were received from the following field workers:

D. N. Arnold, A. T. Bromby, J. R. Cox, A. H. Dunn, G. G. Eastwick-Field, R. Plowman and M. Rogers.

Mr R. Plowman and Mr M. Rogers have kindly supplied records for light traps operated at Durlston Country Park and Portland Bill respectively, including many of the rarer migratory species.

Plutella xylostella L. Diamond-back Moth. Portland 24.4; 6 between 21.5 and 23.5; 33 between 19.6 and 4.7; 16 between 15.7 and 22.7; 36 between 28.7 and 1.8; 791 between 2.8 and 5.8; then no more until 13 between 3.9 and 12.9 and 2 on 2.10 (P.B.O.)

Hellula undalis Fabr. Old World Webworm. Portland 1.10 (P.B.O.)

Uresiphita polygonalis D. & S. = limbalis auctt. Swanage 18.10 (R.P.)

Sitochroa palealis D. & S. Swanage 1.8 and 13.8. (R.P.)

Ostrinia nubilalis Hb. European Corn-borer. Portland 13.10 (P.B.O.)

Udea ferrugalis Hb. Swanage 8 in June; 56 in July; 88 in August; 17 in September; 37 in October; and 75 between 10.11 and 12.11. (R.P.). Portland 2.4; 15 between 10.6 and 15.6; 3 between 16.7 and 21.7; then 131 between 20.8 and 19.10 (P.B.O.)

Nomophilia noctuella D.&S. Rush Veneer. Swanage 5.3; 4 on 12.4; 12 between 10.6 and 15.6; 13 between 12.7 and 21.7; 79 in August; 24 in September; 17 in October; 5 between 9.11 and 13.11 (R.P.). Portland 3 between 30.3 and 1.4; 5 between 31.7 and 5.8; 79 between 22.8 and 2.10 (P.B.O.)

Palpita unionalis Hb. Radipole 30.9 (D.N.A.). Swanage 17.7; 3.9; 9 between 18.10 and 13.11 (R.P.). Portland 1.10; 2 on 13.10; 18.10; 2 on 19.10 (P.B.O.)

Pyrgus malvae L. Grizzled Skipper. Radipole 4.5 (D.N.A.)

Colias croceus Geoff. Clouded Yellow. Very scarce this year. Studland Heath 16.10 (J.R.C.). Portland 1.10; 2 on 6.10; 7.10 (P.B.O.)

Celastrina argiolus L. Holly blue. A good year for this species. Earliest Corfe Mullen 4.4 (A.H.D.)

Vanessa atalanta L. Red Admiral. Studland Heath 8.1 then 8.3; Arne 8.2 (A.H.D.); Portland 18.3; 4 between 3.4 and 25.4; 13 during May; large immigration on 1.6 when approximately 50 seen together with Painted Ladies (P.B.O.)

Cynthia cardui L. Painted Lady. Studland Heath earliest 23.3 then 30.3, latest 3 on 4.10 (J.R.C.); Portland 18.3; 22.3; 5.4; 6.4; 9.4; 20 on 1.6; last recorded on 3.11 (P.B.O.)

Trichiura crataegi L. Pale Eggar. Radipole 1.9; 9.9 (D.N.A.)

Pavonia pavonia L. Emperor Moth. Studland Heath larvae mid August (J.R.C.)

Archiearis parthenias L. Orange underwing. Studland Heath 17.3 (J.R.C.)

Idaea vulpinaria H. S. Least Carpet. Portland 23.7 (P.B.O.)

Rhodometra sacraria L. The Vestal. Portland 3 on 12.10; 2 on 18.10 (P.B.O.)

Eulithis pyraliata D. & S. Barred Straw. Radipole 4.7 (D.N.A.)

Thera cupressata Cypress Carpet. Swanage 19.10; 2 on 23.10; 13.11. (R.P.)

Eupithecia phoeniceata Ramb. Cypress Pug. Radipole 3.9 and 17.9 (D.N.A.)

Selenia tetralunaria Hufn. Purple Thorn. Radipole 1.4 and 2.4 (D.N.A.)

Agrius convolvuli L. Convolvulus Hawk-Moth. Radipole 3.9.(D.N.A.); Swanage 3 on 1.8: 2.8; 26 between 21.8 & 3.9; 2 on 9.9; 10.9; 6.10 & 19.10 (R.P.). Portland 19.8; 8.9; 11.9 & 30.9 (P.B.O.)

Hemaris fuciformis L. Broad bordered Bee Hawk-moth. Studland Heath 29.4 and 30.4. (J.R.C.) Brownsea 2.5 (A.T.B.)

Macroglossum stellatarum L. Humming-bird hawk moth. Radipole 18.9 (D.N.A.) Swanage 1.6; 9.6; then 6 between 24.8 and 3.10 (J.R.C.); 6 between 1.8 and 13.10 (R.P.); Corfe Mullen 31.7 and 1.11 (A.H.D.); Portland 18.3; 13.6; 5 between 20.8 and 28.8; 29.9; 18.10 and 17.11 (P.B.O.) Parkstone 8.8 and 3.9 (A.T.B.)

Hippotion celerio L. Silver-striped Hawk-moth. Swanage 29.9 and 1.10 (R.P.)

Drymonia dodonaea D. & S. Marbled Brown. Radipole 27.4 (D.N.A.)

Drymonia ruficornis Hufn. Lunar Marbled Brown. Radipole 6.5 and 9.5 (D.N.A.)

Clostera curtula L. Chocolate-tip. Radipole 24.4. (D.N.A.)

Diloba caeruleocephala L. Figure of Eighty. Radipole 3 between

18.10 and 20.10 (D.N.A.)
Arctia villica L. ssp britannica Ob. Cream-spot Tiger. Radipole 24.5 (D.N.A.)
Utetheisa pulchella L. Crimson Speckled. Radipole 4.10 (D.N.A.); Swanage 2.10 (R.P.); Portland 30.9 & 1.10 (P.B.O.)
Euplagia quadripunctaria Poda. Jersey Tiger. Portland 18.8 (P.B.O.)
Meganola albula D. & S. Kent Black Arches. Swanage 17.7 and 22.7 (R.P.) Brownsea 25.7. (A.T.B.)
Nola cucullatella L. Short-cloaked Moth. Radipole 17.7 (D.N.A.)
Nola confusalis H.-S. Least Black Arches. Radipole 9.5 (D.N.A.) Portland 6 between 5.5 and 25.5 (P B O) Parkstone 8.5 and 21.5 (A.T.B.)
Ochropleura leucogaster Freyer. Radford's Flame Shoulder. Swanage 18.10 (R.P.)
Noctua fimbriata Schreb. Broad-bordered Yellow Underwing. Radipole 16.7 and 17.7 (D.N.A.)
Anarta myrtilli L. Beautiful Yellow Underwing. Studland Heath 1.8 (J.R.C.)
Mythimna albipuncta D. & S. White-point. Radipole 19.10 and 20.10 (D.N.A.) Swanage 14.5; 8 between 22.8 and 26.8; 64 between 29.9 and 24.10 and 18 between 10.11 and 13.11 (R.P.) Portland 8.6; 20.8; 27.8; 29.8; 1.10; 2 on 13.10, 15.10, 18.10, 19.10 (P.B.O.)
Mythimna vitellina Hb. The Delicate. Swanage 25.8; 23 between 2.10 and 20.20 (R.P.). Portland 3.9; 2 on 5.9; then 9 between 1.10 and 19.10 (P.B.O.)
Mythimna straminea Treit. Southern Wainscot. Radipole 24.8 (D.N.A.)
Mythimna unipuncta Haw. White Speck. Radipole 13 between 19.10 and 30.11 (D.N.A.). Portland 28.3, 29.3; 10.4; 22.5; 19.6; 19.7; 7 between 21.8 and 26.8; 12 between 3.9 and 2.10; 23 between 9.10 and 20.10; (P.B.O.). Swanage 2.4; 8 between 22.7 and 26.7; 63 between 29.8 and 24.10; and 18 between 9.11 and 13.11 (R.P.)
Mythimna obsoleta Hb. Obscure Wainscot. Radipole 4 between 16.5 and 22.6 (D.N.A.)
Mythimna loreyi Dup. The Cosmopolitan. Swanage 2 on 11.10 (R.P.). Portland 2.10; 3.10 and 18.10 (P.B.O.)
Cucullia verbasci L. The Mullein. Radipole 27.4 and 5.5 (D.N.A.)
Calophasia lunula Hufn. Toadflax Brocade. Portland 28.5 and 10.6 (P.B.O.)
Dasypolia templi Thunb. Brindled Ochre. Radipole 2.10 (D.N.A.)
Aporophyla australis Boisd. Feathered Brindle. Radipole 14.10 (D.N.A.)
Dichonia aprilina L. Merveille du Jour. Radipole 20.10 (D.N.A.)
Trigonophora flammea Esp. Flame Brocade. Swanage 2 on 17.10; 20.10 (R.P.)
Conistra rubiginea D. & S. Dotted Chestnut. Luscombe, Parkstone 22.3 (G.G. E-F.)
Gortyna flavago D. & S. Frosted Orange. Radipole 4.9 and 13.9 (D.N.A.)
Celanea leucostigma Hb. The Crescent. Radipole 20.7 and 21.7 (D.N.A.)
Spodoptera exigua Hb. Small Mottled Willow. Swanage 22.8 and 4.9 (R.P.)
Heliothis armigera Hb. Scarce Bordered Straw. Swanage 1.10; 2 on 2.10; 9.10; 12.10; 15.10; 18.10 and 13.11 (R.P.) Portland 11.10 (P.B.O.)
Heliothis peltigera D. & S. Bordered Straw. Swanage 4.8; 11.8; 2 on 22.8; 24.8 and 2 on 29.9 (R.P.). Portland 12.4 (P.B.O.)
Colocasia coryli L. Nut Tree Tussock. Radipole 25.4 (D.N.A.)
Trichoplusia ni Hb. The Ni Moth, Swanage 20.7 and 21.7 (R.P.)
Autographa gamma L. Silver Y. Swanage 10.4; 24.4; 29.4; then 27 in May, 40 in June. 113 in July. 647 in August, 148 in September, 91 in October, and 10 between 10.11 and 13.11 (R.P.). Portland 10.4; 24 between 12.4 and 21.5; 12 between 8.6 and 16.6; then 985 between 28.6 and 12.10. Peak in early August with 182 on 3.8 (P.B.O.)

BUTTERFLIES IN PURBECK

J. L. R. BAISS

As elsewhere in England, a second successive mild winter and mainly dry hot summer caused some interesting records.

Red Admirals certainly survived the winter. In a Purbeck wood, under observation on sunny days, a Red Admiral was seen basking or flying on January 17th and 18th and on February 9th, 15th and 21st. One was also reported flying at Shell Bay on January 8th. On March 3rd the first painted Lady was observed flying purposefully inland from the coast; a few minutes earlier a Red Admiral had passed flying in the same direction, but within the wood, where the basking red Admirals had been seen in the previous two months. It is not therefore possible to distinguish immigrants from hibernators from that date. A very early Comma had also been basking in the wood on January 18th.

The first Speckled Wood seen in Purbeck was reported on March 15th, although one was reliably reported across the Harbour at Rockley Sands on February 22nd. A Holly Blue was seen at Durlston on March 30th. An Orange-Tip and Small White appeared the next day, while a Wall Brown could be seen at St. Aldhelm's Head from April 9th. On April 16th the first Green Hairstreak was reported at Studland and on April 23rd two Small Coppers were flying at Ulwell, where a Dingy Skipper and Small Blue were out on April 30th. On May 2nd-3rd Grizzled Skippers, Brown Argus and Small Heaths were seen. In the very warm May weather the spring broods of Common Blues and Small Heaths were considerably larger than in 1989, presumably reflecting the favourable weather of the previous autumn. But then came the dull and cool June and some numbers slumped. On the Durlston transect Common Blues were well down on 1989 in the second brood, while the final transect figures showed that both Speckled Woods and Wall Browns (the latter particularly common in 1989) were down in all three broods.

Holly Blues, which had been such a feature of both countryside and gardens in 1989, were even commoner in 1990, while Gatekeepers were also very successful. The two large Fritillaries were probably about average; the Silver-Washed was certainly in better numbers at Studland than in the previous year. The real crash, as elsewhere in the country, was reserved for the White Admiral. One was only observed four or five times on the Studland Nature Trail, the best locality in Purbeck, and I heard of none elsewhere in the Isle. It was generally observed that Small Tortoiseshells were well below their usual large numbers.

Among the rarest residents a few White-Letter Hairstreaks were again seen high up in the group of mature Wych Elms where they were rediscovered in 1989. A large breeding area of Small Pearl-Bordered Fritillaries was found on the Lulworth Ranges just within Purbeck. A number of individuals were seen in the previous year, but this year a breeding site was found. There may well be others in that wild area.

As far as migrants were concerned, great numbers of Small and Large Whites apparently crossed the Channel in August-September and were seen on the cliffs and flying inland in Purbeck. There were plenty of Red Admirals in the autumn and rather more Painted Ladies than in 1989. A few Clouded Yellows were seen, but they did not linger on the coast or chalk ridge.

AMPHIBIANS

ROBERT V. SKINNER

The amphibian reports received by the Dorset Environmental Records Centre during 1990 are included in tabular form at the end of this section.

Smooth Newt — *Triturus vulgaris* – L.
See DERC report at the end of this section.

Palmate Newt — *Triturus helveticus* – Razoumowski.
One found freshly killed on the ferry road, Studland Heath NNR on 30 January, SZ0385. Two found under a piece of tin on 23 March, SZ0284. (J. R. Cox)

Crested Newt — *Triturus cristatus* – Laurenti.
See DERC report at the end of this section.

Common Frog — *Rana temporaria* – L.
Earliest sighting in Corfe Mullen garden ponds was of four individuals on 8 February. Two clumps of spawn were present on 14 February. One dead adult was seen in a pond on 2 March. 20 to 30 frogs still present on 22 March. No tadpoles could be seen in these ponds on 4 April, but many frogs of different sizes could be observed on 18 July. Several individuals were noted on the garden drive on the night of 19 July and heard calling in the garden pond on 12 September. (A. H. Dunn)

Common Toad — *Bufo bufo* – L.
Several active in a Parkstone garden pond on 31 January. One or two seen in a Corfe Mullen garden on 14 and 16 February. Both toad and frog spawn found in a Corfe Mullen garden pond on 7 March. One large female observed in a Corfe Mullen garden on 22 June and a few still present on 18 July and 3 September. Two were seen on the driveway of the same garden in the rain, together with two or three frogs on 24 September. (A. H. Dunn) The species was heard calling at the south end of Little Sea, SZ0384 on 11 April. (J. R. Cox)

The following table lists the amphibian reports for 1990 received by the Dorset Environmental Records Centre, Dorchester.

SPECIES	SITE	GRID REF	RECORDER	DATE	NOTES
Smooth Newt	Burton Bradstock	SY489897	N. Bushel	1990	Garden pond
	West Bexington	SY533869	A. Pearse	1990	Pond
	Hillview, Leigh	ST629082	J. Hinton	1990	
Palmate Newt	Hillview, Leigh	ST629082	J. Hinton	1990	
Crested Newt	Burton Bradstock	SY489897	N. Bushell	1990	Garden pond
	West Bexington	SY533869	A. Pearse	1990	Pond
	Hillview, Leigh	ST629082	J. Hinton	1990	
	Winterborne Kingston	SY8498	H. J. M. Bowen	1990	Pond
	Leeson House	SZ005786	W. G. Teagle	1990	Pond
Common Frog	Swanage	SZ022786	J. R. Cox	21 January	19.30 hrs, adult, yellow, in garden
	Swanage	SZ022786	J. R. Cox	29 January	Spawn in tiny garden pond
	Frome St. Quintin	ST596028	D. Elton	1990	Garden
	West Stafford	SY724895	E. & A. Rose	1990	Garden
	Hillview, Leigh	ST629082	J. Hinton	1990	
	Briantspuddle	SY820931	W. G. Teagle	5 February	Spawn in garden pond
	Broadstone	SZ003955	K. Clarke	8 February	Garden
	West Moors	SU081035	K. J. Powrie	18 February	20 frogs + spawn in garden pond
	Dorchester	SY6989	E. M. Keats	23 February	Spawn in garden pond
	Frome St. Quintin	ST5902	D. Pearman	May	Lawn
	Haydon Down	SY541928	D. Fowler	6 May	Ponds
	Swanage	SZ022786	J. R. Cox	29 May	10-15 of varying ages under log pile in garden
	Roke Pond	SY8396	H. J. M. Bowen	1990	Tadpoles
	Norden	SY9583	H. J. M. Bowen	1990	
	Compton Valence	SY593934	J. Powne	27 June	Two
Common Toad	Swanage	SZ022786	J. R. Cox	21 January	Heard calling in garden 2200 hrs
	Hillview, Leigh	ST629082	J. Hinton	1990	
	Long Bredy	SY5690	C. J. Bailey	18 February	Garden
	Swanage	SZ022786	J. R. Cox	4 February	Garden 2000 hrs
	Leeson House	SZ0078	W. G. Teagle	21 February	Ponds
	Swanage	SZ022786	J. R. Cox	29 May	5/6 in garden
	Townsend Reserve	SZ02287825	W. G. Teagle	24 August	Being eaten by Grass Snake
	Burton Bradstock	SY489897	N. Bushell	1990	Garden pond

REPTILES

ROBERT V. SKINNER

The reptile reports received by the Dorset Environmental Records Centre during 1990 are included in tabular form at the end of this section.

Slow-worm. *Anguis fragilis* – L. One juvenile found on Decoy Heath, Morden on 12 July and two juveniles on 15 October at Winterborne Stickland. Last sighting was on 27 October when one juvenile was found under a piece of limestone in a Corfe Mullen garden. (A. H. Dunn) The earliest date for Studland Heath NNR was 22 February. (S. J. Morrison) The species was seen regularly from 3 March until the last date of 21 September. About 20 adults and seven juveniles were recorded for the Reserve, very little difference in numbers over the last three years. The 1 km squares involved were SZ0283, 0284, 0285, SZ0383, 0384 and 0385. (J. R. Cox) One female found under sheet of plywood on 24 April at Luscombe Valley Nature Reserve, Poole. (Editor)

Viviparous or Common Lizard. *Lacerta vivipara* – Jacquin. The first record for Studland Heath NNR was 2 March and the last date was 21 September. About 22 adults and at least three juveniles were noted, which is much fewer than last year but probably due to under-recording than an actual drop in numbers. Some members of the British Herpetological Society carried out a survey in the dunes and dune heath in late April and recorded more than 60 sightings from Pilot's Point south to the cross track. The 1 km grid squares involved were SZ0283, 0284, 0285 and SZ0383, 0384, 0385 and SZ0485. (J. R. Cox)

Sand Lizard. *Lacerta agilis* – L. One female seen on Decoy heath, Morden on 6 September. (A. H. Dunn) The first date for Studland heath was 1st April. On 22nd April a group of British Herpetological Society members recorded about 30 individuals in the dunes and dune heath area of Studland Heath. The 1 km grid squares involved were SZ0284 and SZ0383, 0384, 0385 and SZ0485. (J. R. Cox) An adult male was seen at Luscombe Valley Nature Reserve, Poole on 24 April, 1 and 3 May. A juvenile, born the previous year, was seen at the same site on 4 May. (Editor)

Grass Snake. *Natrix natrix helvetica* – Lacepède. The first record for Studland Heath NNR was 2 March for three individuals and the last date was 11 November. (J. R. Cox) About 45 individuals were seen, rather more than last year. The 1 km squares involved were SZ0283, 0284, 0285 and SZ0383, 0384 and 0385. (J. R. Cox)

Adder. *Vipera berus* – L. None seen this year, a fact also confirmed

by the warden at Morden Park. (A. H. Dunn) The earliest date for Studland Heath NNR was 21 February when six males were observed on a bank, then nine on 22 February. (S. J. Morrison) The last date for Studland Heath was 4th November. Records involved just under 50 individuals in 1 km grid squares SZ0283, 0284, 0285 and SZ0383, 0384 and 0385. (J. R. Cox) Two males and one female seen on a bank in Luscombe Valley Nature Reserve on 25 April. Both males were actively chasing each other. The same female was seen each day between 27 April and 4 May. A second female was observed on the edge of a wooded area on 3 and 4 May. Four different males were recorded in the Reserve between 27 April and 4 May. (Editor)

Smooth Snake. *Coronella austriaca* – Laurenti. One adult seen on the Decoy Heath, Morden on 16 July. (A. H. Dunn) A single individual was recorded in Marram dunes on Studland Heath NNR by a member of the British Herpetological Society on 22 April. Four adults and three juveniles were recorded on the Reserve throughout the season. (J. R. Cox and A. Nicholson) The 1 km squares involved were SZ0282, 0283 and SZ0485.

BIRD REPORT

P. M. HARRIS

The new year began on a somewhat more exotic note than usual with both the Slate Coloured Junco and Rose Coloured Starling remaining on Portland until March. Another Rose Coloured Starling was seen in a Weymouth garden in February for several days but may have been the Portland bird. Otherwise the early winter period was typically quiet with the Iceland Gull and Black Guillemot still in Weymouth and a few scattered reports of Little Auks.

March was an astonishing month with many migrants appearing exceptionally early. Along with them came very early records of Black Kite in Yetminster, Black winged Stilt at Cogden Beach and Woodchat Shrike on Portland, birds more associated with May than March. Other notable March records were Bonapartes Gull on Portland, Laughing Gull and Night Heron in Weymouth, Ring Billed Gull in Dorchester and several records of Alpine Swift and Hoopoe.

Bird of the spring however was a Scops Owl found exhausted on a fishing boat off Portland Bill in thick fog. The bird was released on the island later that evening in front of many admirers.

Portland again attracted the rarities in April with Night Heron (seen flying in off the sea), Rustic and Little Buntings, Little Shearwater and Short toed Lark. There was also a Black Kite at Wareham and an elusive Black Stork on the Dorset/Hants border.

In May the emphasis switched to Christchurch which produced Great White Egret, Black winged Stilt and Rustic Bunting. Portland had a Bee Eater in May and an excellent inland find was a little Bittern near Wimborne. The month also produced some notable sea-watching at the coastal headlands with a large passage of Black Terns, Little Gulls, Storm Petrels and Pomarine Skuas.

The next exciting find was a large petrel with white wing-flashes, seen on several occasions at Ferrybridge, Weymouth which was identified as a Matsudaira's petrel, a species which breeds on the volcano islands in Japan and migrates west into the Indian Ocean.

As usual mid-summer was quiet with several Corys Shearwaters and a Greenish Warbler on Portland in June and a Franklin Gull at Sutton Bingham and a Pacific Golden Plover at Stanpit in July.

Early autumn produced little apart from the usual Aquatic Warblers and Spotted Crake and an incredible count of 14 Little Egrets in Poole Harbour. Two White Storks in Weymouth caused

The following table lists the reptile reports for 1990 received by the Dorset Environmental Records Centre, Dorchester.

SPECIES	SITE	GRID REF	RECORDER	DATE	NOTES
Slow-worm	Compton Valence	SY593934	J. Powne	1990	
	Frome St. Quintin	ST596028	D. Elton	1990	Garden
	Hillview, Leigh	ST629082	J. Hinton	1990	
	St. Aldhelm's Head	SY963754	W. G. Teagle	16 April	Under corrugated iron
	West Stafford	SY724895	E. & A. Rose		
	Herston	SZ018787	W. G. Teagle	28 May	Compost heap
	Maiden Newton	SY600976	P. White	May	Garden
	Swanage	SZ0381	W. G. Teagle	23 June	Sea Beet on shore
	Townsend Reserve	SZ024783	W. G. Teagle	24 June	Injured by magpie
	Merritown Heath	SZ114992	P. Clarke	2 July	Under tin sheets
	Traveller's Rest	ST8407	C. R. Bristow	2 July	
	Traveller's Rest	ST8407	C. R. Bristow	3 July	
	Frome Vauchurch	SY595976	A. Mahon	17 July	Road casualty
	Nr Okeford	ST8110	C. R. Bristow	27 July	
	Steeple	SY905817	A. Megan	Aug	In orange juice carton in grass
	Maiden Newton	SY593978	D. Alder	September	Garden
Common Lizard	Mapperton	SY511991	A. Mahon	16 May	Woodland edge
	Corfe Common	SY963806	W. G. Teagle	13 August	
	Chamberlaynes	SY8293	H. J. M. Bowen	1990	
	South Haven	SZ0284	H. J. M. Bowen	1990	
Sand Lizard	Merritown Heath	SZ114992	D. Alder	3 July	Sandy patches
	Hartland Moor	SY963836	W. G. Teagle	11 August	Road verge
Grass Snake	Whitefield	SY8994	H. J. M. Bowen	1990	
	Leeson House	SZ005787	W. G. Teagle	2 May	Pond
	Pine Clump	SY991936	A. Mahon	24 May	Ditch
	Studland	SZ017846	J. R. Cox	28 May	Catching fish in garden pond
	Merritown Heath	SZ114992	P. Clarke	2 July	Under tin sheet
	Townsend Reserve	SZ02287825	W. G. Teagle	24 August	Swallowing toad
	Athelhampton	SSY7794	Mrs Low	10 September	
Adder	Chamberlaynes	SY8293	H. J. M. Bowen	1990	
	Townsend Reserve	SZ022782	W. G. Teagle	15-30 March	
	Merritown Heath	SZ114992	P. Clarke	2 July	Under tin sheet
Smooth Snake	Merritown Heath	SZ114992	D. Alder	2 July	Under tin sheet
Loggerhead Turtle	Southbourne	SZ1491	M. Harris	24 February	On beach

some excitement but were subsequently found to have escaped from Whipsnade Zoo.

A (hopefully) wild juvenile Black Stork at Radipole in September was much appreciated by many and was the only notable event apart from a couple of Bluethroats and a return to form for Melodious Warbler with possibly up to ten birds occurring.

October was a month for rare pipits, with four olive-backed, one Pechorn and a late Tawny, all on Portland. There was a Penduline Tit at Radipole and a late Osprey on the Fleet. Sight of the month must have been the White tailed Eagle which flew over some lucky observers heads near Christchurch.

November and December were rather uneventful except for good numbers of storm blown Little Auks, three Ring-billed Gulls, the return for the fifth winter of the Weymouth Iceland Gull and a Hawfinch in an inland church yard for several weeks which allowed many people the chance to catch up with this elusive species.

ROOKERY STUDY

E. F. C. COETZEE

A study was carried out within the 10 km Square (SY68) during late March and the first two weeks of April 1990 to determine whether the January gales of this year and the large loss of trees

TABLE OF ROOKERIES

SITE NO	LOCALITY	GRID REF	1975	1980	1990
1	Nottington Court	SY665826	59	70	131*
2	Manor House, Buckland Ripers	SY652825	79	15	7
3	North Farm, Buckland Ripers	SY646828		7	3
4	Wood Cottage (Broad Coppice)	SY635830		16	0
5	Tatton House	SY631831		13	25
6	Drift Plantation	SY624833		1	24*
7	Manor House Farm, Langton Herring	SY617826	40	58	42*
8	Post Office, Langton Herring	SY614826	8	13	43
9	Lower Farm, Langton Herring	SY610828	33	13	5
10	Higher Farm, Langton Herring	SY617820	14	NC	NC*
11	Rodden	SY612843		86	50
12	West Shilvinghampton	SY624844	23	12	33
13	Portesham	SY603858	20	16	32
14	Wadden House	SY620858	25	38	40
15	Little Wadden	SY624857	54	109	110*
16	Friar Wadden Farm	SY646858	24	39	78
17	Upwey (from Wishing Well to entrance Upwey House)	SY664850	152	122	159
18	Watery Lane (Westbrook House and Manor House, Upwey)	SY666844	59	77	82*
19	Broadwey near main Dorchester Rd	SY668832	27	53	48
20	Horse Lynch Plantation	SY683819	7	2	0
21	2-Mile Coppice, Weymouth	SY675822		1	1
22	Lorton Lane Broadwey	SY673829		1	0
23	Overcombe	SY695822*			
	Now Overcombe Corner, Preston	SY697827	39	11	31
24	Martinstown	SY650888	135	61	30
25	Winterbourne Steepleton	SY630898	116	76	81*
26	Fairfield House, Putton Lane	SY648803		2	0
27	Winterborne Herringston	SY688885		74	92*
28	Lorton House	SY674830	144	70	43
29	Morn Lodge	SY639807	31	40	82
30	Chickerell	SY644805	14	1	0
31	Fleet Church	SY633806		2	2
32	Victoria Inn	SY632816		2	0
33	Radipole Manor	SY667815	63	57	180*
34	Corfe Hill House	SY665817	33	0	0*
35	Westend Cottages	SY660814	13	0	2
36	East Chickerell	SY661805	2	0	0
37	Nottington Village	SY662825			34
38	Nottington Lane T junction with B3157	SY623830			7
39	Small wood between Rodden & Wyke Wood	SY606838			11
40	Rodden Barn	SY620846			44
41	East Shilvinghampton	SY634845			16
42	Fleet Cottage, East Fleet	SY 635801			8
43	Moonfleet	SY619830			1
44	The Grove	SY667830			6
45	Near Martinstown	SY654888			6
46	Martinstown. Junction Road to Dorchester with B3159	SY653887			17
47	592 Dorchester Rd, Upwey, Weymouth	SY668843			16
48	Four Barrow Hill	SY657877			68
49	Brewers Arms, Martinstown	SY644889			15
50	Rew Hill	SY635895			18
51	Herringston Farm	SY685877			36
52	Dorchester	SY691897			2
53	Radipole Manor School, Weymouth	SY667817			1
54	Radipole	SY665810			2
55	Wyke Wood	SY599834			12
56	Farm between Hardy Monument and Martinstown	SY625884			8

brought about by these gales had affected the rookeries within the square SY68.

A similar rookery study had been carried out in 1975 and again in 1980, so it was also felt that as 15 years and 10 years had elapsed since the last counts, this was an apropriate moment to repeat this study.

The results of the nest counts in the rookeries for the three periods 1975, 1980 and 1990 are shown in the table.

In 1975, 25 rookeries with a total of 1214 nests were recorded. When this study was repeated 5 years later in 1980, 32 rookeries with a total of 1158 nests were recorded, this showed a loss of 56 nests from the 1975 counts, but 7 new rookery sites were recorded, although 4 rookery sites had disappeared.

All the rookeries marked with an * lost trees during the January gales with the exception of Overcombe Preston SY695822/ SY697827 where in 1980 trees were being removed to allow houses to be built. This rookery re-established itself slightly northwards from its original site, with the number of nests being back to almost the 1975 numbers.

Where trees were lost in rookery sites, the nests were either built more densely on the remaining trees, or smaller trees were used, or the rookery spread out.

During the 10 years that have elapsed between the 1980 and the 1990 study, the number of rookery sites have increased to 47, with a total of 1784 nests, an increase of 626 nests over the 1980 nest counts, 15 new rookery sites were recorded, while 9 rookery sites had disappeared. One of the 4 rookery sites which had not been used during the 1980 study was re-used in 1990, where two nests were built.

In spite of the 1990 January gales and the loss of some trees within the rookeries, it would seem that the Rook is very much on the increase, certainly within this square and adapted very well to the loss of these trees.

THE SONG FREQUENCY OF THE NIGHTJAR THROUGHOUT THE NIGHT ON A DORSET HEATH

A. S. NORRIS

Churring at dusk and dawn by the Nightjar (*Caprimulgus europaeus*) is the usual form of song described for this species (Alexander, 1935; Ashmore, 1935; Wilson, 1985). But such song throughout the night hours, between dusk and dawn has never, it appears, been noted in the literature.

During June 1983, the frequency of churring by Nightjars was recorded during three all-night studies on a Dorset heath. These observations were made following the normal period of churring which takes place after dusk. Further observations were made during two all-night periods in June 1986.

The frequency of churring during the night hours are compared in the three supporting tables, one in 1983 and two in 1986. The starting times of churring are tabulated. The duration is only noted when it extended beyond the normal length. It is evident that there is a considerable amount of churring during the night hours. Three songs each of 9 minutes continuous churring and one song of 8 minutes, concentrated between 0215 and 0346, are noted in Table A.

References

Ashmore, S. E. (1935). Time of singing of the Goatsucker. *British Birds* 28, 259-260.

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Wilson, M. G. (1985). *Birds of the Western Palaerctic* Vol 4.

MAMMALS

E. M. KEATS

Mammal records have been submitted to me and to the Dorset Environmental Records Centre and they are all important as they help to build up a picture of the distribution of Mammal species in Dorset. My thanks to all who have supplied observations, these will be indexed in the Dorset Environmental Records Centre in the County Planning Department, County Hall, Dorchester. Dates, grid reference, details of identification and behaviour are all useful even though only a small number of the reports may be printed. Maps showing the distribution of Badger and Fox are printed in this report and should be compared with the map for badger distribution printed in the 1981 report and for fox in the 1982 report. Perhaps the blank squares represent a lack of observers rather than these mammal species. I am very grateful to Mr Richard Surry, Keeper of Records for DERC for preparing the maps which show records received up until the end of 1990.

The scientific names are as listed in *Finding and Identifying Mammals in Britain* 2nd. Edition 1989 by G. B. Corbet, British Museum (Natural History) and for marine mammals in *British Whales, Dolphins and Porpoises* 1976 by F. C. Fraser, British Museum (Natural history). In addition to the species mentioned elsewhere in the report the following species were reported in 1990: Rabbit *Oryctologus cuniculus*. Grey Squirrel *Sciurus carolinensis*. Bank Vole *Clethrionomys glareolus*. Field Vole *Microtus agrestis*. Wood Mouse *Apodemus sylvaticus*. House Mouse *Mus domesticus*. Common Rat (Brown) *Rattus norvegicus*. Stoat *Mustela erminea*. Sika deer *Cervus nippon*. Fallow deer *Cervus dama*. Roe deer *Capreolus capreolus*. Lesser horseshoe bat *Rhinolophus hipposideros*. Whiskered bat *Myotis mystacinus*. Natterer's bat *Myotis nattereri*. Noctule *nyctalus noctula*. Barbastelle *Barbastella barbastellus*. Brown long-eared bat *Plecotus auritus*. Grey long-eared bat *Plecotus austriacus*.

TABLE: Frequency of the Nightjar song at night

A 10.6.1983 22.55 to 03.46			B 11.6.1986 21.45 to 04.15			C 18.6.1986 21.43 to 04.04		
22.55	01.34		21.45	00.33	01.48 (11 mins)	21.43	00.36	02.55 (8 mins)
22.57 (2 mins)	01.37 (4 mins)		21.50 (2 mins)	00.37	02.17	21.45	00.49 (5 mins)	03.03
23.45	02.15*		22.30	00.52	02.47 (2 mins)	21.46	01.01	03.06
23.50 (2 mins)	02.37		22.32	00.55	03.03	21.48	01.11	03.09
24.00	02.47		22.35	00.56	03.06	21.50	01.17	03.13
00.05	02.59 (8 mins)		22.53	00.58 (9 mins)	03.13	21.53 (6 mins)	01.27	03.25
00.12	03.10		22.54	01.08	03.19	22.00	01.32	03.27
00.25	03.17		22.55 (6 mins)	01.15	03.21	22.01	01.35	03.30
00.30	03.20		23.04	01.17	03.24	22.07	01.47	03.31
00.37	03.30		23.18	01.19	03.25	22.09	01.49	03.32
00.40 (7 mins)	03.34		23.21	01.21	03.33	22.10	01.52	03.35
01.24	03.36		23.50	01.24	03.37	22.12	01.57 (10 mins)	03.46
01.29	03.37		23.57 (5 mins)	01.28	03.47 (10 mins)	22.30	02.01	03.48
01.33	03.46		00.01	01.35	04.10	22.36 (8 mins)	02.04	03.50
			00.22	01.41	04.12	23.09	02.12	03.51
			00.30	01.46	04.15	23.20 (2 mins)	02.14	03.57
						00.16	02.22	03.59 (16 mins)
						00.25	02.27	04.02
						00.34	02.30	04.04

Songs from 21.45-22.55, and from 03.46-04.25, are not included during study period 10.6.83, in above list.

* 3 songs of 9 min. and one of 8 min. continuous churring after 02.15 (List A)

Hedgehog *Erinaceus europaeus*. A large hedgehog spent the morning of 8 June collecting dead vegetation from all over the vegetable patch and stowing it under growing plants next to the greenhouse in a Dorchester garden.

It may have been a female preparing a nursery nest but there was very little activity in the same area in the following weeks. Several hedgehogs were recorded in the same garden during the summer and a male circled a female for a considerable time in late evening on 10 June although mating was not seen on this occasion. A half grown individual ate some fish-flavoured cat food in a Swanage garden on 3 August watched from about two feet away by a cat. A small specimen seen on the pavement on 28 November in Swanage was found lying in the hedge on 4 December and only weighed 11 ozs. As it was unlikely to hibernate successfully it was fed and looked after but despite all efforts it died on 15 December.

Mole *Talpa europaea*. A number of records of molehills have been received but only one of a mole, found dead in woodland at Studland on 2 June.

Common Shrew *Sorex araneus*. One road casualty of about a dozen animals was identified from a 100 metre stretch of road at Frome Vauchurch and there was another road casualty at Morden. This species was also recorded in the north of the County at Leigh and in a garden at West Stafford.

Pygmy Shrew *Sorex minutus*. One was recorded near Wool.

Water Shrew *Neomys fodiens*. One was found dead on a Dorset Trust for Nature Conservation Reserve, the first recorded for this reserve near Swanage. One was found with a head injury on the road in Swanage, it died the next day.

Greater Horseshoe Bat *Rhinolophus ferrumequinum*. Several of this species, which breeds in a protected roost in central Dorset have moved into the man-made tunnel/cave made by the Dorset Bat Group for winter hibernation. The tunnel was constructed in April to extend the area from the cave with a fairly stable temperature.

Serotine *Eptesicus serotinus*. This species has been identified by members of the Dorset Bat Group from specimens or droppings found in roosts at Uploders, Morcombelake, Mappowder, Tarrant Crawford, Bere Regis, Compton Abbas, Sturminster Newton, Winterbourne Houghton, Whitcombe, Beaminster, Woolland, Bear Wood, Tarrant Gunville, Bovington, Burton Bradstock, Corfe Castle, Pulham, Martinstown, Gillingham, Maiden Newton, West Melbury, Donhead St. Mary, Sedgehill, Melbury Abbas, Motcombe, Chetnole, Fifehead Neville, West Moors and Dorchester.

Pipistrelle *Pipistrellus pipistrellus*. This species appears to be the species most frequently recorded and is widespread in the County. Two large female breeding roosts occur in the Frome valley, with exit counts on 22 June of 409 and 401. Nationally bat roosts were counted on this evening and 48 bat roosts were counted in Dorset, 10 were pipistrelle roosts, a further 3 were known pipistrelle roosts but none emerged to be counted on this evening and 6 were suspected as pipistrelle but not yet confirmed. I am grateful to Mr Dave Mockford for coordinating and supplying all the Dorset Bat group records. The Dorset Group received the first prize at the National Bat Conference for the efforts and results in Dorset in National Bat Week 21-27 June 1990. 3 dead pipistrelle from Preston, Weymouth and 1 from Dorchester were sent to the ADAS Central Science Laboratory, Ministry of Agriculture, Fisheries and Food for surface wash analysis, no residues of organochlorine based wood preservative chemicals were found and the cause of death is unknown.

Brown Hare *Lepus europaeus*. Sightings have been recorded from Chettle, near Cheselbourne, Winterborne Stickland, Tarrant Rushton airfield, Littledown Nature Reserve where there were 8 in a rough circle, Ackling Dyke, Compton Valence, Sovell Down, Stoke Wake, Frome St. Quintin, Rooksmoor, Tadnoll and Cerne Abbas. At least nine of these provide post 1980 records for squares previously not reported.

Red Squirrel *Sciurus vulgaris*. Mrs K. B. Parkyn has sent in the usual excellent detailed records of sightings on Brownsea Island. After the very serious storm damage particularly to the conifers early in the year it was exciting for the voluntary wardens to record so many squirrels in 1990, a total of 682 squirrels, more than any recorded in a year since Mrs Parkyn started recording in 1963. It is difficult to assess actual numbers present but from the frequent

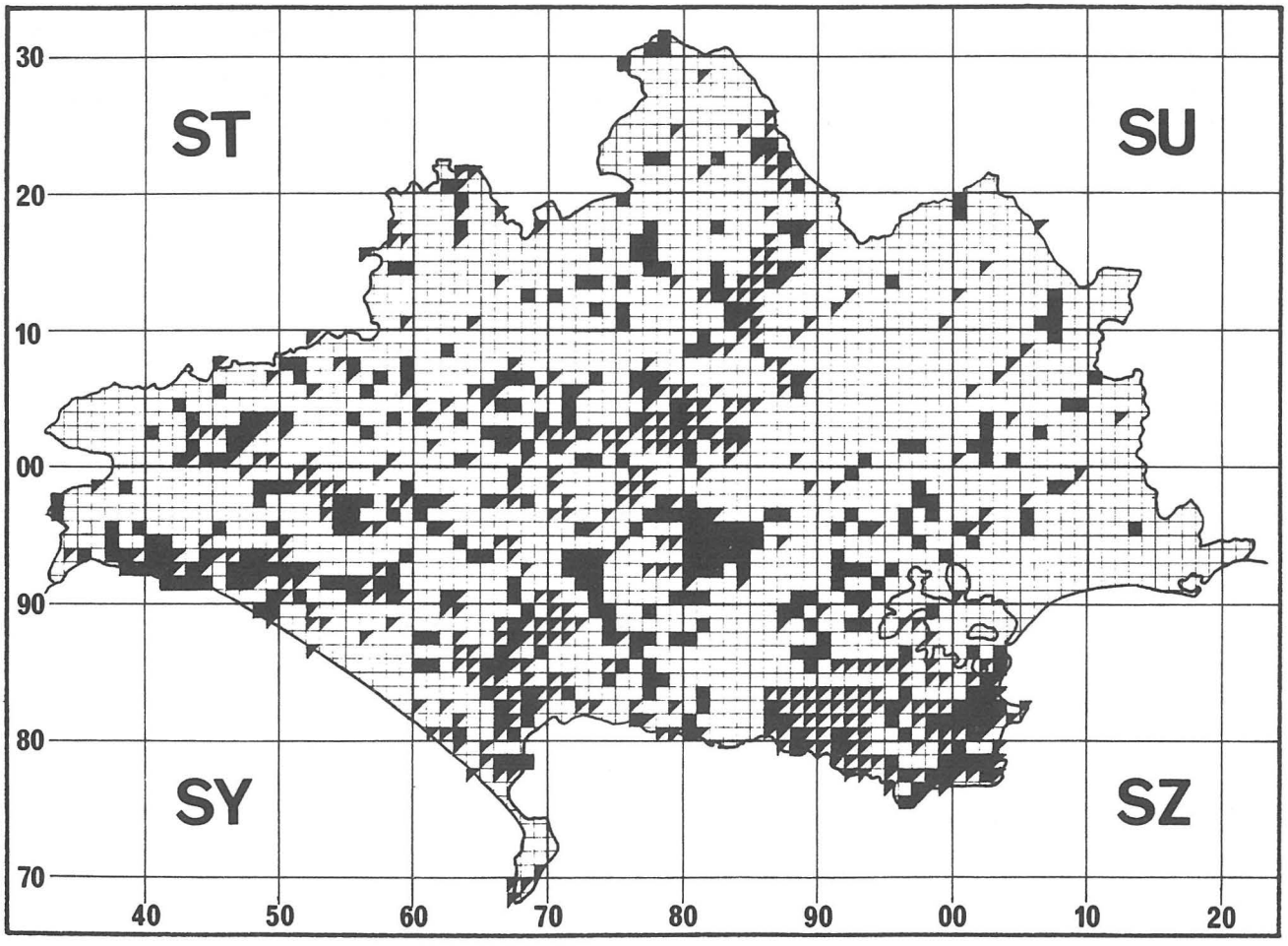


Figure 1. Badger Meles meles. *Half filled squares – pre 1980 records. Filled squares – post 1980 records.*

sightings and several large groups seen together it seems the squirrels are still finding sufficient food and doing well. They may have moved more widely around the island with the loss of the conifers. New conifers have been planted and hopefully in time will replace those lost in the storms.

Many more group sightings were reported, 93 groups of 2, 20 groups of 3, 4 groups of 4, 3 groups of 5, 2 groups of 8, 1 group of 10, 1 group of 14 and 1 group of 15, these last two groups were in September. A squirrel came into Rose Cottage in May and another in June.

Harvest Mouse *Micromys minutus*. Nests of this species were recorded on Arne Nature Reserve, Deadmoor Common and near Burton Bradstock.

Dormouse *Muscardinus avellanarius*. This species has been reported from the north west of the County and in the Corfe Mullen area.

Fox *Vulpes vulpes*. A fox was caught by its hind foot in a wire fence in Swanage and was released by J. Rees Cox and W. G. Teagle. Some are very bold in urban areas, one fine specimen was watched as it walked through the back garden of a house in Dorchester and on into the garden beyond in the early afternoon of 7 May. Figure 2 shows a good distribution in the County and detailed cover by several keen recorders, perhaps also a lack of recorders in other areas. A single row of squares with recent records of foxes marks the A35 west of Dorchester and rather a high number of road casualties as well as live sightings. Since 1982 when the last fox distribution map was published some squares without previous records have been filled but many pre 1982 records have not been repeated so there is scope for many more observations to be sent to D.E.R.C.

Weasel *Mustela nivalis*. One ran across the road near Studland carrying a wood mouse on 3 December, individuals were seen, in rank grassland at Maiden Castle on 24 January, at Lodmoor on 30 March, at West Moors, a dead one was found on Gussage Down, 1 at Buckland Newton, 1 crossing the road near Stinsford and 1 was seen in the parish of Litton Cheney killing a rat larger than itself on 17 August.

Badger *Meles meles*. Figure 1 shows a good number of 1 kilometre squares for which badger records have been submitted since 1980 but many pre 1980 records have not been confirmed since. Are there no badgers in the south east corner of the County? Please submit records for badgers if recorded in the many squares not recorded or for squares with pre 1980 records only.

Otter *Lutra lutra*. Only 1 record this year of a spraint on the slipway at Osmington Mills.

Muntjac *Muntiacus reevesi*. 1 of this very small species of deer was recorded in thick undergrowth in Purbeck on 26 March and it has also been recorded in West Dorset.

The Durlston Country Park have produced a very interesting list of records for marine mammals in 1990.

Grey Seal *Halichoerus grypus*. 2 were seen in April.

Common Seal *Phoca vitulina*. 1 was recorded in August near Peveril Point and possibles of species in September and November.

Common Dolphin *Delphinus delphis*. On 31 December 2 dolphins probably this species were recorded off Durlston, a dead one was found the following day, maybe one of this pair. The 2 seen swimming were not very vigorous and did not surface frequently.

Bottle-nosed Dolphin *Tursiops truncatus*. This species was recorded in January, March, April, June, November and December. On the 5 December up to 130 were seen off St. Aldhelm's Head in a calm sea although it was very difficult to count them in the tide race. There were 13 at first, these seemed to be followed by the others. By late afternoon there were still 15 visible.

Pilot Whale *Globicephala melaena*. 1 was seen heading across Lyme Bay from Portland Bill in March, also recorded in April and November. A cetacean possibly this species was recorded in July in the Durlston area.

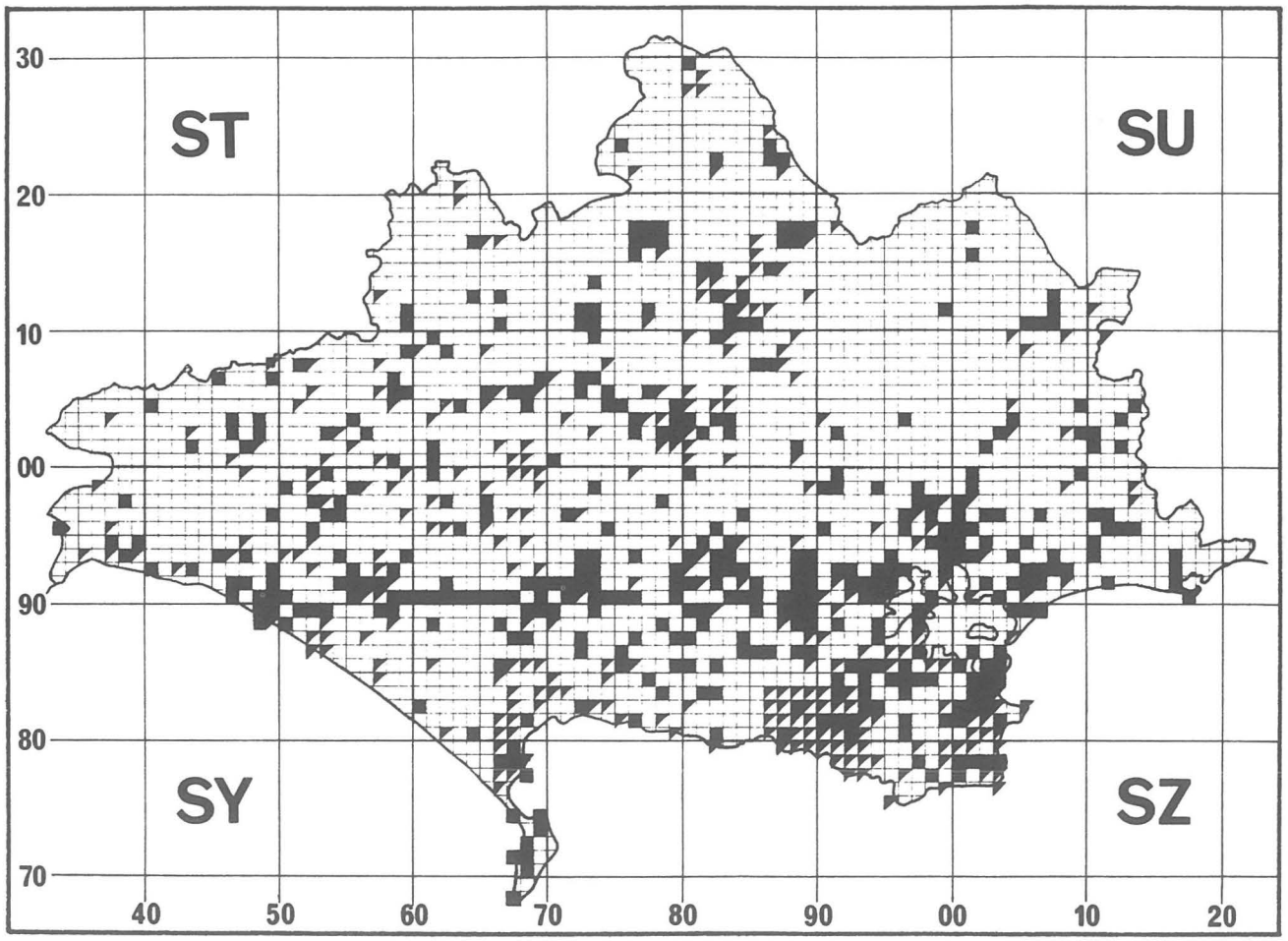


Figure 2. Fox Vulpes vulpes. *Half filled squares – pre 1980 records. Filled squares – post 1980 records.*

RAINFALL 1990

D. J. PAXMAN, MA

The general rainfall over Dorset in 1990 was 771 millimetres (30.36 inches), 16 per cent below the 1951-80 average of 915 millimetres.

MONTHLY SUMMARY:

	Rainfall (mm)	Average 1941-70	Per cent of average	Number of days with thunder
January	135	97	139	1
February	182	73	248	3
March	10	70	14	0
April	37	50	74	2
May	22	62	36	3
June	48	55	87	2
July	27	56	48	0
August	31	73	42	3
September	49	85	58	4
October	95	87	110	5
November	58	103	56	0
December	75	102	74	1

The wettest station was Milton Abbas (907 mm) and the driest was Portland Bill (601 mm).

GENERAL REPORT

In some parts of Great Britain, notably the western highlands of Scotland, 1990 was a very wet year, but over England and Wales the year was not only dry but warm. The provisional figure for mean Central England Temperature (CET) is 10.8 deg. C. This is the highest CET in records going back to 1659. The previous highest was 10.6 deg. C in 1949 (Manley 1974). The year's sunshine totals at several observing stations along the south coast of England were over 2200 hours, well in excess of anything known hitherto.

However, 1990 was not an exceptionally dry year if viewed in isolation. In the past fifty years Dorset has had seven that were drier, the most recent being 1983 (770 millimetres), while 1973 (593 millimetres) was the second driest year in the Dorset records. To assess the impact of a dry year it is necessary to see it in relation to the immediately preceding years. Table 1 lists all eight years with their rainfall and the anomaly expressed as a percentage. Table 2 compares the four-year periods which culminated with these dry years. From the tables it will be seen that the period 1987-90 shows a very similar shortfall of rain to that in 1970-73, and is significantly exceeded only by that of 1961-64. The driest year in the Dorset records is 1921 when the year's rainfall was a mere 494 millimetres, only 44 per cent of the prevailing average. The three previous years had had close to average rainfall, and the four-year period 1918-21 was deficient only by 8 per cent. By the end of 1921 the shortage of rain over four years was equivalent to a third of a normal year's supply. In 1973 and 1990 the shortfall was equivalent to half a year's supply, while in 1964 it was equivalent to rather more than that.

TABLE 1

Dry Year	Rainfall (mm)	Anomaly (mm)	(%)
1949	770	−161	−16
1953	702	−229	−23
1964	659	−272	−29
1971	723	−200	−22
1973	593	−330	−36
1975	714	−210	−24
1983	770	−145	−16
1990	771	−144	−16

TABLE 2

Four year period	Rainfall (mm)	Anomaly (mm)	(%)
1946-49	3907	+180	+5
1950-53	3735	+11	+0.3
1961-64	3211	−513	−14
1968-71	3465	−229	−6
1970-73	3254	−440	−12
1972-75	3468	−226	−6
1980-83	3623	−38	−1
1987-90	3248	−413	−11

February 1990 was the one month that came within sight of establishing a record. It was stormy and wet (182 millimetres). The only wetter February in the Dorset records is that of 1923 (192 millimetres). This exceptionally wet month was followed by seven months all with less than average rainfall. None of the months individually created records but their total rainfall was only half the average. Over most of England this was the driest March to September on record, but in Dorset the 225 millimetres of rain for this period now comes second to the 214 millimetres in 1870. The dry weather resulted in the death of many young trees which had been planted to replace ones lost in the storms of recent years. Absolute drought prevailed for 19 to 23 days from 7 July, and many areas of Dorset had a further 15 to 20 days beginning on 30 July. This was also the occasion of a brief but intense heatwave which reached its peak on 3 August. On that day a temperature of 37.1 deg. C was recorded in Cheltenham. This is the highest temperature ever recorded in a Stevenson Screen in UK. At Dorchester on the same day the temperature reached 35 deg. C, setting a local record.

THE STORM OF 25 JANUARY 1990

On 25 January 1990 a secondary depression gave rise to the worst storms in the British Isles since the storm of October 1987 which was described in Volume 109 of these Proceedings, pp. 143 & 145. The depression can be traced back only to 23 January when it was a slack and rather shapeless low-pressure area laying off the North American coast. By midnight of 23/24, fuelled by a very strong jet stream and with a centre pressure of 1006 millibars, a process of rapid development was beginning. By midday on 24th pressure had fallen to *c.*994 millibars and by midnight (24/25) to *c.*970 millibars, and the system was moving towards Ireland at about 50 knots.

The 25 January storm was very similar in both origins and development to that of October 1987. On both occasions the interaction of cold polar air with warm moist air which had moved up from the tropics led to explosive deepening to *c.*950 millibars at the depression centres. In both instances the approaching depression moved fast. The 1990 centre crossed Northern Ireland during the morning of 25th, was over Scotland at midday, and was close to Edinburgh by 1600 GMT. By this time the pressure was down to about 950 millibars. The eastward passage continued, probably without further deepening, so that by midday on 26th the centre was over southern Norway and was beginning to fill.

The strongest winds were experienced to west and south of the system. Although mean speeds were not much over 60 knots there were gusts greatly in excess of this, and it was probably these gusts that wrought so much havoc. The effects were worst in west Wales, the south-west of England and along the south coast. At Aberporth, on the Dyfed coast, a wind of 63 knots gusted to 93 knots between 1300 and 1400 GMT on 25. Inland in Wales there were gusts as high as 86 knots. In the south-west and along the Channel coast the gusts reached 90 knots in places, equalling the wind velocities of October 1987. Inland the gusts were less severe. Thus, at Dorchester the gusts did not exceed 74 knots.

Although wind speeds were generally somewhat lower than in the 1987 storm the destruction was greater because the storm affected a much larger area. The loss of life was also much greater because in 1987 the really strong winds came at night when most people were safely indoors, whereas the winds reached their climax during the daylight hours of 25 January 1990. The storm caused 47 deaths. The nearest fatality to Dorset was in Yeovil and was caused by a falling chimney. Apart from considerable and widespread structural damage to buildings many trees were lost, including ones planted to replace losses in earlier storms. 700 trees were brought down at Trigon, near Wareham, either on 25 January or in one of the storms of the following month.

In parts of Scotland, close to the depression centre, this was the wettest day of the month. However, in general (and as in 1987) this storm was not notable for its rainfall. Dorset escaped with, on average, a mere 5 millimetres. The highest rainfall was 14 millimetres at Frome St. Quintin.

Rainfall in Dorset 1990

STATION	OBSERVER OR AUTHORITY	Greatest Fall in 24 hours		Days with 0.2mm or more	Days with 25mm or more	DEPTH OF RAINFALL IN MILLIMETRES												Total for Year
		Depth	Date			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Abbotsbury (East Farm)	D. J. Wood	24.6	30/9	134	0	97.0	167.4	8.4	31.5	22.6	40.4	22.4	29.7	34.8	67.8	80.8	67.3	670.1
Blandford (Tarrant Rawston)	J. H. Cossins	33.0	29/9	141	3	154.7	199.6	8.9	45.0	21.1	55.4	18.5	28.7	59.2	103.4	46.0	77.0	817.5
Bournemouth (Alderney Reservoir)	Bournemouth & Dist. Water Co.	32.3	25/10	138	3	135.6	181.5	6.8	47.7	17.2	37.3	11.6	25.4	40.3	112.6	52.6	70.8	739.4
Bournemouth (Hurn Airport)	Met. Office	24.5	2/2	145	0	130.2	172.5	6.2	41.4	13.9	50.2	12.4	21.4	36.9	95.3	57.3	66.5	704.2
Bridport (Bradpole)	G. R. Smith	49.4	29/9	112	3	132.7	174.1	13.4	31.5	25.3	44.5	30.0	43.9	60.5	56.5	70.1	69.0	751.5
Cattistock (Lankham House)	J. F. Willows	36.8	29/9	152	1	133.2	168.7	9.2	43.7	27.2	48.2	28.9	40.0	61.7	73.6	59.4	74.0	767.8
Cerne Abbas (Abbot's Walk)	D. H. Paul	40.0	29/9	143	5	154.2	210.3	12.2	40.8	35.2	61.0	43.4	35.2	63.0	94.4	54.8	84.9	889.4
Charminster (Hill View)	Mrs Everleigh	27.3	29/9	—	3	141.4	192.2	10.5	35.4	21.7	51.3	37.4	32.4	42.9	104.1	66.1	79.0	814.4
Dewlish (Parsonage Farm)	M. Britton	36.0	29/9	126	3	143.0	193.0	11.0	50.0	33.0	51.0	29.0	35.0	54.0	105.0	59.0	79.0	842.0
Dorchester (Weatherbury Way)	J. R. Oliver	40.8	29/9	148	3	123.3	188.2	10.4	31.8	31.2	42.9	37.1	36.2	59.3	97.6	68.6	83.2	809.8
Durlston Country Park	M. Turnbull	50.8	27/10	131	2	112.2	181.2	6.1	41.6	13.5	34.2	14.9	28.9	26.3	116.2	67.5	68.5	711.1
East Stour	R. Brown	35.7	29/9	173	2	110.1	171.9	11.5	31.2	11.2	59.2	24.0	37.8	79.6	79.5	43.5	68.4	727.9
Evershot (Melbury House)	S. Rayner	42.3	29/9	153	4	192.5	203.5	12.5	42.8	24.0	59.0	42.6	40.3	64.5	86.5	48.3	81.5	898.0
Forde Abbey	M. Roper	41.0	29/9	146	4	148.9	209.1	12.0	34.0	17.5	57.0	36.0	36.7	56.1	65.9	64.8	74.4	812.4
Frome St Quintin	D. Pearman	43.7	29/9	153	4	163.1	214.1	11.4	38.6	26.4	59.2	48.5	42.4	62.7	92.5	56.4	89.7	905.0
Langton Matravers (Leeson House)	D. Kemp	—	—	162	—	128.5	212.1	9.1	46.8	17.4	42.2	23.8	26.0	36.3	142.5	76.7	80.8	842.2
Leigh (Denbury House)	Lt-Col. B. H. T. Barlow-Poole	31.7	29/9	112	2	141.7	167.1	7.4	30.0	19.1	35.3	20.8	19.8	46.0	79.8	39.4	63.8	670.2
Lyme Regis (Pinhay), Devon	Mrs Allhusen	51.8	29/9	151	2	117.3	119.6	9.0	25.9	17.2	64.3	34.1	49.9	61.4	64.3	81.1	67.1	711.2
Maiden Newton (Wraxall, Manor Farm)	Lt-Col. J. T. A. Wilson	48.4	29/9	159	4	165.6	205.4	11.4	44.5	25.7	56.9	46.3	45.5	76.0	79.7	57.0	77.5	891.5
Milton Abbas	K. Battrick	43.0	25/10	—	—	165.0	222.0	19.0	41.5	37.5	57.0	28.0	15.0	49.0	116.5	59.0	98.0	907.5
Minterne	The Lord Digby	45.7	29/9	130	4	170.7	170.5	26.3	53.5	27.4	65.2	37.5	33.2	60.0	91.7	54.5	88.5	879.0
Osmington Mills (Coastguard House)	J. Hadwin	—	—	—	—	—	—	4.0	21.1	13.8	18.9	10.6	18.2	28.4	107.5	63.5	85.4	—
Parkstone (Lilliput)	R. J. O. Crew	36.8	2/2	139	2	104.6	147.6	3.3	36.6	21.1	43.2	14.5	18.8	27.7	88.1	42.4	54.4	602.3
Portland Bill	HM Coastguard	56.2	27/10	139	1	97.1	134.5	5.4	25.2	16.2	29.9	12.3	21.0	28.9	108.6	65.7	56.4	601.2
Puddletown (Bardolf Manor)	H. G. Wood-Homer	35.1	29/9	162	4	134.9	197.0	15.9	44.4	24.3	52.6	41.8	37.2	60.1	109.2	63.0	79.3	859.7
Shillingstone (Green Hills)	E. Nimmo	42.9	25/10	150	5	148.8	202.0	7.6	28.8	19.0	48.8	17.0	26.1	46.5	121.4	44.2	82.3	792.5
Swanage	K. Moore	52.4	27/10	143	3	120.7	194.0	6.1	41.8	11.4	35.0	15.1	23.3	26.1	124.7	70.0	70.7	738.9
Wareham (East Stoke, River Laboratory)	J. Morgan	45.0	25/10	158	3	146.2	185.2	7.5	45.1	25.7	41.5	24.7	27.7	41.9	124.7	55.1	95.0	820.3
Wareham (Trigon)	G. P Sturdy	34.5	25/10	132	3	120.6	157.5	5.2	40.3	25.6	32.1	22.5	22.5	45.6	110.0	45.8	78.5	706.2
Weymouth (Cranford Avenue)	H. F. Middleton	29.0	29/9	135	1	93.9	160.1	9.1	28.8	23.4	48.1	19.5	29.1	40.3	89.1	69.4	68.0	678.9
Weymouth (Westham)	A. J. Coe	27.4	29/9	129	1	90.9	153.5	7.0	24.6	27.6	47.5	19.4	29.2	38.2	83.7	74.2	71.0	666.8
Wimborne (Corfe Mullen, Central Avenue)	A. H. Dunn	37.1	29/9	161	2	154.9	181.9	8.6	38.4	22.6	50.0	17.5	33.0	52.1	99.8	52.1	77.0	787.9
Wimborne (Stanbridge Mill PS)	Bournemouth & Dist. Water Co.	—	—	—	—	118.0	166.0	7.0	35.8	16.5	55.8	20.3	26.9	56.4	95.7	44.4	54.1	696.9
Wimborne (Walsford Bridge PS)	Bournemouth & Dist. Water Co.	—	—	—	—	138.1	182.2	6.8	39.2	24.9	41.6	14.8	21.0	64.6	91.9	52.3	68.1	745.5
Winfrith (Atomic Energy Establishment)	M. Rodgers	33.4	29/9	145	4	130.3	186.1	9.0	39.6	25.3	39.9	25.1	31.5	47.8	109.2	63.3	86.0	793.1
Yetminster (The Mill House)	R. M. Clarkson	27.2	6/2	113	3	134.1	187.2	6.6	28.4	12.7	33.3	24.6	21.1	41.4	71.4	36.1	60.2	657.1
Yetminster (Kenyon)	J. M. Bosworth	—	—	—	—	155.1	176.6	11.4	38.1	16.3	43.8	28.6	22.4	47.0	72.0	37.0	67.5	715.8
AVERAGE FOR THE COUNTY				142	3	135.1	182.4	10.0	37.4	22.3	47.9	27.2	30.7	49.1	95.3	58.4	75.3	771.1

HEAVY FALLS OF RAIN

1 February
A deep secondary depression (948 millibars at 1800 GMT) moved NE to the west of Ireland, and the associated fronts crossed England and Wales. More than 25 millimetres of rain fell over the middle latitudes of Dorset (31.8 millimetres at Melbury House). Falls were only half this amount at East Stour in the north and at Portland in the south. Again there were very strong winds and the cumulative effect of recent high rainfall caused the Severn to be at its highest level since 1947.

2 & 3 February
A wave depression which lay 500 miles ENE of the Azores at midday on 2nd deepened and moved rapidly up the English Channel during the following 24 hours. At midday on 3rd the centre (*c.*990 millibars) was over the Thames estuary. Precipitation was divided between the raindays of 2nd and 3rd. It was locally heavy, sometimes falling as snow on high ground. 40 millimetres fell at Swanage on 2nd. At Cattistock 20.6 millimetres fell on 2nd and 15.5 millimetres on 3rd. The heavy rain turned to snow at about 0800 on 3rd and continued until mid-morning. The snow cover was about 5 centimetres. At Cerne Abbas the cover was about 10 centimetres, but there was a fast thaw in the relatively warm air in the wake of the depression.

6 to 8 February
Disturbed and fast moving weather continued throughout these three days. A large and diffuse zone of low pressure lay north of the British Isles on 6th and 7th. Around the zone's southern flank vigorous wave depressions moved within the general circulation. The wettest of these days in Dorset was 6th, during which a small depression transferred from Ireland to the Norwegian coast. An associated cold front crossed England. More than 25 millimetres of rain fell over the hills of central Dorset (36.1 at Minterne; 30.6 at Shillingstone).

At midday on 7th the polar front extended down the coast of Norway, across the English midlands to the next developing wave depression, some 250 miles west of southern Ireland. South of the front a tight pressure gradient gave strong south-westerly winds. The wave depression moved rapidly north-east across Ireland and Scotland, bringing severe gales to the west country and the south coast of England. There was a gust of 83 knots at Berry Head, south Devon, and one of 78 knots at Shearness. This storm caused further substantial damage and interruption of communications not only in Britain but on the European mainland. There was also widespread heavy rain. For much of northern England and the midlands this was the wettest day of the month, with severe flooding in the Thames and Severn valleys, but in Dorset rainfall was less than on the previous day. Bournemouth (Alderney reservoir) was the wettest station, but with only 19.0 millimetres of rain. At Abbotsbury some snow fell on the surrounding hills and there was drifting in the strong winds, but the snow soon melted. At Winfrith there was sufficient snow to give an 8 centimetres cover on the morning of 8th. The highest rainfall in Dorset over this period of three days was in the central hills (45 millimetres at Cerne, 44 at Melbury House and at Shillingstone).

29 September
On 25 September a shallow low of 1000 millibars made its appearance on the Atlantic, west of Spain. There it remained almost static until 29th, and then moved into the Bay of Biscay and made its way up the English Channel. It brought unstable humid air which gave outbreaks of heavy rain over southern counties, and some thunderstorms. In Dorset the heaviest rain fell in an area from Lyme Regis to Beaminster (Pinhay 51.8 millimetres; Bradpole 49.4; Wraxhall 48.4). Another outburst was at East Stour (35.7 millimetres), where there was a thunderstorm. All Dorset stations had rain, though in Purbeck the falls were as low as 12 millimetres. For well over half Dorset stations this was the heaviest daily rainfall of the year. It was also the first substantial rainfall for six weeks.

25 October
A depression of 978 millibars was centred south of Iceland, with a secondary centre west of Ireland. The associated fronts of the secondary crossed England and Wales, accompanied by locally heavy thundery rain. The heaviest fall in Dorset was in a very small area west of Wareham (45.0 millimetres at East Stoke). A more extensive area of heavy rain was west of Blandford (43 millimetres at Milton Abbas; 42.9 at Shillingstone). For these and some neighbouring stations this was the wettest day of the year. By contrast much of west Dorset had only light rainfall (5.9 millimetres at Bradpole; 7.6 at Abbotsbury).

27 October
This day saw a very similar situation to that described for 25th. Another small secondary low crossed southern districts, again giving locally very heavy rain and thunderstorms. In Dorset the wettest place (uncharacteristically) was Portland Bill (56.2 millimetres), closely followed by Swanage (52.4) and Durlston (50.8). Again the north and west of the county had low falls (9.9 millimetres at East Stour; 10.5 at Forde Abbey). The Purbeck falls were their heaviest daily falls of the year. The rain at Portland was the heaviest daily fall at any Dorset station in 1990.

LATE REPORTS FOR 1989

	Bournemouth (Alderney Reservoir)	Wimborne (Stanbridge Mill PS)	Wimborne (Walsford Bridge PS)
	mm	mm	mm
January	34.5	27.1	29.1
February	83.0	83.6	85.5
March	97.6	95.5	102.7
April	81.1	80.5	78.3
May	9.7	5.4	6.9
June	34.0	37.5	37.7
July	25.0	29.7	33.6
August	43.7	32.9	29.0
September	41.8	37.0	41.5
October	105.6	106.0	93.6
November	63.7	54.7	57.0
December	199.0	154.1	188.5
Year's total	818.7	743.9	783.4

RAINFALL STATIONS

Marnhull (Crown Road) was closed at the end of 1989.

The gauge at Yetminster (Old Miill House) has been temporarily resited at ST 590102, 68 metres (225) feet above MSL. This site is shown in the Table of Rainfall as Yetminster (Kenyon).

Observations began at a new station, Osmington Mills (Coastguard house), in March 1990. The gauge is at SY 735819 and is 40 m above MSL.

Abbotsbury (East Farm) closed at the end of 1987 but has now reopened. Unfortunately we have not been advised of the exact position or height of the gauge.

CORRECTION TO VOLUME 111

Page 151. The second column of the table gives averages for the years 1951 to 1980.

Reference
Manley, G. (1974) Central England temperatures: monthly means 1659 to 1973. *Quart. J. R. Met. Soc.* (1974), 100, pp. 389-405.

Obituaries

Philip George Heyworth Hopkins OBE., BA., BSc. (1915-1990) Member of the Society.

Philip Hopkins will be particularly remembered in Dorset for that period after the war when in partnership with F. A. Ollett he took university courses to villages and towns across the county. His teaching was inspirational and was for this writer at least to change the direction of his life completely.

P. G. H. Hopkins charted his own life to the full. Outstanding at sport he was captain of both cricket and football at London University (where he read geography) and later gained cricketing colours for Dorset. After a period of teaching at Poole Grammar School, he was appointed resident Extra-Mural Tutor in East Dorset for Southampton University in 1947.

It was a good time for Adult Education. Cars were few, TV exposure negligible and people turned to local classes in village hall or town school for stimulus and learning. Courses flourished. Three year tutorial courses, now almost unknown, became common to the Hopkins – Ollett partnership. Thursday after Thursday or whatever the day, we flocked for our weekly fix. F.A.O. and P.G.H.H. were gifted lecturers but very differing in style. While Ollett, lecturing in the grand manner would say, trace the classic influences in rebuilt Blandford back to Bernini, Maderna and Borromini via the sketchbooks of Thomas Archer, Hopkins, exploring a more humbly constructed landscape of geology, work, farming, town and village, would rather engage our curiosity and then focus it. We learned of drowners and the science of floating watermeadows and then somehow got involved with the Speenhamland system; the importance of the sheep fold led to hurdle making, coppicing and the peculiar fecundity of the Dorset Horn. Kimmeridge oil shale led to the alum works on the Yorkshire coast and the infringement of royal prerogatives. With an aphorism, 'More sheep – more corn' P.G.H.H. would encapsulate Dorset high farming of the nineteenth century, invite us to wallow a bit in the bucolic images of a 'golden age', only to follow with a devastating critique of the social and economic realities of agricultural inflation which is just as valid today.

There were delightful interludes of dialect readings, poetry and song (P.G.H.H. had a choir voice) but always with purpose to illustrate contemporary living or attitudes. There was nothing folksy here. The dignity of work was set against the often indignity of the workplace; Purbeck quarrymen tied to the truck system, the impoverishment of the yeoman farmers, the hovels of the ball clay workers. But equally he identified with the improvers of the land, the innovators, the entrepreneurs, – the Framptons, Sturts, Mowlems. George Boswell-of-Puddletown's treatise on watermeadows was particularly dear to him. It was perhaps a summer's day on Creechbarrow on a field excursion that we glimpsed both the landscape and the man who had revealed it to us through the winter months, in happy unity.

During this period, he became a JP. He took an external London degree in 'Government, Economics and Politics' and got a first – a remarkable feat. In 1957, he was appointed Warden and Principal of Fircroft College, Selly Oak.

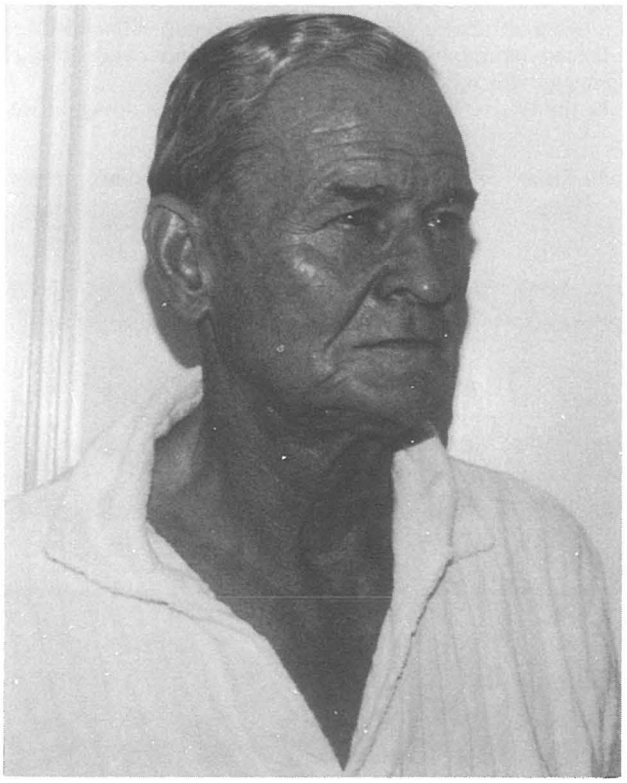
This residential college offered courses in arts and humanities to those who had perhaps left school unmarked yet retaining a yearning for knowledge. It drew from the shopfloor, from Workers Education movements especially in Europe and the developing countries. With its weekly routines of lectures, seminars and face to face tutorials, it offered a firm democratic discipline. It was also a massive challenge for the warden and staff to turn the tensions and anxieties of such a disparate group of students to creativity. Philip Hopkins was clearly fulfilled by the challenge and led Fircroft with distinction for fourteen years. As Warden's wife, Nessie Hopkins took to student counselling – quite unofficially. Philip Hopkins was awarded an OBE in 1972 for his services to British Adult Education. But by then he was already in Africa as the Director of the Institute of Adult Studies in Nairobi.

In 1973 he was appointed Workers Education Adviser at the President's Citizenship College, Zambia. Then after a short spell for the ILO in Geneva he retired to Dorset in 1979. Throughout his working life he had given travelling lecture tours in Europe, Africa, Israel, India, Indonesia, Australia.

Philip Hopkins once again turned to lecturing on 'Dorset' and particularly his beloved Purbeck. There was little help from the university and he was working single handed in the east of the county. The one great support came from WEA branches, a touching twist of mutual loyalties. His subject matter changed in time. Entitled 'One world, many peoples and problems' his last course seemed to encompass all he represented ... Humanity, tolerance, understanding of other points of view.

He retained a dispassionate need to serve. His influence at Fircroft was still felt through its governing body. In Dorset he joined the Samaritans. Each Christmas he would be off on great tours exploring Latin America ... of course becoming conversant in Spanish first. His intellect never faltered. There was to be another course – on Hardy's Wessex. Not Hardy again! I was a sounding board to his ideas. They were so fresh. And as his notes extended, his pale blue eyes carried that familiar excitement of something very special. 'There's a three year course here ...' As I left him, he switched on the World Cup. A few days later he died in his sleep. A life long friend of Philip wrote to me, 'His was a remarkable mind, and generous and happy spirit.'

G.G.P.



Philip Hopkins.

John Ruston (1924-1990)

John Ruston had been a Life Member of the Society since 1977, a supporter for much longer. His closest contact came about when he became the publishing stimulant to Ronald Good and Joan Brocklebank. One produced the *Old Roads of Dorset* (1966), and the other *Affpuddle in the County of Dorset* (1968), both published by Horace G. Commin Limited of Bournemouth, of which John Ruston was the proprietor. Joan Brocklebank brought John into the Membership & Fund-Raising Committee, and the Dorset Record Society of which he was the Secretary-Treasurer for a spell, at its rebirth in 1980.

Committees were not, thank God, his natural habitat, except in that most useful quarter-of-an-hour before or after business when the news of the arrival or death of a distinguished Dorset resident, or the sighting of a desirable Dorset item, long before it reached a catalogue or the saleroom, would be announced with the promise of it being nudged in our direction. Thus, thanks to him, have we come to acquire a number of books and manuscripts for the Society's library which would otherwise have gone away, and we have entertained, or been entertained by, a number of distinguished people who would otherwise never have known of our existence.

His wide knowledge was of value when he worked on Charles Bean's fine archaeological library, but my own closest observation of him at work professionally as a bookseller, occurred when he helped me to record Sylvia Townsend Warner's library before it was dispersed. We had two week-ends with a week between in the autumn of 1986, to get down as much information as possible – knowing that the Max Gate library had been broken up more or less unrecorded, and anxious that the same should not happen at Frome Vauchurch. We arrived at dawn and left between 10 pm and midnight each day, steadily working our way through seven rooms and a landing of books, the majority annotated. Any treasonable thoughts I might have held about John's abilities were exploded as he solved ten days of constant bibliographical problems without a falter. It was a skilled and exciting performance – and one which he gave for nothing. A friend has described the satisfying plop of plum books taken from the shelves as John worked his way through a library he was buying, and the skill with which he balanced mountains of books to pack and overload the Mercedes which he then drove fast and far.

In the twelve months since his death time and again we have said 'John would have known the answer to that' – as another problem has gone unsolved. He gave even the most pedestrian solution the true story-teller's touch as we waited to hear what would follow 'entre nous . . .'

R.N.R.P.

John Ruston and Marco.

John Ruston's obituary from *The Independent* (17.11.90) reprinted by kind permission of the Editor.

For 27 years, from 1954 to 1981, John Ruston was a distinctive figure in Dorset life, and the animating spirit of Horace G. Commin's bookshop in Bournemouth.

The twin son of a Cambridgeshire farmer, Ruston went to King's School, Ely, before joining Heffers in Cambridge as an assistant. When the war came he served with the RAF in India and had the good fortune to explore Tibet, acquiring a life-long taste for exotic travel (latterly to be satisfied by annual trips to Russia). He returned briefly to Heffers, then managed a bookshop in Manchester, but was still under 30 when he settled in Bournemouth.

Commin's, the model of a provincial bookshop, has now sadly gone. It inhabited a tall narrow building with new books on the ground floor and four storeys of old ones above. When Ruston took it over he had no experience of old books, but that he passed rapidly through his novitiate in this field no one could doubt who saw him in his bookselling prime.

Visitors to Commin's would normally find the proprietor behind a book-heaped desk on the first floor, wreathed in pipe-smoke, an assistant or two at his beck and call, and thinking aloud to his cat, Marco. However, no likeness of Ruston can be attempted without one essential prop: the letter in his hands from an old customer of the shop wishing to dispose of his library.

John Ruston had an outstanding gift for acquiring libraries (a 'library' in his terms meant an interesting collection of books, large or small, in private hands). A library in prospect fired his enthusiasm and got him on the telephone to his friends: 'The family have been in touch ... we are to have the run of the castle ... the books are ... *glittering*'. Romance and hyperbole, both endemic to Ruston's nature, played their part in these reports. However, books did indeed come his way and in profusion, often from notable libraries such as that of Reynolds Stone and Sylvia Townsend Warner (to cite two collections in recent memory).

Ruston was a man of wide culture and interests. For 20 years he advised the Dorset County Museum on matters archaeological and literary, he was an accomplished trout-fisherman and much in demand as a judge of cats. The contacts he made in these diverse fields partly accounted for the almost perpetual spring-tides of books at Commin's.

He had a very round physique, his shape lending a childish fascination to any meeting with him. His walk was slow and stately, his feet splayed at 90 degrees, and when he stopped to talk to somebody he swayed from foot to foot like a dancing bear. This unhurried and conspicuous progress made him something of a cynosure but more importantly – and to the general good – it made him available to people.

Ruston was Dorset's contactman *par excellence*, keeping himself exceptionally well-informed about local events, forthcoming sales throughout the country, concerts, Glyndebourne performances, etc. (He appeared to absorb the contents of several newspapers *in toto*.) Naturally he was a tremendous resource.

In his years of retirement – never total – Ruston was seldom completely well. A rare blood disease contracted in his youth in India resurfaced after 40 years. At one time he was visiting three hospitals concurrently.

Remarkably, his zest for life never flagged and his friends

continued to hear the note of excitement in his voice when he rang with news. To the end, visiting him in Bournemouth, they could be sure to witness the life-enhancing spectacle of his laughter, his frame stricken with silent mirth. George Ramsden

John Robert Ruston, bookseller, born Chatteris Cambridgeshire 8 January 1924, died Bournemouth 9 March 1990.

John Ruston's obituary from *The Times* (26.11.90) reprinted by kind permission of the Editor.

John Ruston, who has died at the age of 66 in Bournemouth, was one of England's most formidable antiquarian booksellers.

The purchaser of at least three Prime Ministers' libraries, including Lord Rosebery's Ruston became an unrivalled authority on second-hand books and a force to be reckoned with.

He not only possessed that skill, much envied in the trade, of being able to price any book at a glance, he could also usually instantly say whose library it had previously been since its publication.

John Richard Ruston – 'J.R.' to his friends – was born in Cambridge, the son of a land agent in 1924. Despite family pressure to pursue after elementary schooling a 'solid' career, he was attracted at an early age to books, encouraged not least by the novelist E. M. Forster with whose college, King's, Ruston developed a life-long if informal association.

National Service in the RAF brought him to India just before partition. A trip by mule to Tibet and the closing days of the Raj left Ruston with a fascination for British involvement in the East which enabled him years later to supply several eminent Tibetologists with superb libraries of books on Lhasa.

In 1954, he took over Commin's, a ramshackle bookshop then housed in a Betjemanesque terrace in the centre of Bournemouth.

Bournemouth then was at the height of its charm as one of the final resting places of retired colonial servants. Ruston's arrival in the seaside town coincided with the purchase of villas there by former members of the Indian civil, the Indian political and the Sudan political services.

Their libraries, often housed in sombre black shelves between Zulu spears and trophies from Khartoum or elsewhere were to keep him occupied for decades.

'I was in awe of my customers,' he would later relate, somewhat to the surprise of those who, on meeting him, found it difficult to imagine this physically vast figure, who so freely referred to at least one ducal customer as a 'frightful little tick,' being in awe of anyone.

From his extravagantly chaotic shop, he found rare manuscripts and books for a series of eminent figures including Kenneth Clark and Montgomery of Alamein. All of them made the precarious journey up three flights of rickety steps to consult the man whose enormous frame, attended on the one hand by a cat named Marco and on the other by a lukewarm cup of tea, sat pagoda-like half-behind a copy of *The Times*.

Like many good booksellers he delighted in gossip. Indeed, to have lunch with him was akin to being taken on an incident-crammed tour of the most prestigious libraries in the country. 'J.R.' knew them all.

Joan Clairmont Walton – President of the Society 1981-84

Joan Walton was born on 21 September 1911 at Weybridge, Surrey. She moved to Dorset in 1923 when her father, Mr J. C. Wood, bought the farm at Coombe Down, near Beaminster. She was educated at home and at St. Mary's Hill, near Woking, and, in her own words 'after leaving school concentrated on horses, and passed the Institute of Horse Instructor's Examination with distinctions'.

In the 1939-1945 War she served in the First Aid Nursing Yeomanry (FANY) and the Ministry of Information. Subsequently she worked in London as a secretary and accountant to various private architectural firms, to an interior decorating firm, and then was the Hon. Treasurer of the Friends of St. Paul's Cathedral.

She married Arthur St. George Walton on his retirement from Government service in Hong Kong in 1962, just before he was appointed the first Warden of the Dorset Naturalists Trust's nature reserve on Brownsea Island where they lived until November 1964. In 1965 the Waltons moved to their house at Beaulieu Wood, Buckland Newton, and developed a fine garden, with an emphasis on old shrub roses.

Among Joan's many interests were sailing, cruising and ocean racing. She travelled widely over most of Europe, as well as parts of North Africa, India, Russia, Ethiopia and the Seychelles, developing her particular knowledge of birds, flowers and Greek archaeology. As a travelling companion she retained her sense of adventure and wide interest in the varied cultures of the places she visited right up to her death.

Joan Walton joined the Society in 1963, coming on to the Society's Council in 1966, at a time when we were deeply involved in fund-raising for the Museum's extension opened in 1971. From then onwards she played a considerable part in the successful appeals which led to the purchase of the back of Thurmans and 4 and 5 Colliton Street, next door to the Museum, as well as the campaign for money-raising that resulted in the opening of the Society's archaeological gallery in 1984. Joan was the first woman to be elected President of the Society, and it was fitting that the archaeological gallery should have been opened in the last year of her Presidency.

Joan Walton.

Amongst her many contributions to the work of the Society Joan Walton played a large part in a long series of successful field meetings, with particular emphasis on the natural history side of our activities.

At her election to the Society's Presidency she said she would not be giving a Presidential Address but had other entertainment organised. After the business meeting members adjourned for coffee in the Victorian gallery and were treated to a recital on the Bridehead organ. Joan's delight in this was far greater than any Presidential Address.

From 1973 to 1990 she was the founding secretary of the Dorset County Museum Music Society to which she generously bequeathed a sum of money on her death.

Elegant, youthful, optimistic and full of enthusiasm for any task in hand we owe much to her qualities, whilst her irrepressible humour and energy are sorely missed by her numerous friends.

R.N.R.P.

Walter F. Wright (1912-1990)

Professor Walter Wright, his wife Alice and younger daughter Susan, joined the Society in 1963 when the professor spent the greater part of a sabbatical year from the University of Nebraska in Dorset whilst writing *The Shaping of the Dynasts. A Study of Thomas Hardy*, published by the University of Nebraska Press, Lincoln, in 1967.

In Dorchester they were active members of the Society; active to the extent that not only did they join in the Society's normal events, but Alice Wright and Susan gave the Museum library the only total spring-clean it has ever received, removing every book from the shelves, hoovering and disturbing the dust of the previous century as the professor worked on the Hardy collections. Professor and Mrs Wright returned to Dorchester whenever they visited Great Britain, and supported the Society in one particularly practical way. Walter gave the Society all the royalties from the sale of his book, and was a generous host to at least three members of the Society when visiting their delightful home in Nebraska, taking them on tours of the Willa Cather country. Walter was a kind, gentle and humorous man who brought much to the study of Thomas Hardy and to our own Society.

Walter Wright joined the University of Nebraska Faculty of English in 1945, was promoted to associate professor in 1948 and professor in 1951. He was assistant associate dean of the College of Arts and Sciences form 1954 to 1965, Regents professor of English in 1965 and became professor emeritus in 1982. Besides his book on *The Dynasts* he became a respected expert on the 19th century novel, writing books on Joseph Conrad, George Meredith, Henry James and Arnold Bennett. He was the author of numerous articles, papers and reviews of British fiction from 1880 to 1940, and wrote a critical introduction to Joseph Conrad's novel *Lord Jim* in an edition published in the 1950s by Harper Brothers. He was a life member of our own Society, of the Modern Language Association, and the Willa Cather Society, and a member of the British Conrad and Hardy Societies.

He received his bachelor's degree at Miami University in Ohio where he was elected to Phi Beta Kappa. After a year at John Hopkins he received a master's degree and a PhD in English from the University of Illinois. He taught at Washington State University, and Doane College, before joining the University of Nebraska.

The following note by Walter Wright came with a copy of his study of *The Dynasts* which he presented to the Society:

'I do not remember when I first read Thomas Hardy. It was sometime when I was a boy on a small farm in southeastern Indiana where we measured most distances by minutes in a car, but one was still able to think of a good many others – across fields and on wagon-lanes – as Hardy would have understood them, to be taken on foot. Naturally the landscape from Shaston to Casterbridge translated itself into our own hills and valleys. I later discovered that the geography did not fit but the human passions and suffering were the same.

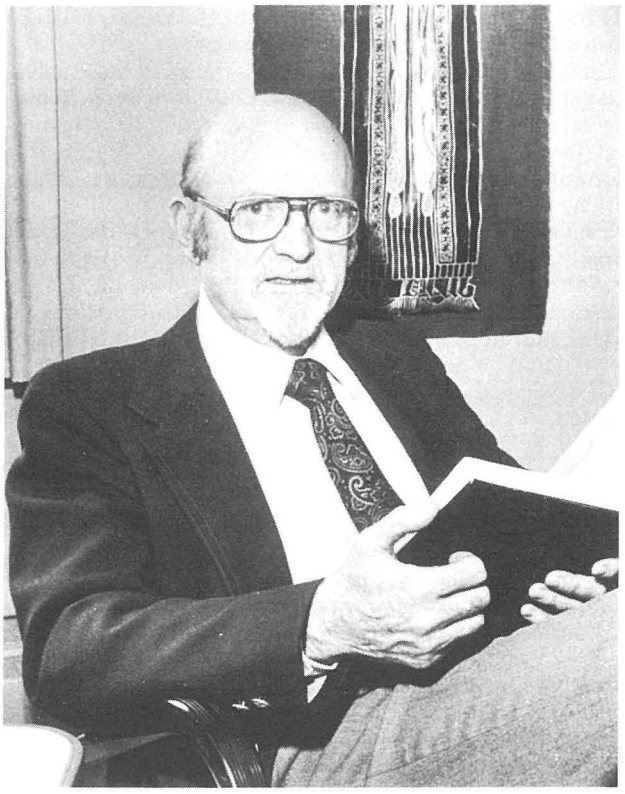
When I began teaching I found that students from prairie homes and from the cities felt a similar kinship with the characters in *The Mayor*, *The Return* and *Tess* and *Jude*. Being young, they wanted to believe that they shaped their lives, and they were inclined to be impatient with those who had fared ill; but when they started talking about life in Wessex they began to reconsider, and rethinking brought a sense of compassion for Hardy's 'fettered gods of the earth'.

While working at the memorial Library (at Lincoln, Nebraska) I had the good fortune to meet a number of young students who were writing essays on Hardy. From our brief conversations I sensed the same attraction that I had always known.

Some things have changed around the Heath since the days of which Hardy wrote. Standing one day near Beacon Hill I could hear the constant roar of traffic on the London Road, and within a few minutes three jets screamed overhead. But on looking down I saw the same brown waste, with some scraggly furze that took Hardy's mind back to the days of Leland and then on to those of the Roman Britons.

When a young man Hardy had steeped himself in the *Agamemnon*, and from the vantage of the late Nineteenth Century he translated the geography of Greek tragedy into that of Wessex. The human passions of the Greeks, of the Romans and of Leland's contemporaries required no translation, but only the genius to recognise their universality.

Students will continue to see the Froom and Egdon in terms of the hill country of southern Indiana, the prairies of Nebraska and the small mountain valleys of the Pacific Northwest. But, as for Clym and Eustacia and Tess and Jude – they have seen their countenances and heard their voices through the magic evocation of their biographer.'



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