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Piltdown reflections

A MIRROR FOR PREHISTORY

by E. M. Somerville

The way in which the Piltdown material was treated in the literature, prior to 1953, shows how preconceptions can determine the interpretation of discoveries. The acceptance of Piltdown contributed to the initial rejection of the Australopithecines, but did not otherwise affect the overall interpretation of human evolution and prehistory. The Sussex Archaeological Society simply disregarded Piltdown, along with other aspects of the debate about early man and eoliths.

INTRODUCTION

Four decades ago the Piltdown finds were declared bogus, after having been accepted as genuine, albeit puzzling, for over 40 years. It will probably never be certain who forged Piltdown, but other aspects of the Piltdown story can be investigated, especially the effects of Piltdown, as a presumed genuine fossil find, on the interpretation of the earliest periods of prehistory. This issue has a particular poignancy now that Sussex has produced the earliest of Britain's hominids at Boxgrove (Roberts *et al.* 1994); a discovery which has been hailed with some of the same sentiment as that which greeted Piltdown (Dennell 1994).

One puzzling aspect of the Piltdown story is that the Sussex Archaeological Society seems to have disregarded this major find. Was this because of a general disinterest in human evolution? I have investigated this by documenting the resources available, through the Society's library, on Piltdown and related issues. Brief details are given in the footnotes, to be drawn on further below.

Landau (1991) has shown that accounts of human evolution, especially those written for a general audience, may be cast in the form of a narrative which treats the evolving lineage as the hero of a folktale. Evolutionary changes, such as an increase in brain size, become trials through which the hero passes. The appeal of these underlying narratives can be such that fossils are interpreted according to the narrative rather than the narrative being shaped by the finds, thus Piltdown's treatment mirrors the opinion of the times. This is relevant to the question of how the acceptance of Piltdown affected the interpretation of the early finds of Australopithecines (Tobias 1985) and the debate about the ancestral status of the Neanderthals (Trinkaus & Shipman 1993). With respect to archaeology Piltdown reflects some of the issues raised by eoliths, once thought to be the precursors of the European Palaeolithic industries.

The great debate about the antiquity of man (see Grayson 1983) was settled in the 19th century, when the scientific establishment accepted that the hand-axes and extinct, fossil animals found in the Somme gravels by Boucher de Perthes, were coeval.[1] Evans' (1860) assessment of the discoveries specifically recommended West Sussex as a potentially fruitful source of enquiry, and mentioned the use of elephant fossils as a marker.[2] The Brighton elephant bed was known by this time and there were also reports in the geological literature of 'large mammalia' at Barcombe (Godwin-Austen 1851). Despite these promising indications, the account of the Palaeolithic in *The Victoria History of the Counties of England: a History of Sussex* (Clinch 1905) occupies barely a page of text.[3] At this time there were also investigations of the Arun river gravels (Garraway-Rice 1905)[4]. Little appears on this topic in the early volumes of the *Collections*, the first major paper was Grinsell's review (1929).

At the turn of the century three fossil hominids were known. The oldest and most primitive was the Javan specimen of 'Pithecanthropus'. Then, from Europe, came both the Neanderthals and later fossils, such as Cro-Magnon, which could not be distinguished from living humans. Many held the view that this series represents a true phylogenetic sequence, a simple ladder of progress (Bowler 1986).

The first evidence for a pre-Neanderthal population in Europe was furnished by the discovery of the Mauer jaw in 1907. MacCurdy's (1910) description of the jaw emphasized its lack of a chin and the ape-like appearance of the massive bone combined with the comparatively small teeth with their human characteristics.[5] When Dawson first wrote to Woodward about Piltdown, he stated that his discovery would rival Mauer in solidity (Spencer 1990a,b).

ACCOUNTS OF THE PILTDOWN DISCOVERIES

The fascination of the Piltdown finds can be seen from the *c.* 250 references to the material counted by Vallois (1953) before the fraud was discovered, and the publications about the Piltdown as a fraud (e.g. Weiner 1955; Blinderman 1986; Spencer 1990a; Tobias 1992). Most books on human evolution (e.g. Klein 1989; Lewin 1994), and general texts on archaeology (e.g. Renfrew & Bahn 1991), still refer to the Piltdown affair.

The Piltdown finds were presented to the public at a meeting of the Geological Society on 18th December 1912 (Dawson & Woodward 1913). This was reported widely in the press (Spencer 1990a). For example, the *Times* (p5e) described how the skull differed from the 'cavemen' found in Europe and quoted Woodward as considering that 'the caveman was a degenerate offshoot of early man and probably became extinct, while surviving modern man might have arisen directly from the primitive source of which the Piltdown skull provided the first discovered evidence'. The finds from Piltdown included extinct animals and flint implements. As described, the Piltdown material would have fitted into the generally accepted framework of human evolution and prehistory as represented in Lyell (1873)[6] and Evans (1897)[7]. The Piltdown finds were rapidly included in accounts of prehistory; for example, the seventh and last edition of Avebury (1913) refers to it briefly. By 1914, the complete Piltdown finds included the fragments of a cranium, notable for its thickness but otherwise modern in shape and size. This was accompanied by a chinless ape-like jaw, in which there were two worn but human-like teeth. The faunal material fell into two groups, the first Plio-Pleistocene and possibly derived, the second Pleistocene and better preserved. Amongst the artefacts were eoliths, palaeoliths and a flat piece of elephant bone worked to a point (Dawson & Woodward 1914; 1915).

There followed a furious debate about many aspects of the Piltdown material (Spencer 1990a), but concentrating on whether cranium and jaw came from one species or two (e.g. Hrdlicka 1914; Boule 1915).[8] The case for the association of cranium and jaw was proven for some (e.g. Osborn 1921) by the publication of the Piltdown II finds (Woodward 1917). Despite the doubts about the jaw, the cranium was accepted as indicating the early Pleistocene presence of a non-Neanderthal hominid.

An indication of how the Piltdown material was treated in the literature comes from three influential books, published in the 1920s, which formed the basis of the teaching of prehistory at Cambridge (Clark 1989). Burkitt (1921) did not discuss any fossils in detail, and simply placed Piltdown as pre-Palaeolithic, possibly even Tertiary in date.[9] Macalister described Piltdown at some length, and acknowledged the problem of the association between jaw and skull. He reserved a definite opinion about the skull, jaw and the associated tools because of '. . . the unlucky accident that the gravels were dug without consideration for their precious contents . . .' (Macalister 1921, 203) but cautiously considered that Piltdown should be placed near the transition between man and ape. MacCurdy (1924) gave a full account of the Piltdown skull and jaw and an extended discussion of the problems of association between the various parts of the assemblage.[10] Other authors, including Boyle (1927)[11] Peake and Fleure (1927) and Sollas (1924), accepted that the jaw and skull came from one species, whilst acknowledging the problems with the finds.[12]

Others continued to disagree. Boule (1923) discussed Piltdown at length, but was sceptical of the association between the skull and the jaw.[13] The dualists did not question the legitimacy of the Piltdown finds, but they did doubt that the cranium and jaw belonged to the same species. One of the most persistent critics was Miller, whose comment that 'Deliberate malice could hardly have been more successful than the hazards of deposition and recovery in so breaking the Piltdown fossils as to give free scope to individual judgement in fitting the parts together.' (Miller 1929, 441) came uncomfortably close to the truth.[14] Oakley and Groves (1970) have claimed that Miller did indeed suspect fraudulence.

Curwen included Piltdown in his magisterial accounts of the prehistory of Sussex (1929; 1937).[15] In the earlier book, Piltdown was simply placed as early Pleistocene in date, and Chellean in culture, a fitting place for a skull which 'is the earliest known specimen in the world that has any claim to be regarded as human'(Curwen 1929, 4). In the later book, Curwen gave Moir the final judgement, which, to Curwen's satisfaction, in large part concurred with the conclusions reached in the original papers by Dawson and Woodward.

Keith (1915; 1925) wrote at length on the Piltdown material. His initial public involvement in the Piltdown affair was when he disagreed violently with Woodward's reconstruction of the skull. The second edition of *The Antiquity of Man* (1925), has the Piltdown fragments, set within the outline of a modern skull, embossed on the covers. Keith's enthusiastic adoption of Piltdown as an early and non-Neanderthal example of humanity in Europe was in accord with his overall view of human evolution and his advocacy of the antiquity of fully modern skeletal material such as Galley Hill, later shown to be an intrusive burial in the Thames gravels (Oakley 1964). Keith's strangely uncritical approach to the question of high antiquity for modern humans has led a number of investigators, including Spencer (1990a) and Tobias (1992), to consider him a possible scientific accomplice in the Piltdown fraud. A note of caution crept into Keith's writing on occasion, but he was willing to accept as ancient a great many doubtful specimens, even including Moulin-Quignon, a modern jaw-bone deposited in the Somme gravels and a famous 19th-century scandal (Boule 1923; Vayson de Pradenne 1932).

Despite new discoveries at Taung, Peking and Swanscombe, the accounts published in the 1930s seem little different to those of the preceding decade. Elliot Smith (1931a,b) took the view it was now easier to include both 'Pithecanthropus' (now known as *Homo erectus*) and 'Eoanthropus' in the human family since the Peking finds served as a bridge between them. He dismissed any dualist interpretation of Piltdown. Leakey (1934) placed Piltdown on a branch from the line leading to modern humans. Leakey's view was that for its age Piltdown had too many primitive characteristics to be considered a true ancestor and was better treated as the isolated relict of an earlier group. Although not evident in the books of the time, it was the discovery of Swanscombe which signalled the beginning of the end for Piltdown (Spencer 1990a). In these accounts it is also notable how little attention was paid to the discovery in 1925, at Taung, of an Australopithecine (Howells 1985). When this was mentioned, it was often dismissed as a late and aberrant ape, with too small a brain to be considered human (Keith 1931).

By the 1940s the sum total of hominid fossils had increased considerably. As these new discoveries, including more Australopithecines, were fully integrated into the general body of knowledge, Piltdown's morphology began to be seen as anomalous. Nonetheless Woodward (1948) adhered to his original interpretation of Piltdown. Hooton (1946) discussed Piltdown at considerable length, and rehearsed the dualist argument, with which he disagreed. In Hooton's version of the human family tree Piltdown is placed firmly on the main stem leading to modern humans, with the essentially modern, mid-Pleistocene, Swanscombe skull above it. Below Piltdown, a branch diverging from the main stem leads to both Pithecanthropus and the Neanderthals. The Australopithecines are placed on a yet earlier side-branch, but they are now at least mentioned, having been ignored in the 1931 edition (Washburn 1985). In contrast, Weidenreich (1946) had a radically different view of the origins of modern humans, in which Piltdown had no place. He argued for a dualist interpretation of Piltdown, and also pointed out that nothing since the discovery of Piltdown had supported the notion that man had an ancestor with an ape-like lower jaw. The dualist argument was clearly gaining strength at this time: for example, Hawkes and Hawkes (1947), Brodrick (1948) and Piggott (1949) all preferred the dualist interpretation.

In his final book, Keith (1949) changed his position on the Australopithecines, accepting them as human ancestors and expanding on his earlier brief letter to *Nature* (Keith 1947). He also allowed Neanderthal a role in the evolution of modern humans, and dropped the long-held claim of the high antiquity of modern man. Piltdown and Swanscombe he found puzzling, because they seem to be relatively modern in skull shape, yet precede the Neanderthals. Keith's resolution was to postulate that Piltdown may be the relict of an aberrant continental type. The changes in Keith's position reflect some of the changes in the perception of human evolution which made Piltdown not just a

puzzle, but an intolerable enigma — and prepared the ground for the final, critical examination of the finds.

In November 1953 fluorine tests on skull and jaw showed them to be of different provenances (Weiner *et al.* 1953) and then in July 1954 the whole of the Piltdown material was shown to be bogus (Weiner *et al.* 1955). The comments published in the scientific press (e.g. Washburn 1953; Vallois 1953; 1954) were generally of relief, and some, like Straus (1954, 145) took delight in pointing up this vindication of the dualist argument. Most agreed that 'the faking of the mandible and canine is so extraordinarily skilful, and the perpetration of the hoax appears to have been so entirely unscrupulous and inexplicable, as to find no parallel in the history of palaeontological discovery' (Weiner *et al.* 1953).

The expunging of 'Eoanthropus dawsoni' had remarkably little effect on the theories of human evolution being expounded at the time (see below). Hooton (1954, 288) pointed out that the fraud itself was damaging, 'Already the press is flooded with accusations by anti-evolutionists that all of the other evidence of man's origin from an ape-like ancestry has been deliberately faked by unscrupulous scientists.' Blinderman (1986) shows that this line of attack is still promulgated, and Harrold (1992) also considers it to still be a cause for concern.

The textbooks written in the decade after the exposure of Piltdown as a fraud echo the initial reaction that an embarrassing enigma had been removed, but that its excision had not required any major revision of theories about human evolution. The interpretation of human ancestry has more recently undergone radical change, in part due to molecular and genetic evidence showing that the split between apes and humans is far more recent than was thought possible in the early 1950s.

PILTDOWN AND THE SUSSEX ARCHAEOLOGICAL SOCIETY

At the time of the Piltdown discoveries there was rather little relevant information available to members in the Society's library. For example, the two classic Victorian texts on Prehistory, namely Evans' *Ancient Stone Implements*, first published in 1872, and Avebury's *Prehistoric Times*, first published in 1865, do not appear to have been in the library until 1931.[16] Nor did the Society subscribe to the Prehistoric Society of East Anglia, thus depriving its members of the opportunity to follow the debate about eoliths.[17] Surprisingly, until 1932 the Library received some of the publications of the Smithsonian Institution, which could have informed members about some aspects of the debate about the Piltdown material and other fossil finds.

Little Palaeolithic material is known from Sussex in the 19th and early 20th century, but it is still surprising to find that the *Collections* contain only three references to 'flint' in volumes 1–25 (1847–1863), and a further five in volumes 26–50 (1864–1907). There is some indication of editorial antagonism, for example the article by Lower (1866) which denied human working of flint from a 'kitchen midden' at Hastings. A paper by Smart (1867) on worked flints from the neighbourhood of Hastings has an extraordinary editorial postscript by Lower who was extremely sceptical of the inference that 'fractured' — as opposed to polished — flint was the result of human workmanship. The obituary notice on Lower (Campkin 1877, 149) referred to his having been 'not over-enthusiastic upon the subject of Prehistoric Archaeology. The "Flint-flake" and "Kitchen-midden" theories found little favour in his eyes.' Lower's antagonism was to artefacts that are acceptable today, and, indeed, were accepted in his day by authorities such as Evans.

The Sussex Archaeological Society was not alone in tending to disregard early Palaeolithic material, as can be seen by scanning the references in Roe's (1981) account of the Lower and Middle Palaeolithic periods in Britain. There is only one pre-1900 reference to a county journal, and between 1901 and 1940 the majority of references are to the *Proceedings of the Prehistoric Society of East Anglia/ Proceedings of the Prehistoric Society*. It is only after this that finds are reported in the county journals with any degree of frequency. The lack of published information in the *Collections* may well not have reflected a lack of interest by the members of the Society, some of whom made their own collections, e.g. the Ade family (Holden & Roe 1974). By the time of Grinsell's (1929) review, the Museum contained examples of finds of this period, some of which had been presented in the previous century.

In the 19th and early 20th century, those concerned with the earliest evidence of man's existence in this country conducted their debates mainly in the anthropological and geological literature. The Sussex Archaeological Society seems

to have stood somewhat aloof from this debate and thereby avoided becoming embroiled in the Piltdown affair. This, I suspect, is the reason why the Society's own publications have so very little to say about Piltdown, a lack of involvement also reflected in there being so little about the Sussex Archaeological Society *per se* in the published accounts of the Piltdown story, e.g. a total of seven entries in the indices of Spencer's two volumes (Spencer 1990a,b). There has, inevitably, been speculation. The *Sussex County Magazine* for August 1954 (p. 357), included the comment that '. . . [the writer] could not understand this ignoring of what was widely hailed as one of the greatest prehistoric discoveries of all time; now the reason becomes clear. The perpetrator of the hoax never consulted the Society; he knew better. The Society also knew better, and from that day to this has steadily ignored Piltdown; how wisely it now appears'. This is not an entirely accurate description of events, although it echoes the opinion of Curwen (1954/5) in his review of *The Piltdown Forgery* by Weiner (1955), and indeed Weiner's own view. Such attention as was paid was erratic. It was not until 1928 that a model of the Piltdown skull was exhibited at Barbican House, loaned by a Dr Spokes, as noted in the annual report. The Society was represented when the commemorative plaque was erected at Piltdown in 1938. It is worth noting that Arthur Smith Woodward had a long association with the Sussex Archaeological Society. He was on the council from 1925–1943, and president for 1939 and 1940. On his election to council, the annual report for 1925 (p. xxxv) stated 'The Society is fortunate to have associated with it so well known an archaeologist as Arthur Smith Woodward who has already done much work in Sussex in connection with the discovery of the Pilt Down skull (Eoanthropus Dawsoni).' In the same year as his election, Woodward gave a talk to the autumn general meeting on 'Some Problems of Piltdown', the text of which is, unfortunately, not given. He also presented copies of 10 pamphlets concerning Piltdown to the Society's library, including the original descriptions of the finds.[18]

Although the Society's relationship with Woodward was cordial, this was clearly unlikely to have been the case with Dawson after 1903. Whether the Castle Lodge affair (see the annual report for 1903; Salzman 1946) would have cast any doubts on Dawson's reputation as an archaeologist is uncertain. Nonetheless it is interesting to note that Mrs Dawson was elected to the Society in 1904, with the address of Castle Lodge, and Dawson's death is noted in the annual report for 1916. From both Weiner's (1955) and Spencer's research (1990a,b) it is clear that Dawson had his detractors, notably from Sussex, but he seems to have been held in considerable esteem by geologists and palaeontologists (e.g. Woodward 1911). Dawson published seven articles in the *Sussex Archaeological Collections* between 1894 and 1903. None of these are on the question of the earliest artefacts, and four are concerned with the history of Hastings. The short note relating the discovery of a hafted Neolithic axe (1894a) and his proposed reconstruction of an ancient boat (1894b) are frankly unconvincing. The *Collections* also contain a critical review of Dawson's volumes on Hastings Castle (Anonymous 1910), usually taken to be by Salzman, then the editor, and some severe criticism of Dawson's excavations at the Lavant caves (Allcroft 1916). Other aspects of Dawson's activities have come under suspicion since the unveiling of the Piltdown hoax (e.g. Jones 1990), but it is unlikely that these were relevant to the way in which Piltdown was disregarded by the Society at the time of its discovery.

The Society appears to have stood aloof from Piltdown, but this need not be true of its members, although there is no direct proof. The Society's library would not have provided much assistance to a would-be forger apart from the descriptions of both eoliths and hominid fossils in MacCurdy's (1910) review of early European material. However, the publication of this is after the date given for the initial discovery of part of the Piltdown cranium, although before the discovery of the jaw (Dawson & Woodward 1913). It is extremely unlikely that any of the material published between the initial Piltdown discoveries and the final unveiling of the fraud, let alone that fraction of it available in the Society's library would have enabled a member to discern the fraudulent nature of the Piltdown finds. Careful inspection of the originals could, at any point, have raised suspicions about the nature of the wear on the teeth and the working of the bone implement. These anomalies are not obvious in the published drawings, and may not have been apparent on the casts of the finds which were used by many workers. Only those with private suspicions could have anticipated the events of 1954, despite the tendency to be wise after the event.

CHANGING CONCEPTS OF HUMAN EVOLUTION

The status of Piltdown diminished considerably before its final dismissal. This can only be understood by reference to a number of changes, during the 1940s, in the way in which human evolution was perceived created tensions which affected the final stages of the Piltdown affair. There was the impact of the 'Modern Synthesis' (Bowler 1986; Mayr 1991) on palaeontological studies which was reflected within the palaeoanthropological world in a number of conferences, e.g. Mayr (1950) and Simpson (1950) at the Cold Spring Harbor Symposium on 'The Origin and Evolution of Man'. The increase in the number of fossil finds in the 20th century had led to the development of complex phylogenetic schemes. Some of these had multiple parallel branches all reaching towards the human form (e.g. Boule 1923; Keith 1931; Hooton 1946). Such implied orthogenesis was incompatible with the 'Modern Synthesis' which re-emphasized natural selection as the central tenet of Darwinian evolutionary theory (Brace 1981). There is still considerable dispute about the appropriate models for phylogenesis, but modern evolutionary theory has led to the general abandonment of simple ladder-like schemes, despite their continuing iconographic strength (Gould 1990).

Changes in dating methods, especially the introduction of radiometric dating methods, opened up a much greater timespan for human evolution and gave greater security of placement within this for the various fossils. The introduction of the potassium/argon method had a profound impact on the much earlier period of concern here (Oakley 1962), as radiocarbon had on the interpretation of later prehistory (Renfrew 1973). Many of the earlier textbooks do not deal in absolute dates at all. Where dates are given, they have to be taken in the context of a much shorter overall chronology, which imposed considerable problems in terms of the rates of evolutionary change. It is not simply that events are now assigned an earlier date. For example, 1.6 million years, now allowed just for the Quaternary, would have taken Keith back into the early Miocene, not long after the time at which he dated the split between apes and humans. A comparable modern date for the Miocene is 25 million years, but the date for the split between apes and humans is now placed at about 6 million years.

Where absolute dates were unobtainable, relative dates could settle the issue of whether a fossil had been found *in situ*, or was intrusive. One of these tests relies on the accumulation of fluorine by buried bones (Oakley 1949). When Piltdown was first tested both the skull and jaw appeared to belong with the youngest elements of the associated fauna (Oakley & Hoskins 1950). The difficulties posed by this dating were the main item of debate when Piltdown was last considered as a palaeontological rather than criminological puzzle (Stewart 1950). During the following discussion of this paper Birdsell commented that 'Piltdown, as now dated, presents a more embarrassing problem than it did in its pre-fluorine chronology'. The fourth edition of Leakey (1953) shows how this redating turned a monist into a dualist. The final resolution of the problem came when first the jaw and then the whole set of Piltdown material was shown to be an elaborate fraud (Weiner *et al.* 1953; 1955).

PILTDOWN AND OTHER HOMINIDS

The Piltdown material was an integral part of the account of human evolution and prehistory from the time of its discovery to the end of the 1940s. There was not universal agreement about its interpretation, but no-one ignored it. In contrast, Dart's discovery of the 'Taung baby' (Dart 1925), was generally greeted with antagonism followed by silence (Howells 1985). Not all were hostile, Peake and Fleure (1927, 60) considered that Taung might represent '. . . an ape conceivably not very far from the direct ancestral line of mankind'. However, the majority view was that Taung was simply an ape. Hooton (1927) and Elliot Smith (1931b) both referred to Taung in these terms.[19] Keith (1931) described the material at great length, but dismissed it as a possible human ancestor. Leakey (1934) did not even discuss it. At the time of its discovery Taung was thought by many to be a contemporary of 'Pithecanthropus', which made it too recent to be considered as an ancestral hominid. Also Taung was African. Although Darwin had suggested Africa as the most likely area for the ape–human transition, the continent had largely been ignored in favour of Asia. The major human fossil finds had been either Asian or European, and Africa was often regarded as a backwater, where relict primitive forms might be found. Just such a view was expressed in Keith's term, 'an okapi of humanity', for the Kabwe skull

(Trinkaus & Shipman, 1993, 226). Central Asia was seen by some (e.g. Matthew 1914) as a centre for mammalian evolution in general, although it was the prospect of finding human ancestors which prompted a series of expeditions in the 1920s (Bowler 1986). These proved to be more successful in unearthing dinosaurs than hominids (Novacek *et al.* 1994). Thus Taung was in the wrong place at the wrong time for general acceptance. It was also the wrong shape. Taung had the combination of very human teeth and jaw with a small brain. Keith laid great emphasis on the latter feature in his rejection of Taung as a possible ancestor. The morphological contrast between Piltdown and Taung is such that Tobias (1985) argued that for as long as Piltdown was accepted as genuine, the Australopithecines could not be considered as human ancestors. In fact, the acceptance of the Australopithecines as the earliest known hominids preceded the revelation that Piltdown was fraudulent, but came at a time when it was being marginalized in the literature. The 1947 Pan-African Congress on Prehistory marks the point at which the Australopithecines became generally accepted as ancestors. In particular Le Gros Clark's acceptance of them seems to have swung the issue (Leakey 1974; Eldredge & Tattersall 1982), and was the aspect of the conference which received the most publicity (e.g. Anonymous 1947). The new status of the Australopithecines was conveyed to a general archaeological audience in 1950 when *Antiquity* published an account of them by Le Gros Clark.

The role that Piltdown played in the various interpretations of the Neanderthals has parallels with its effect on the reception of the Australopithecines. By the time Piltdown was discovered, there was already considerable debate about the status of the Neanderthals as ancestors of modern humans. Since Boule's reconstruction in 1911 to 1913 of the Neanderthal material from la Chapelle aux Saints, many anthropologists seem to have been seeking for an ancestor who was more acceptable than the shambling caveman (Trinkaus & Shipman 1993). At this time there were a number of morphologically modern human skulls and bones which were claimed to be the proper ancestors of modern people, and it was many years before they were shown to be as modern in time as they were in appearance (Oakley 1964). Keith was an enthusiastic advocate of these (see above), and it is possible that he also influenced Louis Leakey, who worked in his laboratory in the late 1920s (Cole 1975). In the case of Keith, it seems that he changed his mind about the acceptability of the Neanderthals as ancestors prior to the publication of the Piltdown finds (Moser 1992; Trinkaus & Shipman 1993). Leakey's search for early Pleistocene *Homo* may have been fuelled by his desire to vindicate his advocacy of the Kanam jaw (Cole 1975). Other authorities, particularly Boule (1923) were much more sceptical about the claims for high antiquity of such specimens as Galley Hill. Hrdlicka's careful but ultimately dismissive treatment of claims for the high antiquity of humans in both North (1907) and South (1912) America was based in part on the modern morphology of the specimens, but also on a detailed consideration of the circumstances of their discovery.[20] Hrdlicka was a strong and consistent advocate for a Neanderthal phase in human evolution (e.g. Hrdlicka 1927), and this stance is adumbrated in earlier publications (e.g. Hrdlicka 1914).[21]

The Piltdown skull was the only firm evidence from Europe for the existence of an immediate ancestor for modern humans other than Neanderthal for 20 years. However, other fossils were found which substantiated this view, and therefore Vallois (1953) could assert that because of the discovery of Swanscombe and Fontéchevade, removing Piltdown did not affect the validity of the 'pre-sapiens theory', which effectively banished Neanderthal as a human ancestor (see also Trinkaus & Shipman 1993). It is striking that the conclusion about the phylogenetic position of the Neanderthals is identically worded in the English translations of the first and fourth editions of 'Fossil Man' (Boule 1923; Boule & Vallois 1957). There is still a vigorous debate about the origins of modern humans. Today there is more appreciation of the essential humanity of the Neanderthals and yet a strong case can be made for them not being ancestors, using genetic as well as morphological and cultural data (Lewin 1994; Stringer & Gamble 1994).

Piltdown's position as a human ancestor had been largely discounted before the 1950s, partly because it was increasingly anomalous, but also because of broader changes in the understanding of evolution. This buffered any impact the discovery of the fraud may have had on the interpretation of other fossils. Piltdown's relevance to more strictly archaeological matters is rather more limited, but the search for an early big-brained hominid has its parallels in the pursuit of eoliths.

PILTDOWN AND EOLITHS

The terms 'eolith' and 'eolithic' were generally used to refer to the period preceding the Palaeolithic. The classic implement of the Lower Palaeolithic, the bifacial 'hand-axe', was recognized as an artefact long before there was any comprehension of a lengthy human prehistory (e.g. Frere 1800). Two issues which concerned many people in the latter part of the 19th and early 20th century were how to recognize 'humanly' struck flint and whether there were any such artefacts dating to periods earlier than the Pleistocene. The first question generated much useful research, which today would be termed 'middle-range', i.e. research which is concerned with the formation of the archaeological record (Grayson 1986). The second question has been dismissed as either the province of cranks (Wymer 1968) or as entertaining but unproductive (Roe 1981). However, this reaction underestimates the strength of the link between the two questions and the fact that recognizing the earliest tools in Europe is still a matter of debate and of great importance in establishing the length of the chronology for the hominid occupation of Europe (Roebroeks & van Kolfschoten 1994).

The most frequently discussed British examples were the 'Harrisonian eoliths', collected near Ightham in Kent (e.g. Harrison 1904), and the various 'pre-Crag' industries described by Moir (1927), from East Anglia.[22] These were held to be of Pliocene date, and, therefore, evidence for the presence in Britain of Tertiary Man (Spencer 1990a). Eoliths were debated in the anthropological and geological rather than the archaeological literature, with the notable exception of the *Proceedings of the Prehistoric Society of East Anglia*. Eoliths have one mention in the *Collections*, when Heron Allen's finds at Selsey are reported (Anonymous 1911), although the anticipated fuller account failed to appear.

The 'dawn man' who made the 'dawn stones' was a tempting scenario at the beginning of this century, and many of the accounts of prehistory reviewed above contained a discussion of the twinned issues of eoliths and Tertiary Man. For example, Burkitt (1921) described flint-knapping, and how natural forces can imitate this. Eoliths are discussed at length, as evidence for the existence of Tertiary Man. His conclusion was in favour of an eolithic industry preceding the Palaeolithic, although not all finds which have been claimed to be eoliths are artefacts. Having reached this conclusion, Burkitt kept to it in subsequent publications (e.g. Burkitt 1949). MacCurdy (1924), although less enthusiastic than in earlier papers (e.g. MacCurdy 1905; 1910), was nonetheless quite convinced about the existence of a Tertiary stone industry — the eolithic. Macalister (1921) likewise discussed the process by which flint may be worked, and came to the opposite conclusion that no worked stone has been discovered from the Tertiary. Boule (1923), having earlier savaged the English 'eolithophiles' (Boule 1915), devoted a chapter to the discussion of eoliths, and quoted at length his own findings from the cement works at Mantes as evidence for the way in which flint may be 'worked' by natural forces. Boule's verdict on eoliths was that there is no infallible way of distinguishing natural accidents from deliberate rudimentary workmanship. Sollas (1924) also treated all the categories of eoliths with considerable scepticism and on the whole dismissed them. Some of his evidence for doing so came from an examination of the flints to be found around Selsey Bill, where unifacial working could be seen on flints embedded in clay. Many advocates of eoliths considered unifacial working to be a key indicator of the artefactual nature of the flints. Boyle (1927) considered that some Pliocene flakes are authentic artefacts, but dismissed 'rostrocarinates', the strange, laterally compressed, beaked 'implements' found and described by Moir (1911). Moir, whose drive and enthusiasm impressed many at the time (Clark 1985; Wymer 1986), seized upon Piltdown as the probable maker of these eoliths from the layers below the Red Crag in East Anglia, which were then considered to be Tertiary deposits. Indeed, in one of the more bizarre episodes related to the Piltdown finds, Moir (1915) described pre-Crag worked bone which could be compared to that from Piltdown. This can now only be seen as a case of nature imitating art! Moir's influence is also evidenced by the extensive treatment given to eoliths in the British Museum guides to Stone Age antiquities (Smith 1911; 1926).[23] Although Moir's work on the pre-Crag and other eolithic material is now discounted, he also did valuable work on a number of important Palaeolithic sites (Roe 1981).

The Piltdown material included both eoliths and palaeoliths. These are described in the various accounts of Piltdown, but are not extensively discussed. Grinsell included the Piltdown palaeolith in his 1929 review. Keith, although clearly an

'eolithophile' and an early member of the Prehistoric Society of East Anglia, seems to have paid relatively little attention to stone tools, using them largely as indicators of date. As the above account shows, eoliths were not universally accepted, and there certainly seems to be no link between accepting Piltdown and accepting eoliths, although it is notable that some, e.g. Boule and Macalister, were distinctly sceptical about both. Since most authors dated Piltdown as lower Pleistocene rather than the Pliocene fauna, it gave only indirect support for those seeking the Tertiary eolith maker. Dawson himself was no 'eolithophile', and indeed incurred the wrath of this group by a demonstration of prismatic fracture using starch (Weiner 1955). Just such an experimental approach was critical in the final settling of the eolith debate (Johnson 1978).

By the late 1940s the acceptance of the Australopithecines as hominids had obviated the need to search for Tertiary Man. This left the issue of the eoliths. The crucial studies had been done by then (e.g. Barnes 1939; *see also* Johnson 1978), and by the 1950s eoliths were discounted by many, including some past believers. In his review of the fourth edition of Leakey's *Adam's Ancestors*, McBurney (1953, 127), comments that 'the author, in common with modern archaeologists, has virtually abandoned his earlier allegiance to the notion of "eoliths", which so afflicted a section of opinion in an earlier generation'. Breuil and Lantier (1965, 55) simply stated that 'All that remains of the many attempts to find traces of an Eolithic stage, Tertiary or otherwise, of human industry is a "posthumous" list'. Oakley (1957) reviews the case against the eoliths and goes on to argue that the Australopithecines themselves may have been toolmakers, which looks to be increasingly likely (Susman 1988). The earliest tools from Africa (e.g. Klein 1989), and the claimed early 'pebble-tools' from Europe do not resemble the eolithic rostrocarinates and piercers, but the arguments about the validity of the European material has many resonances with the debate about eoliths (Roebroeks & van Kolfschoten 1994).

CHANGING VIEWS OF PREHISTORY

In the same way that the status of Piltdown as a fossil find was a reflection of broader concepts of human evolution, so the diminution of interest in eoliths mirrored changes in archaeological theory. After the great 19th-century debate about the antiquity of man, the culture-historical approach became dominant (Trigger 1989) as illustrated by Gordon Childe's work. In 1947 Childe commented that Archaeology became Prehistory in 1901 when Abercromby used a 'drinking cup' both to identify a group of prehistoric invaders and to trace these to their continental home.[25] Childe was concerned with the unfolding of this sort of drama and the Palaeolithic was seen as but a dim precursor to this, and he dismissed both the cultural and biological contribution of the Palaeolithic to Britain's heritage. Salzman's (1946) comments in the centennial issue of the *Collections* about the improving coverage of prehistory relate to the same culture-historical approach, rather than to the earlier tradition of treating the artefacts themselves as the documents of evolutionary progress. The impact of the cultural historical approach on the study of the Lower Palaeolithic can be seen in the treatment of the 'core/hand-axe' and 'flake' industries as separate cultural traditions rather than as stages in the development of tool-making (Daniel 1943). However, the increasing emphasis on identifying peoples who moved about the world also led to an increasing neglect of the scanty remains of the Palaeolithic in favour of the more dramatic events that could be traced from the Neolithic onwards. The supremacy of typology as an end in itself was over, and with it, seemingly, went the earlier interest in tracing the precursors of the earliest known industries. Broader cultural changes also had an impact on the way the distant past was, and is, viewed (Dennell 1990; Gamble 1993).

CONCLUSION

I have discussed Piltdown in relation to the local context of the Sussex Archaeological Society, and to more general palaeoanthropological and archaeological contexts. In the first instance, although the evidence is largely negative, there seems to be no link between the Society's interests, as evidenced by the library holdings, and the agenda of the Piltdown forger(s). The way in which Piltdown fitted into the preconceptions of the time implies a considerable breadth of knowledge on the part of its manufacturer. Any local forger would have needed far more information that was available in the Society's library, and it also seems unlikely that

the fraud could have been uncovered by using the same resource.

In the wider context, I have concentrated on three issues linked to the Piltdown story, viz. the acceptance of the Australopithecines as ancestors; the debate about the phylogenetic position of the Neanderthals; and the question of whether eoliths are the earliest known tools. In the event, for all of these, the final exposure of Piltdown as a fraud was not crucial. Indeed it could be argued that the acceptance of small-brained bipeds as ancestral hominids was one of the main changes in mind-set needed before Piltdown could be seen by all as anomalous. Nonetheless, had the uncertainty about the Piltdown jaw been settled by the same robust approach taken to Moulin-Quignon, viz. sawing it in half (Vayson de Pradenne 1932), the fraud would have been discovered much earlier. More importantly, it would have expunged from the record a big-brained ancestor with an ape-like jaw, and thus removed one of the obstacles which prevented the early acceptance of the Australopithecines as human ancestors.

With respect to the continuing argument about Neanderthal, the removal of Piltdown in 1953, after other finds had been made, is of course a very different matter to its inclusion in 1912, when, apart from the Mauer jaw, it was the only evidence for non-Neanderthals in Europe. However, there is no evidence that the discovery of Piltdown caused a change of mind on the part of any palaeoanthropologist. The common thread which links the effect of the acceptance of Piltdown as a preferred ancestor to both the Australopithecines and the Neanderthals is the way in which Piltdown was, possibly literally, an embodiment of the 'brain first' scenario in human evolution. The long search for an early, big-brained *Homo* by Leakey is yet a further example of the power of this view of what defines our genus.

The issue of the eoliths was settled separately as well, chiefly as a result of an experimental approach to the formation of both artefacts and geofacts (Johnson 1978). It was because these issues had been, at least in part, resolved independently prior to the unveiling of Piltdown as a fraud, that a sigh of relief rather than screams of outrage greeted the final dethroning of 'The Earliest Englishman'. Piltdown had simply become irrelevant to the issues of the day.

There are still a number of unresolved aspects of the phylogeny of the earliest known hominids; the debate about whether the Neanderthals are ancestors or cousins is again central to the study of the origins of modern humans and we are still debating the evidence for the human occupation of Europe prior to 500,000 years ago. Thus in some ways the finds from Boxgrove enter the same arena of debate in 1994 as that which greeted Piltdown in 1912, but, an arena now framed by different underlying assumptions. Dennell (1994) rightly criticizes some of the media coverage of the Boxgrove hominid, and points out that the superb archaeological preservation of the site is probably far more important, in terms of potential information, than one gnawed bone. The great wealth of information which has been extracted from Boxgrove shows clearly how different the approach to prehistory is now compared to that of the early years of this century.

What lessons does the Piltdown story have for students of Prehistory? How we view the past is the result, in part, of our own conceptions of what that past should be. These conceptions themselves have a history. Thus discovering how one's chosen field of interest has developed is important in understanding it, and may well help in preventing mistakes. Daniel (1981, 12) points out forcibly that '... if there had been an adequate history of scientific techniques in physical anthropology available in the early years of this century we would not have had to go through the nonsense of Piltdown man', which he regards as 'one of the most embarrassing and distressing incidents in British Archaeology'.

Reading through this sample of the accounts of human evolution has left me with the uneasy feeling that, to a considerable degree, different generations of palaeoanthropologists tend to tell the same stories with a different cast of fossils! In looking at the way in which Piltdown can be said to have affected the study of human evolution and prehistory, the power of such narratives is evident. It is quite clear that both the initial and continuing success of the Piltdown fraud is a measure of just how well Piltdown fitted the preconceptions of the time (Hammond 1979). It is also clear that as Piltdown ceased to fit with ease into the overall framework, the questions asked of the material became more and more searching. The Piltdown story still has important lessons for us all.

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NOTES

[1] The 1886 catalogue of the Society's library (*Sussex Archaeol. Collect.* **36**) contains idiosyncratic entries for the first 2 volumes of de Perthes' heterodox interpretation of his findings, 'Antiquités celtiques et antédiluviennes', and also the 'Mémoires de la société d'émulation d'Abbeville' for 1844–1860 which include Rigollot's letter endorsing de Perthes' findings (Grayson 1983). These are also listed in the first, pre-1910, batch of accessions in the stock record, but are no longer in the library.

[2] The 1886 catalogue lists a complete run of *Archaeologia* from volume **18** (1817). A reprint of Evans' *Archaeologia* article is also listed in the 1886 catalogue.

[3] The accession number for the library's first copy of this indicates that this was acquired when published. The copy currently on the library shelves is a recent bequest.

[4] Published in the *Proceedings of the Society of Antiquaries*, which was taken from the start of the Sussex Archaeological Society.

[5] This is one of the Smithsonian Publications which the library possessed. The *Annual Reports* and the *Bulletin of the Bureau of American Ethnology* were received until 1932, apparently in exchange for the *Collections*. The Society sold 78 Smithsonian publications at Sotheby's in 1971 (J. Crow pers. comm.).

[6] The 1863 edition is listed in the Library stock record, in the pre-1910 batch of entries, but is no longer in the library.

[7] This arrived in 1931 as part of the Alban Head bequest.

[8] *See* note 5.

[9] *See* note 7.

[10] *See* note 7, no longer in the Library.

[11] Accessioned in 1972.

[12] *See* note 7, no longer in the Library.

[13] *See* note 7, no longer in the Library.

[14] *See* note 5.

[15] Copies of these were presented by the Author on publication.

[16] The second edition (1897) of the former arrived in 1931 as part of the Alban Head bequest. The 1872 printing of the latter is recorded as part of the same bequest, but is no longer in the Library.

[17] The Prehistoric Society of East Anglia became the Prehistoric Society in 1935. The Society's subscription to the latter started in 1937.

[18] Although these have only recently been accessioned, the presentation of 10 pamphlets relating to the Piltdown Skull is recorded in *Sussex Archaeol. Collect.* **67**. There is a handwritten note on Dawson and Woodward (1913) which states 'Presented to the Sussex Archaeological Society by Arthur Smith Woodward'.

[19] In the first volume of *Antiquity* to which the Society subscribed.

[20] *See* note 5.

[21] *See* note 5.

[22] This pamphlet has only recently been accessioned from stock. It came to the Society from Littlehampton Museum. *See* note 7.

[23] *See* note 7.

[24] The Library's copy of this is a recent bequest.

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An archive report on recent excavations at Harrow Hill, Sussex

by John McNabb,
P. J. Felder, Ian Kinnes &
Gale Sieveking

This paper is published as an archive of work carried out at different times on Harrow Hill. The article refers briefly to work carried out on Harrow Hill earlier this century by the Curwens and by Holleyman and then summarizes the excavations carried out for G. de G. Sieveking, by the Felders in 1982 and by Greg Bell in 1984. Further work on the material recovered from these excavations has allowed a reconstruction of the pattern of flint exploitation to be made. Initial open-cast quarrying was followed by mining which resulted in the digging of complexes of shafts from which up to 85% of the available flint was extracted. The technology of on-site axe manufacture is fully discussed and new ideas on the techniques of roughing out and thinning are advanced. Despite evidence for on-site manufacture, it is clear that most of the flint was removed from the site for knapping elsewhere. Harrow Hill is believed to be early in the British sequence and this interpretation is broadly reinforced by carbon-14 dating.

EDITOR'S NOTE
This paper is published as an archive of work carried out at different times on Harrow Hill in West Sussex. It was the particular wish of the British Museum staff involved that the original illustrations be retained. We have acceded to their wishes.

1. INTRODUCTION

Harrow Hill (NGR TQ 080100) is located six miles north-west of Worthing in the county of West Sussex, and to the west of the village of Findon (Fig. 1). The hill is 166.93 metres high. On the northern and eastern sides of the summit are a series of depressions which mark the location of Neolithic flint mines. Also on the summit is a possible Bronze Age enclosure (Bradley 1971) which is situated on the western edge of the main concentration of mine shafts (*see* Curwen & Curwen 1926, pl. 1, 104).

Preliminary investigations by Collyer (Curwen & Curwen 1922) were followed by the complete excavation of one of the mine shafts, number 21, by the Curwens in 1924 and 1925 (Curwen & Curwen 1926). E. Curwen followed this up with a second excavation in 1933 on a spur of Harrow Hill called New Barn Down (Curwen 1934). The possible Bronze Age enclosure and three of the mine shafts that underlay it were investigated by Holleyman in 1936 (Holleyman 1937). More recently two further excavations have taken place on Harrow Hill. In 1982 P. J. Felder excavated shaft 13 for G. de G. Sieveking as part of the 1983 Fourth International Flint Symposium held at Brighton. An important result of this excavation was a series of radiocarbon dates, based on charcoal and antler recovered from the fill of the mine-shaft and from the galleries. The mine is currently dated by several determinations (Table 1). In 1984 surface excavations were carried out by Greg Bell, again for G. de G. Sieveking, to ascertain the nature of the archaeological activity around the mouth of shaft 13. Since there is no reason to suppose that the knapping activity identified around the mouth of the shaft is not contemporary with the mine, these radiocarbon determinations also apply to the material from the 1984 surface excavation.

Table 1. Radiocarbon determinations from Harrow Hill.

BM No.	Material	Context	bc
182	Antler	Curwen shaft	2980±150
2071R	Charcoal	Shaft 13 basal	2950±120
2075R	Charcoal	Shaft 13 basal	3070±110
2097R	Charcoal	Shaft 13 fill	3190±150
2098R	Charcoal	Shaft 13 fill	3400±150
2099R	Antler	Shaft 13 basal	3090±120
2124R	Charcoal	Shaft 13 fill	3110±90

(After Bowman *et al.* 1990, 62.)

2. THE 1982 EXCAVATION OF SHAFT 13

These results are entirely drawn from the 1982 archive prepared by P. J. Felder which is part of the combined 1982/1984 Harrow Hill archive. This archive is currently curated by the British Museum and should be consulted for details outside the scope of this report.

Context of Shaft 13

The results of the 1982 excavations of shaft 13 enabled the earlier work of the Curwens (Curwen & Curwen 1926) and Holleyman (1937) to be placed within the broader context of flint mining at Harrow Hill. Curwen identified three superimposed seams of flint. Holleyman described a fourth seam in the vicinity of the enclosure higher up the hill. Using these data the Felder team were able to reconstruct the pattern of flint exploitation at the site for Holleyman's shafts III and 149 (which was below the rampart of the enclosure), and shafts 16, 15, 14 (all undug), 21 (dug by the Curwens), and 13 (dug by Felder). The Felder reconstruction is presented in Figures 2 and 3. Four seams of flint are present at Harrow Hill. The highest, seam 1, was that present in Holleyman's excavation. The second was the highest identified by Curwen (= Curwen seam 1) and the fourth and lowest represents Curwen's seam 3. Figure 3 shows the position of the shafts noted above in relation to the enclosure and Curwen's shaft 21, while Figure 2 shows the Felders' reconstruction of the exploitation. Initial open-cast quarrying of those seams that outcrop near the surface (16, 14, 13) is followed by the digging of a shaft mine from the base of these open quarries which then serve as platforms for access to the mine

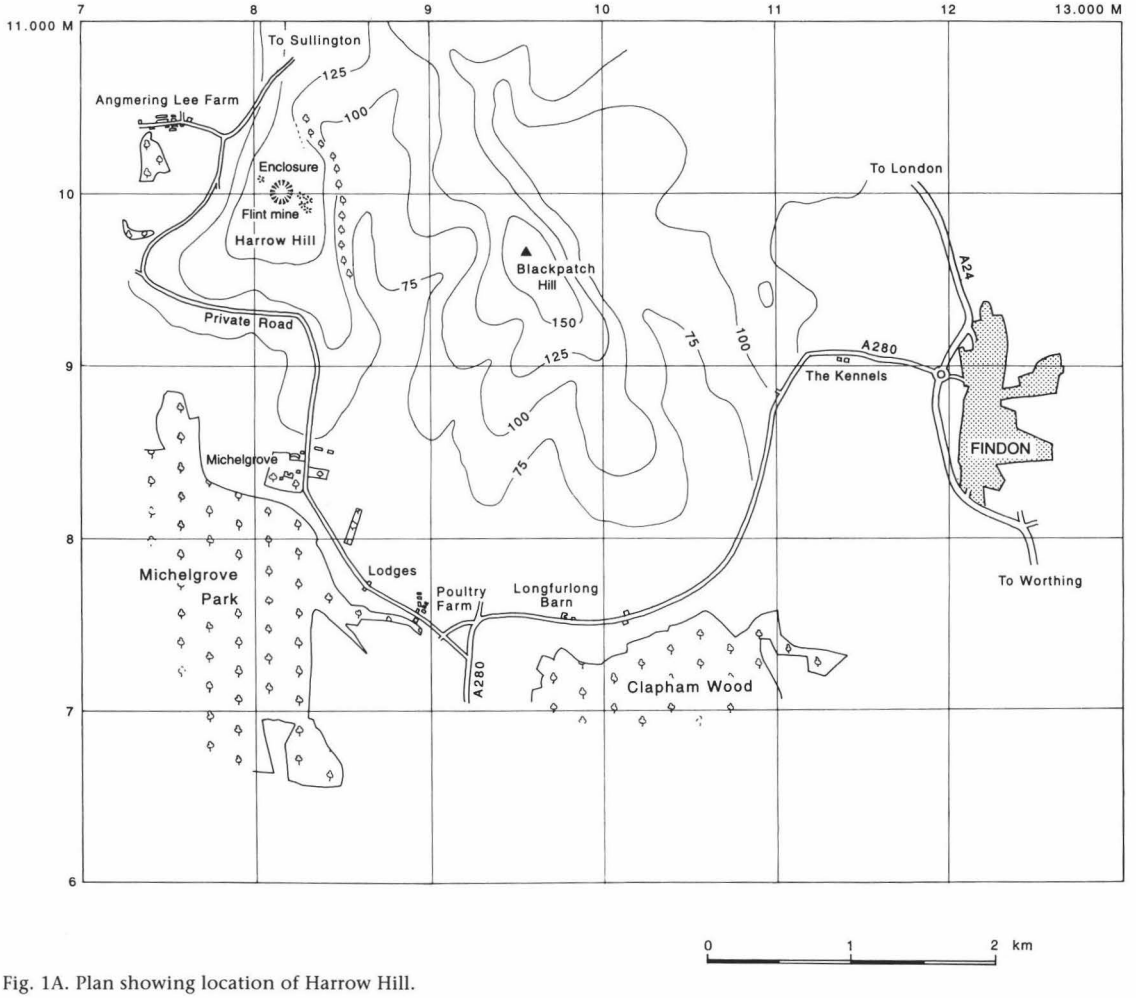

Fig. 1A. Plan showing location of Harrow Hill.

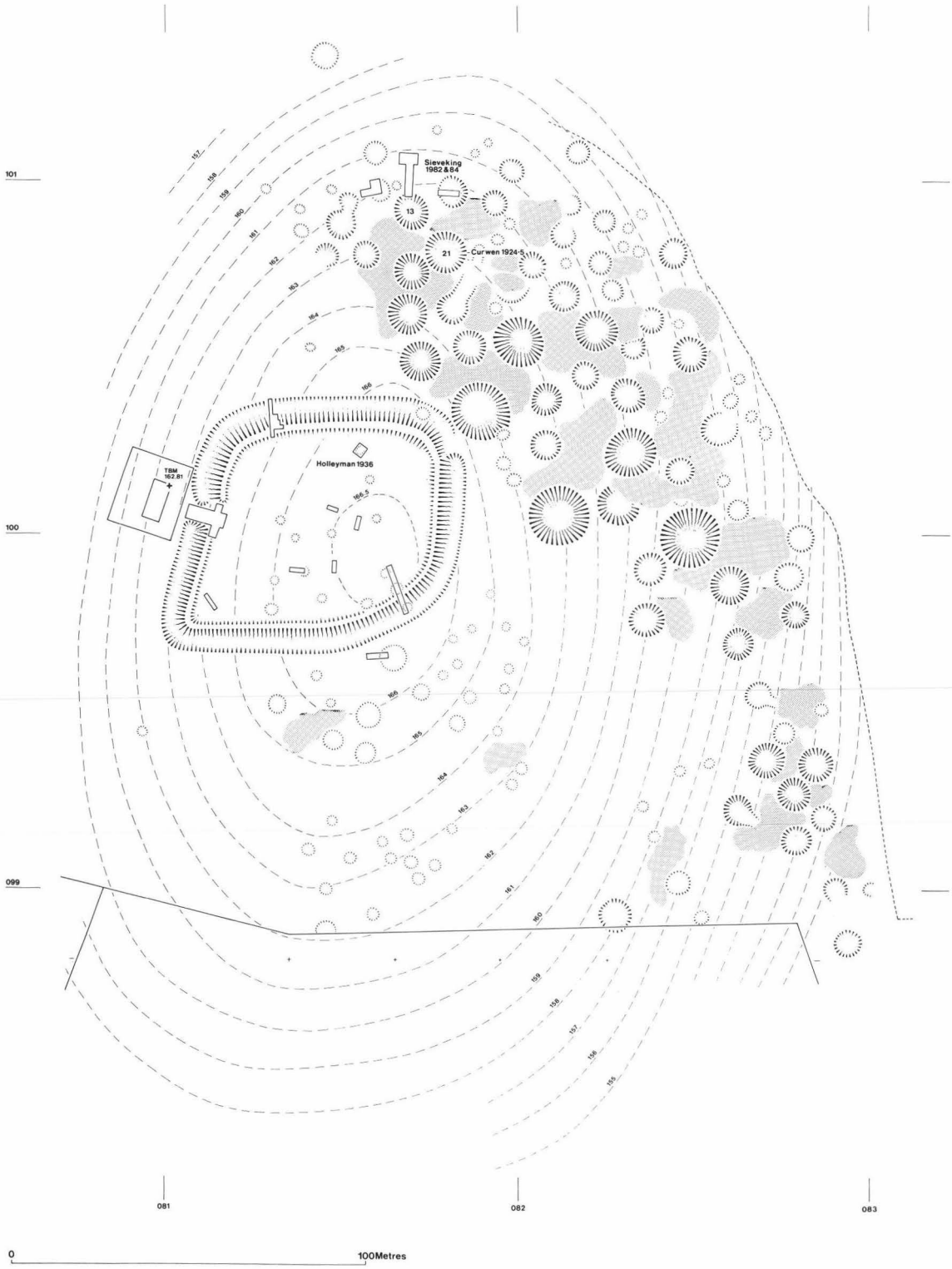

Fig. 1B. Plan showing location of excavations. (Reproduced with the permission of F. E. Aldsworth.)

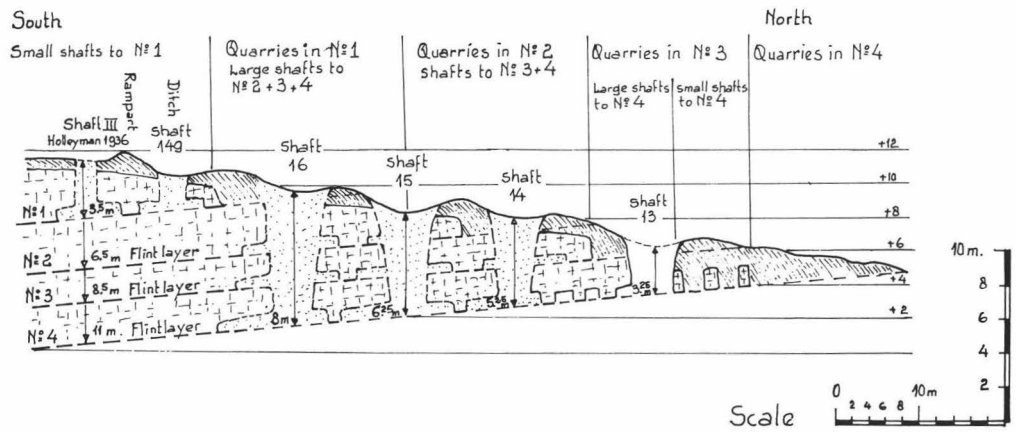

Fig. 2. Cross-section through Harrow Hill, showing the relationship between mine shafts. Figure taken from the 1982 excavation archive.

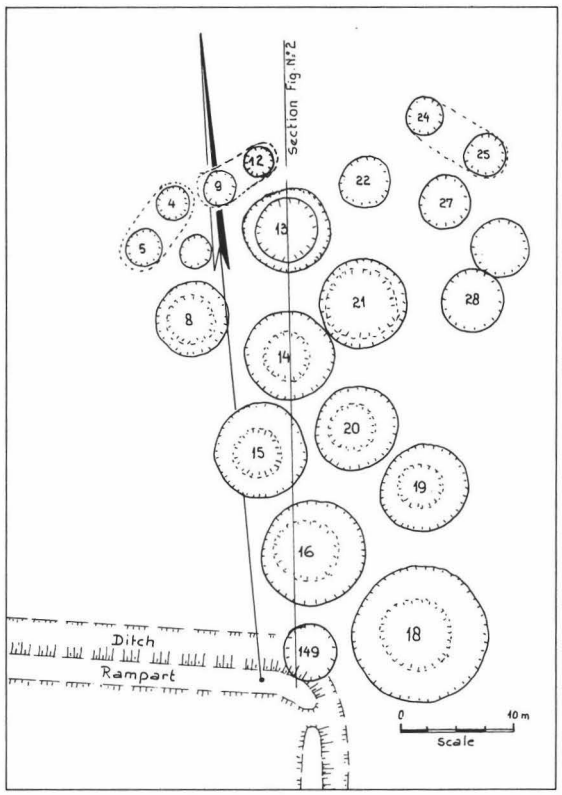

Fig. 3. Plan showing the line of cross-section in Figure 2. Figure taken from the 1982 excavation archive.

shafts. In the case of shaft 15 no platform is apparent, and this may imply that no initial quarrying phase preceded the digging of this shaft.

Curwen's shaft 21 (off the axis of the Felder reconstruction: Fig. 3) exploited seams 2, 3 and 4. His report suggests open-cast working also preceded the digging of 21.

Shaft 13

The 1982 excavations by Felder revealed that shaft 13, which can be identified by a depression on the ground surface, is surrounded by smaller satellite shafts (13A–13I, 13K–13L) which have no surface expression. This is shown in Figure 4. The relationship between each of these shafts, their galleries and shaft 21 and its galleries is shown in Figure 5.

Shaft 13 was associated with three galleries, 13-I–13-III. 13-III, the largest, was entered by Curwen (Fig. 5). It was in this gallery that he found soot marks from lamps (Curwen & Curwen 1926). Curwen believed this gallery was associated with shaft 21, the distance from the shaft being too great for natural light to reach, and hence the need for lamps. The Felder team demonstrated that the gallery is in fact associated with shaft 13, and the distance from the gallery end to the shaft is less than two metres. No artificial light would therefore have been required. Felder postulates that the soot marks are the result of unofficial visitors to Curwen's excavations. No soot marks were found in the 1982 galleries. Neolithic graffiti marks were present at the entrance to gallery 13-III.

Shafts 13A, 13B and 13E represent parts of a single complex. They predate the digging of 13 since they were backfilled with spoil from this shaft. The shafts were dug from the base of an open-cast quarry which exploited seam 3. The platform created by

the base of the quarry is present to the south of these shafts which were dug to exploit seam 4. Only 13E was associated with a gallery.

Shafts 13C, 13D, 13I and 13K were located to the north and east of 13, and were only partially excavated. Only 13D was associated with a gallery, and the possibility of 13C and 13F being a larger single shaft was also suggested by the Felders.

Shaft 13G was associated with four galleries (I–IV). 13G-I had been partly refilled by Curwen, and galleries 13G-II to 13G-IV had been disturbed by him. There were soot marks on the ceiling of 13G-III, and the Felder team found traces of candles and other equipment left behind by Curwen. Next to datum point 447 inscribed linear Neolithic graffiti marks were present.

Shaft 13H was not associated with any galleries and it was postulated that faulting in the chalk would have made any gallery-digging here dangerous.

Shaft 13L was discovered during the excavation of gallery 13G-Ib. A window in the ceiling revealed the presence of a shaft above the roof of the gallery. The shaft had been abandoned before it penetrated deep enough to reach seam 4.

The Felder team argued that in the area where seam 3 outcropped (i.e. in the vicinity of shafts 21 and 13), as well as digging single shafts, the prehistoric miners also dug smaller shafts in pairs (Fig. 4). Such pairs are shafts 13 and 13L, 13I and 13K, 13G and 13H. 13L was never completed because 13 proceeded so rapidly that the required amount of flint was already extracted before 13L was completed. Figures 3 and 4 show the surface expression of more paired shafts, 4 and 5, 9 and 12, and 24 and 25. Further up the hill, where the chalk overburden was greater, single large shafts were dug.

In total, the Felder team excavated 202 square metres of shaft and galleries, and were able to estimate that *c.* 85% of the total available flint within this area was removed. From shaft 13, *c.* 9825 kg of flint was extracted from seams 3 and 4, most of it (6700 kg) from the lowermost seam.

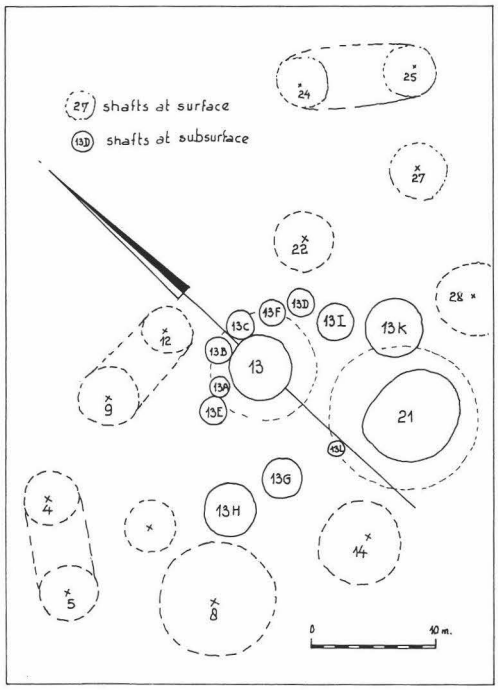

Fig. 4. Shaft 13 and its satellite shafts. Figure taken from the 1982 excavation archive.

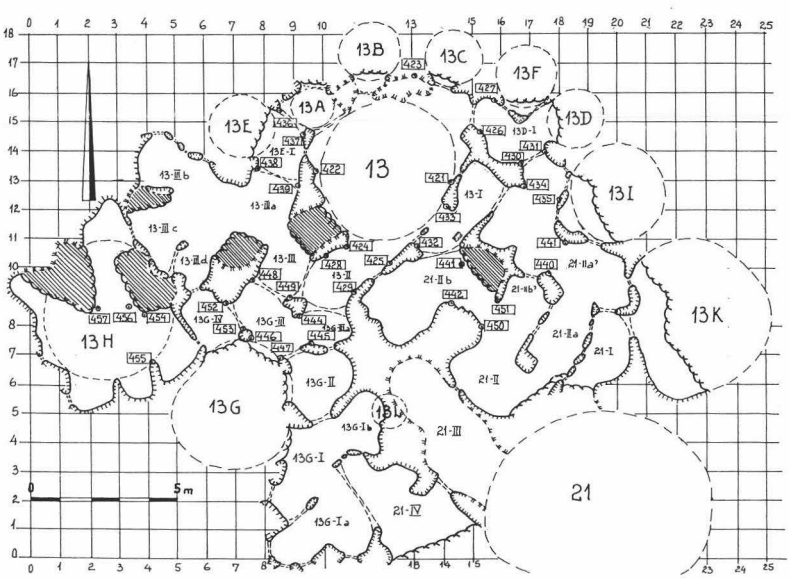

Fig. 5. Plan showing the relationship between the shaft 13 complex and the gallery complex associated with shaft 21.

3. THE 1984 EXCAVATIONS

Three trenches were opened covering an area of 67 square metres (Fig. 6). The largest of these was trench 2 (35 square metres), which was a T- shaped cutting, situated to the north of shaft 13. This report will concentrate on the archaeology of this trench. The purpose of locating the trench here was to determine whether or not knapping had occurred at the edge of the shaft itself.

'McNabb's law' dictates that, often, sections will be of little use in interpreting an area since all the activity takes place away from the edges. This was the case with trench 2 at Harrow Hill. To compensate

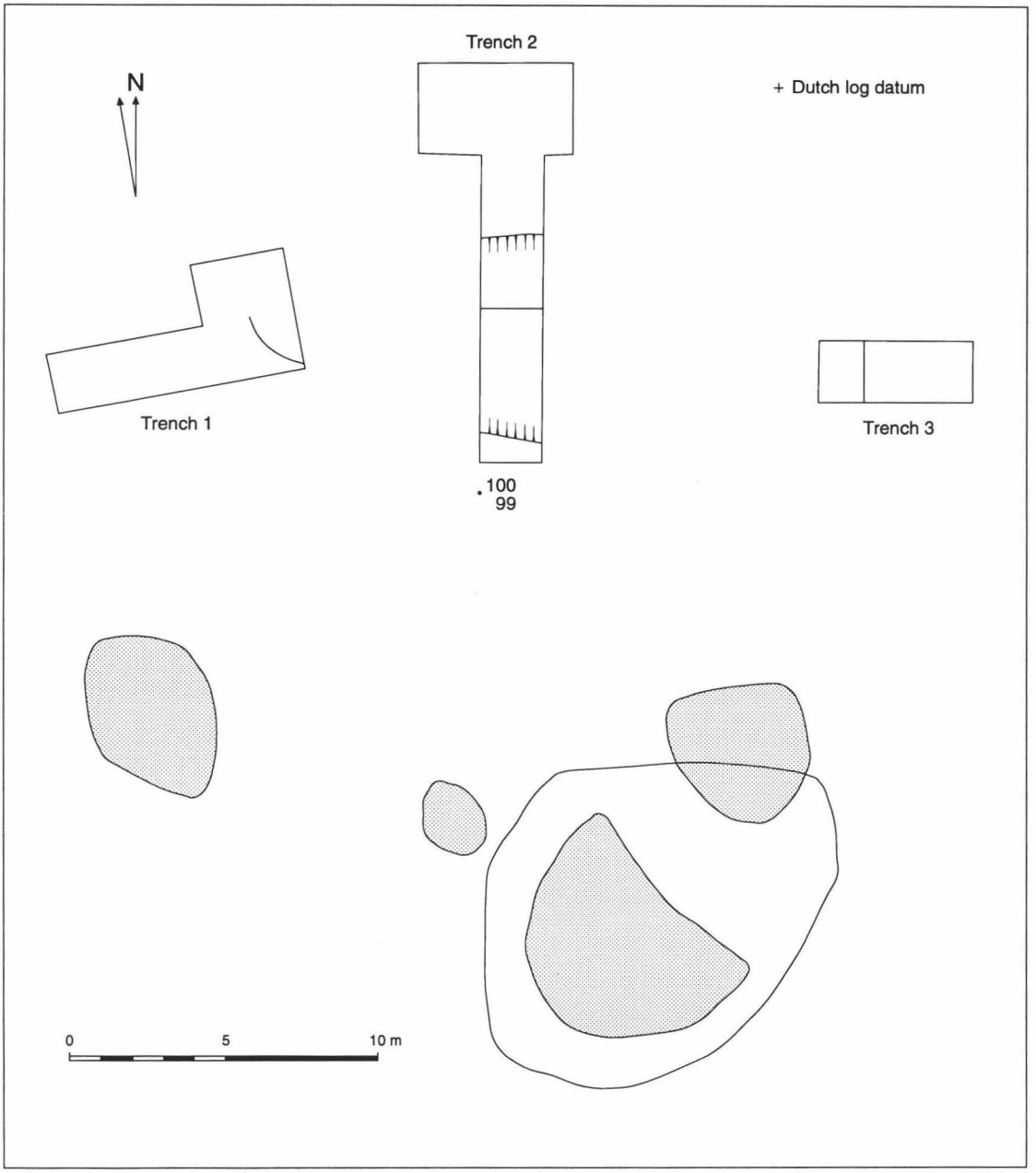

Fig. 6. Plan of the 1984 trenches to the north of shaft 13. Shaded areas indicate the position of spoil dumps.

for this, a schematic diagram (Fig. 7) has been reproduced from the site notebook which illustrates the stratigraphic relationship of the main features and layers within the trench.

The chalk overburden left by the 1982 excavation (layer 1: Fig. 7) and the underlying modern turf (layer 2) were stripped off. The cleaning of the surface beneath revealed the top of a poorly consolidated rubble layer (3). This was composed of chalk blocks between 40 and 90 millimetres in length, set in a coarse friable matrix. Adjacent to the northern section of trench 2 was a localized gulley/depression feature (F2 — not shown on Fig. 7) running in a north-east to south-west direction. It was overlain and infilled by the modern turf layer. Its shallow northern bank was formed by a pea-grit chalky gravel. Different facies of this deposit were present in all three trenches and at various levels within the stratigraphy of the site. It is provisionally interpreted as a slope wash deposit (Fig. 7, layer 4).

South of F2 a second gulley was identified (Fig. 7). This feature comprised two separate smaller gullies (F3 to the west and F8 to the east), each infilled by two separate pea-grit chalky gravel fills (F3,1 and F3,2; F8,1 and F8,2). Figure 8 shows the base of the gullies after the gravelly infills which formed the banks and base of the feature had been removed. Although all four chalky gravel fills are stratigraphically distinct, and the narrow F8 gulley truncates F3, and is therefore later than it, the two gulleys are considered part of a single gulley system. This system was crescent-shaped, with the horns of the crescent pointing northwards. No grounds were identified to consider the gulley system as being anything other than natural. The different gulley fills are interpreted as distinct episodes of broadly contemporary surface sheetwash/run off which infilled natural depressions with a chalky pea-grit gravel.

A flint complex (F4) was discovered on the surface of the southern bank of the western portion of the gulley system. Excavation revealed more of the same complex within the pea-grained fill (F3,1) that formed the southern bank of the gulley at this point. Refitting demonstrated that the flintwork on the surface and that within the chalky gravel were part of the same complex. Also within F3,1 in this immediate area, were two rough-outs, small finds 26 and 27. Although none of the flakes from complex F4 were successfully refitted to either rough-out, this complex is nonetheless tentatively considered to be associated with the knapping of at

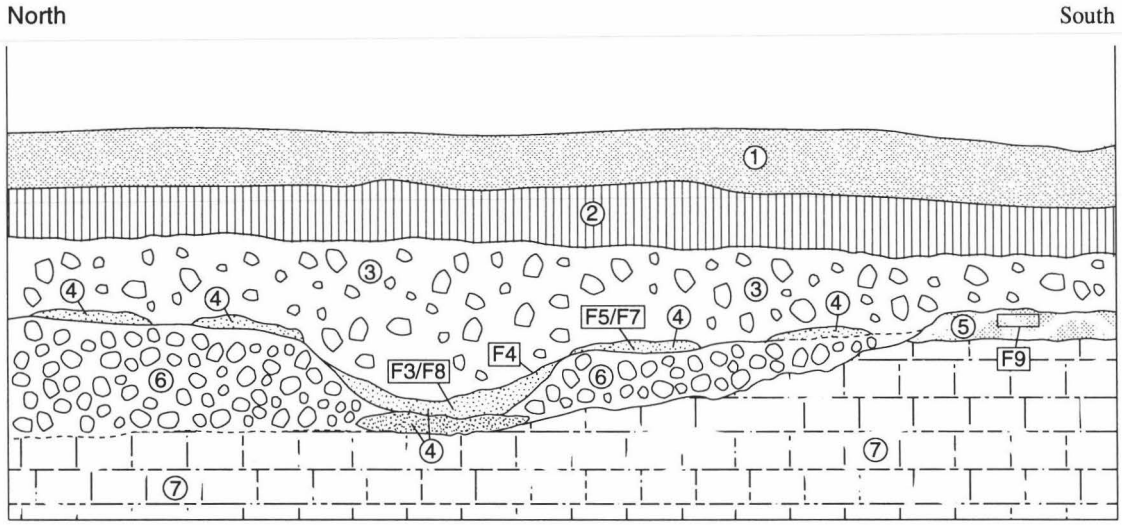

Fig. 7. Schematic reconstruction of stratigraphy and features in trench 2.

least one of them. The morphology of the distal and left margins of a group of two refitting flakes exactly matches the corresponding portion of a flake scar on the butt of rough-out 26. Unfortunately the single flake that would have joined the refitting group to the rough-out was not found.

The association of this rough-out with a flint complex containing refits strongly suggests that this flint complex is part of an *in situ* knapping scatter. This scatter has been disturbed by one or more of the episodes of surface run-off responsible for emplacing the chalky gravel in the gulley and for depositing it as layer 4 elsewhere in the trench (*see* below).

To the south of the gulley system, in the north–south length of trench 2, two further flint complexes were identified, F5 and F7 (Fig. 8). The former represented a more dispersed scatter of flintwork than the latter. As yet no refits have been identified either within the two complexes or between them. No rough-outs were discovered in either complex, but a core/hammerstone was found in F7. Complexes F5 and F7 are up-slope of the F4 flint complex. Although limited refitting attempts have so far failed to find any conjoins between these complexes, a single broken flake from F7 had the same purple coloured inclusion as is present on flakes in a refitting group from F4. It is possible that these two complexes (and F5 as well?) are part of a single, disturbed knapping scatter associated with axe manufacture.

When the 1982 mine excavation was complete, the shaft was backfilled, and the area immediately around the mouth of the shaft levelled and landscaped. Unfortunately, this obscured the precise location of the northern edge of the shaft. Its location, as shown in Figure 8, is estimated to be within 1–2 metres of its true position.

At the southern edge of trench 2, near the edge of shaft 13, a localized deposit of well consolidated *in situ* chalky material was exposed which had a 'puddled' surface appearance (layer 5: Fig. 7; and Fig. 8). If its surface expression is indeed an indication of its formation, then this deposit must at one time have been damp — like chalk slurry. A series of circular and sub-circular depressions (F9) were set into it. Two of these, marked 1 and 2 on the plan, are deep and quite steep-sided. It is tempting to suggest that some, but not necessarily all of these depressions are post-holes, and represent evidence for some form of structure associated with the entrance to the mine, and around the base of which chalk slurry collected and dried out. However, it should be noted that many of these depressions are little more than shallow hollows in a rough and uneven surface. Given this, and the small area opened up, which makes any such interpretation difficult, it is better to err on the side of caution and consider these features as natural.

Four other groupings of depressions (F10–F13) were also identified (Fig. 8), and given their level must be regarded as being contemporary with F9. All these depressions were infilled with pea-grained chalky gravel. These are also considered natural.

The F3/F8 gulley, the F5 and F7 flint complexes (and probably layer 5 and F9 as well, although this was not excavated out), all overlay a rubbly deposit of angular chalk blocks (layer 6), whose nature, matrix and compactness varied in different parts of the trench. Although this can not be considered as the chalk natural, archaeologically it was sterile and can therefore be considered as the base of the sequence in trench 2. Given that the pea-grained chalky gravel infilled natural gulleys and formed their banks, infilled depressions, and occurred as a discontinuous deposit (layer 4) which could occur in any of the larger stratigraphic units, it was tentatively interpreted as a slope deposit. It was emplaced in a number of different episodes (e.g. refitting material both on and within F3,1; or the difference between F3,1 and F3,2 noted during excavation) by surface run-off.

Tentative reconstruction of the archaeological sequence in trench 2

The sequence of events in trench 2 is interpreted as follows. At the entrance to the shaft, and adjacent to a patch of damp chalk, knapping activity took place. Whether this was one episode resulting in one concentration of debris, or several independent episodes, is not yet clear. The flaking was associated with the making of axes and rough-outs using flint from the mine.

In general, the knapping to the north of the entrance to the mine appears to be biased more toward individual episodes of axe-making since no large flaking floors of the type found at Grimes Graves (G. Varndell pers. comm.) were recovered in this area. Since not all of the flint extracted from the mine is represented in the trenches, it is likely that the majority of the flint was taken elsewhere to be knapped.

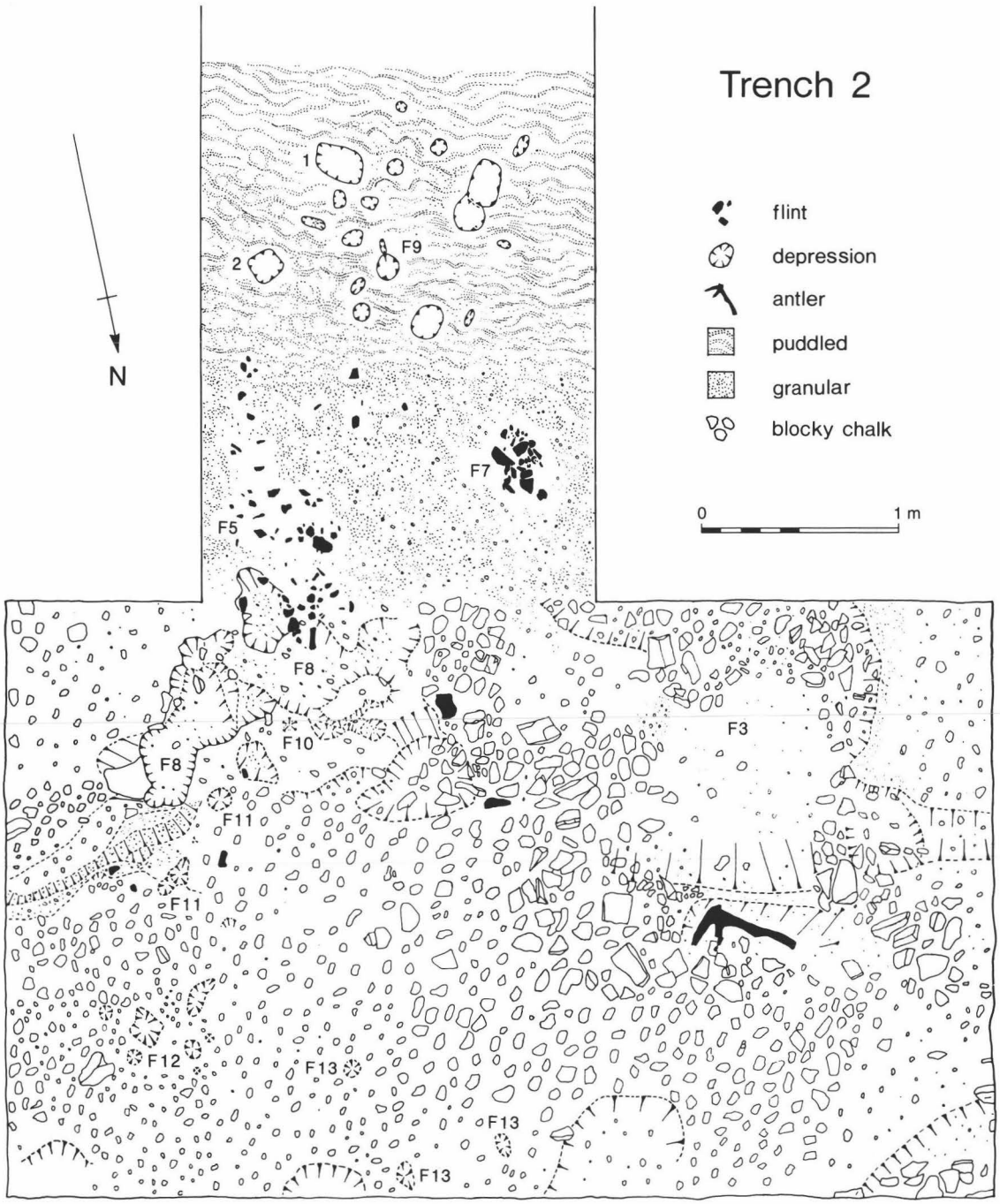

Fig. 8. Trench 2 showing F3/F8 gulley, F5/F7 flint complexes, and depressions (F9) set in puddled chalk (layer 5), and other depressions in trench 2 (F10–F13).

The knapping took place on a surface which was deeply incised by surface run-off and which was characterized by small gulleys and channels. Successive episodes of slope wash disturbed part of the scatters and some of the debitage was washed into a crescentic gulley downslope of the knapping area. Further episodes of sheet wash (some of which eroded previous fills) infilled the gulley and also various depressions on the surface. One of these episodes of wash further disturbed the now-out-of primary context flintwork within F3. The surface was finally covered by a deposit composed of chalk blocks, also probably emplaced by the action of surface water. A number of possible interpretations of the evidence can be constructed, but this one is offered as a working model to explain the observations made for trench 2.

THE FLINT

The detailed analysis of the lithic material from Harrow Hill will concentrate on the material from trench 2. However, observations on the flintwork from trench 1 will be included where relevant, and other preliminary observations on the flintwork from the mine will also be incorporated. A limited, and informal series of knapping experiments were conducted in order to answer specific questions concerning the flintwork. Although the experiments were not formally recorded, the observations and results are also included in the analysis where relevant.

Trench 2. The rough-outs and axes

Four rough-outs (small find numbers 19, 26, 27, and 51), three possible rough-outs (4, 52, and 53), and one finished axe (25) were found in trench 2 (Table 2). Although 19 was found during surface cleaning, and 53 and possibly 4 were from layer 2 (the modern turf and topsoil), there is no reason to suppose that they are not associated with knapping activity adjacent to the entrance to shaft 13.

The four certain rough-outs, and the finished axe, represent discard at various points along the axe-manufacturing continuum. This means that at the entrance to the mine shaft knapping activities ranged from initial flaking of blocks, roughing-out and thinning, to final shaping and finishing off. The whole spectrum of activities associated with axe manufacture is present.

At all points along the manufacturing continuum, the analysis of flake scar position and direction on these artefacts reveals that the strategy of knapping is to flake across both surfaces of the nodule, by flaking inward from the lateral edges, and at right angles to them. This is true of roughing-out as well as thinning.

Small find 19 (Fig. 9) represents the flaking of a cortical block of tabular flint, which during the initial stages of removing the cortex broke both longitudinally and across its width. The artefact represents one knapped edge on one quarter of the original nodule. Technologically the knapping strategy on this piece involved flaking one face first: these edges were then used as platforms to detach flakes from the opposite face of the blank. The rough-out was then turned over one more time and another flake was taken off from the original face from this same edge. At what point in the knapping and where on the piece the blow that initiated the two breaks occurred is impossible to say. Curiously, limited flaking continued after the rough-out broke since one of the break surfaces has been used as a platform for one further removal.

The strategy of flaking one face first then turning the nodule over is repeated in rough-outs 27 and 26 (Fig. 9). In the former, all the major scars on one face have been detached from platforms created by flaking both edges of the opposite face of the nodule first. A break occurred across the width of the nodule at one end of the rough-out. The surface of this break has been used as a platform for the removal of one long, stepped flake, centrally, down the length of one face of the rough-out. A similar feature was noted on 19.

On rough-out 26, the strategy is slightly different. More extensive flaking has obscured much of the initial working of the nodule so any reconstruction must be more

Table 2. The small finds from trench 2.

No.	Context	Artefact	Length	Width	Thickness	Weight
19	surface	rough-out	126	53	30	217 g
25	F8,1	axe	153	60	28	235 g
26	F3,1	rough-out	144	71	37	405 g
27	F3,1	rough-out	159	81	47	624 g
51	layer 3	rough-out	90	61	28	148 g
4	layer 2?	rough-out?	155	96	66	758 g
52	layer 3	rough-out?	160	80	42	512 g
53	layer 2	rough-out?	161	96	48	752 g
6	F4	core	153	100	81	1016 g

All measurements in millimetres.

tentative. One face was knapped first, then the knapper turned his or her attention to thinning, and began to thin just one edge. This involved three removals at the butt end of the rough-out on one face from this edge, followed by another three removals further up the same edge but on the opposite face of the rough-out. Both rough-outs 26 and 27 represent points of discard further along the manufacturing continuum than that of 19 was; this is indicated by the more extensive working on both pieces.

The strategy of flaking first one face (either from both edges or just one) and then using the margin or margins thus created to flake the opposite face of the nodule should not be considered as a formal strategy that was applied to all nodules regardless. It should rather be considered as the path of least resistance. The knapping experiments indicated that this was a simple and effective way of producing rough-outs that resemble the archaeological examples. However, the experiments also indicated that since no two pieces of tabular are identical, and no two rough-outs will flake in the same way, it is necessary to be flexible in approach and to adapt flaking to best suit the nodule being worked.

The lack of a structured approach to roughing-out and thinning is demonstrated by the differing amounts of cortex left on axes when thinning begins. Small find 51 represents the broken butt of a rough-out, which on the small amount of cortex present (as well as the overall appearance of the artefact, and the invasive nature of the flake scars) was broken during the thinning phase. The thinning is further advanced than on 26.

The presence of cortex on a rough-out being thinned (26 and 51) is interesting, particularly in the case of 26 where the thinning had only just begun and the extant cortex covers as much as 30% of the nodule. What it suggests is that roughing-out was not viewed as a clearly perceived stage in the manufacturing continuum with defined goals that must always be achieved, such as the complete removal of cortex before thinning can begin, or the imposition of a specific shape. Subjectively, the roughing-out stage would appear to be aimed more at removing the right-angled edges that occur on tabular flint and/or creating a knapped edge which will allow marginal mode thinning to commence. Such an interpretation is at odds with the more conventional view of roughing-out which is seen as a clearly defined and self-contained stage associated with a particular hammer type (hard hammer) and with a particular percussion mode (non-marginal; *see* butt morphology section below).

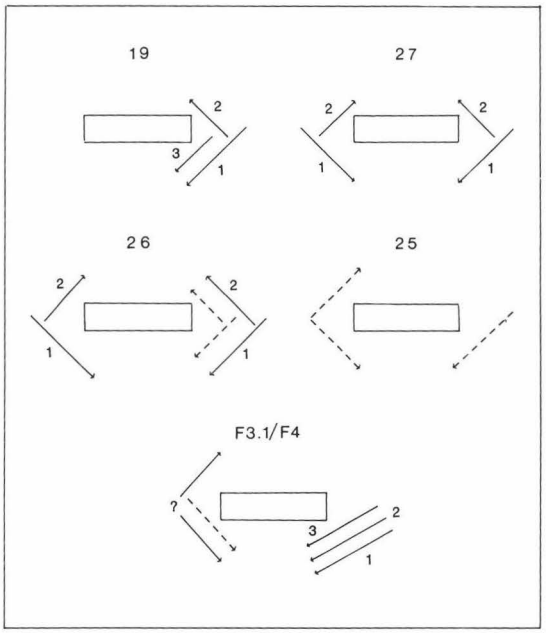

Fig. 9. Schematic reconstruction of knapping strategies on selected artefacts from Harrow Hill. Solid line = roughing out; broken line = thinning.

Small find 25 (Fig. 9) represents a finished axe (or one very close to it), and therefore represents the opposite end of the manufacturing continuum to that represented by 19 or 27. The shallow invasive flake scars on the axe suggest the use of a soft hammer. On one edge of the axe the final thinning and shaping (as identified by small complete scars) is confined to one face; on the opposite edge the thinning is bifacial. Since the flint complexes described above contained a number of small finishing flakes of this nature (Fig. 10c), this supports the suggestion that both extremes of the axe-manufacturing continuum were practised at the mine entrance.

Of the three artefacts whose status as rough-outs is less certain, the condition of 4 and 52 precludes the positive identification of flaking strategies since the flint has 'rotted'. Both seem to reflect limited flaking.

The identification of small find 53 as a rough-out is more problematic, since the flaking strategy is different to the above. Bifacial flaking is confined to one edge and to one end of a cortical nodule.

The flaking on the end of the nodule is alternate which is uncharacteristic of the knapping techniques applied to rough-outs at Harrow Hill. Although most of the roughing-out at Harrow Hill was done with a hard hammer, there was very little evidence on the rough-outs themselves to support this (but *see* flake section below). This may in part be due to the coarse grey nature of the flint, as well as to patination which obscures percussion features. However, on artefact 53 one flake scar clearly showed the use of a hard hammer as shown by well-developed negative percussion features.

One core was identified (small find number 6). The cut-off point between an atypical rough-out and a core is here taken on the basis of a simple knapping distinction. Some nodules are completely inappropriate for axe manufacture because of thick, irregular or spherical cross-sections. Not even the most optimistic knapper could make an axe on such a piece, and consequently they are interpreted as cores. On 6, in addition to the large and irregular shape of the nodule two episodes of flaking have occurred, one at right angles to the other, and both off existing natural breaks. Such a pattern of flaking was not one normally noted on rough-outs.

In conclusion, the rough-outs indicated that the whole of the axe-manufacturing continuum is present at the entrance to the mine. There is a flexible approach to axe manufacture. There is no clearly defined roughing-out stage which requires complete decortication. Subjectively, the roughing-out appears to be a short cut for the removal of the right-angled and thickly cortical edges of tabular flint in order to allow thinning to commence as soon as possible. The flaking of one face first followed by the other is best seen as following the path of least resistance rather than as a formal strategy of reduction.

Trench 2. The complexes

The location of the main complex in trench 2, F4 was described above.

Taking the F4 and F3,1 material together (as indicated by the refitting), it is clear that most of the debitage represent removals from the earlier stages of flaking, since the proportion of cortical and partially cortical pieces with 50% or more cortex is high (41.9%), and some of the flakes are quite large. Five flakes were noted to have cortical butts.

It was noted above that the configurations of two refitting flakes from F3,1 make it probable that they came from flaking rough-out 26. Thinning flakes were also present in the complex, at least six were positively identified. This flint complex therefore retains evidence of both the initial working, and to a lesser extent, the later thinning and shaping of at least one rough-out (with a soft hammer).

The main group of refitting flakes in this complex represent conjoins between F3,1 and F4. They were initially identified on the basis of a characteristic purple inclusion. The refits are from the initial stages of working a rough-out, through to the initial stages of thinning (Fig. 9). The refitting group represents part of one cortical face of a nodule. Essentially, the strategy of flaking revealed by this group is the initial removal of flakes from one edge and on one face of the nodule, followed by bifacial removals from the opposite edge prior to thinning. This conjoining group supports the knapping reconstructions identified from the rough-outs. The refits reflect a pattern of parallel flaking, inwards from a lateral edge and at right angles to it. The core, small find number 6, which was described above was also a part of this complex.

Complex F7 (*see* above) represents upwards of 96 pieces, which formed a fairly tight cluster, of which 50 are small flakes or fragments resulting from thinning. Only two of the non-marginal flakes demonstrate clear hard hammer percussion features, although a few more hard hammer flakes are probably present. These proportions reverse the pattern noted in F4. One feature of interest is the presence of the same purple-coloured inclusion as is found in the main refitting group from F4, present on a broken cortical flake/shatter piece. This suggests that at least a part of F7 and F4 may represent debitage from the working of a single nodule. Also present in F7 was a rather enigmatic artefact which appears to have been either a cylindrically shaped core or a hammerstone (identified by possible battering), or both!

Complex F5 represented 136 pieces which formed a more dispersed pattern of debitage. Although both thinning and non-thinning debitage was present, the latter material was confined to two non-marginal flakes, one of which had hard hammer percussion features. The remaining pieces were all either non-diagnostic fragments or thinning debitage.

Trench 2. The debitage

The debitage from trench 2 was analyzed in order to determine whether or not any support for the

conclusions outlined above could be provided by the flakes which were the waste product of axe-making. A limited technological analysis was conducted on those aspects of flake morphology that might shed light on flaking practices. The methodology used was adapted from that of Ashton and McNabb (Conway *et al.* 1996). The analysis was applied only to unbroken flakes which could be identified as either from non-thinning or thinning activities (*see* below and Table 3). A total of 233 diagnostic flakes were included in this analysis. Broken flakes, indeterminate flakes, and those from feature layers (e.g. F8,2 etc.) and the complexes were excluded.

THE RESULTS

The flakes were divided up into two categories based on percussion mode, butt type, scar pattern and overall appearance. The two categories were non-thinning and thinning debitage. The results revealed a broad correlation between non-thinning with a hard hammer struck in non-marginal mode, and thinning with a soft hammer struck in marginal mode.

Butt morphology

The data for this section of the analysis are presented in Table 4. These data indicate a difference in the overall pattern of results between the debitage from thinning and non-thinning activities. Plain and cortical butts, combined, form 88.2% of the total of the non-thinning data set, as compared to only 20.6% for the thinning debitage. The classic bending flake butt associated with soft hammer thinning (Cotterell & Kamminga 1987) dominates the thinning flake data. This represents an expected pattern of results, and supports the basic distinction between non-marginal mode/roughing-out and marginal mode/thinning.

These data, however, do support some of the technological conclusions drawn from the rough-outs, as well as the suggestions of flexibility in knapping practices that were made above. In Table 4, just over 20% of the thinning flakes identified as such had either plain or cortical butts, demonstrating that not all thinning was confined to marginal mode flaking. Just over 6% of the thinning flakes had cortical butts. This implies that when thinning began the whole length of a rough-out, and its edges, need not necessarily have been completely flaked or roughed-out.

This aspect of rough-outs is demonstrated in Figure 10. Figure 10a shows a hard hammer flake struck in non-marginal mode; 10b is an enlargement of the butt of 10a. The wide flake butt and hard hammer percussion features are consistent with the expected pattern for roughing-out debitage noted experimentally and on 65% of the non-thinning debitage (Table 4). The character of the butts on the thinning flakes shown in Figures 10c and 10e (butts 10d and 10f respectively) conform to the expected pattern for this kind of debitage. However, the thinning flake illustrated in Figure 10g (butt shown in 10h) has clearly been detached with a broad and wide platform which indicates thinning in non-marginal mode. This pattern was noted on 14% of the non-thinning debitage (Table 4).

Table 3. Flakes from trench 2, layers 2, 3, 4 and 5.

	Whole	**Broken**	**Totals**
Non-thinning	136	47	**183**
Thinning	97	165	**262**
Indeterminate	52	153	**205**
Totals	**285**	**365**	

Grand total: 650

(other flakes excluded from the analysis of layers 2–5 = 38)

Table 4. Butt morphology on flakes from Harrow Hill.

Plain	**Cortical**	**Edge struck**	**Marginal/thinning**	**Faceted**	**Indet.**
Non-thinning					
89	31	6	0	0	10
(65.4)	(22.8)	(4.4)			(7.4)
Thinning					
14	6	2	72	1	2
(14.4)	(6.2)	(2.1)	(74.2)	(1.0)	(2.1)

Dorsal scar patterns

In both the results for the thinning and the non-thinning data, as presented in Table 5, the most frequently occurring scar pattern is that of a single major removal from the proximal (pattern 1). This result was to be expected since both thinning and non-thinning activities at Harrow Hill involve the removal of parallel flakes from the edges of tabular blocks of flint and/or rough-outs. The dorsal scar

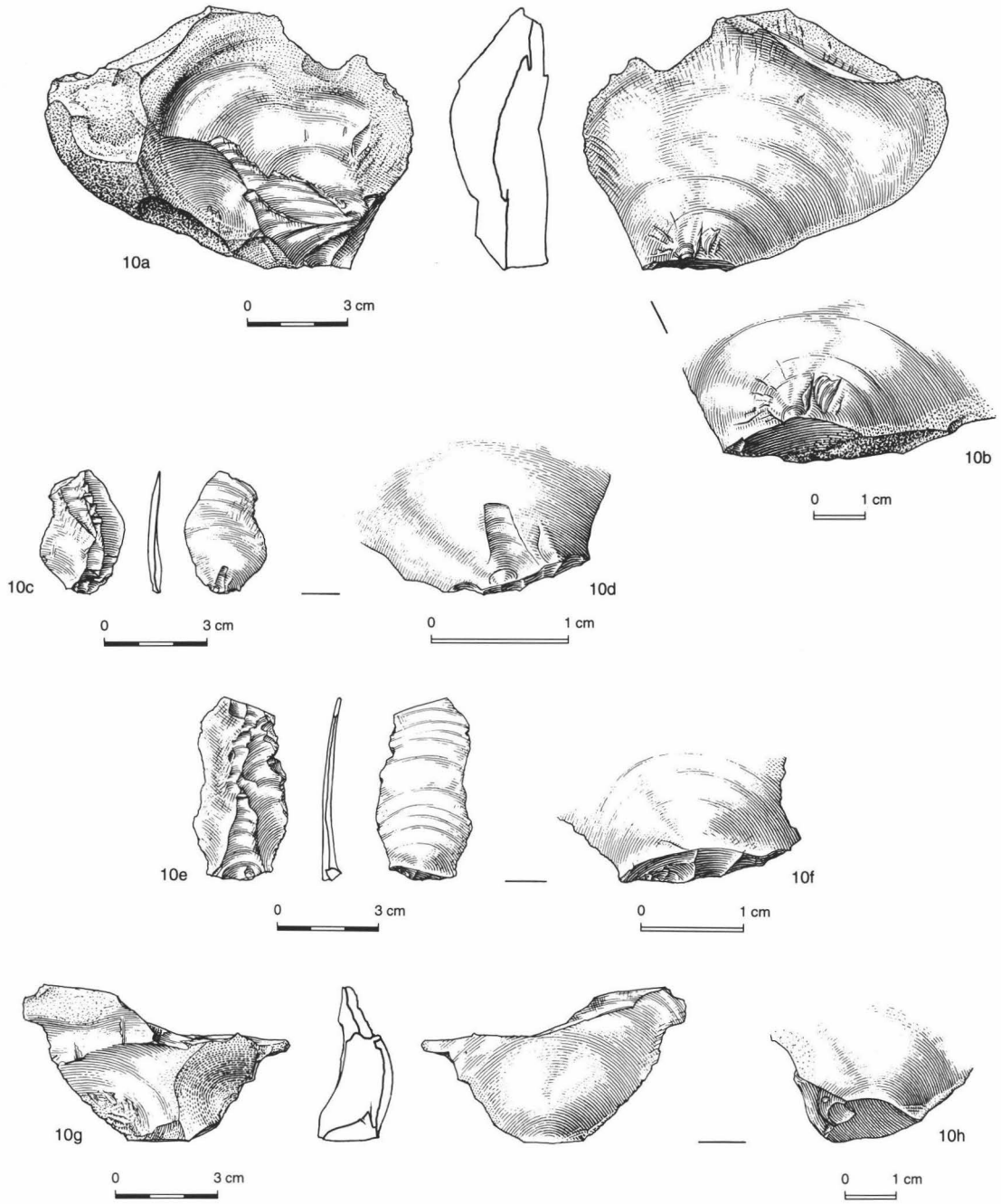

Fig. 10. Selected flakes from Harrow Hill: 10a and 10b roughing-out; 10c–h thinning flakes.

patterning broadly confirms the observations made on the rough-outs.

It is surprising then that the non-thinning result for pattern 1 is so low. Also it is surprising that the scar patterns which involve a removal from one or both lateral edges (patterns 2, 3, 4, 5, 8, 12 & 13: n = 43) should figure so highly in the non-thinning results (31.6%). Although core working may account for some of this, it can not be invoked to explain such a high percentage in the non-thinning debitage as a whole. It is possible that the initial stages of roughing-out involved less parallel flaking from the margins than did the stages at which the rough-outs discussed above were abandoned. In which case the flakes would preserve more evidence of this, but this is only speculative.

Cortex

In the non-thinning data set (Table 6) the majority of these non-marginal flakes are partially cortical (>50% + <50% = 74.3%), and the much lower figures for cortical and non-cortical flakes reflect the lower proportions that would be expected from opposite ends of the pre-thinning flaking spectrum. The lower emphasis on cortical flakes and on partially cortical flakes with more than 50% cortex in the thinning category is expected, as is the much higher emphasis on the other two categories in this group. Nevertheless, the fact that the cortical and 50%+ categories form 7.2% of the total for the thinning debitage again confirms that on some rough-outs some cortex was present when thinning began.

4. OTHER FINDS FROM TRENCH 2 AND THE EVIDENCE FROM THE MINE

A number of fragments of bone were recovered in the 1984 excavations which were too fragmentary to be successfully identified. Antler was also recovered. Two antler hammers were recovered from the 1982 excavation (1982 small finds 12 and 77). Experiments by the Felder group at Grimes Graves suggested that slabs of floor-stone were quartered using antler hammers. The damage patterns on these pieces from Harrow Hill is consistent with examples from Grimes Graves and the Felders' experimental hammers (G. Varndell pers. comm.). None of the more complete specimens showed unequivocal evidence of having been used as picks. A few plain wall sherds were recovered from topsoil in trench 1. The flint-gritted fabric is typical of the first millennium BC locally (inf. V. Rigby).

Trench 1 contained 21 rough-outs reflecting the same broad range of variation in finish noted on the fewer examples that were present in trench 2. The debitage that was present also reflects various points along the manufacturing continuum.

The rough-outs from trench 2 did not shed much light on the strategy involved in thinning an artefact in marginal mode. One artefact from trench 1, small find 31, a rough-out in the final stages of completion, did retain evidence of how such an artefact was thinned. The blade end and adjacent portions of the axe's edges are well finished, but the butt of the axe is only crudely flaked. On one of the edges, midway down the length of the axe, an unfortunate blow with the hammer has removed a chunk out of the edge and left a pronounced concavity and the rough-out/axe was consequently abandoned. The strategy of thinning, at least for this piece, is that the knapper began thinning at the tip or blade end of the intended axe and worked his or her way down toward the butt. Unfortunately, the artefact broke before the finish could be

Table 5. Dorsal scar patterning at Harrow Hill.

Dorsal scar pattern	Non-thinning	Thinning
1 prox.	58 (42.7%)	62 (63.9%)
2 prox./one lat.	13 (9.6%)	17 (17.5%)
3 prox./both lat.	2 (1.5%)	3 (3.1%)
4 prox./dist./both lats.	0	1 (1.0%)
5 one lat.	26 (19.1%)	4 (4.1%)
6 dist.	0	0
7 dist./prox.	3 (2.2%)	2 (2.1%)
8 both lats.	2 (1.5%)	1 (1.0%)
9 prox./dist./both lats.	0	0
10 100% cortex/natural	16 (11.8%)	1 (1.0%)
11 dist./one lat.	0	0
12 dist./two lats.	0	0
13 indeterm./rotted	16 (11.8%)	6 (6.2%)

Key

prox. - one or more flake scars originating from the proximal end
dist. - one or more flake scars originating from the distal end
lat. - one or more flake scars originating from a lateral edge

Table 6. Amounts of cortex present on flakes from Harrow.

	100%	>50%	<50%	0%	?%
Non-thinning	16 (11.8)	40 (29.4)	61 (44.9)	14 (10.3)	5 (3.7)
Thinning	1 (1.0)	6 (6.2)	48 (49.5)	41 (42.3)	1 (1.0)

extended along the length of the axe.

In the fill of shaft 13 itself over 156 flakes from all points along the axe-manufacturing continuum were recovered, as well as seven broken or abandoned rough-outs/axes, a thin axe which is more than likely a pick, and an unequivocal adze rough-out, whose asymmetrical plano-convex profile is a result of the piece being made on a large flake. All these finds (marked as H.H.1) indicate that when shaft 13 was infilled, sweepings from the knapping debris around the mouth of the shaft were probably incorporated into the backfill.

Groups of artefacts from the fills of shafts 13A, 13H, and 13G (or from adjacent galleries; marked as small finds 42, 67 and 32 respectively) also attest to sweepings derived from the full spectrum of activities associated with axe-making. The group from 13H contained a rough-out and a piece of broken tabular flint with signs of thinning on it. Thinning and non-thinning flakes were also present. The group from 13G represented only flakes, again from thinning and non-thinning activities. In this instance at least four flakes probably came from the same nodule as identified by the presence of a distinctive inclusion. Either they were knapped on the spot, within the gallery (both Curwen and Holleyman noted 'knapping' scatters within the mines, on occasion associated with what they called hearths), or were emptied out from a bag or similar container having been collected from the same spot on the surface. No refits were identified. A further group of flakes recovered from a gallery contained a fortuitously shaped large blade which had a deliberate direct ordinary notch, distally, on the left lateral.

Five near axes and four rough-outs were

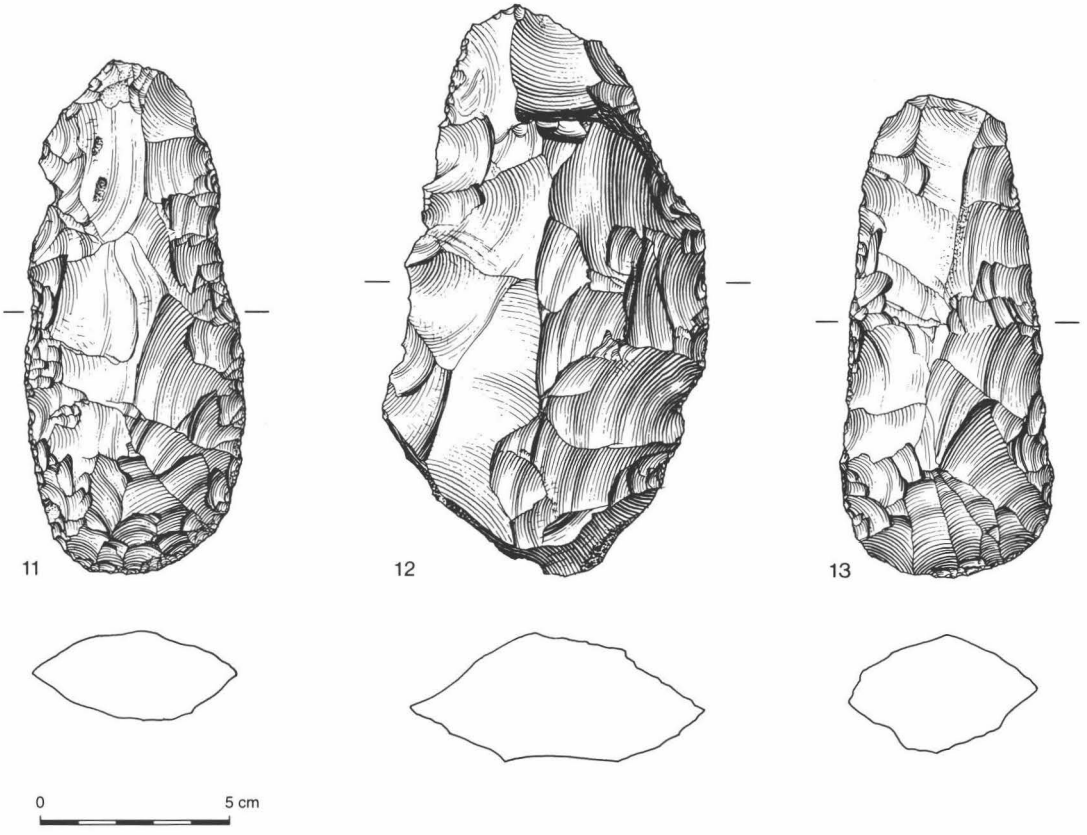

Fig. 11. Axe, probably in the final stages of thinning, 1982 excavations, small find 76.

Fig. 12. Rough-out, 1982 excavations, small find 78.

Fig. 13. Axe, 1982 excavations, small find 75.

recovered from the 1982 excavations. Why pieces that were near to completion were abandoned is difficult to say. In some cases it may be due to an irregular cross-section (e.g. 62) that would have been more trouble to regularize than it was worth; in other cases (e.g. 25) the cross-section may have been simply too thick to be worth bothering with any further. Number 76 (Fig. 11) was probably abandoned because an unlucky blow with the hammer took out a chunk from the edge (as noted in trench 1 number 31 above). One of the rough-outs from the mine (small find 78) is illustrated in Figure 12.

Why number 75 was abandoned is impossible to say. It is an excellent example of a finished axe and is illustrated in Figure 13. Its finishing indicates a different pattern to that on small find 31 from trench 1. One edge of the axe has been finished by substantial flaking on one face and only a few finishing flakes on the other face. The opposite edge shows no preference for finishing one face before the other. The blade also shows synchronous bifacial thinning.

5. CONCLUSIONS

Harrow Hill has demonstrated that axe manufacture is not a process which follows a formal methodology. A much more flexible approach is indicated by the evidence. Although certain simple strategies are present, they are adapted or abandoned as and when necessary in order to coincide with the changing configurations of the rough-outs as they are knapped. A very broad framework of initial flaking by hard hammer in non-marginal mode, and thinning by soft hammer in marginal mode can be recognized, but again these divisions are only loose ones. A distinct roughing-out stage is not considered present. This type of 'path of least resistance' approach adopted by the knappers at Harrow argues that axe production should be seen more as a manufacturing continuum rather than as a structured activity with distinctly perceived subdivisions.

At Harrow Hill, on the northern and western sides of shaft 13, the debitage and rough-out evidence indicates that activities associated with the whole of the manufacturing continuum are present. Other more limited activities such as core working are also practised around the entrance to the mine shaft. It is unlikely that the knapping debris around the northern and western sides of the mine represents all the flint that was extracted from the shaft and its associated galleries, so it is tentatively suggested that the majority was taken elsewhere to be worked (or knapped to the south of the shaft which was not explored). The knapping around the shaft therefore represents a more individualistic policy of axe-making, which explains the small amount of debitage and the absence of large chipping floors.

The position of the Harrow Hill mines as early in the British sequence seems effectively established, and broadly confirmed by the radiocarbon determinations. The current major project by the RCHME should both expand and refine our knowledge of the nature and, perhaps, multiple purposes of flint mining.

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Excavations at Whitehawk Neolithic enclosure, Brighton, East Sussex: 1991–93

by Miles Russell & David Rudling

with contributions by
Sue Hamilton
Ken Thomas
David Underwood
Wendy Wood

Excavations in advance of a housing development on land adjacent to Tilgate Close, Brighton, at the south-western margins of Whitehawk Neolithic enclosure, revealed a 90 m strip of prehistoric tangential ditch, the presence of which had first been detected by Dr Cecil Curwen in 1928. Investigation of this feature has led to the reassessment of the constructional sequence of the Neolithic monument. Further rescue investigation to the north and north-east of the housing development has helped better define the extent of surviving prehistoric remains at the site.

INTRODUCTION

Between March 1991 and July 1993 the Field Archaeology Unit of University College London was involved in four rescue archaeological projects at, or adjacent to, the important Whitehawk Neolithic causewayed enclosure (often referred to as 'Whitehawk Camp'), Brighton, East Sussex (NGR TQ 33050470) (Figs 1 & 2).

The first two of these projects were associated with the construction of a new housing development on land adjacent to Tilgate Close at the south-western margins of the scheduled ancient monument (Fig. 3). Unfortunately, the potential significance of this development site was not recognized during the planning stages of the scheme and thus neither an archaeological evaluation, nor a programme of mitigation measures designed to preserve important archaeological remains either *in situ* or by record (i.e. excavation and/or a watching brief) were arranged. Fortunately, during initial topsoil stripping in late March 1991, Mr Geoffrey Bennett, a planning officer of Brighton Borough Council, observed a linear feature cut into the chalk. Mr Bennett then contacted Dr Andrew Woodcock, the County Archaeologist for East Sussex, who in turn contacted David Rudling of the Field Archaeology Unit, and on behalf of the County Council agreed with him a programme of immediate rescue investigations. These and subsequent on-site works were supervised by Miles Russell. The follow-on excavations were commissioned by Brighton Borough Council.

The two other archaeological projects at Whitehawk were carried out between January and July 1993. Both projects were associated with schemes to enhance an area within ditch circuits 1 and 2 of the scheduled ancient monument (Fig. 2). At this location the monument is crossed by Manor Hill Road (Fig. 3). The work was commissioned by Brighton Borough Council, who as owners of the site were responsible for the enhancement measures. An archaeologist was required to supervise firstly the careful removal of chalk bunding which, erroneously and illegally had been deposited on land on the southern side of Manor Hill in order to prevent unwanted occupation of the site by travellers, and secondly, the insertion of 88 bollards and four gates. These were positioned mainly along the sides of Manor Hill Road, and almost all outside the scheduled area, in order to prevent future unwanted vehicular access. Both projects were supervised by Patrick Murray.

Since completing the fieldwork and initial assessment report stages of the various projects at Whitehawk, both Miles Russell and Patrick Murray have left the Field Archaeology Unit. Responsibility for the final post-excavation stages of these projects was thus undertaken by David Rudling, who had been the Unit's project manager for all four projects. Miles Russell was commissioned to write various parts of this report, notably the descriptions of, and discussions about the fieldwork that occurred under his direction. All the retained finds and the site archives have been deposited at Brighton Museum.

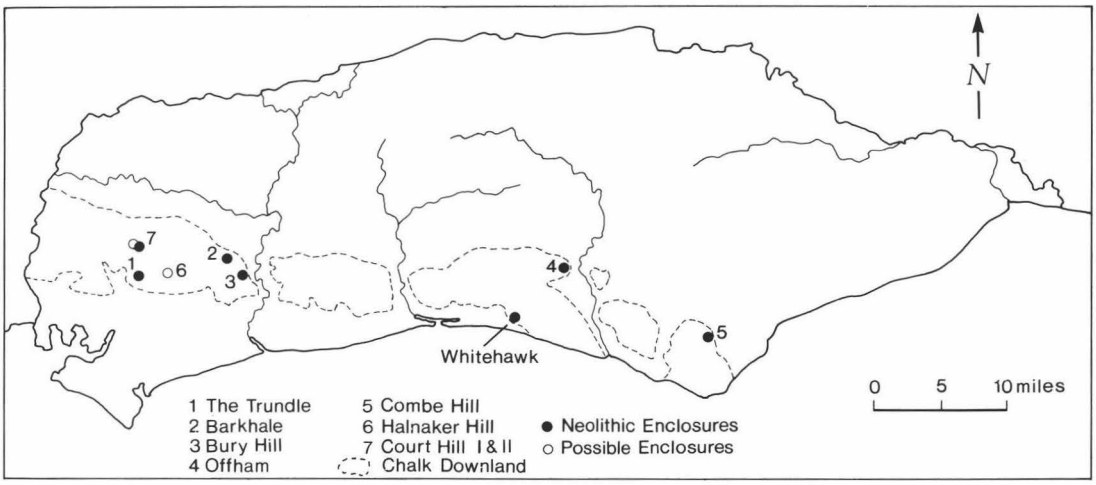

Fig. 1. Whitehawk Neolithic causewayed enclosure. Location plan and sites of other Neolithic enclosures in Sussex.

THE 1991 EXCAVATIONS

Excavation work commenced at Whitehawk following confirmation of the identification by the authors of part of a linear cut feature running across the approximate centre of the proposed development area. As this feature appeared to represent a continuation of the tangential ditch first identified during fieldwork conducted at the site in 1928 (Williamson 1930, 58–9; Curwen 1934, 99), it was considered important to identify, excavate and record as much of it as possible before any further areas of subsoil were removed (*see* below, Areas A and B).

For the rest of the development area it was decided to maintain a watching brief and, after topsoiling, to clean and carefully inspect the line of the southern end of the eastern fork of the development's road scheme (Fig. 3). Whilst most of the areas examined were devoid of archaeological finds, the southern end of the cleaned roadway revealed a concentration of features. This concentration is referred to as Area C. The main excavation of Areas A–C was conducted between the 1st and 26th April 1991.

Unfortunately, most of the land to the north of the exposed tangential ditch had been destroyed prior to archaeologists visiting the site. The full extent of archaeological features within the western margins of the Neolithic enclosure must therefore remain unknown.

AREAS A AND B

Methodology

All remaining vestiges of topsoil overburden were cleared from Area A by a 360° excavator using a ditching bucket 1.65 m wide. Once exposed, the chalk subsoil was cleaned by shovel scraping and the edges of the linear feature defined. All resultant spoil heaps were examined by hand for possible finds overlooked during the initial period of machine clearance.

An attempt was made to record the full length of the linear feature aligned north-west –south-east (Context 18), as first noted in March 1991. Some 69 metres were exposed within the initial area of machine clearance (Fig. 2, Area A), Unfortunately, an 11 m section of the western end of the trench had already been destroyed by the construction of an access road for works traffic. Owing to the constant flow of heavy vehicles at this point, it was felt prudent, for health and safety reasons, to avoid archaeological examination of the feature within a 6 m strip bordering either side of the road. Area B was cleared mechanically to the north-west of the existing access road in an attempt to trace any continuation of the linear feature. A 10.5 m strip of ditch was exposed here; it ended in a rounded terminal, some 12 metres from the western boundary of the development area (Figs 2, 3 & 4).

Excavation work commenced at the south-eastern end of the ditch, within the area earmarked for the construction of a second access road (Fig. 3).

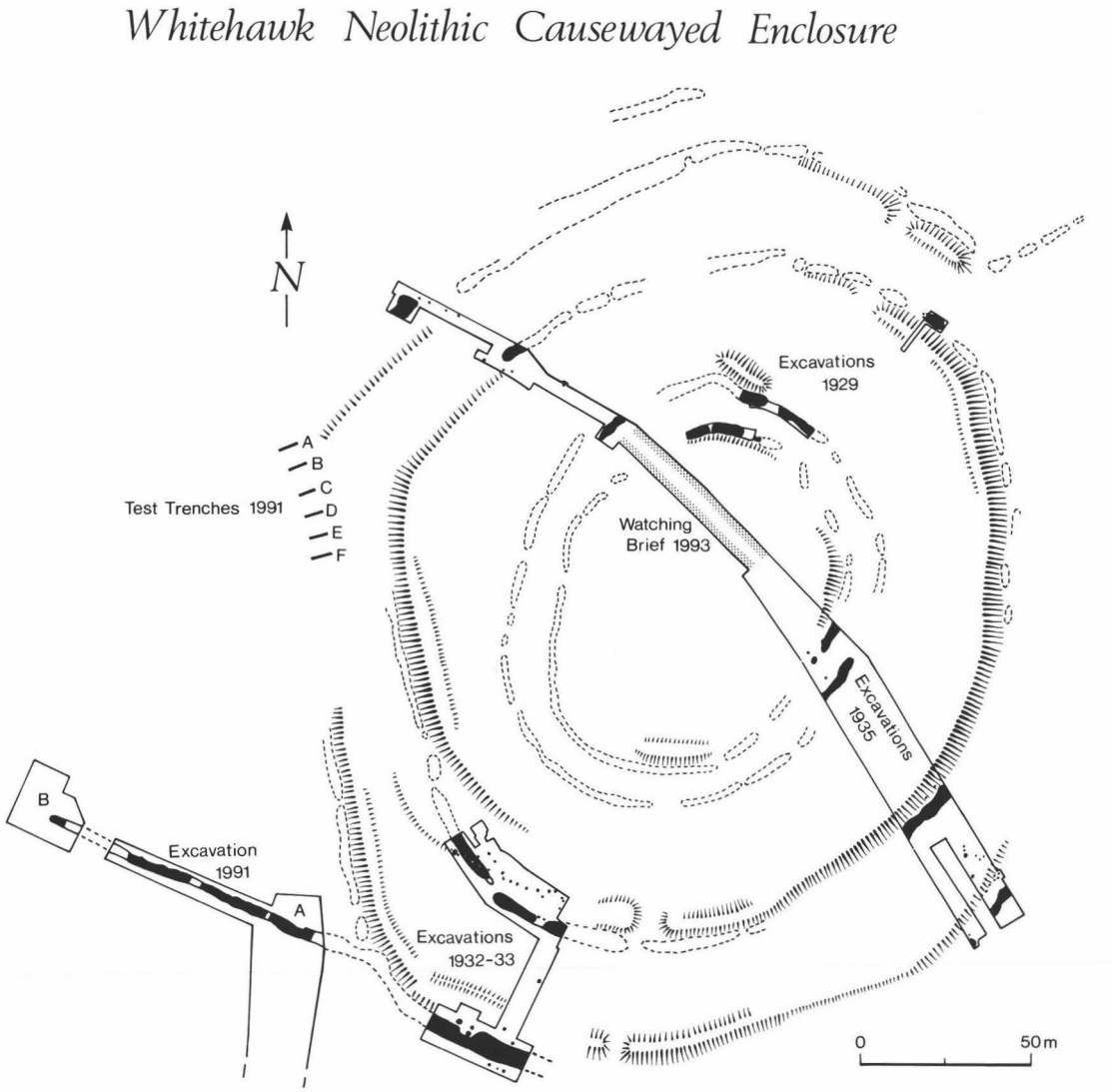

Fig. 2. Whitehawk Neolithic causewayed enclosure. Plan of the earthworks and the locations of all archaeological investigations at the site.

All fills within this part of the ditch were removed by hand and sections drawn at various intervals (Figs 5 & 13). A randomly selected 2 m square area of ditch wall between sections 2 and 3 (Fig. 4) was carefully cleaned with brushes in an attempt to record any constructional tool marks. An environmental column was also taken from section 2 (Fig. 13, *see* below report by Ken Thomas).

In order to speed up the recording works, thus preventing any costly delay in construction, it was decided that the central block of the ditch, between sections 5 and 7, would be emptied down to primary fills with the aid of a JCB excavator using a bucket 1.2 m wide. The mechanical extraction of these layers was carefully monitored and all resultant soils were examined for artefacts. The edges of the ditch were cleaned back with shovels and the surviving primary fills (*c.* 0.3–0.5 m deep) were removed by hand.

With the central area of the ditch recorded, work

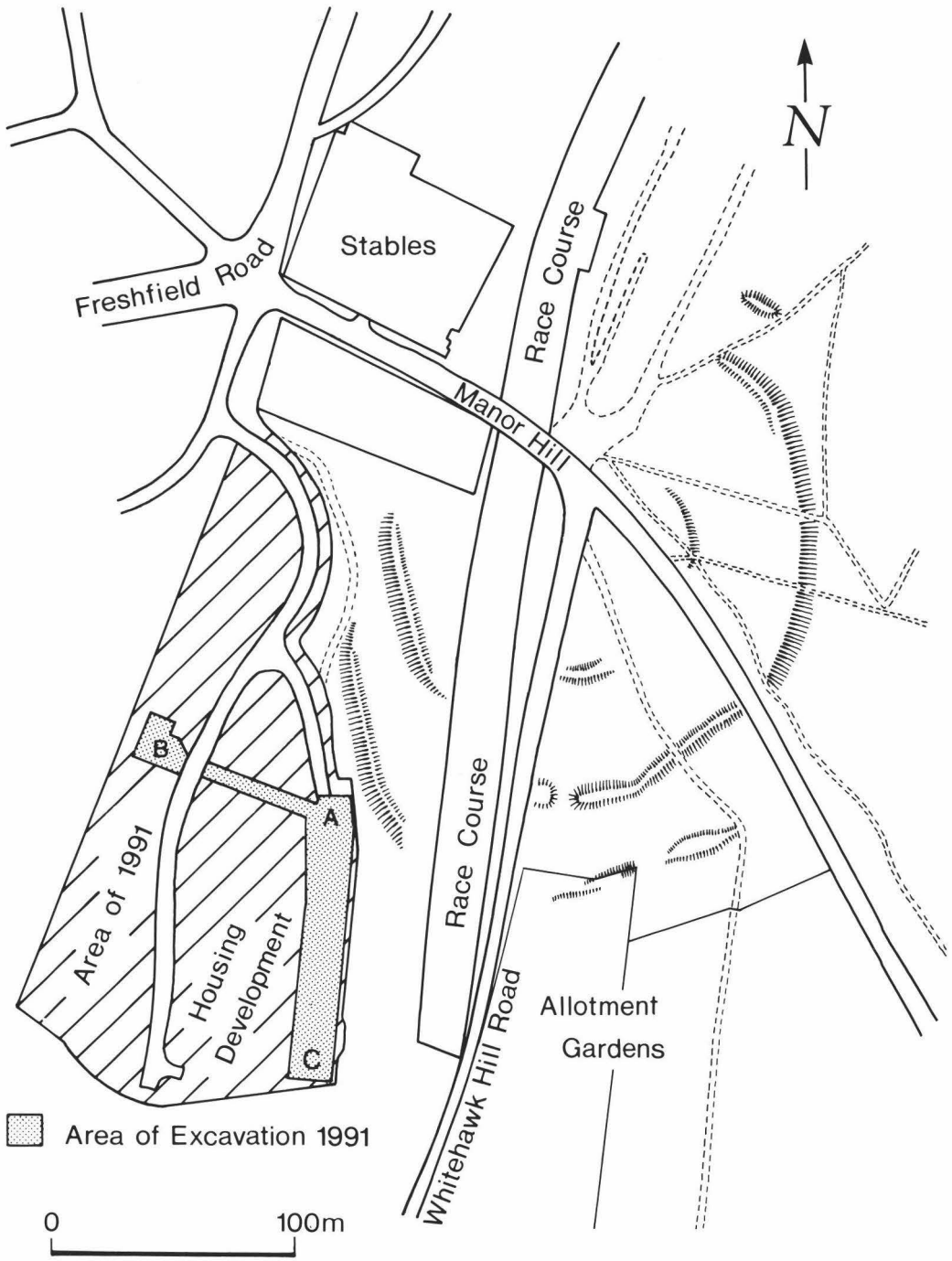

Fig. 3. Whitehawk 1991. Locations of the areas of housing development and archaeological excavations in relation to the Neolithic enclosure.

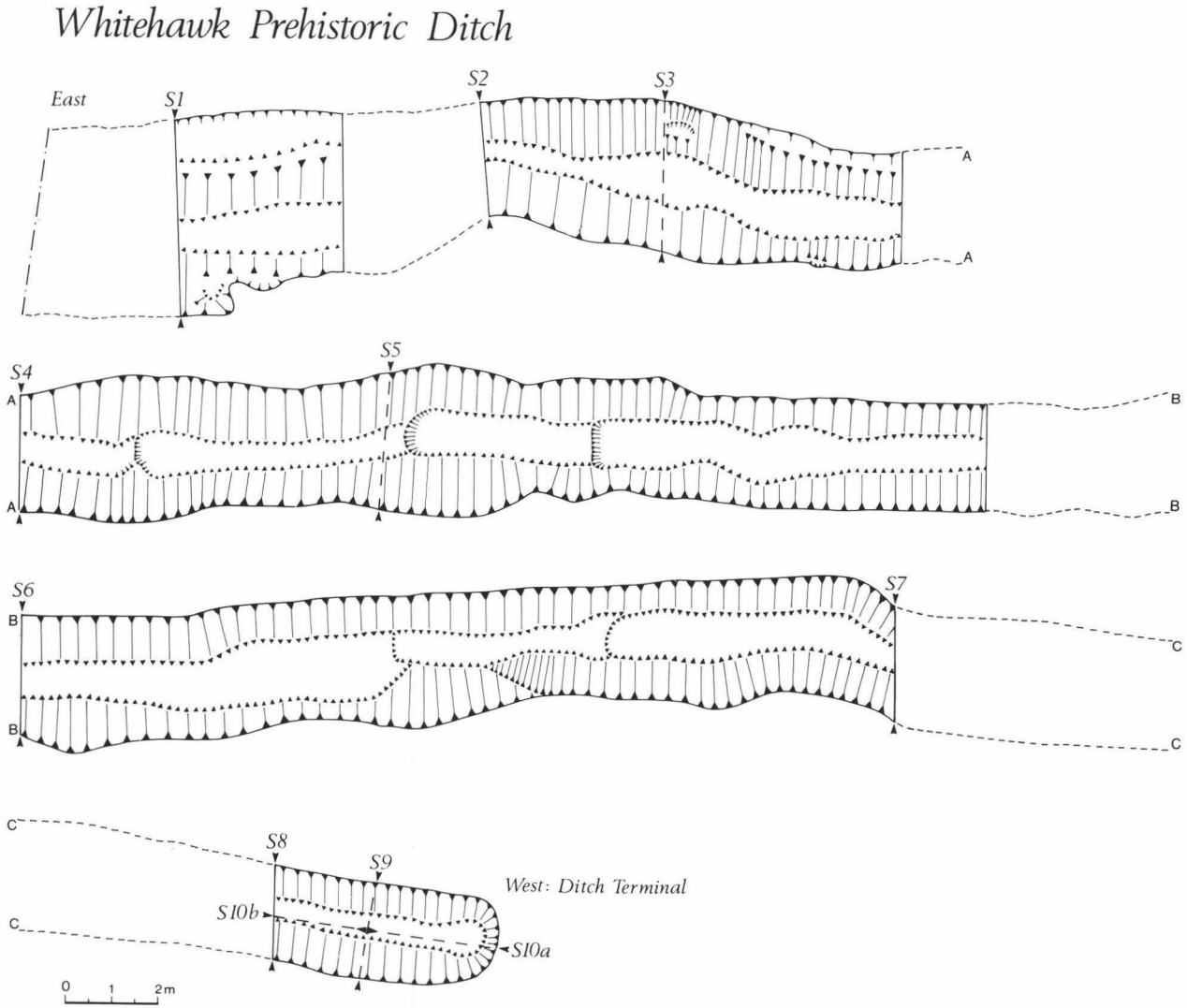

Fig. 4. Whitehawk 1991. Plan of the tangential ditch.

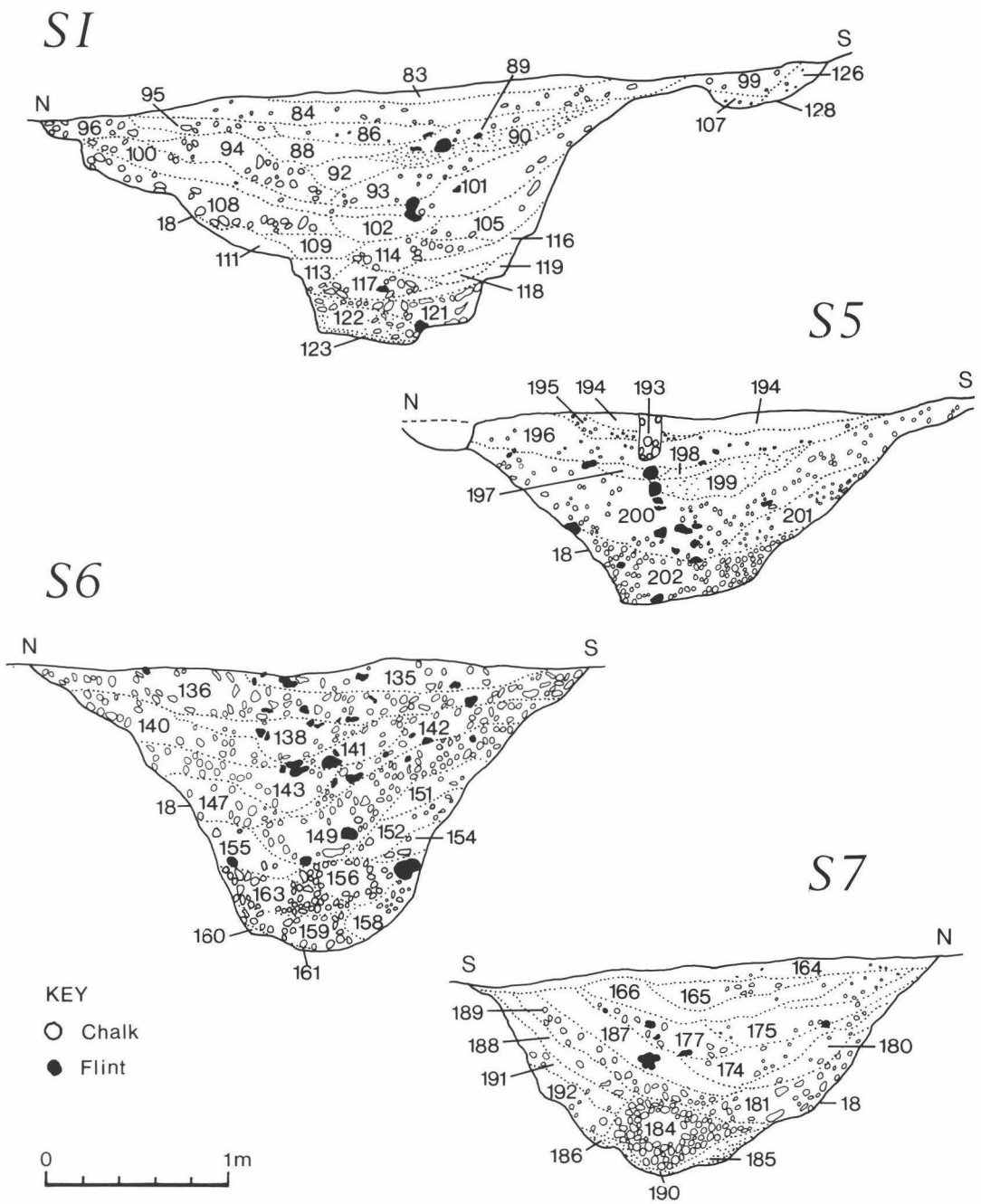

Fig. 5. Whitehawk 1991. Sections across the tangential ditch.

concentrated upon the exposed north-western terminal within Area B. This segment of ditch was quadranted, all fills being removed by hand. Opposing quadrants of fill were removed first (Fig. 6, section 10b; Fig. 7, sections 9 & 10a). Context numbers 212–223 were assigned to deposits within

the west and east quadrants and numbers 512–523 to their opposite counterparts within the north and south quadrants.

A 2–5 m strip was cleared on both sides of the ditch exposed within Areas A and B and a 20 × 20 m area was cleared around the north-western terminal. Both exercises were designed to locate any associated features.

Results

Context 18, as exposed within Areas A and B, consisted of an apparently single, linear, irregularly-sided feature. It was traced across the development area for a maximum length (assuming that the feature was originally continuous) of 90.5 m and it ended in a roughly rounded terminal (Fig. 4). No associated features were detected within the immediate vicinity of the ditch or within the general area of the western terminal.

The overall width and depth of the ditch varied considerably and it was clear that the feature had been constructed as a series of interconnected segments. Depth of stratigraphy within the ditch again varied, surviving to a maximum depth of 1.5 m (Fig. 5, section 6) and minimum depth of 1 m (Fig. 5, section 5). The edges of the ditch had, in most areas, been badly weathered, giving the feature a wide U-shaped section. Enough survived of the profile beneath primary silt accumulation, however, to suggest that the original form of the ditch had been that of a fairly steep-sided, roughly flat-bottomed 'V'. Twenty-four circular antler pick marks of conical section, and ranging between 16 and 28 mm in diameter, were recorded from within the 2 m square area of carefully cleaned ditch wall (*see* above).

Four basic units of soil accumulation were identified within the cut (*see also* Thomas, this report). Primary silting was represented by a thin (maximum thickness 40 mm), discontinuous deposit of silty clay (Contexts 17, 123, 160/1 & 190). This presumably represents soil which collected at the base of the cut within weeks of its original excavation (*cf.* Pitt-Rivers 1898, 25; Jewell & Dimbleby 1966, 314–15). No finds were recovered from this primary deposit. The secondary unit of soil accumulation, comprising around 60% of all recorded soil within the ditch, consisted of chalky loam with dense quantities of coarse chalk and flint rubble. These deposits, which were relatively consistent throughout the feature, presumably represent material weathered from the ditch edges. Some 70 unretouched flint flakes (Contexts 16, 102, 521 & 522) were recorded from this secondary deposit.

A series of finer silt loam soils covered the chalk rubble. These soils contained 588 unretouched flint flakes (Contexts 3, 4, 6, 136, 516, 517, 518, 519 & 520), 1 tool (Context 517), six flint cores (Contexts 517 & 519), three fragments of animal bone (Contexts 5, 81 & 518) and one sherd of East Sussex Ware (Context 518). Upper units of soil accumulation contained two fragments of animal bone (Contexts 513 & 527), 73 unretouched flakes (Contexts 2, 80 & 136), one sherd of Early Neolithic pottery (Context 530: residual?) and three fragments of Romano-British pottery (Context 530). A single cylindrical cut (Context 193), measuring 0.11 m in diameter and 0.25 m in depth, had been driven from the modern ground surface through upper soil units Contexts 194, 195, and 196 (Fig. 5, section 5) (*cf.* Curwen 1936, fig. E, iv). No finds were retrieved from the fill of this feature.

No evidence of a bank or rampart was recorded from either side of the ditch (Curwen (1934, 100) states that in 1928 no trace of an earthwork was noted within the area of the tangential ditch), though it must be noted that all major topsoil deposits, including any potential surface features, had been largely removed in the course of preliminary construction work and prior to the archaeological investigation. No obvious patterns of differential weathering, which could be used to postulate the former presence of a soil dump (*cf.* Atkinson 1957; Holden 1972, 89–90), were noted within the chalk bedrock, and no obvious traces of soil 'weighting' were detected within the fill of the ditch.

A second parallel linear cut feature (Context 128), measuring between *c.* 0.7 m in width and 0.2 m in depth, was recorded from the southern margin of Context 18 (Fig. 4; Fig. 5, section 1). The exact relationship and full extent of this 'shoulder' to Context 18 remains unknown, though a study of the observed stratigraphy would appear to indicate that its upper fill (Context 127) had been cut by the larger feature, making it stratigraphically earlier than Context 18. A single sherd of Early Neolithic pottery and four unretouched flakes were recovered from the upper level (Context 132) of Context 128 during initial topsoil clearance.

Interpretation

The linear feature recorded from within Areas A and B at Whitehawk would appear to represent the

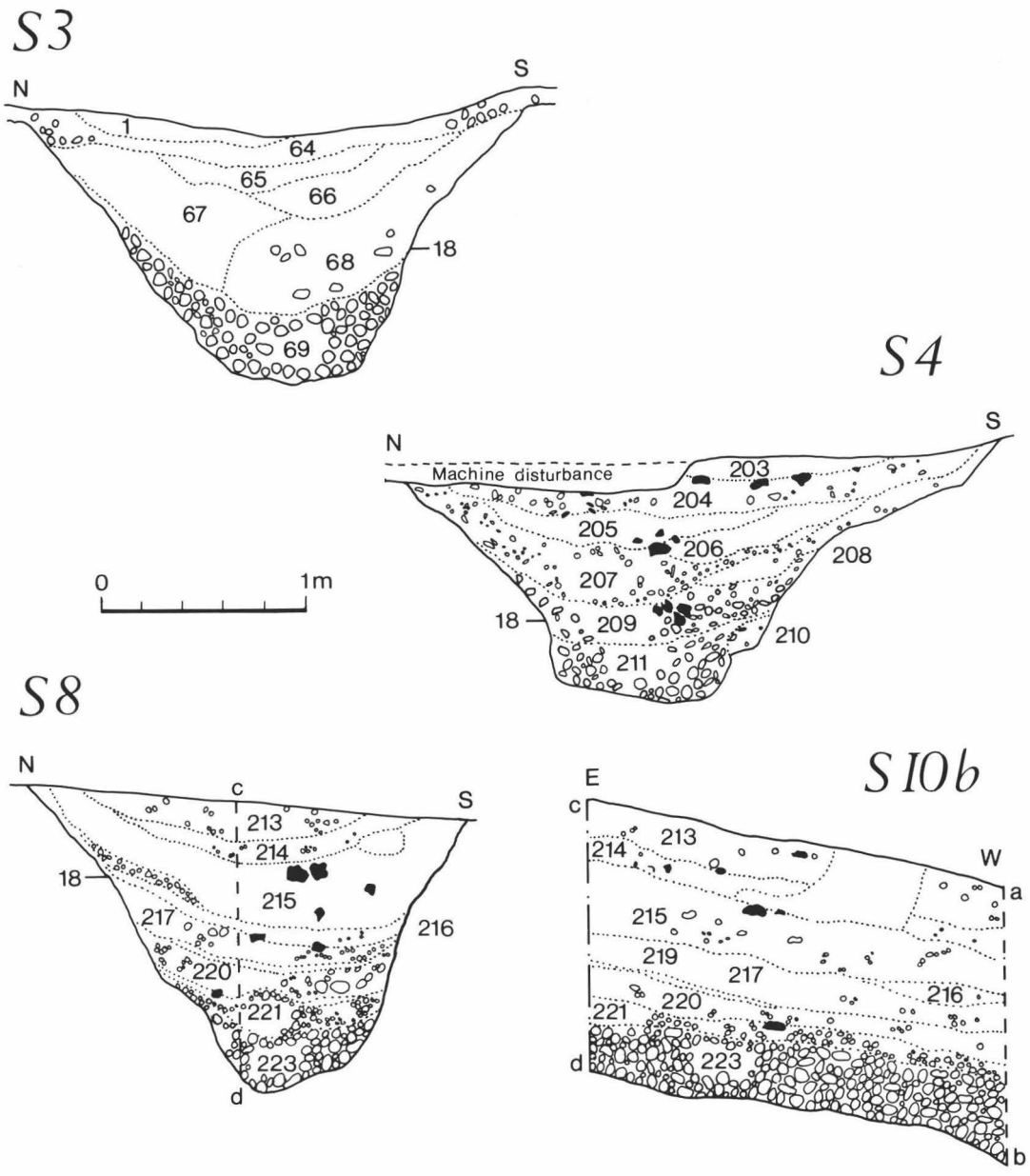

Fig. 6. Whitehawk 1991. Sections across the tangential ditch.

continuation of the 'tangential' ditch first plotted at the extreme south-western margins of the Neolithic enclosure in 1928. The constructional form of the ditch (a continuous, segmented cut) is consistent with the segment of ditch circuit 4, to which it is apparently joined (Curwen 1934, pl. xii and 101–4).

The artefactual assemblage recorded from circuit 4 is also comparable with the material retrieved from Context 18 excavated in 1991 (*see* Hamilton,

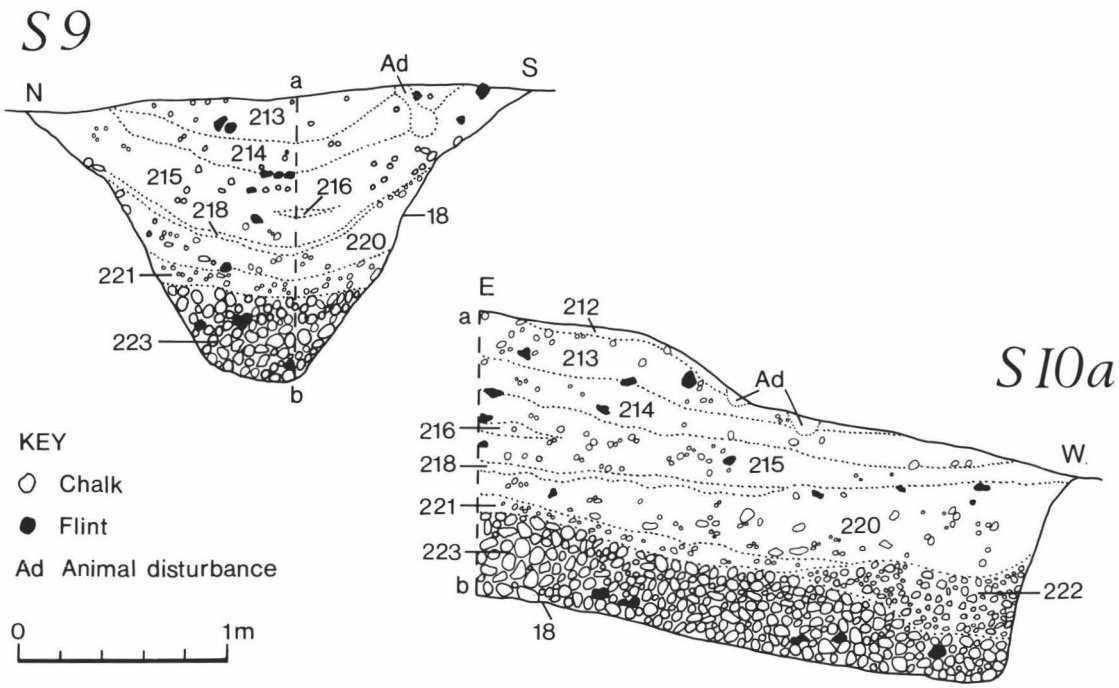

Fig. 7. Whitehawk 1991. Sections across the western terminal of the tangential ditch.

Underwood and Wood, this report), in that it consisted of small quantities of Early Neolithic pottery (10 of the 13 sherds retrieved apparently deriving from an earlier segment of ditch cut: *see* below), limited faunal remains (the celebrated roe-deer skeleton being located in a pit to the north of the feature and not from ditch fill accumulation: Curwen 1934, 102), 11 flint tools and 311 unretouched flint flakes (Curwen 1934, 104).

It is interesting to note that, in having tangential ditches (at the south-western and north-eastern peripheries) Whitehawk is not unique, for the Trundle, another multi-ditched Neolithic enclosure in Sussex, also possessed such a feature in the form of the so-called 'spiral' ditch extending from the south-western margins of the main enclosure circuit (Curwen 1929: *see* below). The full extent and form of the spiral ditch, and its relationship to the inner Neolithic circuit, are unfortunately unknown as the feature has never been tested by excavation.

The tangential ditches from Whitehawk and the 'spiral' ditch from the Trundle may originally have been cut in an attempt to separate significant portions of the surrounding landscape or to better define major points of approach or entrance (*see* below: Discussion). To search for a purely functional or 'rational' explanation for the ditches, in terms of defensive capability (*cf.* Williamson 1930, 57–9) or herd control/movement, is, however, probably misguided, for the structural and artefactual data so far compiled (Williamson 1930; Curwen 1929; 1931b; 1934; 1936; Bedwin 1981a) suggest that Whitehawk and the Trundle, were neither domestic centres nor centrally placed fortified enclosures.

The discovery of Romano-British pottery from the upper levels of the western terminal of Context 18 of 1991 may indicate a period of agricultural intensification within this area after the Roman conquest. Roman plough activity here, on the western slopes of Whitehawk Hill, may help to explain the 'invisibility' of the tangential ditch as a surface feature in more recent times. The full nature of post-Neolithic activity upon Whitehawk Hill is unclear, though Beaker, Bronze Age and Iron Age/Roman finds have been made from time to time (Horsfield 1824, 43; Curwen 1934; 1936; East Sussex County Council SMR TQ 30 SW 11) and it is clear that, prior to the modification of the race course in 1822, a series of round barrows of unknown date existed close to the outer circuits of the Neolithic enclosure (East Sussex County Council SMR TQ 30 SW 11).

AREA C

Methodology

In addition to Areas A and B, a further area (C) was cleared to the immediate south of Context 18, prior to the construction of a second access road. The full extent of Area C, as exposed, measured 21 × 96 m (Fig. 3). All topsoil was again mechanically stripped to the natural chalk bedrock, and then cleaned by shovel scraping. All sub-surface archaeological features found in this way were excavated by hand.

Results

Fifty-five features, ranging in size from 90 mm–2.2 m, and in depth from 14–24 mm, were recorded cutting into the chalk of Area C (see archive for further details). A concentration of such features was discovered at the southern end of Area C (Fig. 8, microfiche). Seven of the defined features appeared to represent root/burrowing disturbance, three represented areas of machine penetration, while a further eight were identified as natural solifluction hollows. No finds of pre-nineteenth-century date were retrieved from the remaining 37 features.

The partial remains of an articulated dog burial were retrieved from Context 10, at the southern end of the trench, and a small group of juvenile dog bones was recorded from Context 37 (Fig. 8, microfiche; *see* Wood, this report). A group of six small, roughly circular cuts (Contexts 54, 55, 56, 57, 59 & 62: Fig. 8, microfiche), averaging 0.4 m in diameter and 0.3 m in depth, was recorded from the extreme southerly end of Area C. The features appeared to define an arc of 7.1 m internal diameter. No datable finds were retrieved from the fills of these features, though a small amount of fire-cracked flint (15 g) was noted from within the upper fill of Context 57. Context 62 had been extensively disturbed, at its north-eastern edge, by the insertion of an iron bar. A series of five circular stake-holes (Fig. 8, microfiche) was recorded to the immediate north-east of Contexts 57 and 59.

Interpretation

None of the features recorded from within Area C could conclusively be shown to be of pre-nineteenth-century date. This is interesting considering that Whitehawk Hill has been the focus of a wide range of comparatively recent activities, not only the digging and maintenance of allotments and market gardens, but also of periodic fairs and horse racing (*cf.* Curwen 1934, 101). All these pursuits will have involved some form of ground disturbance, usually for the construction of temporary/semi-permanent buildings. It is within this category that the series of post- and stake-holes, together with the dog burials, recorded from the southern margins of Area C may, without further dating evidence, be assigned.

THE TRIAL TRENCHES (A–F)

Methodology

During August 1991 Brighton Borough Council asked the Field Archaeology Unit to provide an archaeological assessment of a series of six test trenches cut through an area of disused track to the immediate north-east of the main housing development (Fig. 2) and excluded from the scheduled area at that time. These trenches had been hand cut by the developers in an attempt to define the extent of a nineteenth-century bottle dump which had threatened ground stability within this area.

The trenches had an average length of 3.6 m and were 0.8 m wide (Fig. 9, microfiche). Only one trench (D) had been excavated down to the natural chalk, a depth of 1.1 m from present ground surface. The sections within all six trenches were cleaned by hand and the stratigraphy recorded (Figs 10 & 11, microfiche). No further excavation was conducted within the area of the trenches, though all loose soil was removed to facilitate recording. All trenches were backfilled on completion of the assessment.

Results

Trench B partially disturbed the nineteenth-century rubbish dump (Context 512). Fragments of over 230 bottles were recovered from this deposit, together with pieces of mussel shell, corroded ironwork and two fragments of clay pipe. Trenches C and D exposed a series of chalk loam deposits (trench C, Contexts 502, 503, 504 & 505; trench D, Contexts 508, 509 & 510), dropping westwards. No datable artefacts were recovered from these layers. The stratigraphy within trenches A, E and F consisted of archaeologically sterile topsoil and deposits laid to make up the trackway.

Interpretation

It is possible that the soil 'dump' deposits recorded from trenches C and D represent the remains of a section of slumped earthen bank, with the area of nineteenth-century refuse, noted within trench B, representing 'modern' rubbish deposits within the outer hollow of an enclosing ditch (in much the

same way as modern rubbish was, until recently, accumulating within the east-facing ditch hollows of the Neolithic enclosure).

Although the exact location of circuit 4 of the Neolithic enclosure, as originally defined in the 1928 survey, remains unknown within this area owing to the position of the trackway and the former presence of allotments (Williamson 1930, pl. I; Curwen 1934, 99), it is clear that if the line of bank and ditch here was originally parallel to that of circuit 3 (Fig. 2), it would have been bisected at some point by trenches A–E. The possibility therefore exists that the deposits recorded within trenches B, C and D represent the denuded remains of the fourth circuit of the Neolithic enclosure (Fig. 9, microfiche). Lack of datable material from the supposed bank deposits unfortunately precludes a definitive statement at this time.

THE 1993 WATCHING BRIEFS

The two enhancement schemes undertaken in 1993 (*see* above: Introduction) required supervision/observation by an archaeologist. This work was undertaken by Patrick Murray, who produced an assessment report upon completion of the fieldwork (Murray 1993).

METHODOLOGY

The supervision of the removal of the chalk bunding which had been deposited on land to the south of Manor Hill (Figs 2 & 3) was required by English Heritage in order to ensure that no damage occurred to the underlying archaeological features and deposits. The chalk overburden was removed with the use of a mechanical excavator in the first instance (i.e. the upper levels), and then by hand only. The chalk deposits were successfully removed without any disturbance to the scheduled ancient monument.

The watching brief associated with the erection of 88 bollards and 4 gates to prevent vehicular access (*see* above: Introduction) involved observation during the cutting of the holes for the posts. An inspection was made to see if any archaeological features or deposits had been disturbed, and all removed soil was examined for finds. Bollards 1–52 and gate A were positioned on the south side of Manor Hill; bollards 53–82 and gate B were positioned on the north side of Manor Hill and bollards 83–88 and gates C and D were located in Whitehawk Hill. The bollards are *c.* 110 mm in diameter, and the holes cut for them averaged *c.* 600 mm deep.

RESULTS

The watching brief undertaken during the erection of the bollards and gates revealed no archaeological features. In most cases the bollard holes were cut through disturbed or made-up ground containing modern material. Archaeological finds were limited to a number of flint flakes.

THE FINDS

THE WORKED FLINT By David Underwood

A total of 1102 humanly struck flints was recovered from the 1991 excavations (Areas A–C). The raw material is nodular chalk flint with unabraded cortex. Such flint occurs naturally in the chalk into which the Whitehawk enclosure ditches were dug — the material could therefore have been extracted from the upcast. Flaked surfaces are patinated matt white. The composition of the assemblage was as follows: 1087 unretouched flakes; 3 tools (a small convex scraper on a flake, a retouched flake and a severely fire-damaged hammerstone); and 12 cores.

A small sample of 50 flakes was extracted from the fill of the tangential ditch (Contexts 517 & 518) for attribute analysis. The results show a mean breadth:length ratio around 4:5. It is noticeable that flake-striking platforms tend to be large in relation to the overall width and thickness of the flake. There are no soft-hammer struck flakes in the entire assemblage — this was confirmed by an inspection of all flakes, not just the measured sample. Parallel flake edges and prepared striking platforms are rare. Pairs of conjoining flakes were found in Contexts 517 and 524. In each case it was clear that successive flakes had been removed without any intervening preparation of the striking platform. All the cores recovered are flake cores, the majority being irregular multi-platform cores. Deep hinge terminations to flake negatives are noticeable on one example. The two retouched pieces found are basic flake tools and are not chronologically sensitive. They are both formed by non-invasive retouch of hard-hammer flake blanks.

Catalogue of illustrated pieces (Fig. 12)

1. Small convex ('button') scaper on hard-hammer flake. Context 133.
2. Retouched flake; hard-hammer flake with non-invasive retouch on one lateral edge. Context 517.

3–5. Flake cores. Context 517.

6. Polygonal flake core. Context 2.
7. Flake core with single platform. Context 4.

Discussion

The flintwork recovered from the 1991 excavations has more in common with later Bronze Age assemblages (Underwood, in Rudling forthcoming) from Downsview and Mile Oak (two settlement sites excavated in advance of the construction of the A27 Brighton Bypass), than with Neolithic assemblages from the region. At the Offham causewayed enclosure (Drewett

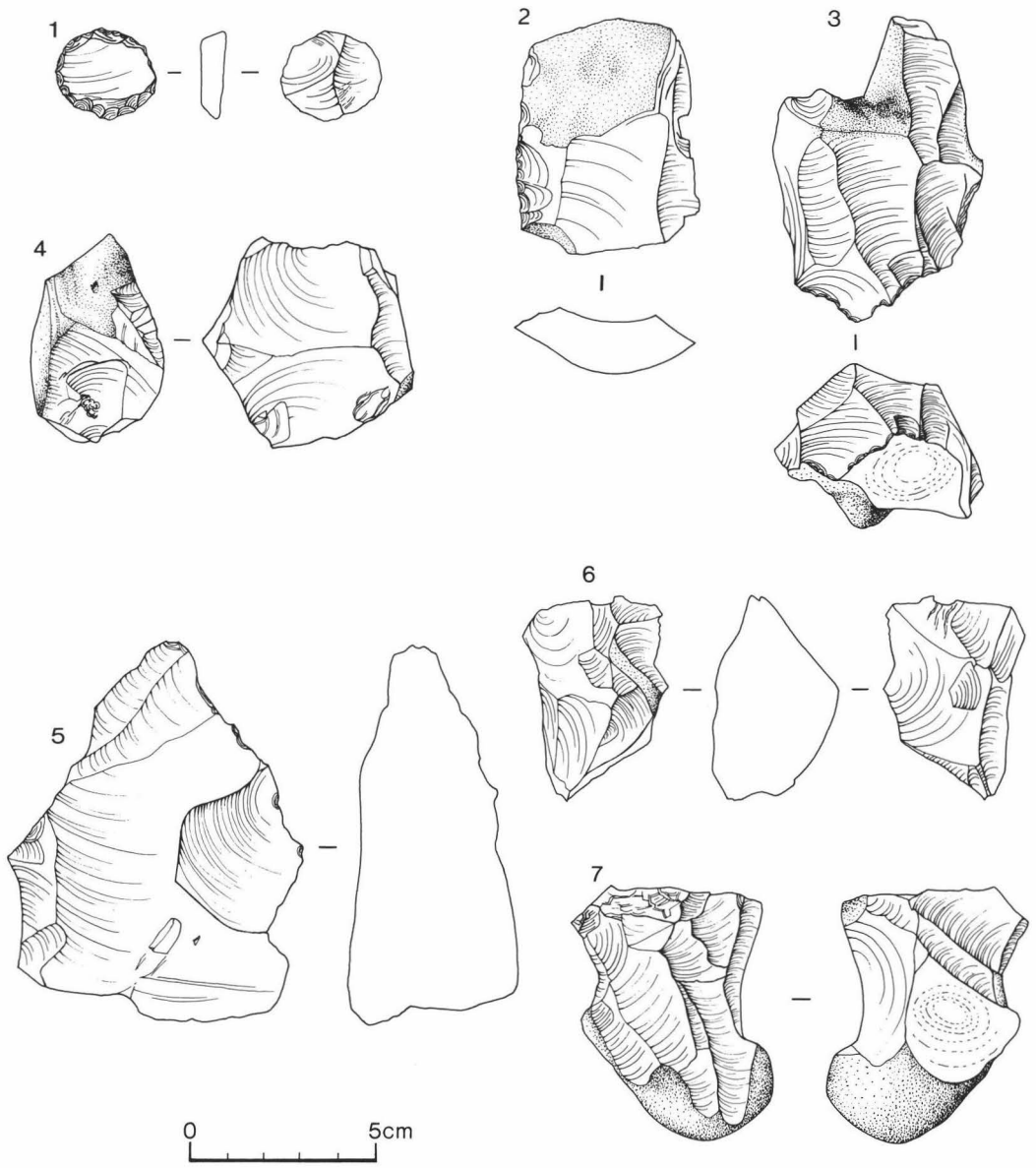

Fig. 12. Whitehawk 1991. Flintwork.

1977) characteristic Neolithic invasively-flaked tool forms were recovered; these are absent at Whitehawk. The complete absence of soft-hammer struck pieces is at odds with the Neolithic domestic assemblage at Bullock Down (Holgate 1988) and is suggestive of a later period (*cf.* Place 1985). The overall lack of standardization and control in flaking, and the tendency towards relatively squat flakes, are consistent with the trends documented by Ford *et al.* (1984) as typical of the Late Bronze Age. With regard to the Neolithic, the apparent crudeness of the flintwork recovered from the tangential ditch at Whitehawk may be explicable in terms of technology: this material represents the waste from the initial roughing-out of flint nodules procured during excavation of the ditch, and finer flintworking took place elsewhere. It must be pointed out, however, that the crude appearance of the few cores discarded in these contexts does not support this idea.

THE POTTERY AND ITS IMPLICATIONS

By Sue Hamilton

A total of sixteen sherds was recovered during the 1991 excavations at Whitehawk. Two of these sherds can be attributed to the important and quite substantial Early Neolithic assemblage already recovered from the site (Williamson 1930; Curwen 1934). The remaining sherds are Romano-British.

The Neolithic sherds are undecorated body sherds and lack evidence of vessel form. These sherds are ascribed to the Early Neolithic on the basis of their fabric characteristics (*see* below). One of them was the only pottery find from Context 132 (a fill of linear cut Context 128) to the immediate south of the tangential ditch. The other Neolithic sherd may have been residual as it was retrieved during initial machine clearance, with five Romano-British East Sussex Ware sherds from the upper soil (Context 530) of the western terminal to the tangential ditch.

It is now clear that the pattern of Neolithic artefact deposition on causewayed enclosures was neither random nor uniform. Concentration of pottery finds in inner ditch circuits and ditch terminals or buff ends is a recurrent theme at certain sites (Robertson-Mackay 1987, table 1, 36, 55). With this in mind the minimal quantity of pottery recovered from the 1991 excavations at Whitehawk is notable. It mirrors Curwen's (1934, 104 & 111) observation of a lack of pottery in the fourth, outer ditch compared with the significant quantities of Early Neolithic pottery recovered from the inner ditches (Williamson 1930). Such patterning may have been controlled by the practicalities of settlement refuse disposal, or by a more abstract ideology of 'refuse' deposition/disposal.

Curwen's excavations recovered Beaker pottery from a pit, and from the outer ditch circuits. This Beaker pottery from the ditch circuits was separated from the Early Neolithic accumulation by a sterile band of silt (Curwen 1934, fig. 4, 112). This pre-Beaker ditch infill would have negated the primary morphological function of the site. It is possible, however, that the site retained some of its original locational or ideological significance during the Beaker period. No Beaker pottery was recovered from the 1991 excavations but the lack of any post-Beaker prehistoric pottery from these excavations may be of significance in relation to a consideration of the Roman sherds (*see* below).

Two Romano-British fabric types were present (*see* below). Romano-British sherds were recovered from upper soil contexts (Context 80: 1 sherd Fabric RB2; Context 131: 7 sherds Fabric RB1; Context 518: 1 sherd Fabric RB2; Context 530: 5 sherds Fabric RB1). Seven of the East Sussex Ware (Fabric RB1) sherds came from a single flat base. The remaining Romano-British sherds were undecorated body sherds. The large time gap between this pottery and the Late Neolithic Beaker finds may suggest that it took until at least the early 1st century AD before there was local population pressure significant enough for this previously 'respected' tract of land to be incorporated into settlement or agricultural use again.

POTTERY FABRICS

Early Neolithic fabrics

Fabric N1: Coarse flint-tempered

This is a buff/red coloured fabric with sherd thickness of approximately 8 mm. The flint inclusions are quite abundantly present and measure up to pebble size (5 mm). The matrix also has a scattering of medium sand grade quartz. This fabric is equivalent to Piggott's Whitehawk Fabric 'a' (Curwen 1934, 114) and compares with the Neolithic Fabric D from Bishopstone (Bell 1977, 18).

Fabric N2: Fineware with some fine flint

This fineware is reduced black/dark brown throughout. It has a small quantity of 'fine', medium sand grade (<0.5 mm) flint tempering and small quantities of medium sand grade quartz inclusions. Sherd thickness is approximately 6 mm. This fabric is the equivalent of Piggott's Whitehawk Fabric 'b' (Curwen 1934, 114) and comparable to Bishopstone Neolithic Fabric C (Bell 1977, 17).

Romano-British fabrics

Fabric RB1: East Sussex Ware

This fabric is extensively described by Green (1980). The variant of this fabric present at Whitehawk includes fossil shell inclusions and the fabric is well-smoothed.

Fabric RB2: Fine 'grey' ware

This is an evenly-fired dark grey ware tempered with abundant fine (<0.25 mm) quartz sand. The sherd thickness is approximately 6 mm.

FAUNAL REMAINS By Wendy Wood

In total 166 fragments of animal bone were recovered from the 1991 excavations. Of these, 138 (83.13%) could be identified according to anatomical part and species. Many of the bones are very fragmentary and considerably eroded, making the identification of pathological conditions difficult.

The majority of the recorded bone assemblage is undated, having been retrieved from modern/disturbed contexts, machine clearance levels and shallow features to the south of the tangential ditch, and thus unfortunately does not provide useful data concerning the prehistoric economy of the site. Most bone finds probably represent the end result of a particular subsistence strategy and have become incorporated into archaeological contexts as food refuse. A fairly diverse species sample has been recovered, including both fish and bird remains, representing refuse disposal of various periods.

In only six cases could faunal remains recovered during the 1991 excavations be securely tied to prehistoric ditch fill deposits: Context 5 (horse metapodial); Context 80 (cow cervical vertebra); Context 81 (horse metapodial); Context 513 (horse metapodial); Context 518 (sheep/goat metacarpal); Context 527 (cow scapula).

A full report on all the bone finds made during the 1991 excavation forms part of the site archive.

A CONTRIBUTION TO THE ENVIRONMENTAL HISTORY OF WHITEHAWK NEOLITHIC ENCLOSURE

By Ken Thomas

(with technical assistance from S. Bloor and S. Mellalieu)

The 1991 rescue excavation of one of the tangential ditches of the causewayed enclosure at Whitehawk, near Brighton, produced a series of soil samples for analysis and environmental interpretation.

The author is grateful to Stan Bloor and Simeon Mellalieu (then undergraduates at the Institute of Archaeology) for undertaking the laboratory extraction of the land molluscs from the samples and for sorting many of the specimens into general species groups.

The samples

The soil samples analyzed here were taken as a column through the complete sequence of sediments exposed in the ditch section (Fig. 13). Samples were taken at 55 mm intervals, except for two at 0.40–0.43 m and 0.43–0.45 m. There was considerable variation in the deposits in the ditch, from the modern thin relatively stone-free soil to the lowest deposits which were dominated by chalk fragments. Each sample was air-dried and then weighed; the weights of the samples processed are given in Table 1. Each sample was processed for the recovery of shells of land snails, following the general procedures given by Evans (1972).

The chalk and flint fragments recovered were fractionated on 4.0 mm, 2.0 mm, 1.0 mm, 0.71 mm and 0.5 mm mesh sieves, and each fraction weighed. All identifiable fragments of land snails, down to 0.5 mm in size, were recovered, identified and counted. Table 1 shows the general results of the particle-size distributions of the samples (only the very coarse and very fine fractions are given here). Unfortunately, the fractions from sample number 2 were lost before they could be weighed.

The data in Table 1 show some interesting trends. The surface soil (sample 1, 0–50 mm) is quite fine, but the samples become coarser with depth down to the base of sample 6 (300 mm), when the sediments become very fine again down to the base of sample 11 (at 500 mm). They remain moderately fine down to sample 15 (650–700 mm), when there starts a progressive and rapid coarsening, with increasing amounts of chalk in the medium to coarse gravel fraction. From sample 18 downwards (0.8–1.6 m) there is a remarkably constant pattern of predominantly coarse chalky material (ranging between 60 and 80 per cent, by weight) with fine soil material in the interstices (ranging between 20–40 per cent by weight). These relatively constant values, coupled with the very low densities of mollusc shells in the samples, suggest that the lower 67% of the fill of the ditch probably accumulated quite quickly, under fairly constant conditions of erosion (i.e. relative constancy both of erosive forces and the nature of the sediment supply).

The overall interpretation of the sedimentary data from the ditch samples is that the ditch filled in quite rapidly, or under fairly constant environmental conditions, for some two-thirds of its depth. This was followed by a slowing down, possibly resulting in a standstill at around 300–450 mm, when a soil might have started to develop. This is shown both by a marked change in the sediments in this part of the ditch, and by a huge increase in the density of snail shells recovered (Table 1). After this there was an acceleration of the process of infill, with coarser deposits entering the ditch and causing it to fill up to its present extent; the modern thin soil is developed in these last deposits.

The land snail assemblages

The density of land snail shells in the samples is shown in Table 1, having been corrected for variation in original sample size. Unfortunately, the specimens recovered from samples 12 and 16 were accidentally mixed, and have therefore been lost to this analysis (although no species were present in the resulting mixed assemblage which were not also found in adjacent samples; the total mixed assemblage contained only 52 specimens from 10 taxa, indicating that the dramatic decline in the numbers and diversity of snails recovered from the majority of the deeper samples must have started around sample 12, i.e. from about 0.5 m downwards in the sequence).

The taxa of land molluscs recovered are listed in Table 2 (a & b), the numbers of specimens recovered from each sample being shown. Many of the shells were in very good condition, although some were badly encrusted with redeposited chalk. Some specimens were, however, severely eroded, probably because they had been incorporated in these deposits as shells which were already residual from much earlier environments. Many of the apices of *Pomatias elegans*, and all of the apices of *Cochlodina laminata* and *Clausilia bidentata*, are probably residual. However, shells of *Pomatias elegans* from samples 32 (1.5–1.55 m), 29 (1.35–1.40 m), 23 (1.05–1.10 m), and 13 (0.55–0.6 m) were in good condition and probably represent individuals living in the ditch, or on its chalky sides.

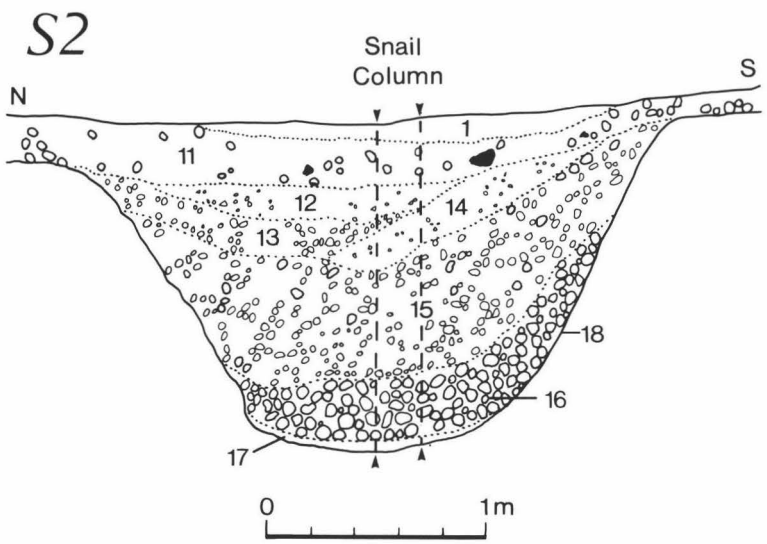

Fig. 13. Whitehawk 1991. Section 2 across the tangential ditch.

The most striking features of the mollusc assemblages are their low taxonomic diversity, with no assemblage having more than 14 taxa (and most having considerably less) and the dramatic change in the abundance of molluscs after sample 11 (from 0.5 m downwards). The small assemblages, not surprisingly, also have low taxonomic diversity. The sudden change in the abundance of snail shells has been interpreted above in terms of the rapidity with which the ditch gained some two-thirds of its fill. This was probably not favourable to snails living in the ditch at various times, and also might have lead to the destruction of the delicate shells of some species.

The variation in abundance of mollusc shells through the top 0.5 m of the sequence (Table 1) probably relates to their incorporation in more slowly accumulating deposits, and in slowly developing soils. It has already been suggested that a soil might have developed in the deposits spanning samples 7 to 11. There is a significant increase in the abundance of snail shells in these samples which might support this hypothesis. Detailed interpretation of these assemblages is difficult because if they are, indeed, associated with two soil-forming episodes (one at around 0.3 m and the other at the present-day surface), then bioturbation in those soils would inevitably have caused some degree of mixing (Carter 1990). However, the general ecological implications of the assemblages are fairly clear.

Table 1. Particle size composition of the Whitehawk mollusc samples and shell densities.

Sample Total number	weight	%> 4 mm	%< 0.5 mm	No. of shells kg^{-1}
1	1077	12.4	84.8	246
2	1695	*	*	275
3	1621	37.8	54.8	583
4	1709	40.3	49.7	382
5	1097	37.1	50.7	374
6	1013	30.0	54.7	441
7	1246	11.0	79.0	661
8	977	6.5	77.2	767
9	546	9.4	75.8	850
10	426	9.6	71.1	636
11	1348	16.0	82.6	284
12	1369	18.4	52.2	#
13	1110	17.9	50.2	19
14	974	18.7	51.9	16
15	927	21.6	51.7	19
16	1460	37.6	40.3	#
17	1491	54.7	29.9	6
18	1074	65.5	27.6	6
19	1495	67.4	28.0	10
20	1355	67.3	28.4	37
21	1450	72.3	24.7	12
22	1150	74.1	24.5	4
23	1720	70.0	27.1	22
24	1558	72.4	25.0	19
25	829	78.2	21.0	1
26	778	77.5	21.9	1
27	1040	75.6	23.4	5
28	1337	76.6	22.4	1
29	944	73.3	25.3	1
30	1029	77.0	22.0	0
31	1252	73.2	23.9	2
32	1675	66.1	27.7	8
33	791	56.3	33.9	6

* Fractions lost before weighing.
\# Shells extracted from samples 12 and 16 accidentally mixed (see text for comments).

Ecological interpretation of the assemblages of snails

Despite the presence of some shade-loving species, the assemblages shown in Table 2 (a & b) are dominated by open-country species, especially those of short-turfed grassland. Even the very impoverished samples (from sample 13 down) have a consistent representation of open-ground, mainly grassland, taxa, including *Pupilla muscorum*, *Vallonia species*, and *Helicella itala*.

As noted above, some of the shade lovers are probably residual shells from some earlier woodland episode, which is not clearly attested from the data presented here (but *see* the discussion below). Some of the well-preserved shells of shade-loving species such as *Carychium tridentatum* and *Aegopinella pura* must have come from snails living near, or in the ditch. However, such species are not obligate woodland forms, and have been recorded in long grass and other locally shaded microhabitats (Cameron & Morgan-Huws 1975). *Discus*, *Oxychilus* and *Vitrea*, as well as *Trichia striolata*, all found here, have been recorded by Evans and Jones (1973) as being frequent in some rock-rubble habitats (although on limestone bedrocks, rather than the Chalk). In short, none of the relatively infrequent shade-loving species encountered in these assemblages are necessarily indicative of woodland or even scrub environments; all could have survived in the sheltered microhabitat of the ditch, especially if it was, at times, well-vegetated with tussocky grasses and other plants.

The traditional method of analyzing assemblages of land snails is to assign each species to an 'ecological group' (*see* Thomas 1985 for a discussion), and to make an interpretation based on the most prevalent ecological group, or groups. Recently, Evans (1991) has attempted to loosen this esentially uniformitarian link between ancient snails and their modern counterparts by identifying recurring associations ('taxocenes') of species in ancient autochthonous assemblages, and using these to interpret past ecological conditions. Table 3 shows the frequencies of Evans' 'dry-ground taxocene' represented in the Whitehawk assemblages. This taxocene is characterized by *Pupilla*, *Vertigo*, *Vallonia* and *Helicella*, along with four 'subsidiary taxa': *Pomatias*, *Cochlicopa*, *Limacidae* and *Trichia hispida* (Evans 1991, 80–81). [Note: in this Table I have put together the assemblages from some very small samples, and I have included all *Pomatias* (even though some are probably residual). Even if this procedure is invalid, the numbers involved are so small as to make very little difference overall.] It is clear from both Table 2 (a & b) and Table 3 that the assemblages of snails from the ditch overwhelmingly indicate dry open-ground conditions throughout. It is probable that the ditch was dug in an open, essentially grassland environment, and that such habitats persisted throughout the unknown period over which the ditch filled in.

Discussion

This section falls into two parts. Firstly, there is a consideration of these results in relation to earlier work on molluscs from this site. Secondly, the results are compared with those from other causewayed enclosures in Sussex.

Table 2(a). Absolute frequencies of land molluscs from Whitehawk.

Sample No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**13**	**14**	**15**
Depth (cm)	**0–5**	**5–10**	**10–15**	**15–20**	**20–25**	**25–30**	**30–35**	**35–40**	**40–43**	**43–45**	**45–50**	**55–60**	**60–65**	**65–70**
Pomatias elegans (Müller)	2	11	6	9	5	6	2	1	–	–	3	4	5	6
Carychium tridentatum (Risso)	–	–	–	–	–	–	–	–	–	–	1			
Cochlicopa lubrica (Müller)		1	5	2	4	5	20	5	1	4	–	–	–	
Cochlicopa lubricella (Porro)	1		2	6	3	2	10	7	3	3	–	–	–	–
Cochlicopa sp.	1	3	5	16	9	11	33	12	16	7	14		–	1
Vertigo pygmaea (Draparnaud)	5	14	11	4	7	10	24	28	20	7	14	–	–	–
Pupilla muscorum (Linn.)	177	332	471	357	228	230	357	363	208	118	177	10	5	6
Vallonia costata (Müller)		6	8	14	25	44	51	102	43	25	44	1	–	2
Vallonia excentrica (Sterki)	11	24	54	54	47	44	131	54	53	42	38	1	–	–
Vallonia sp.	–	9	–	–	–	6	23	3	14	10	22	–	1	–
Punctum pygmaeum (Draparnaud)	–	1	–	1	–	1	12	5	7	2	11	1	–	–
Discus rotundatus (Müller)	–	–	1	–	1	–	–	–	–	–	–	–	–	–
Arionidae	–	–	–	–	–	–	–	–	–	–	+	–	+	–
Vitrina pellucida (Müller)	–	–	–	–	–	–	2	11	2	–	1	–	–	1
Nesovitrea hammonis (Ström)	–	4	4	–	–	1	–	1	–	1	–	1	–	
Aegopinella pura (Alder)	1	–	–	–	–		5	–	4	–	–	–	–	–
Aegopinella sp.	–	–	–	–	–	–	–	–	–	1	1	–	–	
Oxychilus sp.	–	–	–	–	–	–	–		–	–	–	–	–	
Limacidae	–	–	–	–	–	–	–		–	–	3	–	–	
Cecilioides acicula (Müller)	2	3	1	8	3	6	1	–	–	–	–	–	–	1
Cochlodina laminata (Montagu)	–	–	–	–	1	–	–	–	–	–	–	–		
Clausilia bidentata (Ström)	–	–	1	–	–	1	–	–	–	–	–	–	–	–
Candidula intersecta (Poiret)	23	–	2	–	–	–	–	–	–	–	–	–	–	–
Helicella itala (Linn.)	14	27	81	37	16	9	34	13	19	6	10	–	1	–
Trichia hispida (Linn.)	15	17	254	132	61	76	130	125	69	46	41	–	3	1
Trichia striolata (Pfeiffer)	15	17	44	18	5	1	5	5	–	4	2	–	–	–
Cepaea hortensis (Müller)	–	1	–	–	–	–	–	–	–	–	–	–	–	–
Cepaea sp.	–	–	+	–	–	–	–		–	–	–	–	–	
Cepaea/Arianta	–	–	1		1	–		–	–	–	–	–	–	
Totals*	**265**	**466**	**945**			**447**	**749**	**464**	**271**	**383**	**21**	**16**	**18**	
No. of Taxa*	10	12	14	11	12		14	12	12	10	14	7	6	7

* Excluding *C. acicula*

Table 2(b). Absolute frequencies of land molluscs from Whitehawk.

Sample No.	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**
Depth (cm)	**75–80**	**80–85**	**85–90**	**90–95**	**95–100**	**100–105**	**105–10**	**110–15**	**115–20**	**120–25**	**125–30**	**130–35**	**135–40**	**140–45**	**145–50**	**150–55**	**155–60**
P. elegans	2	1	2	6	1	–	11	3	–	1	–	–	1	+	4	–	
C. tridentatum	–	–	3	1	1	2	–	–	–	–	–	–	–	–	4	–	
C. lubrica	–	–	–	1	–	–	–		–	–	–	–	–	–	–	–	–
Cochlicopa sp.	–	–	–	–	–	–	1		–	–	–	–	–	–	–	–	
P. muscorum	5	2	9	25	9	2	15	12	1	–	3		–	–	2	1	1
V. costata	1	–	1	6	2	–	2	3	–	–	–	–	–	–	–	–	1
V. excentrica	–	–	–	–	–	–	1	3	–	–	–	–	–	–	–	–	1
P. pygmaeum	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
D. rotundatus	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1	–
Arionidae		–	–	–	–	–	–	–	–	–	–	–	–	+	–	–	
V. pellucida	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
N. hammonis	–	3	–	1	–	1	–	–	–	–	–	–	–	–	–	–	
A. pura	–	–	–	–	–	–	–		–	–	–	–	–	–	1	–	–
Oxychilus sp.		–	–	–	–	–	1		–	–	–	–	–	–	–	–	
C. acicula	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
C. laminata	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	
C. bidentata	–	–	–	–	3	1	–	–	–	–	–	–	–	–	–	1	–
H. itala	1	–	–	3	–	–	1	–	–	–	1	–	–	–	–	–	–
T. hispida	–	–	1	5	1	–	4	6	–	–	–	1	–	–	–	–	1
T. striolata	–	–	–	–	–	–	–	–		–	–	–	–	–	–	2	–
Cepaea sp.	–	–	+	–	–	–	–	–	–	–	–	–	+	–	–	–	–
Cepaea/Arianta	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	–	-
Totals*	**9**	**6**	**15**	**50**	**18**	**5**	**37**	**29**	**1**	**1**	**5**	**1**	**1**	**0**	**3**	**13**	**5**
No. of Taxa*	4	3	7	8	7	7	8	7	1	1	3	1	2	0	4	5	5

* Excluding *C. acicula*

Table 3. Whitehawk molluscs: percentage frequencies of open-country species (based on the dry-ground taxocenes of Evans (1991): see text for explanation).

Sample No.	% open-country spp.	Sample No.	% open-country spp.
1	93.9	2	95.1
3	94.7	4	97.1
5	98.3	6	98.9
7	97.1	8	97.2
9	97.0	10	97.8
11	95.8	13	76.2
14	93.7	15	88.8
17–19	83.3	20	92.0
21–22	65.2	23	91.9
24	96.6	25–33	63.3

Table 4. Whitehawk molluscs: taxa* reported by Kennard and Woodward (1930) and Kennard (1934; 1936) which were not found in the present study.

Acicula fusca (Montagu):
'1 example' (1930); none (1934); 'very rare' (1936)
Vallonia pulchella (Müller):
'2 examples' (1930); none (1934 & 1936)
Acanthinula aculeata (Müller):
'3 examples' (1930); 'rare' (1934); 'very rare' (1936)
Vitrea crystallina (Müller):
'common' (1930); 'rare' (1934); none (1936)
Arianta arbustorum (Linn.):
'common' (1930); 'common' (1934); 'rare' (1936)
Helicigona lapicida (Linn.):
'1 example' (1930); none (1934 & 1936)

* Note: The molluscan nomenclature used by Kennard and Woodward has been updated to accord with modern taxonomic usage.

Kennard and Woodward (1930) and Kennard (1934; 1936) reported on the molluscs recovered during earlier excavations at Whitehawk by R. P. R. Williamson and E. C. Curwen. The samples studied by Kennard and Woodward were of both hand-picked shells and shells extracted from samples of soil, although the sizes of the soil samples and the methods of extraction are not given. They did not attempt to analyze their samples stratigraphically, although Kennard (1934, 130) confidently asserts that 'these shells are of the same age as the occupation of the Camp'. The shells were collected from various horizons in the fills of the inner ditches of the enclosure, and many were selected because of their large size (e.g. *Arianta arbustorum* and the *Cepaea* species). Smaller and very delicate species were, however, recovered from the soil samples, including *Acicula fusca*, which is often taken to be a good indicator of woodland. Many of the species found by Kennard and Woodward were also found in the present study, but some were not (*see* Table 4). The species listed in Table 4 are essentially those on which Kennard bases his environmental interpretations. In general, he suggested that his assemblages (or 'faunules', as he calls them) indicate that:

> ecological conditions were very different from those of the present day . . . rainfall must have been much heavier and the water table of the chalk much higher . . . [the] faunule is that of damp woodland or scrub, and these conditions must have existed on the Downs when the Camp was occupied (Kennard 1934, 130).

It is clear from Table 4 that the species on which the above interpretation largely rests were generally quite rare, and many occur in only a few of the samples from certain seasons of excavation. However, such data should not be lightly dismissed, either because they are not fully quantified, or have not been assigned to exact stratigraphic horizons. I have noted above that some shells of shade-loving species in the assemblages reported here were very worn, and that they are probably residual from earlier (possibly wooded) environments. Some of the shade-loving species reported by Kennard and Woodward are also probable relicts of that woodland. Indeed, it is possible that the inner ditches of the enclosure were dug first, soon after the woodland had been cleared, and that the outer tangential ditch (whose molluscs are reported here) was dug later, when the local mollusc community had adapted to the by then well-established open conditions. It is interesting to note here that the mollusc data from Offham (Thomas 1977) suggested that the inner ditch of that enclosure had been dug before the outer one.

Many of the causewayed enclosures in Sussex appear to have been constructed in what were recently-cleared areas of woodland (Thomas 1982). Some, such as the north-facing scarp-slope enclosures of Barkhale, Bury Hill, Offham and Combe Hill, appear to have been built in localized woodland clearings, which in most cases seem to have been temporary. The Trundle, and now Whitehawk, both appear to have been constructed in areas which had been recently, but extensively, cleared of woodland. These are both large south-facing enclosures with more evidence of occupation, or intense use, than the smaller ones mentioned above. The environment around the Whitehawk enclosure appears to have always remained open, but that around the Trundle became more shaded, possibly with the development of secondary woodland, before later (Iron Age?) clearance.

DISCUSSION

By Miles Russell

The artefactual data recorded from the tangential ditch excavated in 1991 is consistent with that recorded from enclosure circuit 4 (to which it is apparently joined: Fig. 2). It is, however, at odds with the material assemblage retrieved from excavations upon the inner circuits of the Whitehawk enclosure (ditches 1–3: Williamson 1930, 63–82; Curwen 1934, 107–12; 1936), as no human remains (articulated or disarticulated) or secondary Beaker sherds were recovered from either the circuit 4 ditch or the tangential ditch, and the quantity and range of Early Neolithic pottery, flint work and faunal remains were limited. This appears to mirror

evidence retrieved from other Early Neolithic sites in Britain (notably Orsett: Hedges & Buckley 1978, 248; Abingdon: Avery 1982; Hambledon Hill: Mercer 1988; and Briar Hill: Bamford 1985, 60) where, especially in relation to human remains, changes in the quantity and range of artefactual data recovered from the various ditches of multi-circuited enclosures, have been taken to imply that there may have originally been discrete functional differences between inner and outer circuits (Bradley & Holgate 1984, 116; Evans 1988, 90).

It is possible that, at Whitehawk, the perceived distinction in recorded artefactual data from the inner to outer enclosures (circuits 1–3 and 4/the tangential ditch respectively) may be due in part to differential patterns of refuse/ritual artefact disposal. This, of course, depends on the assumption that the Whitehawk enclosure represents the remains of a single, 'monumental' phase of building activity. The dangers inherent in ignoring sequence within prehistoric constructs, however, especially with regard to reuse and redefinition, have already been noted (Bradley & Holgate 1984; Evans 1988; Thomas 1991; Russell 1995) and it is becoming increasingly clear that the final perceived form of most prehistoric monuments is the product of successive constructional activity (e.g. Dixon 1988; Evans 1988; Mercer 1988) and not deliberate 'preplanning'.

Thomas (this report) has suggested that the molluscan remains recorded from Whitehawk may indicate that the tangential ditch was constructed at some point after the construction of the inner circuits, when tree cover had been more thoroughly depleted. This appears to parallel data from the 1976 excavations at Offham where molluscan samples retrieved from the Neolithic enclosure suggested that a significant time had elapsed between the cutting of the inner and outer circuits (Thomas 1977, 238–9). The Whitehawk data, when combined with the recorded artefactual assemblages, may further indicate that the south-western tangential ditch and the southern portion of ditch circuit 4, are, in their final forms at least, constructionally 'out of phase' with the inner circuits.

The suggestion that the form of Early Neolithic multi-ditched enclosures was not 'given' but may represent any number of distinct constructional phases is not new, and has already been expounded at length, especially with regard to the site at Briar Hill, Northamptonshire. Here the published plan of a Neolithic 'causewayed' enclosure (Bamford 1985) was queried by Evans who suggested an alternative model whereby a defined inner enclosure may be viewed as a distinct entity, independent from the outer (later) double circuits (Evans 1988, 86–8). Although cautioning against the automatic assumption that the development of multi-ditched Neolithic enclosures would naturally have progressed outwards (as a series of 'ripples'), Evans has noted that it is also possible to suggest sequential 'phasing' from inner (earlier) to outer (later) circuits at a number of other Neolithic enclosures, namely Orsett and Windmill Hill (Evans 1988, 90).

At Whitehawk it is apparent from the feature plan, produced by Curwen in 1928 (Williamson 1930, 58), that, as with Briar Hill, Windmill Hill and Orsett, the inner circuit (in this case the innermost double circuit: Fig. 2) possesses an integrity not shared by any of the outer ditches. Indeed the third and fourth circuits at Whitehawk, though aligned independently from the inner ditches, appear to possess a mutual cohesion suggesting that here too it may be possible to distinguish at least two significant phases of construction/redefinition (Fig. 14, Phases 1 & 2).

An additional phase of enclosure definition at Whitehawk may further be postulated by the presence of the tangential ditch as excavated 1991. The ditch, as originally recorded from the 1928 percussion survey, appears to be directly joined to the ditch of the fourth circuit at the south-western margins of the main enclosure. The important point to note here is that both the tangential ditch and the southern portion of the fourth circuit are continuous in design, whereas the line of the fourth circuit to the north of the join with the tangential ditch is markedly causewayed.

A close examination of the original excavation report (Curwen 1934, 101–4) may help to explain this anomaly for it suggests that the fourth circuit of ditch, at its southern margin, was at some point recut, from a possible early causewayed design, to a more continuous, segmented, arrangement (*cf.* Darvill 1988, 4), with traces of the former alignment being detectable within Cuttings CV and CIV (Curwen 1934, pl. xiii), the new cut avoiding (intentionally or not) the earlier burial of an articulated roe-deer (Curwen 1934, 102, pl. xiii, fig. 1, iv). Circuit redefinition can, it should also be noted, be detected within the southern excavated segment of ditch 3 to the north (Curwen 1934, pl. xiv, 107), though here the causewayed design

appears to have been maintained (*cf.* Mercer 1988, 96; Dixon 1988, 81).

The observation that circuits 3 and 4 of the main enclosure consist of at least two distinct phases, with circuit 4 apparently being recut to a more continuous pattern, would appear to indicate that Curwen's tangential ditch, in its present form, was contemporary with the redefining of the Phase 2 enclosure. This recutting has been identified in Figure 14 as 'Phase 3'. This period of redefinition may offer an explanation for the cut feature (Context 128) found in 1991 running parallel to the south-eastern margins of the tangential ditch. This feature may, in this interpretation, be viewed as representing the partial remains of an earlier causewayed tangential ditch, similar perhaps to the example recorded at the north-eastern fringes of the Neolithic enclosure (Fig. 2).

If this alternative sequential model for the development of Whitehawk is accepted, and it must be noted that the Carbon 14 chronology for the site is sadly inadequate with only two dates, 2750±130 BC (I-11846) and 2695±95 BC (I-11847), being so far recorded from two sections of primary silt within the third and fourth ditch circuits respectively (Drewett *et al.* 1988, 35), it would suggest that the site, in its primary phase, consisted of a double-ditched, rounded D-shaped enclosure (the flattened side facing north-west) with a north-east–south-west elongation. The total area enclosed by this proposed earthwork would have been around 0.76 hectares, making the primary phase site easily comparable in size (Evans 1988, 90) with the internal circuits of Neolithic enclosures at Windmill Hill (0.5 hectares: Smith 1965), Briar Hill (0.71 hectares: Bamford 1985) and Orsett (0.79 hectares: Hedges & Buckley 1978).

Once the postulated secondary phases of enclosure circuit (3–4) have been removed from Whitehawk, it is possible, from the recorded ditch configurations, to suggest the presence of at least two original points of entrance within the primary circuit (1–2): the western centre and the extreme north-eastern corner (Fig. 14, Phase 3). These are the only two areas within the inner enclosure circuit where gaps/causeways across the double ditch correspond (banks are unfortunately absent here) and where the ditch segments, at either side of this causeway, curve appreciably inwards (*cf.* Darvill 1988, 5; Evans 1988, 90–91, fig. 8.2). Of the two suggested entrances, that set within the western circuit would appear the more credible as it is positioned at the approximate centre of the longest, 'flattened' side of the enclosure circuit, although it must be noted that the second postulated point of entrance is aligned towards, and in the same general direction as the north-eastern tangential ditch (Fig. 14; Williamson 1930, pl. I).

Aside from Whitehawk, it is also possible to infer a sequential development for the Early Neolithic enclosures at Offham Hill and the Trundle (*see* Fig. 1 for locations of other Sussex Neolithic enclosures). At Offham, as already noted, the molluscan data suggested that a significant time had elapsed between the cutting of the inner and outer circuits (Thomas 1977, 234–9). The plan of the earthworks (Drewett 1977, 203) furthermore clearly shows that the two surviving areas of enclosure circuit follow divergent paths (the inner ditch being noticeably 'D-shaped', with the longer, flattened circuit facing north-west). It is possible that the original point of entrance for this suggested primary phase earthwork at Offham was set at some point along the north-west facing, flattened side.

The plan of the Trundle, compiled in the 1920s from an extensive percussion survey (Curwen 1929, pl. II) would appear to indicate that the inner ditch circuits, where they could be traced, possess a mutual cohesion distinct from that of the third ('spiral') and fourth ('outer') circuits. The 'spiral' ditch, as already noted, may represent either a later act of enclosure, partially recutting/realigning/extending from, the primary phase 'second ditch', or a form of tangential construct similar to the examples recorded from Whitehawk.

The two recorded Carbon 14 dates from Offham, 3710 BC and 3650–3540 BC, were both derived from material within the primary silts of the outer ditch (Drewett *et al.* 1988, 35). This would appear to indicate that the proposed secondary phase of enclosure here was constructed after the primary phase of the Trundle, but before Bury Hill, Combe Hill and the proposed secondary circuit at Whitehawk (Drewett *et al.* 1988, 35). At the Trundle, samples for Carbon 14 dating suggesting a date of between 4320 and 3900 BC were recovered from the primary silt of ditch 2 within the proposed inner enclosure. No samples have yet been collected from the divergent 'spiral' or outermost ditch circuits.

To conclude, the results of the 1991 excavations at Whitehawk would appear to indicate that the south-western 'tangential' ditch, as excavated, is

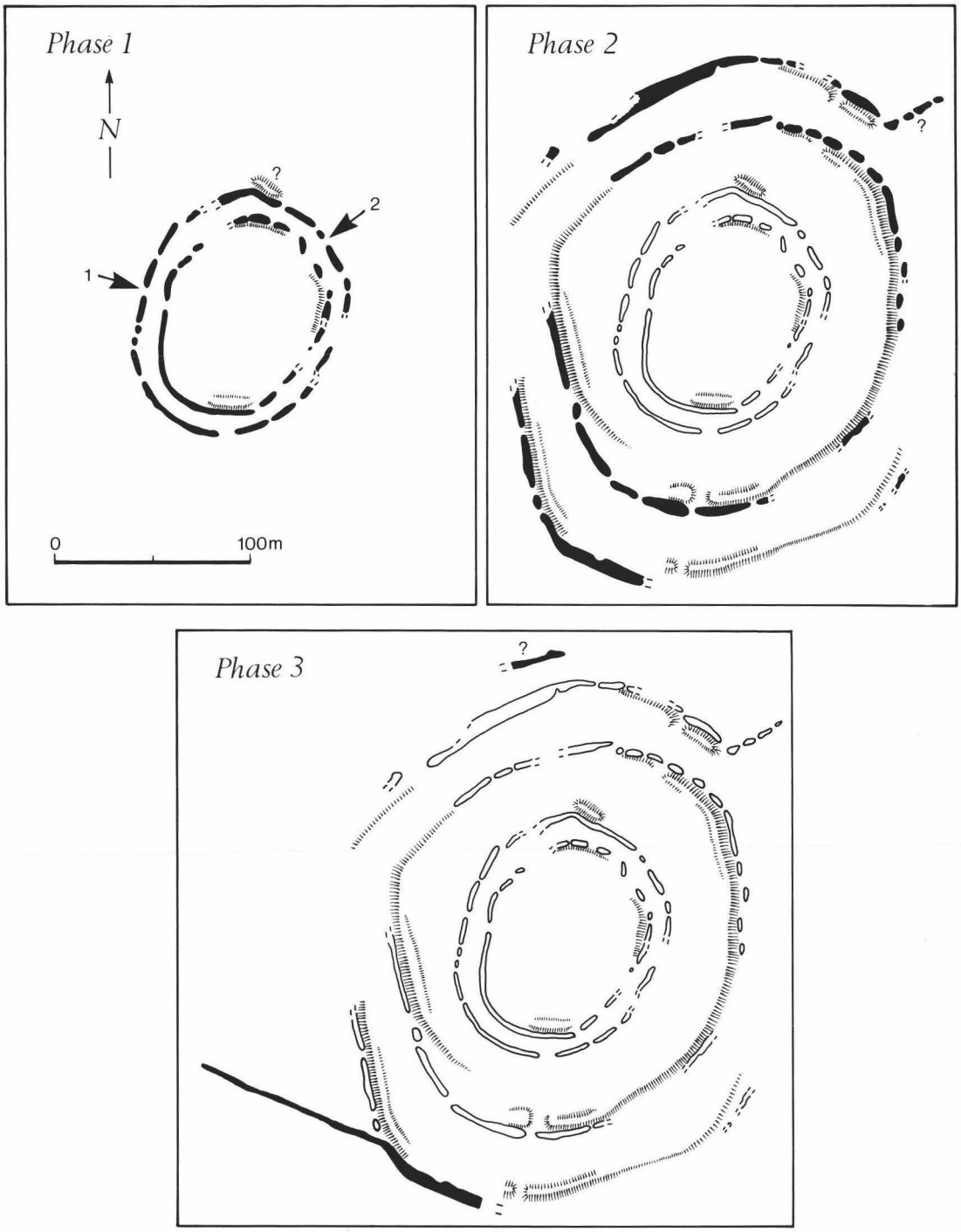

Fig. 14. Whitehawk Neolithic enclosure. Plans of Phases 1, 2 and 3.

both constructionally and artefactually 'out of phase' with the recorded inner earthwork circuits. An analysis of all earlier excavation and survey work, combined for the first time in Figure 2, further suggests that the continuous form of the tangential ditch belongs to a phase of extension/redefinition of the outer southern margins of the fourth enclosure circuit (Fig. 14, Phase 3). This phase of ditch construction is broadly defined as representing the last of at least three chronologically distinct phases of enclosure definition (Fig. 14).

In this respect the impressive size and perceived complexity of Neolithic ditch systems at Whitehawk, as well as those from the Trundle and, to some degree, Offham Hill, may have more to do with longevity of use, with successive acts of redefinition, expansion and development, rather than representing a single, deliberate act of pre-planned construction. If this is the case, the question we must be asking of the archaeological data is not 'why were some enclosures of the Neolithic constructed on such a monumental scale?', but 'why did the enclosures of Whitehawk, the Trundle, Briar Hill, Orsett and Windmill Hill develop over time to such an immense degree (Whitehawk possessing at least five earthwork circuits and two tangential ditches), whilst other enclosures of this period apparently possessed only limited definition.

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The lead cross of Bishop Godfrey of Chichester

by Elisabeth Okasha

In 1830 an inscribed lead cross was found beneath ground in Chichester cathedral cloisters; it has been preserved in the cathedral since then. The text inscribed on the cross contains a papal absolution for Bishop Godfrey of Chichester and gives the date of his death, 25 September 1088. Bishop Godfrey's consecration and death are recorded in contemporary sources although little else is known of his life. Inscribed lead crosses of the period are not numerous but the Chichester cross fits well into the context of those that survive.

INTRODUCTION

The inscribed lead cross (Figs 1 & 2) was found in 1830 and published immediately (Cartwright 1830, 447). In the succeeding years its text has been discussed in print on a number of occasions but less frequently than might have been expected for an object of such interest. There are in fact only twelve works known to me that deal in any detail with the text and only two of these are illustrated. These works are listed in chronological order in the references. In this paper the text is transliterated, translated and discussed and the cross set in the context of comparable material of a similar age.

HISTORY OF THE CROSS

The lead cross was found in 1830, probably in October of that year: on 18 November the Revd Edmund Cartwright in a communication to the Society of Antiquaries said it 'was found a few weeks since' (Cartwright 1830, 447), and Dally stated that it was found in October 1830 (Dally 1831, 65). However, in a letter also dated 18 November 1830, to Henry Ellis, Cartwright said that the cross was found 'a few days ago' (Cartwright 1831, 419). This is the more confusing in that Henry Ellis was secretary to the Society of Antiquaries and was present at the meeting on 18 November when Cartwright communicated the discovery. On 11 January 1831 Thomas King published his drawing of the cross (*see* Fig. 2) stating that the cross had been found in September 1830. The cross was therefore certainly found between 1 September and 18 November 1830, but a more exact date cannot now be ascertained.

The cross was found in the medieval burial ground within the cathedral cloisters, 'in the enclosure . . . called the Paradise' (Cartwright 1830, 447). According to Dally, it was found during the digging of a drain (Dally 1831, 65). Some four years earlier a coffin had been discovered in the same enclosure near where the lead cross was found. 'As a cross was deeply cut in the wall near where the coffin was found, it was presumed that it contained the body of some person connected with the church' (Cartwright 1830, 447). Cartwright implied, without actually stating it, that the cross-engraved stone, the coffin and the lead cross all belonged together. It may be that they were associated with each other but, particularly in view of the time that has elapsed since the finds were made, this possibility should be treated with caution.

The fate of the cross-engraved stone is not recorded and it may have been left in the wall. Tim Tatton-Brown (pers. comm.) suggests that this is the cross still visible on the south side of the presbytery wall in Paradise. The coffin was placed in the south transept of the cathedral (Dally 1831, 55, 65) but had been removed by 1935 (Page *et al.* 1935, 126). Its present location is not known. The lead cross was taken into the possession of the Dean and Chapter. In 1849 it was recorded in the library in the Lady Chapel enclosed in a 'wire-covered case' (Crocker 1849, 36). It was exhibited at an annual meeting of the Royal Archaeological Institute which was held at Chichester in July 1853 (Anonymous 1853, 76–7). In 1935 it was recorded in the Cathedral library (Page *et al.* 1935, 126) but was removed for

Fig. 1. Lead cross of Bishop Godfrey of Chichester.

safe-keeping during the Second World War (Peckham 1944–5, 113). It was subsequently returned to the library where it remains.

DESCRIPTION

The inscribed lead cross is complete and measures 191 mm in height, 126 mm across the arms and 0.5 mm in thickness. Only one face can be examined since the cross is fastened on to a wooden board. The text is incised on the visible face and is primary, that is, the cross was intended from inception to contain a text. The text consists of 16 lines of incised lettering set on incised horizontal ruling-lines. The space preceding the final ruling-line at the bottom has been left blank. Because of this, it has been suggested that the text is incomplete. Cartwright wrote, 'The word *sepultus* is probably omitted as a line is left for it' (Cartwright 1830, 447), while Peckham thought that the engraver could have used the line 'to add what was obvious to him, but not to us, the year' (Peckham 1944–5, 113–14). However, the letters of the last two lines of text are well spaced out, suggesting that they formed the end of the text and, moreover, the text makes sense as it stands (*see* below). In my view the text is therefore likely to be complete.

The text is legible and is incised in a non-capital script, the letters being formed with an unusual mixture of single and double lines. Most of the letters are seriffed and they vary in height between 3 and 10 mm. The first nine lines are incised in a minuscule script but the remaining seven lines use some uncial or capital letter-forms, notably of N and S, although not altogether consistently. Such a mixture of letter-forms is not uncommon in Anglo-Saxon inscriptions.

TEXT

The text is transliterated in lines corresponding to the lines on the cross. The spaces between words and the abbreviation marks are retained as on the cross. The following system of transliteration is used: 'A' indicates a legible and undamaged letter A; 'A̲' indicates a letter damaged but legible as A; '[A]' indicates a damaged letter probably to be read as A; '[.]' indicates a lost letter; 'A/B' indicates the letters A and B joined to each other; ':' indicates a punctuation mark.

The text reads:

ABSOLUIMUS [.E̲]GODE̲

FRIDEEP̄E UICE SC̄I

PETR/IPRINCIPIS[E̲]

APL̄M̲ CUIDN̄SDEĐ

LIGANDIAT̲Q[:]SOLUĒD̲[I]

POT/EST/ATĒ UTQUĀTŪ T/UAEXPE̲[TIT]

A̲CCUSAT/IO [&] A̲DNŌSPT̄INA/E/TR/E/MISI⌐O

SITTI[BI]DS̄REDĒPT/O/R̲ OM̄PS SALUS OM/NŪ

PECCATOR̄TUO[.] PIUSINDU̲LTO/R AMEN

VII KL̄ OCTOBRIS INFESTIVITATE

SC̄I FIRMINI EP̄I & M̄[R̲]

OBII̲T GODE

FRIDVSEP̄S̄

CICESTREN

SIS: IPSODIE

V LUNA/T FVIT

With word division added, the text reads:

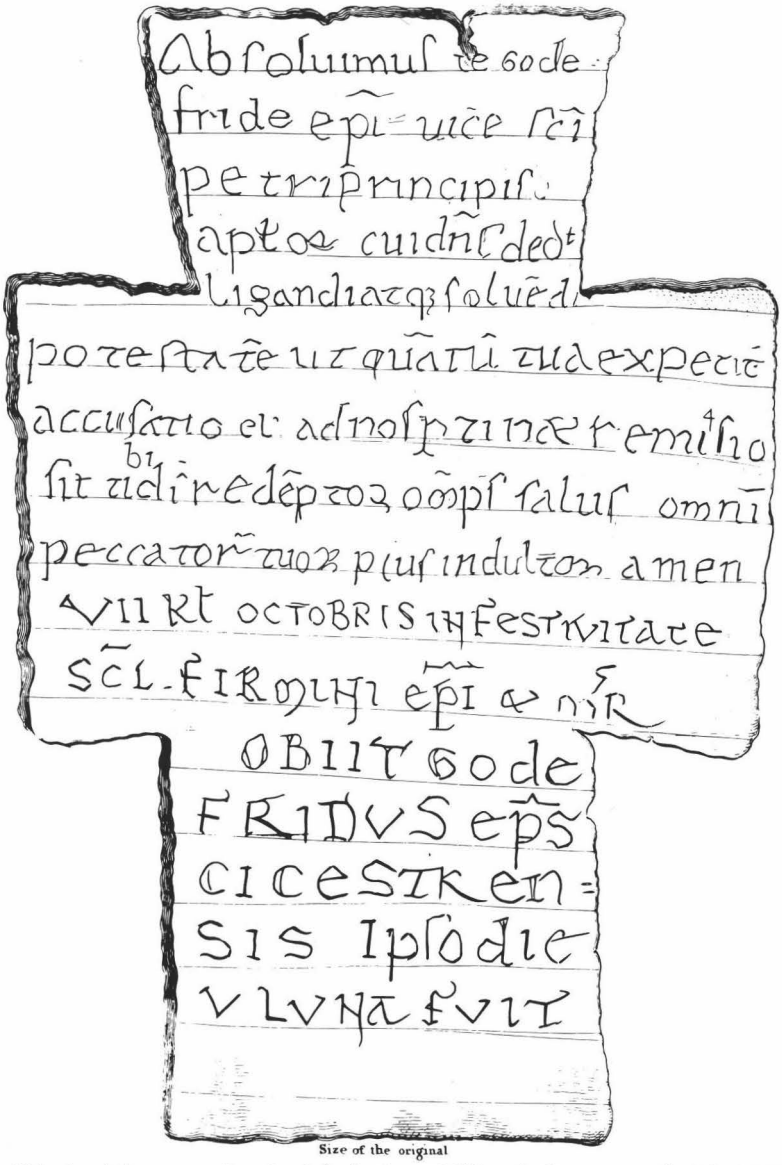
absoluimus [te] godefride ep̄e uice sc̄i petri principis[e] apl̄m cui dn̄s ded̄ ligandi atq[:] soluēd[i] potestatē ut quātū tua expe[tit] accusatio [&] ad nōs pt̄inaet remisi⌐o sit tibi ds̄ redēptor om̄ps salus omnū peccatōr tuo[.] pius indultor amen VII kl̄ octobris in festivitate sc̄i firmini ep̄i & m̄[r] obiit godefridvs ep̄s cicestrensis : ipso die V lvnat fvit

The following words require comment:
[*te*] is a contextual reading of [.*e*]; the [*e*] of *principis*[*e*] is presumably an error; *p̄tinaet* contains the letters *aet* joined together, presumably in error for *-eat*; *lvnat* is probably an error for *lvnae*.

The inscription in English.

We absolve thee Bishop Godfrey in the Place of St. Peter the chief of the Apostles, to whom God gave the power of binding and loosing as far as thy accusation requires; and the right of remission belongeth to us. May the divine almighty redeemer, the benign forgiver of all thy sins be thy salvation. AMEN.

The seventh of the Calends of October on the festival of St. Firminus Bishop and Martyr, Godfrey Bishop of Chichester died; it was then the fifth day of the Moon.



Size of the original

This inscription engraved on Lead in the time of William the Conqueror, was found Sept 1830 in the burial ground of Chichester Cathedral called the Paradise, where the body of Godefride or Godefridus the 2nd Bishop of Chichester was buried. By whose stone Coffin was discovered in the same spot a few years ago. He was consecrated by Archbishop Lanfranc & died in the following year, he was thereby almost unknown as a Prelate, as the records are silent concerning him, but the above discovery confirms the fact of his having been a Bishop of Chichester. —— Engraved and Published Jan[y] 11 1831 by T. King Chichester

Fig. 2. Engraving of Bishop Godfrey's lead cross by Thomas King, dated 1831 (West Sussex Record Office, PD. 2193).

The text is heavily abbreviated. Most of the abbreviations take the form of a superscript line to indicate an omitted letter or letters. The exceptions are *atq*[:] where the abbreviation is indicated by a punctuation mark; *tibi* and possibly *remisio* where superscript letters are added; and *tuo*[.] where the last letter is presumably an abbreviation for *-rum*. In addition, *nō̄s* is marked as an abbreviation when it is not, perhaps due to the common use of *nō̄s* for *nobis*, and *ep̄s* has two superscript lines where one would have been expected. With modern punctuation and capital letters added, and with the abbreviations expanded, the text reads:

> Absolvimus te Godefride episcope vice Sancti Petri principis apostolorum cui dominus dedit ligandi atque solvendi potestatem ut quantum tua expetit accusatio et ad nos pertineat remissio; sit tibi deus redemptor omnipotens salus omnium peccatorum tuorum pius indultor. Amen. VII kalendas Octobris in festivitate Sancti Firmini episcopi et martyris obiit Godefridus episcopus Cicestrensis. Ipso die V lunae fuit.

We absolve you, O Bishop Godfrey, in place of St Peter, prince of the apostles, to whom the Lord gave the power of binding and releasing, so that in so far as your accusation warrants and the remission pertains to us, God the omnipotent redeemer, the kind forgiver, may be to you the healing of all your sins. Amen. On the 25th of September, on the feast of St Firmin bishop and martyr, Bishop Godfrey of Chichester died. On the same day it was five days after the (new) moon.

DISCUSSION

The first part of the text, as far as 'amen', takes the form of a papal absolution relating to Bishop Godfrey. The form of wording of the absolution cannot be exactly paralleled. The note of doubt sounded in the absolution might suggest that the bishop had died under some sort of ecclesiastical cloud but there are insufficient parallel examples for this to be more than a possibility. The plural form *absoluimus* is quite usual when, as here, a priest or bishop was acting under papal authority (Fr Gerard MacGinty pers. comm.). It is possible that such a person was a papal legate. It is known, for example, that Pope Urban II sent 'our beloved son Roger, cardinal sub-deacon of our church' (*dilectissimus filius noster Rogerus, cardinalis Ecclesiæ nostræ subdiaconus*) as an envoy to Canterbury in April 1088 with a request for the payment of 'Peter's pence' (Robinson 1990, 38; Migne 1881, col. 287). In the 11th century, however, papal legation in England was claimed by Canterbury and in 1097 Urban II confirmed this in correspondence with Anselm, Archbishop of Canterbury (Robinson 1990, 172). It could well be, therefore, that Godfrey's absolution was given by a priest or bishop acting under instruction from Canterbury.

The second part of the text gives the date of Bishop Godfrey's death. The seventh of the Kalends of October is 25 September, the feast day of St Firmin, the 4th-century bishop and martyr who died and was buried at Amiens. In 1088, 25 September was a Monday and it was, in fact, the sixth day after the new moon (see the tables in Freeman-Grenville 1963). An error of one day is, of course, easily made, for example by the new moon not being sighted on its first day owing to adverse weather conditions.

Only a little is known about Bishop Godfrey. He was consecrated by Lanfranc, Archbishop of Canterbury, in 1087–88; this is recorded in the *Acta Lanfranci*, a text written in an 11th- or 12th-century hand at the end of MS A of the *Anglo-Saxon Chronicle* (Bately 1986, 87). His profession of obedience to Archbishop Lanfranc is in a manuscript kept in Canterbury Cathedral and published by Mayr-Harting (1964). Bishop Godfrey's death is recorded *sub anno* 1088 in the *Annales de Wintonia* (Luard 1865, 36). His consecration and death are also recorded in the *Annales Cicestrensis* under 1088 (Liebermann 1879, 92). There is nothing in the language or script of the text to argue against the cross's being contemporary with Bishop Godfrey's death in 1088.

The episcopal succession following the removal of the see from Selsey to Chichester has given rise to some discussion and was fully considered by Peckham (1944–5) and by Mayr-Harting (1963). The first bishop in Chichester was Stigand who died in 1087. It seems that he was followed by Godfrey who died in 1088, shortly after his consecration. There was then a three-year delay until Bishop Radulf was consecrated in 1090–91. Confusion over the succession was generated by the statement of William of Malmsbury that Bishop Stigand was succeeded by Bishop William who was succeeded by Bishop Radulf (Hamilton 1870, 205). Despite an attempt by Salzman to accommodate Bishop William (Salzman 1907, 5), it seems better to follow

Mayr-Harting in assuming that William of Malmsbury was in error (Mayr-Harting 1963, 1–2). The relevant texts are printed in the Appendix below.

COMPARABLE MATERIAL

There are eight other lead crosses known to me from this period from England. These are:

1. Bath, Pump Room, no. RB109
   (Okasha 1971, no. 7, pp. 51–2 & figs);
2. Bury St Edmunds, BSEMS 1976.276 (O.S.)
   (Anonymous 1903, 24);
3. Bury St Edmunds, BSEMS 1976.280
   (Anonymous 1903, 24);
4. Canterbury, St Augustine's Abbey Museum
   (Okasha 1971, no. 21, p. 60 & figs);
5. Cumberworth, private collection; found 1992
   (unpublished);
6. Lincoln, Cathedral Library
   (Anonymous 1850, xliv & fig.);
7. Wells, Cathedral
   (Okasha 1983, no. 180, p. 101 & fig.);
8. Worcester, Hereford and Worcester County Archaeological Service; found 1988
   (unpublished).

Some of these eight crosses are funerary crosses and indeed all of them may have been so; some were in fact found with burials, for example those from Canterbury and Wells. Funerary crosses would be expected to contain a personal name: the crosses from Canterbury, Lincoln and Worcester, as well as the Chichester cross, do contain personal names but the two from Bury St Edmunds and the Cumberworth cross do not. The texts on the crosses from Bath and Wells are too deteriorated to tell whether or not they contained personal names.

Many of these texts are rather deteriorated but all were probably religious in nature. The text on the Chichester cross contains an absolution formula. It is clear, however, that the crosses from Bury St Edmunds, Canterbury, Cumberworth and Worcester did not have absolution texts. The text on the Wells cross is illegible and that on the Bath cross is now largely so; however, early readings of the Bath text suggest that it contained a religious but not an absolution text. One side of the Lincoln cross has a *hic iacet* text; the other side is now illegible and was described as such in 1850; however, it has been suggested that it originally contained an absolution formula (Wylie 1854, 299–300).

The dates of most of these eight crosses are rather uncertain. The Wells cross, however, was found in the tomb of Bishop Giso who died in 1088 (Rodwell *et al.* 1979, 409) and this cross therefore dates from the same year as the Chichester cross. The Cumberworth cross is probably from the 10th or 11th century, the Canterbury one from the 11th or 12th century and the Bury St Edmunds ones from the 12th or 13th century. Those from Bath, Lincoln and Worcester cannot be dated except by comparison with this group of crosses.

The Chichester cross, in terms of its funerary connection, its religious text and its date, fits neatly into this series of lead crosses. It is indeed a valuable member of the series since, unlike many of the others, it contains a legible text and is reliably associated with a known historical person.

APPENDIX

1. *Acta Lanfranci* 1087–88 (Bately 1986, 87)
Octauodecimo anno, mortuo rege Willelmo trans mare, filium eius Willelmum, sicut pater constituit, Lanfrancus in regem elegit et in ecclesia beati Petri, in occidentali parte Lundonie sita, sacrauit et coronauit. Eodem anno Godefridum Cicestrensi ecclesie antistitem et Widonem ecclesie Sancti Augustini abbatem et Iohannem Wellensi ecclesie episcopum Cantuarie in sede metropoli examinauit atque sacrauit.

Translation (Douglas & Greenway 1981, 679)
In the eighteenth year [*footnote*: August 1087–August 1088] when King William died overseas, Lanfranc chose his son William as king, even as his father had desired, and hallowed him and crowned him in the church of the blessed Peter [*footnote*: Westminster Abbey] which is in the western part of London. In the same year in the metropolitan see of Canterbury he examined and consecrated Godfrey to be bishop of Chichester and Guy to be abbot to St Augustine's and John to be bishop of Wells.

2. *Annales de Wintonia* 1088 (Luard 1865, 36)
Godefridus Cicestrensis episcopus obiit, et successit ei [blank in manuscript]

Translation
Godfrey Bishop of Chichester died and [...] succeeded him

3. *Annales Cicestrensis* 1088 (Liebermann 1879, 92)
Et hic factus est Godefridus episcopus Cicestrie, qui obiit eodem anno.

Translation
And here [that is, in this year] Godfrey was made Bishop of Chichester who died in the same year.

4. William of Malmsbury *De Gestis Pontificum Anglorum*, section 96 *De episcopis Selesiensibus* (Hamilton 1870, 205)
Huic successit Willelmus. Willelmoque Radulfus ...

Translation
William succeeded this one [that is, Stigand]. And Radulf succeeded William ...

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I acknowledge with gratitude the help of Dr Mary Hobbs, Chichester Cathedral librarian, in giving me every facility to examine the cross. I am very grateful to Gerard MacGinty, O.S.B., for his help with the translation and discussion of the text and to Jill Butterworth of Cambridge University Library for bibliographical assistance. Three people from University College Cork helped me with the date, Helen Davis, K. W. Nicholls and Pat Twomey, and I am most grateful to them all. The photograph (Fig. 1) is reproduced by kind permission of the Dean and Chapter of Chichester Cathedral and the drawing (Fig. 2) by kind permission of the West Sussex County Archivist. I am indebted to the Faculty of Arts Research Fund, University College Cork, for a grant which enabled me to visit Chichester.

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Excavations at Lewes Friary 1985–6 and 1988–9

by Mark Gardiner, Miles Russell & David Gregory

with contributions by
Maureen Bennell
Colin Brent
Chris Broomfield
Sue Browne
Simon Dobinson
Jill Kerr
David Rudling
Rod O'Shea
E. M. Somerville

Excavations on site of the Franciscan friary at Lewes identified eight periods of activity. The earliest deposit was a surface of flint gravel interpreted as a hard for beaching ships. During the 12th century it was covered with alluvium and dumped rubbish. The Grey Friars was founded before 1241 and the earliest buildings were constructed on the built-up surface of the floodplain. Evidence was found suggesting that conditions here were very damp. Partial rebuilding took place on the south side of the cloisters raising the floor levels. In Period 4 a major rebuilding took place with the reconstruction of all structures and the ground level was raised by dumping chalk rubble. Minor modifications were made to the friary buildings in the 15th and early 16th centuries, many of which can be associated with improved standards of comfort. The friary was dissolved in 1538 and the church and many other buildings demolished. Some buildings, including the chapter house, were retained, though in an altered form. In the late 17th century these too were demolished and the house called The Friars was constructed on the site.

Fifty-five medieval burials were recovered from the church, cloister walk, cloister garth and graveyard, the majority of which were adult males.

No remains survive above ground of Lewes Friary, the smaller of the two major religious houses in the town. Traces of the friary have been discovered below ground from time to time during building work. Burials were disinterred in 1861 when Fitzroy House and the railway station were constructed on the site of the friary. Structural remains must have also been found when the railway viaduct was built, though none seem to have been reported. Further inhumations were discovered in 1928 when gas mains were laid in front of Fitzroy House.[1] The first archaeological work on the site was undertaken in 1967 by C. J. Knight-Farr and David Thompson who cut some trial trenches.[2] In 1981, in expectation of the redevelopment of the site, the Field Archaeology Unit (FAU) of the Institute of Archaeology, University College London dug a limited area to assess the quality of the remains and showed that a considerable depth of stratigraphy survived (Rudling 1983, 66–9).

Large-scale excavation began in summer 1985 when an area near to Friars' Walk was dug in advance of the construction of Lewes magistrates' court. The work was undertaken by the Field Archaeology Unit and directed by Mark Gardiner. The excavations were continued by David Gregory and the Lewes Archaeological Group (LAG) who examined a small area to the north of this during the winter of 1985–6. David Gregory also observed pits dug by machine by the contractors to enable piling for the court to the east of the 1985 excavation (Fig. 2). This allowed the line of some of the walls found in the earlier excavations to be traced. In summer 1988 and during the winter of 1988–9 an area facing the High Street was dug before commercial redevelopment. These second excavations by the FAU were directed by Miles Russell. Post-excavation work on this area was also undertaken by Miles Russell, and was revised and completed by Mark Gardiner.

The present report discusses the results of the excavations from 1985 onwards. It does not provide detailed information on the contexts excavated beyond that necessary to justify the interpretation presented. Work on the finds is summarized in this report and only those of intrinsic interest or of significance for the building sequence are discussed here. This report was prepared in conformity with the guidelines issued by English Heritage (1989), *The Management of Archaeological Projects* (first edition). A fuller version of the report of the excavations has

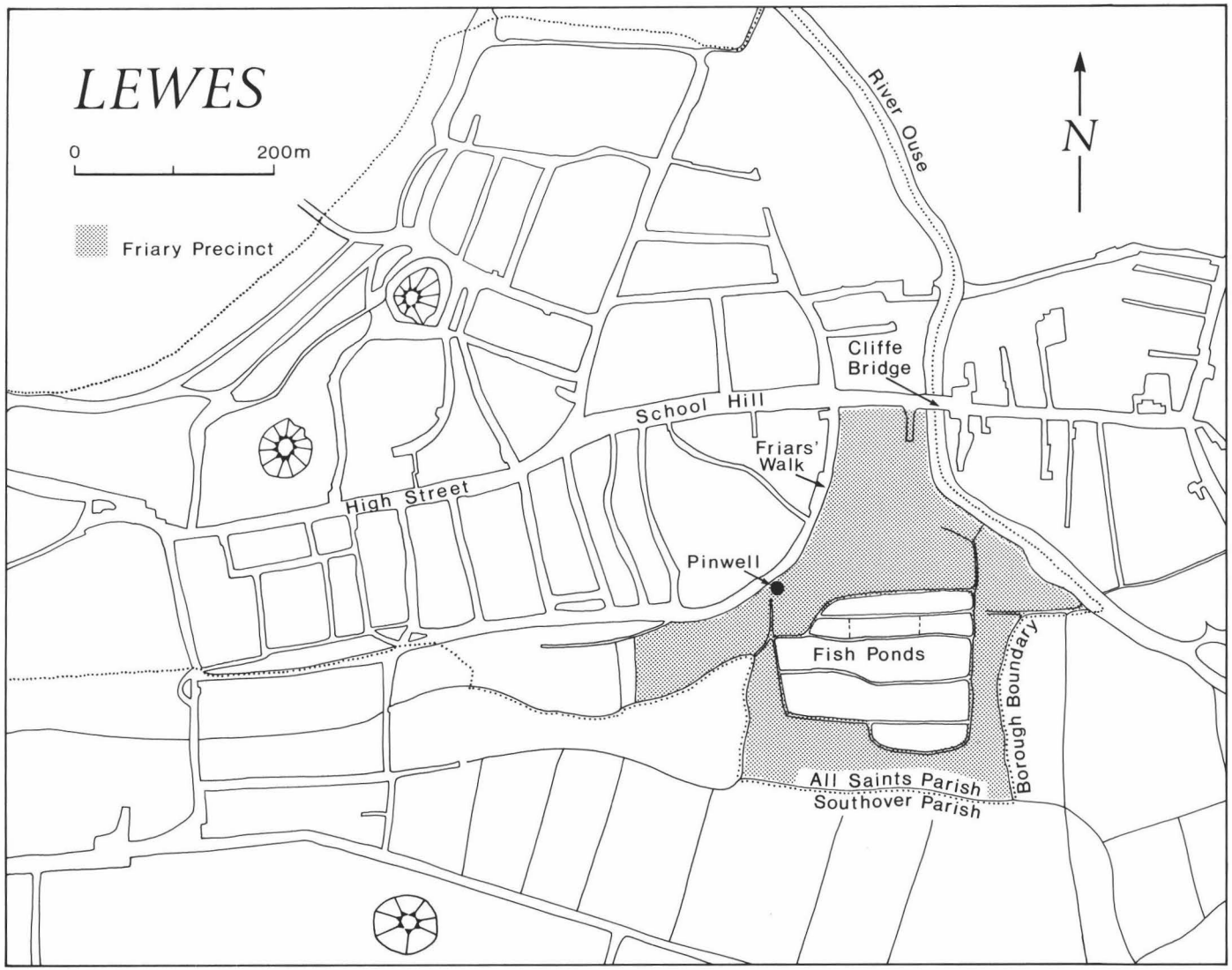

Fig. 1. Lewes showing the land held by the friary (stippled) and the friary fishponds.

been prepared and copies placed in the National Archaeological Record at Fortress House, London and the library of the Sussex Archaeological Society at Barbican House, Lewes.

The figures reproduced here show, firstly, the phasing of the friary remains. Secondly, area plans at a uniform scale of 1:100 (except Figs 10 & 21) show parts of the excavations in greater detail and key sections are used to illustrate the stratigraphy. Figure 3 shows the areas covered by the detailed plans and the positions of the published sections.

The friary lay on low, marshy land on the floodplain of the River Ouse (Fig. 1). On the north side of the friary was the High Street which led from Lewes over Cliffe Bridge to the suburb of Cliffe. This was a major thoroughfare, being part of the main east–west route through coastal Sussex (Pelham 1931, 181–3). The west side of the friary precinct was bounded by the town ditch and on the east was the River Ouse. The situation of the friary was typical of many urban houses of the mendicant orders, which commonly lay on poorly drained sites, often close to town boundaries and adjacent to major roads.

DOCUMENTARY EVIDENCE

Lewes Friary, like most houses of the mendicant orders, is poorly covered by documentary sources. The reasons for the paucity of records have been discussed by Dobson (1984, 110). Details of Lewes Friary are derived almost entirely from royal records and from post-Dissolution sources.

The friary at Lewes was founded between 1224, when the Franciscans arrived in England, and 1241, when it is first recorded (*Cal. Lib. Rolls 1240–45*, 85). By 1242 building work was clearly in progress, because the friars were granted the timber from ten oaks. The king gave the friars permission two years later to ask the burgesses of Lewes to allow them to construct a wall over the town ditch and so enclose their precincts for security and privacy (*Cal. Close Rolls 1237–42*, 426; *Cal. Close Rolls 1242–47*, 207). The friars were sustained in their early years by grants of food and money made by the king and the earls Warenne, in whose rape the friary was situated, and, presumably, by unrecorded donations made by others (*Cal. Lib. Rolls 1245–51*, 138; *Cal. Close Rolls 1302–7*, 249). A grant of 24s. for three days' food made by the king in 1299 indicates that there were then 24 friars (Blaauw 1849, 146; Little 1917, 39).

The regular orders derived the greater part of their revenue from the land in their tenure, but the Franciscans were mendicants and were supported by donations in money or kind. There was, however, a considerable area of land attached to Lewes Friary, the extent of which may be inferred from the post-Dissolution estate. The friars received the tithes from land to the west of Lewes, and at Plumpton and Barcombe.[3] The friary continued to attract bequests throughout the 15th century,[4] but it was not a wealthy house and when the friary was dissolved in 1538 it was found that the assets were inadequate to pay for the debts (*Letters and Papers Henry VIII* 13 (ii), no. 1060). Seven years later the site was in the hands of George Heydon and John Kyme who acted as agents for the king for the disposal of confiscated property (*Letters and Papers Henry VIII* 19 (i), no. 812, para. 114). The later descent of the property is discussed in the *Victoria County History of Sussex* 7, 36–7.

POST-DISSOLUTION HISTORY By Colin Brent

The extent of the estate attached to the mansion erected on the site after the Dissolution is shown on a map, dated 1620, and prepared for the Commissioners of Sewers for Lewes and Laughton Levels, probably by John De Ward. This shows three pieces of water-meadow belonging to John Shurley, serjeant-at-law, who died in 1617 possessed of the estate.[5] Bounded on the south by the Winterbourne Stream, these water-meadows are separated from the mansion by meadow or pasture. In all the estate is larger than the six acres of garden, orchard and water-meadow credited to the friary by the Dissolution accounts, and closer to the 18 acres of 'productive' meadow land which composed it in 1803 (Fig. 1).[6]

The 1620 map also shows a large gabled mansion, seemingly facing east, on the north-west corner of the site. That a commodious dwelling of some description had already been built within the precinct by 1570 is clear from the will made that year by John Kyme, who bought the Friars estate in 1544. He left to his married sister, Anne Colt, the remaining years of the lease he had made to her, and her husband John, of his house called 'the late Graye Friers' and the 'landes' adjoining. Colt was a man of substance, having served three times as High Constable of Lewes Borough.[7]

The mansion and estate, defined by the 1620 map, passed eventually to William Alcock, a lawyer

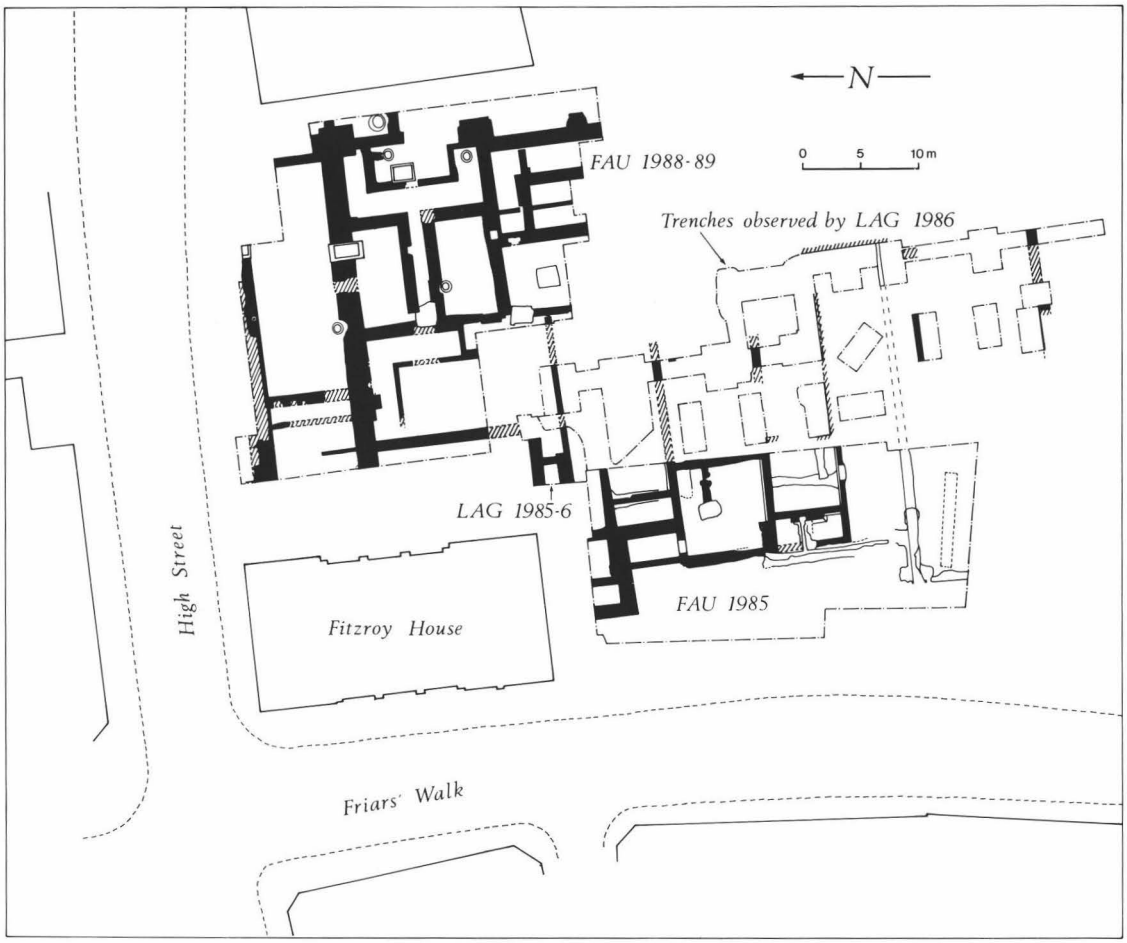

Fig. 2. Location of all excavated trenches and observed contractor's trenches.

who prospered as Clerk of the Peace for Sussex. In 1672 he bequeathed them to his daughter Hannah and her husband Thomas Pellatt, who already resided there.[8] In 1673 they rebuilt the mansion giving it a pilastered brick facade, owing something perhaps to Artisan Mannerism.[9] The house was described as 'venerable' in 1803 and was demolished in March 1846.[10] The 1620 map also shows a smaller house, east of the mansion, near the bridge, which was occupied in 1624 by Edward Fitzherbert[11] and later by the wine merchant, Sir Henry Blackman (*c.* 1744–1832).

References also occur to monastic buildings. Part of 'an ancient dove-house' was exposed in 1819 when the inner wall of a stable was demolished.[12] A precinct wall still existed in 1790, between Eastgate Corner and Pinwell, the 'Common Spring'.[13] Gideon Mantell (1790–1852) remembered it as ablaze with wallflowers, red and white snapdragons and viper's bugloss.[14] And in 1846 the 'chapel', containing traces of Early English work, survived as a barn.[15]

ARCHAEOLOGICAL EVIDENCE

The method of excavation used in all three areas was similar. The post-medieval deposits were stripped by machine to the top of the medieval layers and excavation was continued by hand. Limitations of time and finance prevented excavation as far as undisturbed alluvium over the entire area of the two larger trenches. Sample areas were therefore dug to record the lowest deposits. The remains discovered during excavation are divided into eight periods.

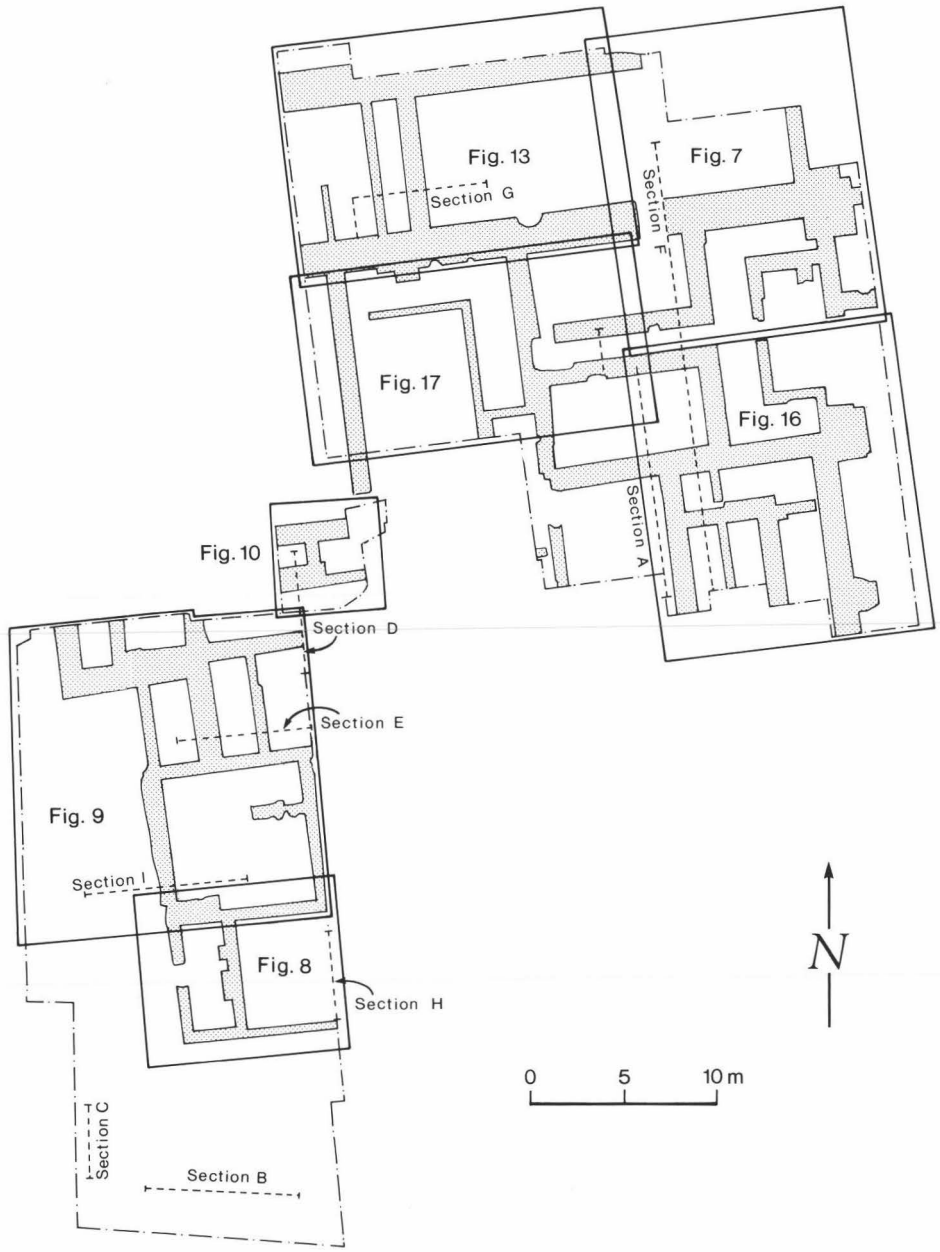

Fig. 3. Key map showing areas covered by plans and locations of sections.

It should be noted that separate series of context numbers were used in the three excavations. Reference to the illustrated plans will make clear in which of the excavations particular contexts lay. All the dimensions of the rooms given are internal and taken at superstructure level.

PERIOD 1 (Fig. 4a)

The remains of the first period were first recognized in a trial trench on the south-west side of the site near to Friars' Walk dug initially by machine and later continued by hand. This revealed a sequence of deposits beneath the friary remains (Fig. 5B). At

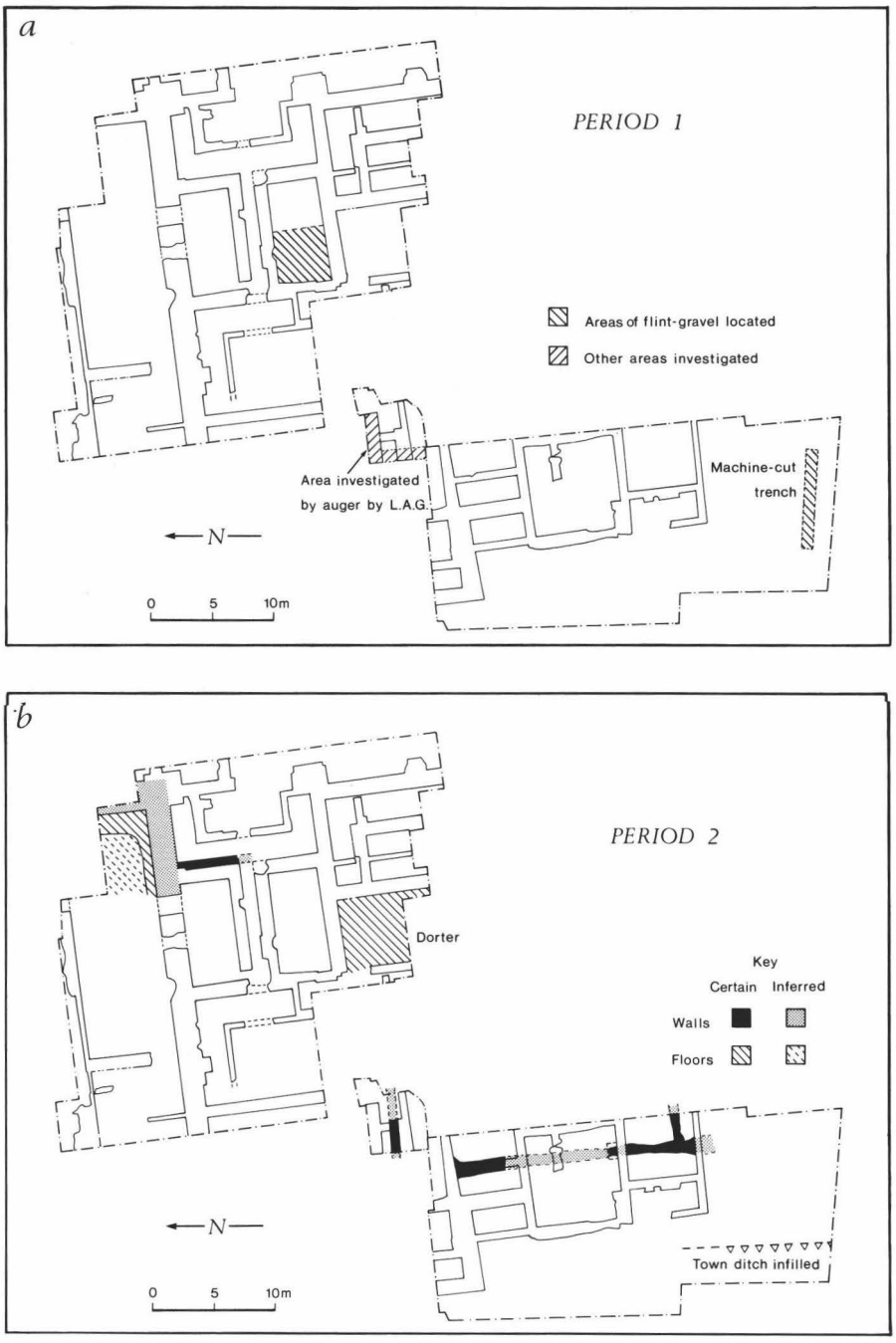

Fig. 4. a) Period 1; b) Period 2 (later features are shown in outline).

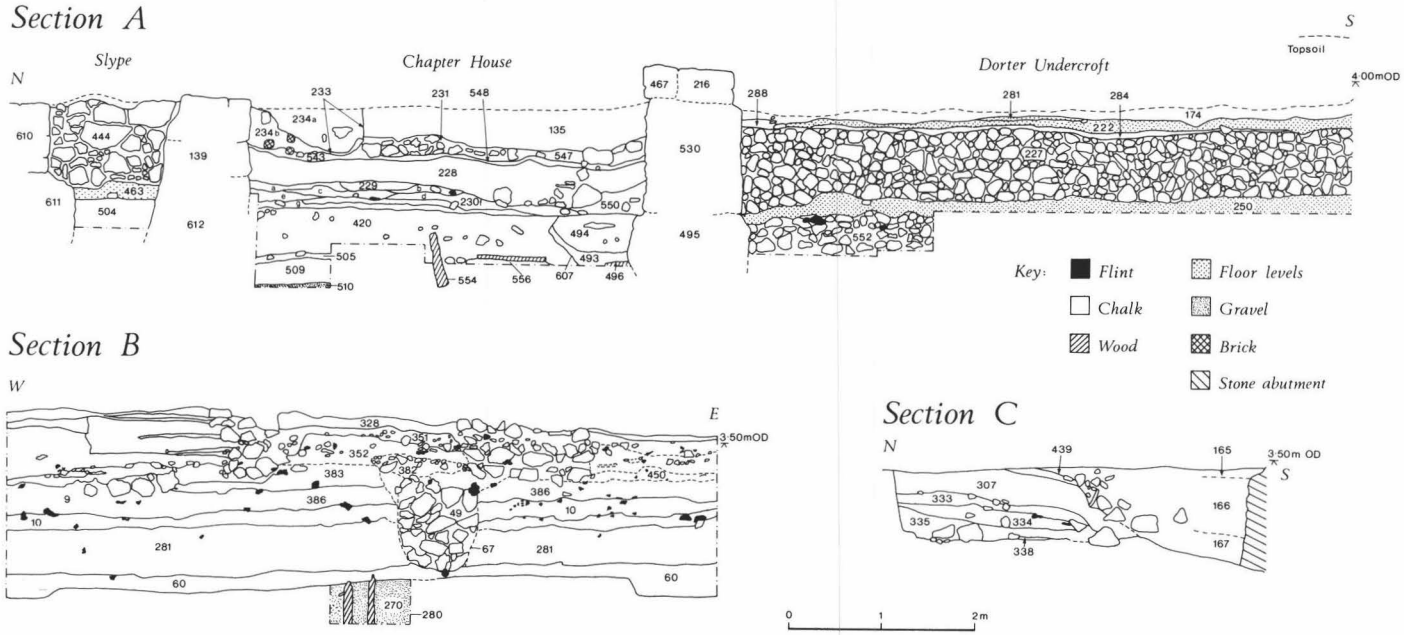

Fig. 5. Sections: A) across chapter house and dorter undercroft; B) along trial trench at south-west of excavated area; C) along town ditch.

the base was a highly compacted layer of angular flint gravel (270) about 50 mm thick. Fragments of waterlogged wood were found on the surface of the flints and projecting through the layer were two wooden stakes. The top surface of the flint deposit was between 1.90 m and 2.15 m Ordnance Datum (OD). Above this was a thin band of blue-grey clay containing bone and pottery of the 12th or 13th century (60), which was overlain by a series of dark brown and orange brown silty clays (281, 10, 386).

Soils sampled beneath the church, the chapter house and the cloisters on the north-east of the site revealed a similar sequence of deposits (Fig. 5A). At the base was a layer of flint gravel (510), the top surface of which lay at about 2.00 m OD. This was overlain by two bands of grey silty clay with a high organic content (505=556, 509). Above this was a deposit about 0.5 m thick of silty clay containing bands of oyster shells, animal bones and waterlogged leather, and separated by sterile bands of clay (420=504). A 10-mm-thick layer of mortar was found above this, indicating the level of the ground surface at the time of the construction of the walls of the friary (not shown in Fig. 5A). At the junction between the clay and silty clay layers were two wooden stakes.

An auger survey by Lewes Archaeological Group in their trench identified a dumped deposit containing flint gravel, mortar and charcoal. The top surface of this stood at between 2.10 and 2.34 m OD. It seems likely that the gravel deposits identified in three excavations were the same layer, which sloped gently towards the river, though it should be noted that the flint surface identified in the LAG trench was considerably less even in the deposit seen in the two FAU excavations. This layer may have formed a broad hard on the floodplain below Cliffe Bridge for beaching ships. It was buried during the 12th and 13th centuries by dumps of rubbish and by sediment laid by the river.

PERIOD 2 (Fig. 4b)

The earliest buildings were only exposed in limited areas as these lay at a considerably greater depth than later structures.

The Friary church (Fig. 7)

Traces of a compacted chalk floor (89) were identified at the east end and along the south walls below the later friary church at about 2.80 m OD. No evidence of walls of this period was found, for these were probably entirely removed by the Period 4 works. The area of flooring seems to imply that the church of this period extended at least as far east as the Period 4 structure.

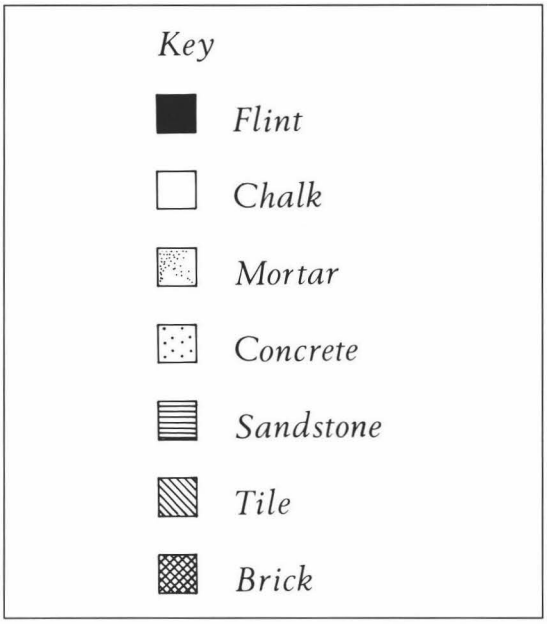

Fig. 6. Conventions used in most following plans and sections.

The (?)dorter (Fig. 5A)

The ground within the room on the east side of the cloisters was dug out during construction and replaced by a deposit of chalk blocks with an olive-brown clay in the interstices (552). A dark olive clay (250) had been laid over this to form a floor surface standing at 2.80 m OD. The walls of this period were probably removed by the later, Period 4 works.

The use of chalk blocks below the floor level is confined to this room alone during Period 2. The intention seems to have been, as in the Period 4 works, to ensure that the floor was dry. The function of the room is suggested by its position in the claustral plan. In most religious houses the dorter was set at first-floor level in the eastern range. It is possible that in the early years the dorter might have been set at ground level, while the Franciscan ideal of austerity was more strictly enforced and the friars lacked the money to erect more elaborate buildings.

The south buildings and cloisters (Figs 8–10 & 11E)

The later fills of the south room in the south buildings and part of the room to its north were removed during excavations and the chalk rubble

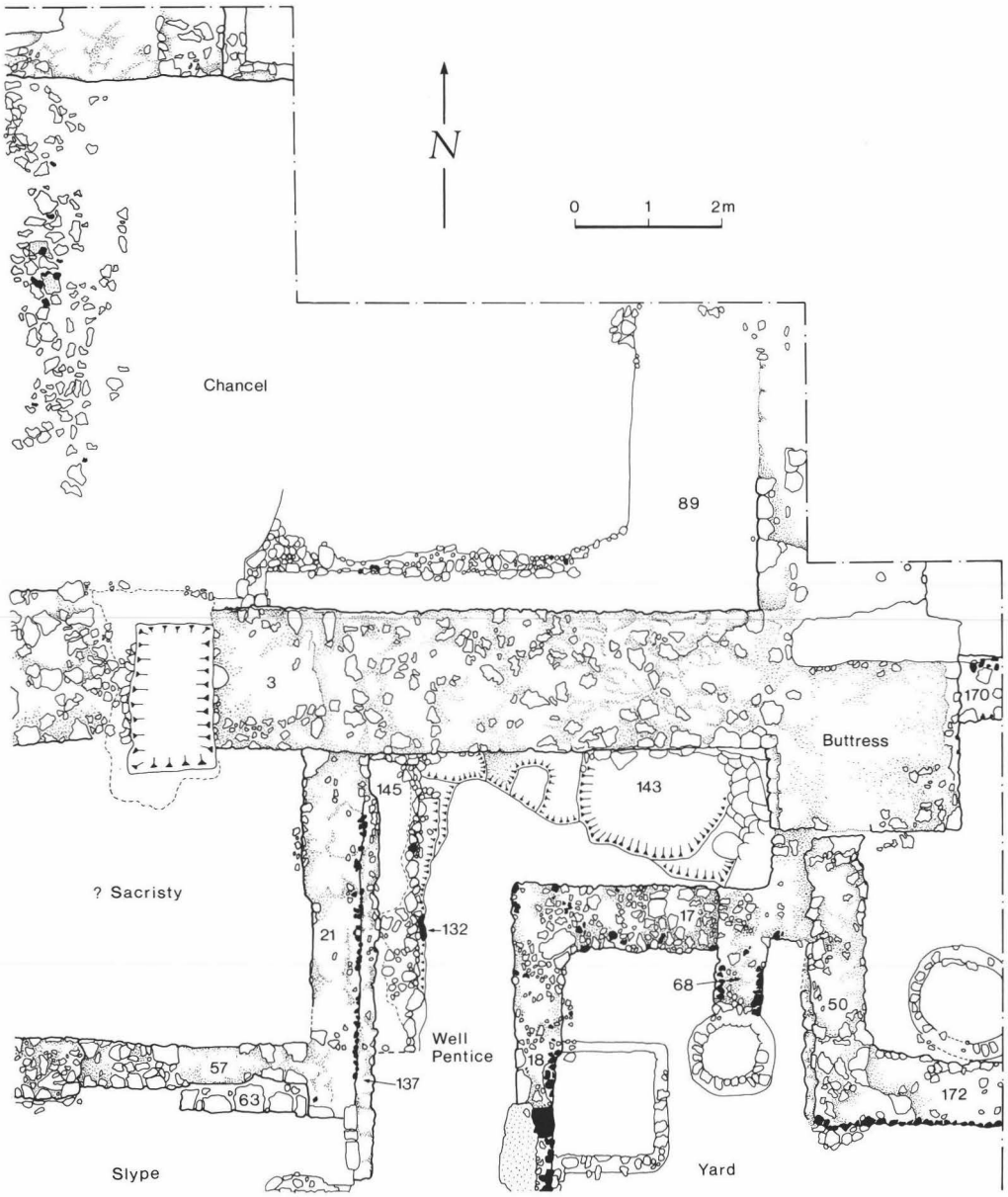

Fig. 7. East end of friary church.

footings were recorded of two walls about 800 mm wide (Fig. 8). The top surface of these stood at about 2.75 m OD. The east–west footings (358) cut the earlier north–south foundations (340) which continued under a later wall (143) to the north. The width of these footings suggest that they were intended for a masonry structure, though no superstructure survived. The area uncovered was too small to determine the character of the buildings. Layers of iron pan formed within the clay into which the foundations had been cut indicate a rising and falling water table (Fig. 18H); any buildings at this level were probably extremely damp. The pottery within the clay above these wall footings is not

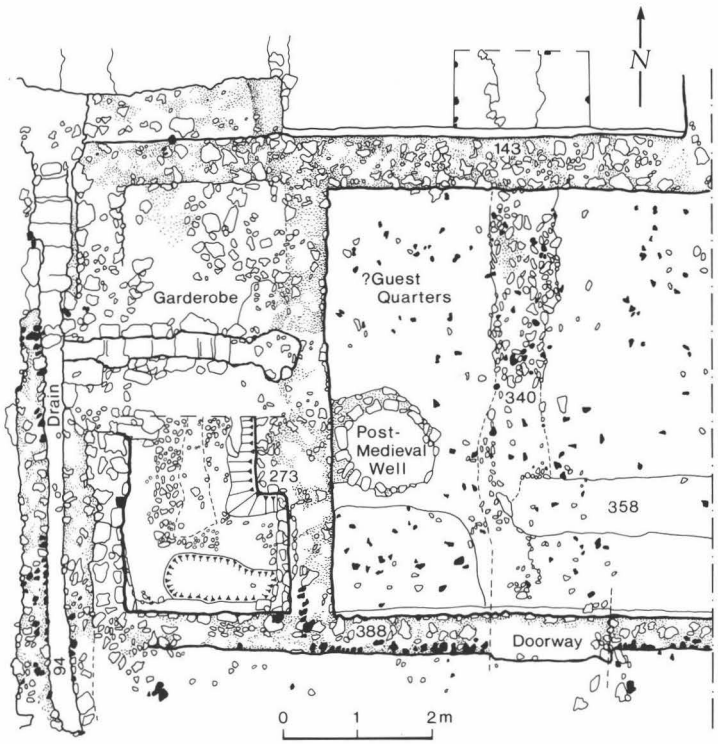

Fig. 8. South range (south part).

earlier than the 13th century and argues that the structural remains are likely to be from the early friary buildings.

The broad footings for a wall (Fig. 11E:409) beneath the frater may belong to this period or to Period 3. They were cut into a clay deposit the top of which stood at 2.45 m OD. The substructure wall with two diminishing courses 1.10 m and 0.85 m wide (408) implies that deposits of clay were laid to raise the level of the floor here. It may be significant that this was in line with the footings 340 which lay to the south and may be the continuation of the same wall (for this reason they are shown as linked on Fig. 4b).

The earliest recorded cloister walk was 2.65 m wide and was bounded internally by a flint-faced chalk block wall (30) set on chalk rubble footings (31) (Figs 10 & 11D). The foundations were cut into the top of a thick clay deposit (40). The slight nature of the footings of the inner wall of the cloisters on the south side might imply that a light timber structure was set on top of a low wall.

Other areas (Figs 5C & 7)

Excavation to the south of the east end of the friary church located a line of chalk rubble (145) with a mortar-covered top surface (Fig. 7). It ran parallel with the substructure (137) of a Period 4 wall. The depth of these footings was not determined, nor was its relationship to the substructure. It is, however, notable that the band of chalk rubble extended 0.7 m eastwards beyond the substructure. Elsewhere the foundations lay directly under and were little wider than the substructure walls. The chalk rubble footings are, therefore, interpreted as belonging to a Period 2 building constructed on the surface of the floodplain. The top of these footings lay at 2.5 m OD, which is a little lower than other remains of this period.

A cutting excavated at the south-west of the site adjacent to the wall of the former railway station revealed a deep ditch partially filled with chalk rubble. Only a limited length of this was excavated, and the bottom was not reached. The ditch measured more than 1.0 m deep and 1.8 m wide (Fig. 5C). It had been infilled in two stages. Initially, chalk had been dumped in the northern part (338, 333–5, 307) and later the remainder had been infilled as far as a right-angled turn in a water channel which led from the south (165–7).

The reference in the Close Rolls to a grant of permission to the friars to seek agreement to build a wall over the town ditch has already been cited. The excavated ditch ran beside Friars' Walk in the direction of the East Gate. Its position close to the presumed course of the town boundary and dimensions allow it to be identified as the town ditch, even though no trace of the precinct wall was found. The wall presumably lay to the west and therefore outside the area of excavation. The dumping in the ditch is attributed to this period on the basis of the documentary evidence alone.

PERIOD 3

Remains of this period were poorly represented in the excavations. The clearest evidence for this phase

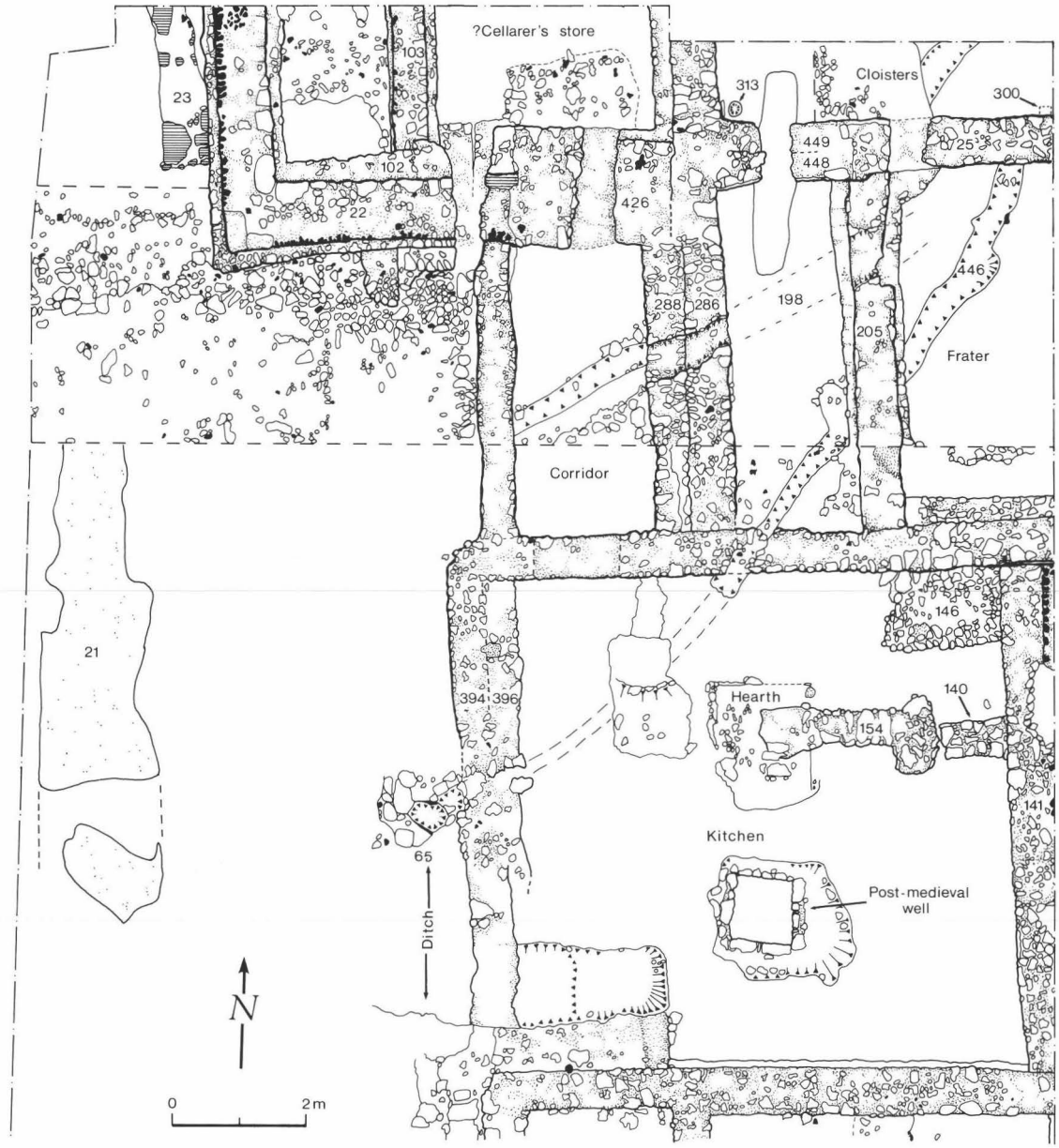

Fig. 9. South range (north part).

is found in the cloisters where floor levels were identified, which, though clearly lower than those of Period 4, were above those of Period 2.

The level within the cloisters (Fig. 11D) had been made up with a scatter of mortar (38) over which lay a thin spread of slate (44). These layers presumably comprised material dropped during the building works. A worn, compacted chalk floor was found above the slate scatter (35/210) at 3.23 m OD.

Evidence of two posts measuring 150 by 120 mm and 140 mm square (Fig. 9: 300, 313) was found in the south-west corner of the cloisters and 4.35 m to

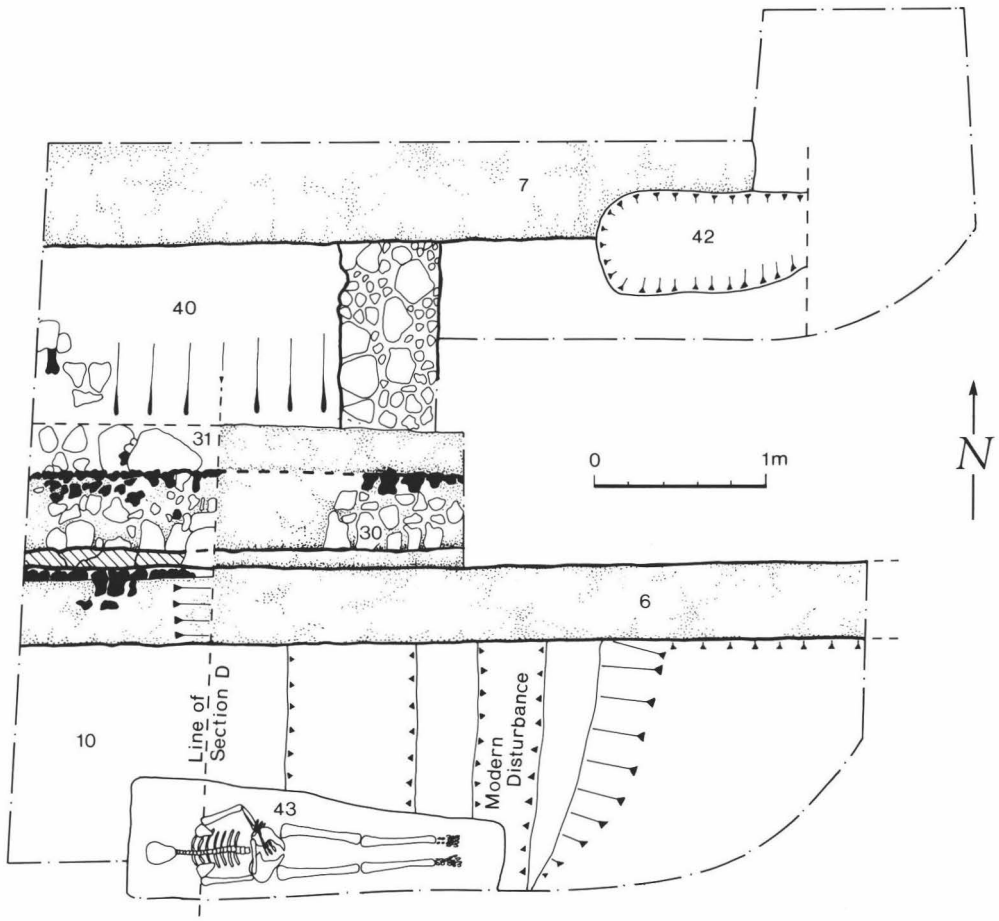

Fig. 10. South-west of the cloisters (excavated by Lewes Archaeological Group).

the east against the south wall of the cloister walk. These had supported a pentice roof over the walk. Any evidence for a third post, which presumably had stood between the other two, had been removed by a later disturbance.

In a second phase of work during this period the cloisters were reduced in the width to 2.25 m by rebuilding the wall facing the cloister garth (6) (Figs 10 & 11D). The floor of the cloister was raised slightly during this period by sealing the old surface with a layer of clay (34/431) and adding a new sandy chalk floor surface (33/138) above it so that it stood at 3.35 m OD. The walls, 104 on the west side and 449 on the south of the cloisters, may belong to this period, though the stratigraphic evidence was not conclusive. On the west side of the cloisters a short chalk bench (not shown on Fig. 9) was built against the wall and stones were fitted in the corner around the post (313) of the pentice roof, which was retained.

In the cloister garth the level was raised above the height of the floodplain with layers of clay loam. A lead pipe had been laid across the cloister garth

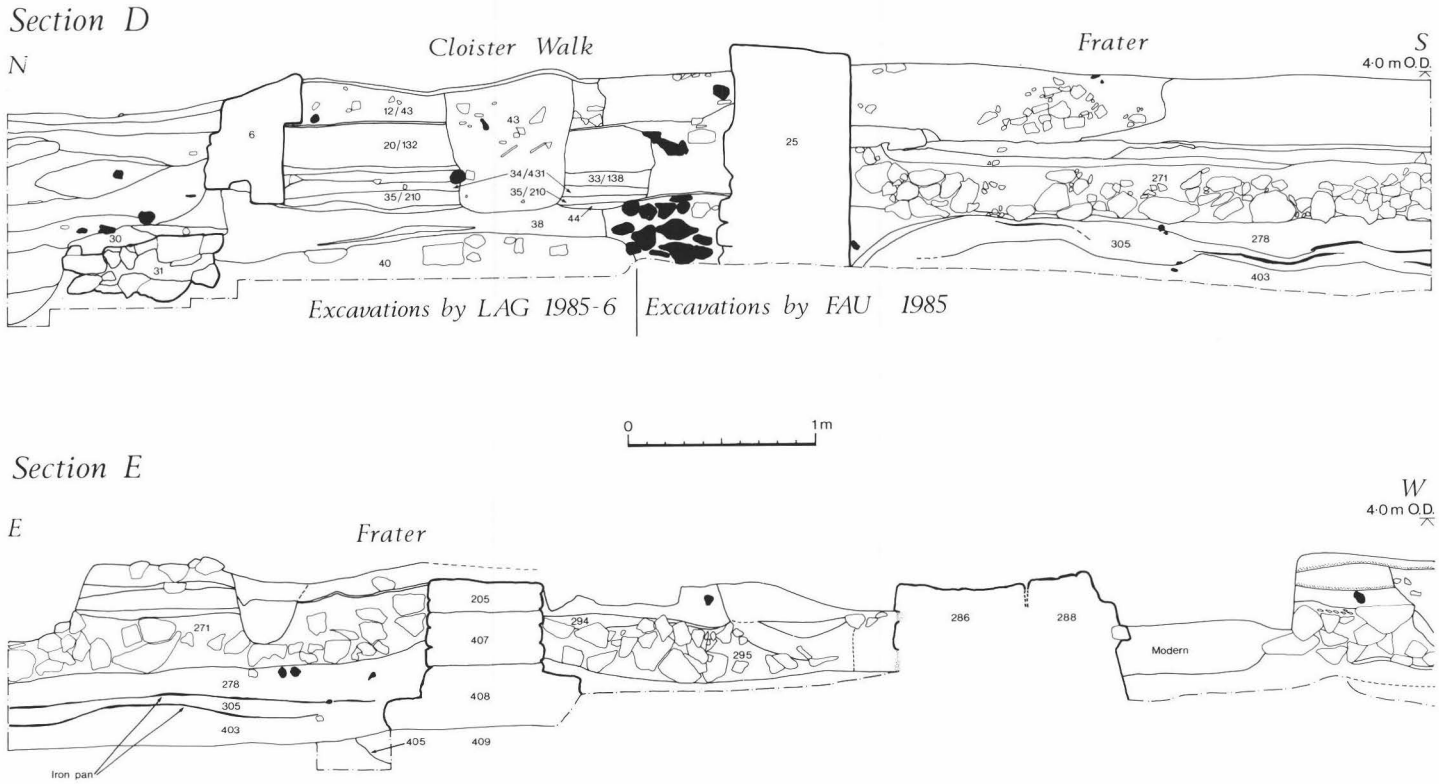

Fig. 11. Sections: D) across cloister near south-west corner; E) across frater.

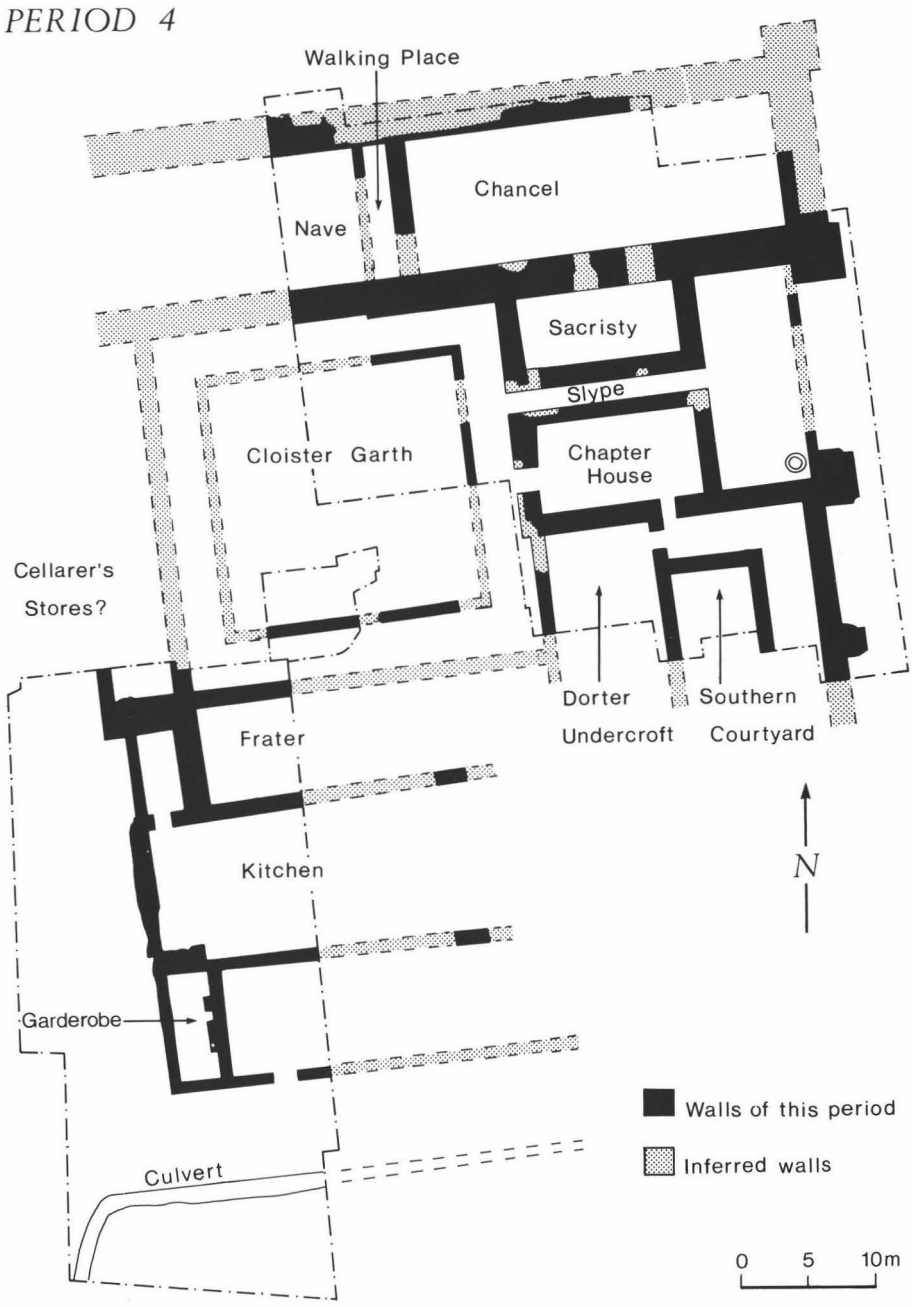

Fig. 12. Period 4 plan.

(Fig. 17) and then chalk rubble was put down. It is not certain whether the footings of the inner cloister wall on the east side of the garth were constructed on the rubble or cut into it. The level of the top of these footings stood at about 3.10 m OD suggesting that they were constructed in the first phase of the Period 3 works. There is no clear evidence of the height of the floor surface in the cloister walk on the east side.

PERIOD 4 (Fig. 12)

Period 4 was marked by a major programme of construction of new buildings and the reconstruction of some existing buildings. New foundations were cut into the clay and on top of this substructure walls were constructed up to the intended floor level. Chalk blocks were then dumped into the rooms to raise the floor level and the superstructure walls then built.

The Friary church (Figs 7 & 13)

The chancel of the friary church measured internally at substructure level 19.8 m long by 7.1 m wide, and was separated by a wall (376) from a nave of equal width which was traced westwards for a distance of 6.2 m. The west end of the nave lay beyond the excavated area. Most internal features, with the exception of a number of graves, had been removed by later disturbance. A slight wall without footings (443) was built on the Period 4 floor. A passage way, known as the walking place, ran between this wall and the west wall of the chancel. It measured 1.3 m wide and led from the cloisters to the High Street (Figs 12 & 13).

The walls of the church were built by cutting a trench from the exterior of the church (143) about 2.1 m OD. At the south-east corner a deeper pit was dug for the buttress, the bottom of which was lower than 1.6 m OD (Fig. 7). The foundation trenches were then filled with unmortared chalk rubble. On top of this, substructure walls of roughly-coursed chalk blocks about 2 m wide were built and a superstructure of squared chalk, faced externally on the south side with knapped flint was laid. Only short lengths of superstructure walling survived, but these measured 0.94 m in thickness. Soil (6, 377, 586), probably from the foundation trenches, was mounded up against the substructure walls on top of the Period 1 floor (Figs 14 & 15). This was then covered by chalk rubble (5, 492, 587) to raise the level and a floor surface (351, 583) was laid.

The buttresses formed an integral part of the substructure walling. A large clasping buttress of chalk measuring 2.9 by 2.6 m was bonded to the south-east corner (Fig. 7) and it may be presumed that there was a corresponding buttress at the unexcavated north-east angle. The dimensions of the buttress demonstrate not only the size of the building, but also the instability of the ground. Part of a single buttress bonded to the north wall was uncovered at the extreme north-west corner of the excavation (Fig. 13: 617). It protruded 0.94 m from the face of the substructure wall and may have been one of a series on that side.

Fragments of wall plaster with painted red or black lines imitating masonry, decorated floor tiles and painted window glass recovered from the demolition debris indicate the nature of decoration within the church.

The cloisters

Sections across the cloisters on the east side revealed little of the structural sequence. At the south-west corner the cloister floor was raised about 250 mm with a crumbly chalk infill (20/132) during Period 4 (Fig. 11D). This work also necessitated increasing the height of the inner cloister sill wall (6 - upper part). The floor surface of the cloister walk would then have stood about 250 mm below the door sill of the frater. Sometime later, the cloister floor was raised a further 180 mm with the addition of more fine crumbly chalk (12/43) and a new surface of compacted chalk formed on top. The original pentice roof was retained.

Before the cloister floor was raised for the first time in Period 4 a lead pipe was laid cutting through the make-up 20/132. Lengths of this pipe which ran in a north-east/south-west direction were traced in all three excavations over a distance of 28 m. It had been badly disturbed by later burials in both the cloister walk and garth (Fig. 17). It may have supplied water from one of the springs along Friars' Walk. Owing to heavy disturbance at its northern end, the destination of the pipe is uncertain, though it appeared to run in the direction of the chancel.

East range

The dorter undercroft (Figs 5A & 16)

The roughly faced blocks of the substructure walls (530) of the building on the south-east side of the cloisters were laid on irregular chalk rubble footings (495). The substructure was butted at substructure level by the walls of the chapter house and the courtyard to the east. At superstructure level all the walls were bonded. The superstructure was constructed of well-faced chalk blocks (216). After the construction of the walls, the level within the room was raised by dumping chalk and flint rubble (227) over the Period 2 clay floor. This in turn was sealed below a deposit of brown clay and finer chalk rubble (222) which formed a floor surface. Access to the room from the east was through a doorway (469) with chamfered sandstone quoins. The room

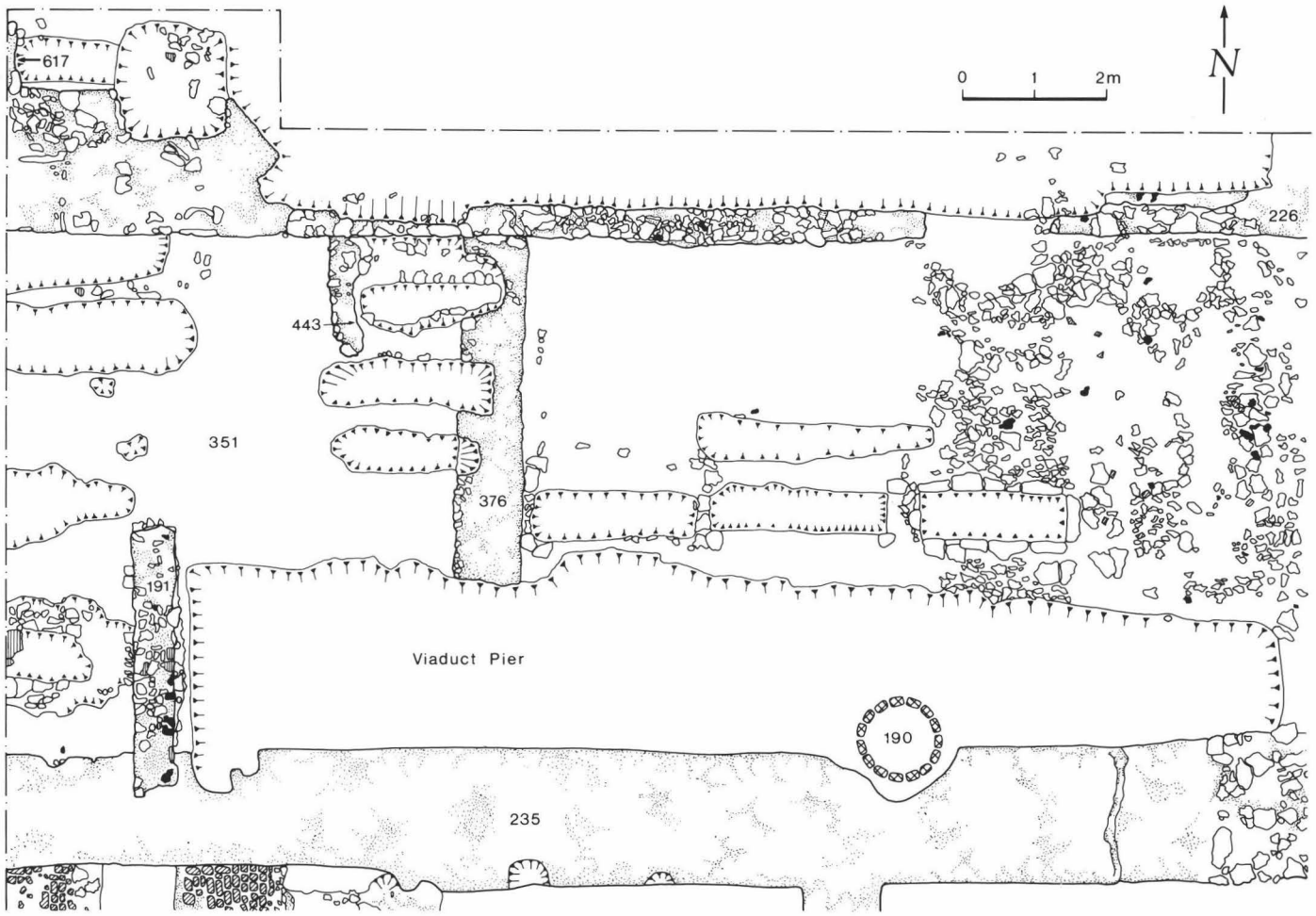

Fig. 13. West of friary church.

Section F

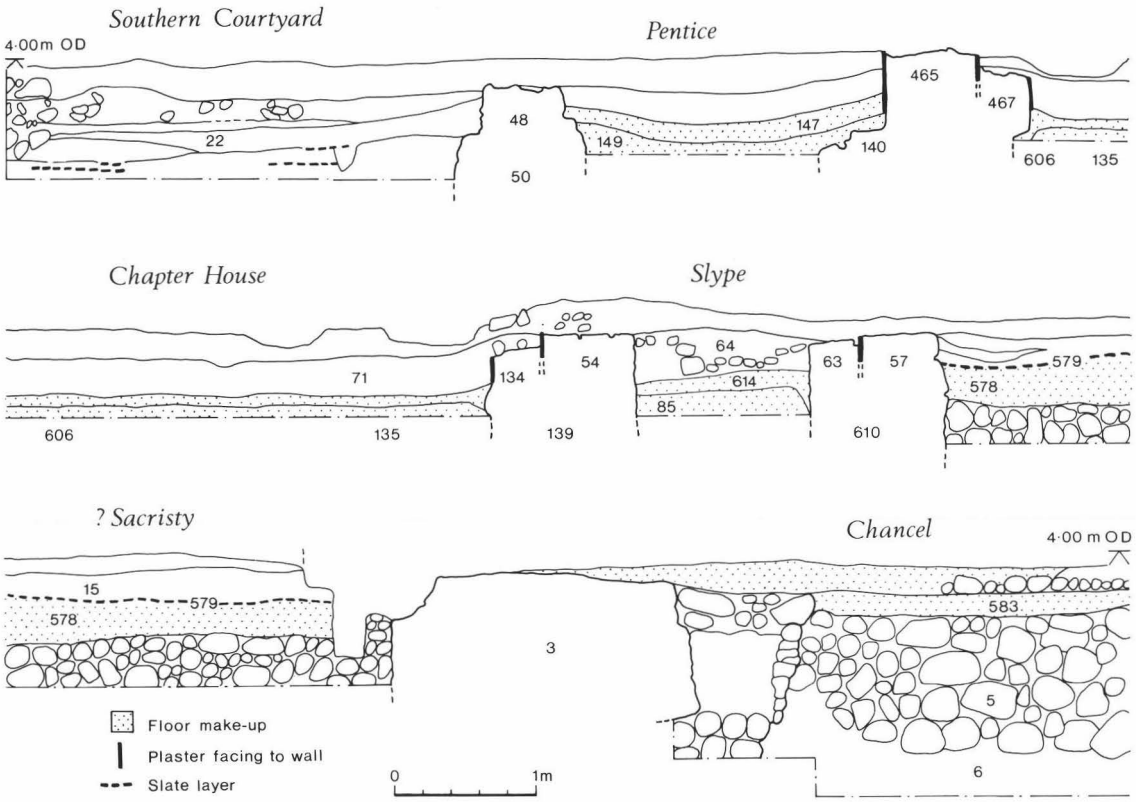

Fig. 14. Section: F) across east range and chancel.

Section G

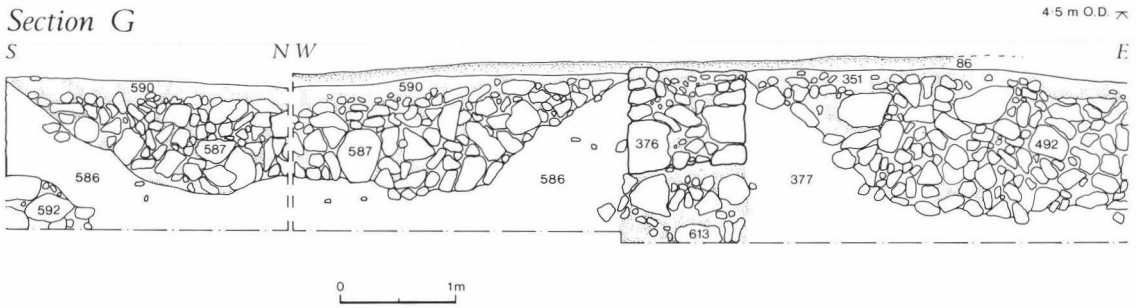

Fig. 15. Section: G) across nave and walking place.

was 5.7 m wide and measured 7.7 m as far as the limit of excavation.

The foundations of this building were more substantial than any other structure in the eastern range, excepting only the church. This suggests that the building was two storeys high. Though it has been suggested that in Period 2 the dorter may have been situated at ground level for reasons of austerity and poverty, it seems improbable that this unusual arrangement would have persisted in later periods. It can therefore be assumed that the upper floor of this building was occupied by the dorter. It is not possible to identify the function of the undercroft.

Chapter house and slype (Figs 7, 16 & 17)

The substructure walls of the chapter house and slype butted those of dorter undercroft, but at superstructure level all surviving walls were fully bonded to one another. The superstructure walls of the chapter house survived up to a height of 0.6 m. They were similar to those of the dorter undercroft, except that the eastern face of the east wall of the chapter house was faced with knapped flint, indicating that it was external. The sandstone jambs of the doorway leading to the chapter house from the cloister walk were present on the south side of the door (Fig. 17:224), but did not survive on the north. A second doorway led into the chapter house towards its east end from the southern courtyard pentice (Fig. 16:468). The inner faces of the room were covered with plain white plaster. The room measured 8.9 m by 4.85 m.

The footings for the south wall of the chapter house were cut from the north side (Fig. 5A:607). A number of planks (496) were found lying parallel to the wall in the waterlogged foundation trench where they must have been discarded during building work. After the superstructure walls were complete, the building was roofed with slate before the floor was laid: layers 229 and 230 contained numerous fragments of slate and mortar. The level was then raised with a deposit of clay loam (228) and layers of brown clay (548) and fine chalk rubble (231) giving a firm base for the first floor (135).

To the north of the chapter house was a passage or slype 1.65 m wide leading from the cloisters to the east. The jambs of a door survived at the eastern end, but on the west they had been removed by 19th-century railway disturbance (Fig. 17). Traces of a stone bench (Fig. 7:63) of large, roughly squared chalk blocks were discovered on the north side of the passage near the east doorway.

(?)Sacristy (Figs 7 & 17)

The substructure walls of this room butted on to the church. As in the other rooms, at superstructure level all walls appear to have been bonded. The superstructure walls were made of well-coursed chalk and the outside of the east wall was faced with knapped flint. The stratigraphy within the room was not cleared to a great depth. The area exposed suggests that the construction sequence was similar to that recovered from the chapter house and slype. Over a base of chalk rubble (65) a compacted chalk floor (578) was laid (Fig. 14).

The function of this room is not certain, though it may have served as a sacristy, or, less probably, as a side chapel or library. The positions of the entrances to this room were not determined.

Southern courtyard and pentice (Fig. 16)

The substructure walls (46, 140) consisted of poorly finished, roughly coursed chalk. Two buttresses had been added at substructure level on the eastern side (242, 243). The substructure of the larger, a clasping buttress at the north-east corner, measured 3.05 m by 2.0 m. The smaller buttress (about 1.05 by 1.80 m) had been added on to the eastern substructure wall some 6.5 m to the south. The superstructure of both supports (45, 616) had been bonded in to the main wall of the room.

Walls 44 and 48 separated the courtyard from the pentice which measured 2.25 m wide on its north and east sides. The southern and western sides of the these walls were faced with knapped flint, indicating that the courtyard was open to the weather, though the east wall of the dorter undercroft (216), which also must have been exposed, was not thus protected. The superstructure walls facing the courtyard were relatively narrow, measuring only 0.5 m in width, and these contrast with the buttressed walls to the east which were almost twice as broad. A section (Fig. 14F) excavated across the deposits within the pentice and courtyard shows a sequence of floor levels and deposits to make up the ground level. The earliest floor level (149) in the corridor runs only as far as the pentice wall (48). The floors had subsided into the layers beneath, emphasizing the unstable nature of this area.

Yard (Figs 7 & 16)

The yard measured 9.3 m by 4.8 m and was entered through the slype on the west. The eastern boundary of the yard was delimited by a rough chalk wall faced on both sides with knapped, coursed flint (36, 68). The wall was bonded to the buttress (616) on the south side, but at the north end the relationship had been obliterated by later work. The walls of the adjoining buildings (21, 37) to the south and west were faced externally with flint, indicating that the yard was open.

The stratigraphy of the yard was largely removed by machine and a complete record of the earlier phases was not possible. A primary chalk mortar floor appears to have been laid directly over a dense chalk rubble deposit similar to those elsewhere. A chalk-lined well (Fig. 16:33) contemporary with the

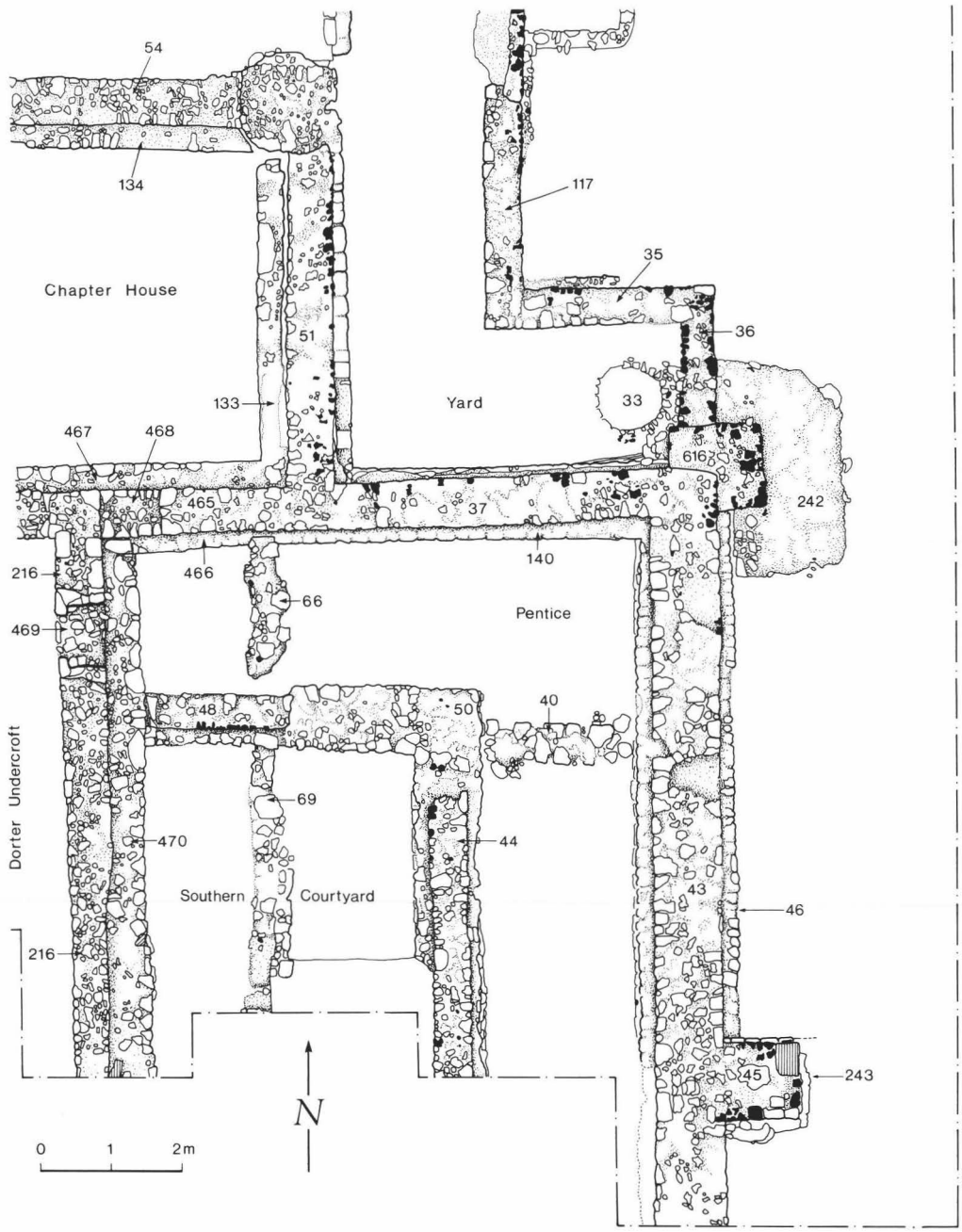

Fig. 16. South part of east range.

initial floor was situated in the south-east corner and had an internal diameter of 0.92 m and was excavated to a depth of 1.50 m OD.

South buildings

The substructure walls of the south buildings displayed a similar pattern of butted joints. If these

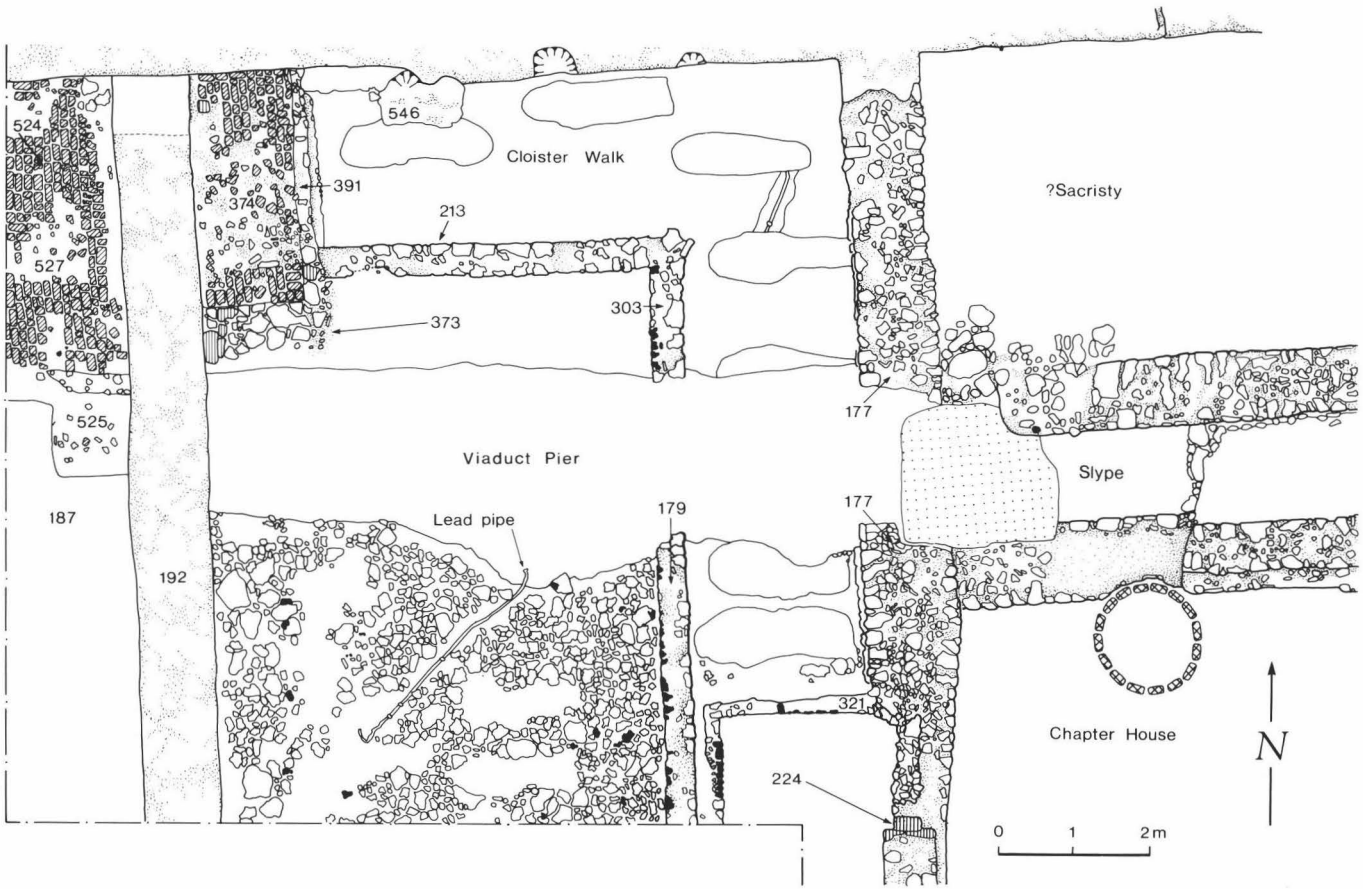

Fig. 17. North and east sides of cloisters.

are indicative of the progress of work, it suggests that construction of the substructure started on the south side and continued northwards towards the cloisters.

Guest quarters/infirmary and garderobe (Fig. 8)

The sequence of butt joints in the substructure walls indicate that these rooms were the first in the south buildings to be built. The footings comprised compacted, unmortared fine chalk rubble and the substructure walling was made from coursed, mortared chalk blocks approximately 300 mm high on which was laid a superstructure of more carefully shaped chalk blocks. The superstructure on the south side (388) had an outer facing of unknapped flint nodules, showing that it was an external wall.

After the substructure was completed there was apparently a change in plan. A buttress (273) was built against the western wall of the larger room, possibly to support a projecting chimney, suggesting that this was intended to be an external wall. It was butted to the wall at the substructure level, but mortared in at superstructure height. One course of flint facing continues around the south-west corner of the larger room for a short distance along the west wall, also indicating that this was intended to be an external face. A small room was apparently added to the west and the substructure courses were butted on to the larger room. This evidently happened before work had continued very far on the superstructure, which above the lowest course ran continuously across the substructure butt joints.

There is some slight evidence of a pause in work between the sub- and superstructure construction. The section (Fig. 18H) shows that the foundations (415) were dug from the top of layer 262 and the scatter of mortar accumulated on that surface during the construction of the substructure wall (388). Two thin bands (142, 217) accumulated above this before the level of the room was made up with a mixed layer of silty clay loam (127). The upper of these two thin bands (142) was an organic deposit of dark brown silty clay loam with occasional fragments of charcoal. It is possible that these accumulated during a break in building work.

A section cut to the north of the smaller room showed there was an open ditch running along the west side of the buildings. At a later date, probably in Period 5, a drain was constructed against the wall of the room leading to the south (Figs 8 & 18I). The floor of the drain was built of sandstone slabs and the sides of mixed chalk, sandstone and flint. Subsequently, a spur to the drain was laid across the centre of the smaller room. The small dimensions of the room and the presence of a drain strongly suggest that this was a garderobe.

This in turn suggests that the larger room was used for a domestic purpose. The most likely function of a room on the south of the friary buildings is either for guest quarters or an infirmary. A similar room with an adjoining garderobe in the Camarthen Greyfriars was interpreted as the infirmary (*Medieval Archaeol.* 30 (1986), 196). The room at Lewes measured 5.70 m wide and 5.08 m long as far as the limit of excavation. The garderobe was 2.10 m wide and it ran the full breadth of the adjacent room.

Kitchen (Fig. 9)

The kitchen lay to the north of the two rooms described. Its west wall (394) had been butted against the wall of the garderobe. The foundations were similar to those in the guest quarters/infirmary, but there was no distinction between the sub- and superstructure walls. Soil from the foundation trench for the wall had been thrown into the building and was later heaped against the wall (Fig. 18I:443). Chalk rubble (147) was used to raise the ground level and was then sealed with a floor of compacted chalk (375). Towards the centre of the room was a large hearth measuring 2.0 by 1.5 m, slightly raised above the level of the floor.

Kitchens are commonly found in the normal claustral layout on the west side of the south buildings and the identification here is reinforced by the presence of a large hearth.

Frater (Fig. 9)

The south side of the substructure walls of the frater were butted against the kitchen, and were therefore secondary to it. On the north side the substructure wall (448) had been built alongside the existing cloister wall (449) to increase its width. The cloister wall (25) must have then been demolished to the top of substructure level and a new superstructure wall was raised on top, spanning the two contiguous substructures (not shown separately in Fig. 11D)

The Period 2 wall (205) across the west part of the frater was demolished, the ground level was raised by dumping chalk and a new floor surface was laid over the top of the stump (Fig. 11E:205). A new wall was then constructed to the west (288).

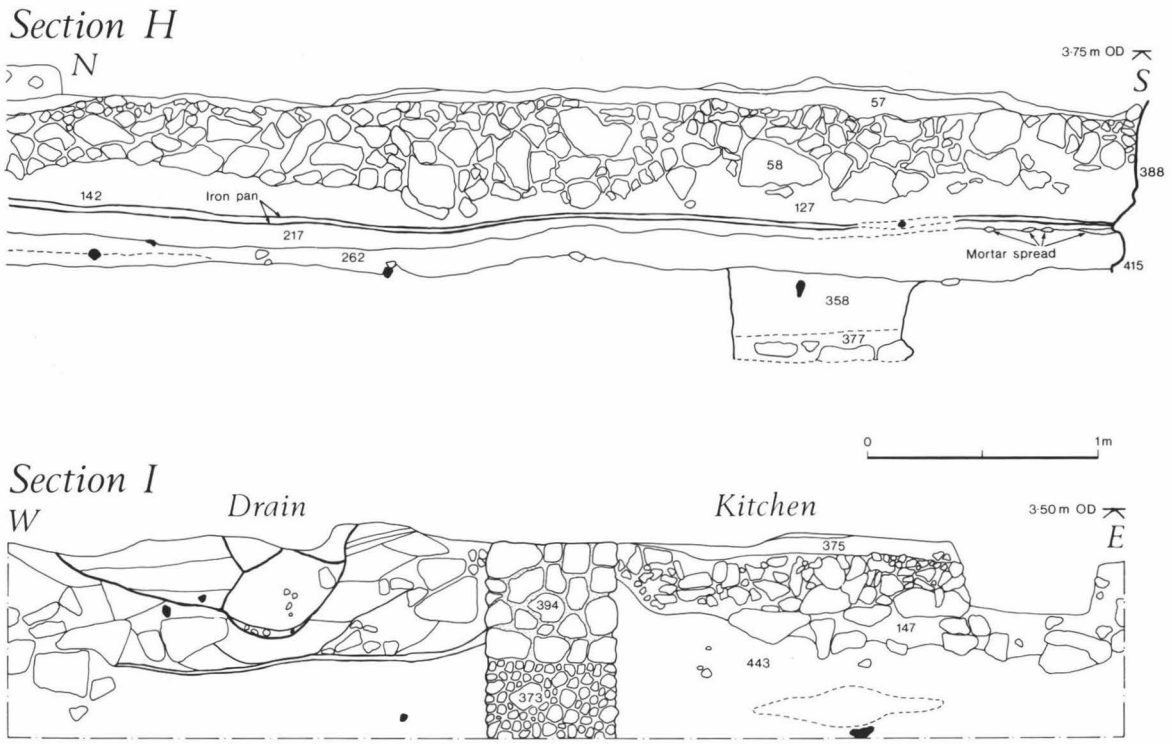

Fig. 18. Sections: H) across ?guest quarters showing Period 2 footings; I) across drain and kitchen.

The entrance to the enlarged room was from the south-west corner of the cloisters, where one door jamb remained.

The position of this room on the south side of the cloister and close to the kitchen allows it to be tentatively identified as the frater or frater undercroft. The frater in many friaries was situated on the first floor and built out over the cloister walk. At Lewes the inner cloister wall was clearly inadequate to support a substantial stone-walled building. The frater (or frater undercroft) measured 5.25 m wide internally and was 4.95 m long as far as the limit of excavation.

The west end of the Period 4 frater was formed by two conjoining walls (286, 288). The interpretation of the sequence of building here is not certain, but it seems that the wall 286 was retained from an earlier phase and its width was increased by adding wall 288. This sequence would mirror the thickening of the wall on the north side of the frater, already described. If this is correct, it seems that the room between walls 205 and 286 was originally a corridor connecting the kitchen and cloisters. In Period 4 the corridor was incorporated within the enlarged frater and a new corridor was built to the west, linking the kitchen and west range.

Corridor (Fig. 9)

The superstructure of the Period 4 corridor is contemporary with the room to the north. The corridor, which measured 1.8 m wide, was butted against the kitchen to the south. A mortar-covered threshold between the kitchen and the corridor indicated the position of a doorway. A moulded stone at the north end of the corridor marked the position of a door jamb there. The ground surface in the room had been raised in the usual manner by dumping chalk and over this lay three successive compacted chalk floor surfaces.

West range

Only a small area of the west range was uncovered during excavation. The space available for buildings on the west side of the cloister was limited by the town ditch and though this had been infilled, the ground may have continued to be unstable.

(?)Cellarer's storeroom (Fig. 9)
The room was built against an existing wall on the west side of the cloister. The substructure of the corridor to the south is earlier than that of this room. The two rooms were bonded together at superstructure level. The substructure of the south wall of the room (426), which measured 1.75 m across, was unusually broad. A possible reason for this may have been to provide a buttress for the north-west corner of the frater, which was considered to be unstable.

The west wall of the room (103) was externally faced with flints and the roof had been covered by slate as was evident from the scatter lying over the chalk rubble make-up and beneath the first floor surface in the room. The floor only just covered the top of the substructure on the east side and, when excavated, was lower than it on the west owing to the subsidence of the underlying make-up. The floor was later levelled with an orange-brown clay and a second chalk surface laid.

West ranges were often used for guests' accommodation, the warden's quarters or for the cellarer's stores. A corridor leading directly from the kitchen to the range might argue for the latter use here.

Friary precincts (Fig. 9)
An area of humic soil lay on the west side of the friary buildings. Darker lines within this were interpreted as root channels and this area was probably the friary garden. A gravel path was traced running parallel with the baulk (21) on the west side at the edge of the excavation. A ditch adjacent to the building probably carried rain-water from the roofs and effluent from the garderobe.

During Period 4 a barrel-vaulted chalk culvert was constructed to the south of the friary buildings (Figs 2 & 12). This drained water from the length of the town ditch which had not been infilled to the river. The ditch was probably fed with water by the Pinwell spring which lay to the south-west. It would have flowed along the ditch until it reached the end of the culvert where it turned a right-angle to flow through the culvert eastwards. The drain next to the garderobe emptied into the culvert. It is probable that the reredorter, which was not excavated, but usually lay to the south of the cloisters, was flushed into it.

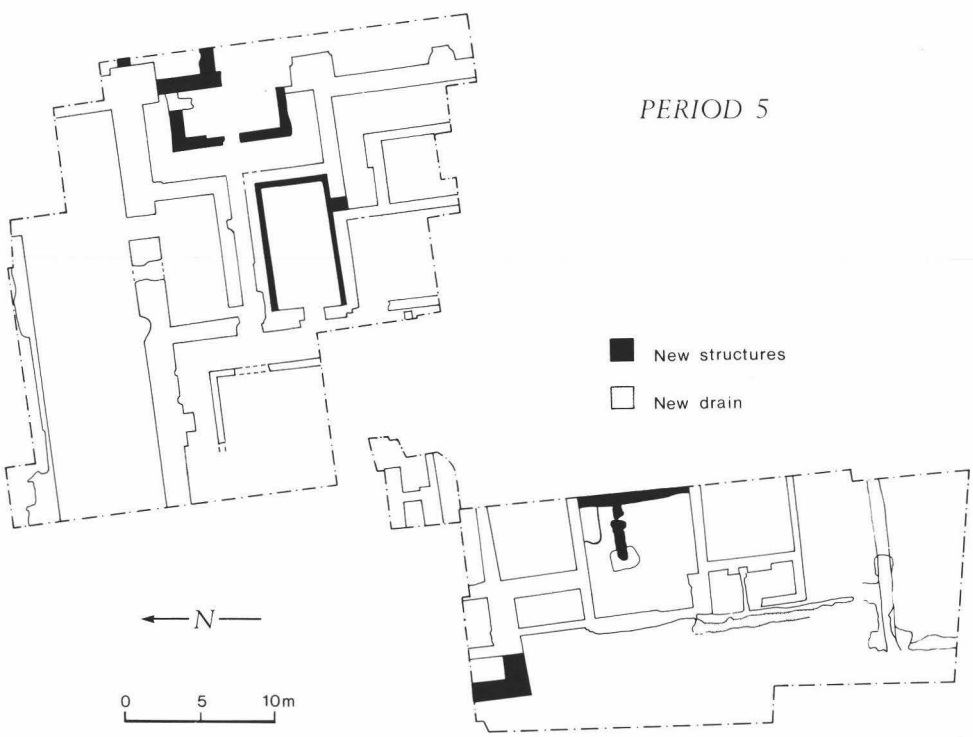

Fig. 19. Period 5 plan.

PERIOD 5 (Fig. 19)
A number of the friary buildings were modified during Period 5. It is improbable that all the alterations were contemporary, but the evidence from excavation does not allow the periods of work to be differentiated.

Church (Fig. 13)
The walking place across the church was removed by demolishing its chalk walls during Period 5. Too little of the superstructure walls remained to show if the doors either end of the walking place were blocked. A new chalk floor (Fig. 15G:86) was then laid over the former walls. The location of the demolished walls seems to have been forgotten as the foundations were cut by later burials.

East range
Chapter House (Figs 5A & 16)
The south doorway of the chapter house was blocked (468) and squared blocks of chalk masonry measuring 0.4 m wide and 0.5 m high were laid against the faces of all the walls, except the west (133, 134, 467). The primary floor surface (Figs 5A & 15G:135) was removed beneath the blocks, and a new chalk mortar floor laid (not shown on Fig. 5A) and the faces of the chalk blocks were faced with mortar. These blocks formed a stone bench around the wall of the room, a common practice in the chapter houses of many orders.

Southern courtyard and dorter undercroft (Fig. 16)
As already mentioned, the door from the south side of the chapter house was blocked in this period (468), but access to the pentice continued through the door on the north-east of the dorter undercroft. New chalk floors were laid in the undercroft (Fig. 5A:174), within the pentice and in the courtyard. Within the latter layer was a jeton of Edward II, class XI struck between 1310 and 1314.

The yard (well pentice) (Figs 7 & 16)
The area of the yard to the east of the chapter house and (?)sacristy was reduced during Period 5. The central portion of the Period 4 boundary wall was removed and three new chalk walls (17, 18, 35, 117), faced on the external sides with knapped flint, were constructed to the west to create a U-shaped walkway. The existing chalk-lined well (33) remained within the enclosure. A doorway 1.2 m wide with chamfered sandstone jambs was built at the centre of the new boundary wall in line with the existing door from the slype. A new chalk floor was laid over the earlier floor as far as the new walls.

The new boundary walls were only faced with flint on one side only. The other face of chalk must therefore have been protected by a roof. This rebuilding was to form a pentice giving covered access to the well and replacing the earlier open yard.

Building of uncertain function (Fig. 7)
A new building was constructed at the north-east corner of the excavated site before Period 6. Its substructure walls (50) consisted of rough, uncoursed chalk masonry with a coursed chalk superstructure above, which survived on the north and south sides (170, 172). The exterior sides of the walls were protected by knapped flint. Both substructure and superstructure walls were butted on to the south-east corner of the chancel. Owing to the proximity of the building to the High Street, no excavation below the level of the final chalk floor was possible.

The building measured 4.65 m wide internally at superstructure level. The east end lay outside the area of excavation. The function of this building was not determined.

South buildings
Kitchen (Fig. 9)
After the first clay floor level had been laid, a trench was dug across the room in the kitchen and a wall (141) inserted, creating a square room which measured 7.3 m internally. The secondary nature of this work was clearly shown by the cut made through the chalk rubble make-up beneath the floor and by the butt joints with the walls to the north and south. It was clearly flint-faced on the eastern side indicating that it was an exterior wall, though little of the superstructure of the inserted wall survived.

A wall of large mortared chalk blocks (154, only partly shown on Fig. 9) was constructed over the hearth. This survived in a fragmentary state, but sufficient was present to show that it was a fireback which would have supported a smoke hood. Broken tiles, found randomly scattered when excavated, may have either fallen from the fireback when demolished, or might have lined the base of the hearth. Later, the space between the hearth back and the inserted east wall was blocked with a chalk wall (140). A raised setting of large chalk blocks set in a matrix of grey-brown clay was constructed in the north-east corner of the kitchen against the inserted wall (146). This was evidently the remains of the base of an oven.

The larger medieval kitchens were commonly square or polygonal in plan. The insertion of a wall reduced the original area of the room to a square shape. The area of the former room beyond the inserted wall seems to have become an open yard since the new wall was flint-faced on its east side. It is possible that as the number of friars declined, the kitchen may have been reduced in size.

The (?)lavatorium drain (Fig. 9)

A trench (198) from the north side of the frater ran diagonally across the corridor on the west to the exterior of the friary. It had been sealed beneath the later chalk floors, but had been cut through the walls between the frater and corridor and also the outside wall. When excavated, there was no pipe in the base of the trench, though this may have been removed during later medieval works. Nevertheless, the trench was very probably dug for a drain, which would have debouched into the ditch running along the west side of the friary buildings.

A second ditch (446) apparently cut from above the surviving floor levels might belong to Period 6 rather than Period 5. Like the earlier drain channel, it began near to the north wall of the frater. At the base of the trench was a lead pipe. It drained into a soakaway edged with broken grave covers of Sussex marble (65) outside the friary walls. Their use may reinforce the suggestion that it was constructed after the Dissolution.

Both drains ran from a similar position near the frater and may have served the same purpose. A drain from the frater seems hardly necessary, but the lavatorium was generally situated on the other side of the wall in the cloisters. The drain may have come through the wall and then passed underground along the channels described.

West range

Western room (Fig. 9)

During Period 5 the room was enlarged by 1.8 m to the west. This probably took the building over the line of the now infilled town ditch. A substantial substructure wall measuring 1.4 m wide was built (102) and the room then filled with dumps of clay. A wall with a facing of knapped, coursed flints and core of smaller chalk rubble and with sandstone quoins was built on top of the substructure (22). Compacted chalk rubble was then dumped into the room over the stump of the west wall (103) of the (?)cellarer's stores, which was demolished to create a single enlarged room.

To the west of the new wall a number of pieces of moulded stone (23) were found. These had been placed there before the building work had been complete, since between them and the wall were a scatter of flint flakes which had fallen while preparing flints for the facing of the superstructure (22). The moulded stones may have come from rooms in the west range which were being altered and imply the presence of windows of some size and complexity.

Differential subsidence occurred during the period of use of the newly enlarged room. Orange clay was used to level up the surface and this was capped with a new chalk floor. Traces of two later floor surfaces were found above this.

The quality of work within the enlarged room hardly suggests that this remained the stores. A more prestigious use such as the warden's lodgings or guest quarters is indicated. The associated pottery suggests that the works were 14th or 15th century rather than later. The moulded stones placed to the west of the (?)warden's lodgings included pieces from a Perpendicular window. These and the use of close-packed, faced flints in the new wall suggest a date range of *c.* 1350 to 1500.

PERIOD 6 (Fig. 20a)

Shortly after the Dissolution substantial changes were made to the friary structure. Some buildings were altered and others, including the church, were demolished. Graves in both the church and cloister garth were disturbed, presumably following the removal of the covering stones. Floor tiles, stained glass and slate were found where they had fallen in the newly exposed grave voids.

A new room (Fig. 17) was inserted on the site of the cloister walk and this extended slightly into the former cloister garth. Its construction necessitated the removal of a number of graves and a section of the inner cloister wall (213). The walls (373, 391) of the new room were made from re-used chalk and sandstone blocks. A gap 2 m wide in the east side may be an entrance or, more likely, is the result of later robbing. The room was floored with brick (374, 524).

A thick clay floor (Fig. 14:71) was laid in the chapter house, burying the Period 5 chalk benches. This suggests that the room continued in use, but the sacristy to the north was probably demolished at this time. A layer of broken roofing slate (579) accumulated over the earlier floor (578). A layer of destruction debris (15) above this seems to be

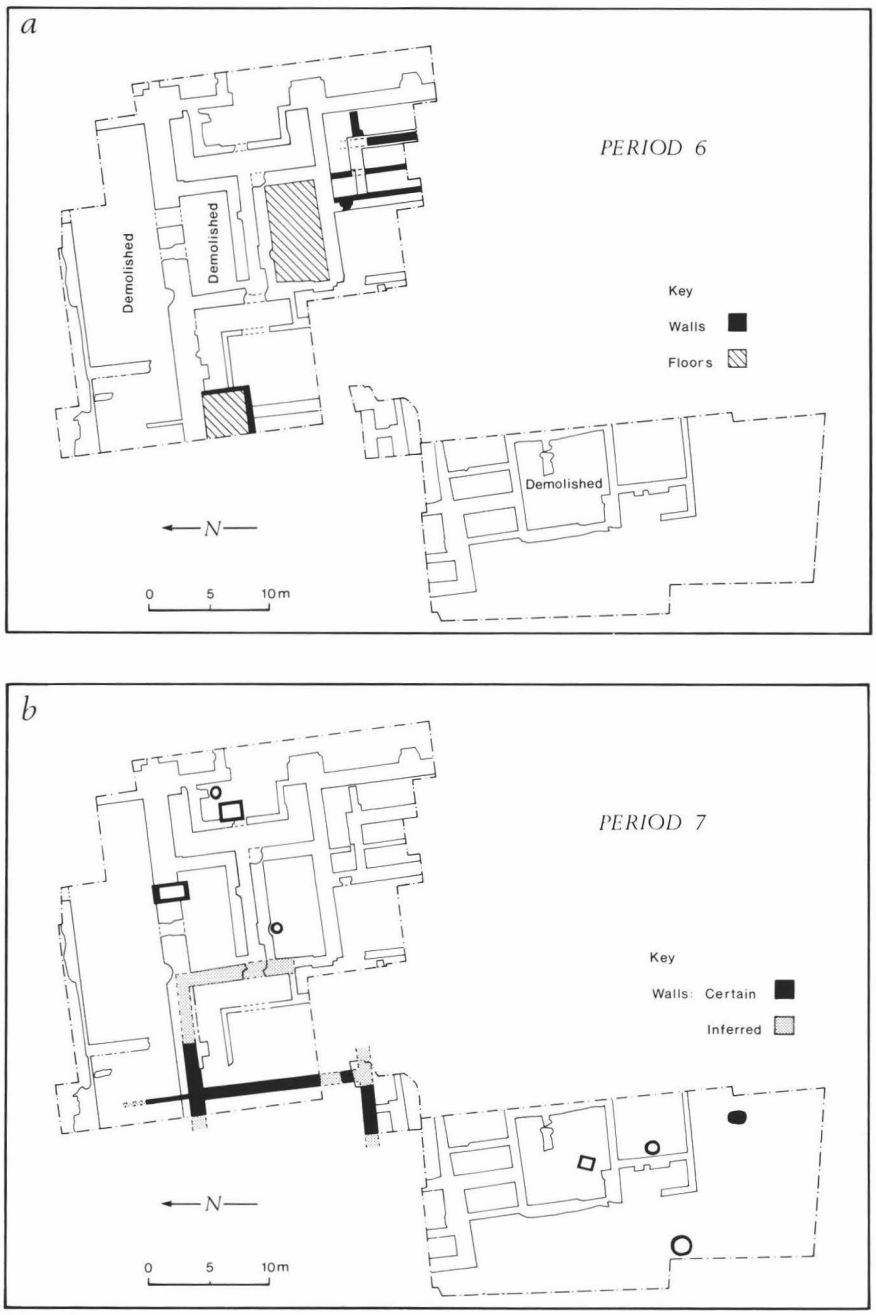

Fig. 20. a) Period 6 plan; b) Period 7 plan.

fragmentary mortar, presumably discarded during the robbing of the masonry.

Fire had blackened the eastern face of the southern courtyard wall (Fig. 16:216). The jambs around the doorway in the east wall of the dorter undercroft had been removed and it is possible that at this time much of the east wall was demolished. The lower part of the doorway was then sealed with

rough blocks of chalk set in white mortar (469). A thick deposit of broken slate accumulated within the southern courtyard, presumably stripped from the dorter roof (Fig. 14F:22). The pentice was demolished and a trench starting from the north and running parallel to the dorter wall was cut into the broken slate. A wall of rough mortared chalk blocks (470) was laid in the trench over the partly dismantled pentice wall (48) (Fig. 16).

A second, similar, rough chalk wall (66, 69) was built parallel to the first over the demolition layers. This was inadequate to support a masonry structure, but was used with the base of the east pentice wall (44) for the footings for floor joists. Another wall of similar type (40) running at right angles perhaps served to support a wooden partition. The traces of this inferred building were fragmentary and had been much disturbed by later activity. It is not possible to suggest a plan of the building.

In the south buildings and in the excavated part of the west range the standing walls were probably demolished to the ground level, though the upper levels of stratigraphy were not well preserved here and it is possible that some of the buildings may have continued in use until Period 7.

PERIOD 7 (Fig. 20b)

The remaining friary buildings were demolished sometime later. Footings of re-used sandstone and flint (Fig. 17:192) presumably from demolished buildings were laid across the west side of the cloister garth. These footings were cut into the Period 6 brick floor (374, 524) on the north side of the cloisters and through a fill above the floor containing a Nuremberg jeton produced between 1586 and 1635. The former date is therefore a *terminus post quem* for the footings. A wall of faced sandstone and knapped flint (192) was constructed on the footings and the western wall face covered with white plaster.

The likely date of this work is 1673 (*see* above) when 'The Friars' was rebuilt. The front wall of the building was constructed over the south wall of the church (not shown in Fig. 13). The south (internal) face was covered with white sandy mortar and the north (external) face with a fine yellow render. Wall 191 (Fig. 13), which runs northwards beyond the building is probably a garden wall. Such a wall is shown in a plan of the house and its lands of *c.* 1823.[16] If the plan of the house is superimposed over that of the excavations, it appears that the eastern wall of 'The Friars' was constructed over the west walls of the sacristy and chapter house which would have provided substantial footings. No archaeological evidence was found to support this, however. A post-medieval wall (Fig. 10:7) found in the LAG excavations could be the rear wall of 'The Friars', though this is a little further south than appears to be indicated on the 19th-century plan.

Illustrations of the building show it to have been a substantial structure constructed of brick, flint and stone, apparently rendered over, which tends to support the identification with the excavated remains.[17]

Three wells lined with chalk blocks, presumably from the former friary buildings were cut through the friary deposits in the south-western part of the site. A pit had been dug at the south end of the site and was filled with broken wine bottles of 17th- to 19th-century date. Several brick-lined pits and wells and fragments of rough chalk walling were recorded in the area on the east of the site. These presumably were related to 18th- or 19th-century buildings which lay on the High Street.

PERIOD 8

In the final phase of activity attested in the archaeological record the house called the Grey Friars was demolished and a railway station constructed on the site. Photographs of this show it to have been a neo-classical building (Brent & Rector 1980, no. 36). Later, a series of large, brick-built piers were constructed to carry the Lewes–London line on a viaduct. Their construction disturbed the stratigraphy of both the church and cloisters.

THE BURIALS (Fig. 21)

The burials may be divided into four groups according to the location of the graves (Table 2). The largest number were found in the cloister walk and other burials were discovered in the church, the cloister garth and the graveyard. All the burials were aligned east–west with the heads at the western end of the grave. Two forms of inhumation were recorded: shroud and coffin burials. Few objects were found with the burials.

Burials from the church

The soil-stained outlines of timber coffins and iron nails were apparent in nine burials set in tombs cut into the chalk fill of the church. The coffin of one of these burials had, in addition, large circular iron handles. There was no definite evidence of coffins in the form of stained soil or patterns of nails in

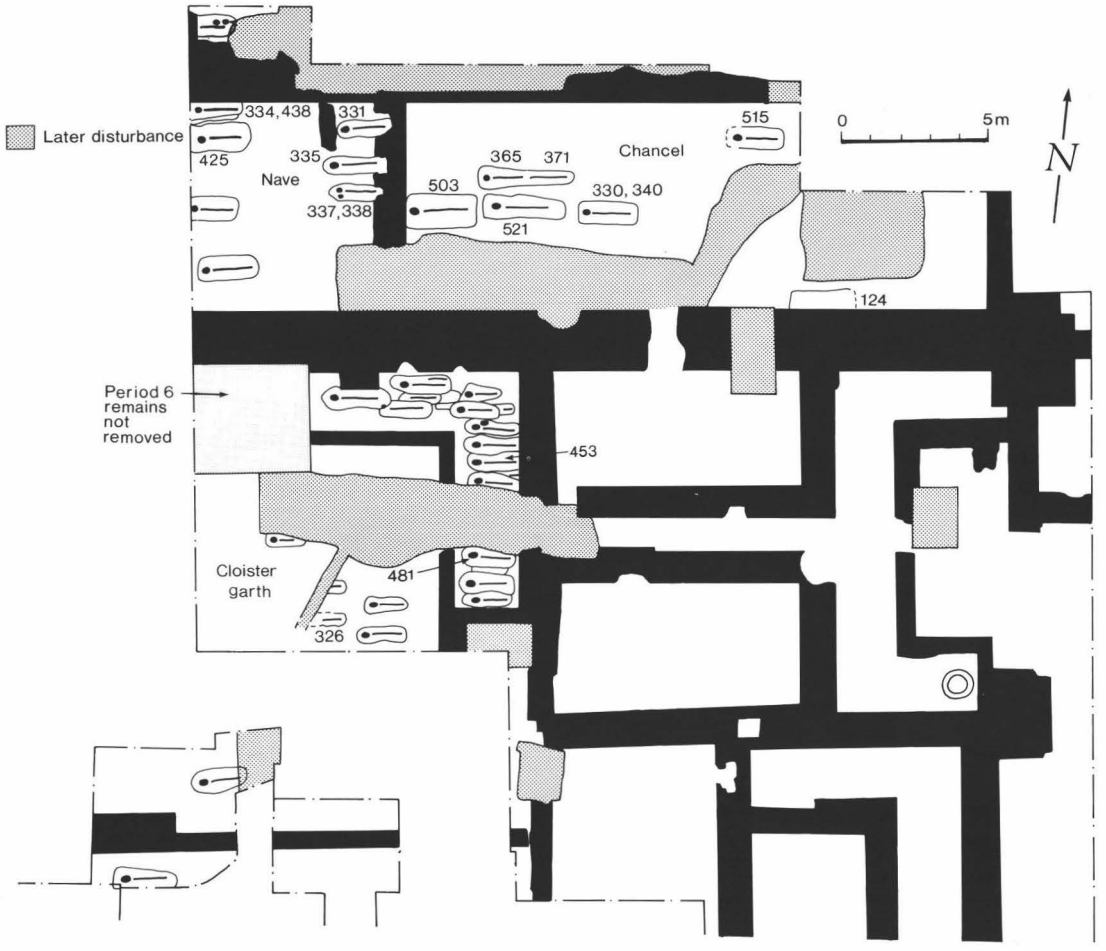

Fig. 21. The burials.

five other burials. It is possible that they may have been shroud interments.

The graves of burials 124, 330, 334, 340, 438, 503, 515, 521 had well-made, chalk-cut sides and it is presumed were originally covered with some form of gravestone or marker. A fragment of a sandstone grave marker was recovered from the grave containing burial 481, but elsewhere markers were absent. It is possible that they were removed at the Dissolution. The exposure of the burials followed by the rapid filling of the tombs may explain the large amounts of debris — broken tile, slate and window glass — found in all church graves.

Two graves in the chancel had been re-used. The later burials lay directly over the earlier, with little change to the existing grave edges. Such re-use may indicate either economy of space, or, since the original graves were apparently clearly marked, family burials. However, any grave marker over burial 371 could not have been placed directly over the burial as the cutting for the later burial 365, though on the same alignment, removed the top half of the skull of the earlier interment.

All the burials from the church, with the exception of the number 124, were fully articulated. The irregular posture of burial 124 with the leg bones placed over the torso may indicate that the body was in an advanced state of decay at burial.

Burials within the church were inhumed throughout Periods 4 and 5, though it was not always possible to distinguish the earlier graves from the later as both primary and secondary floor levels

had been partially removed by the 19th-century railway disturbance. Only the graves of burials 331, 335, 337, 338, 365 and 371 were clearly cut from the secondary floor level, and in the case of the first four, through the demolished walls of the walking place. These were, therefore, of Period 5.

Burials from the graveyard

Only two very small areas north of the church were investigated because of disturbance by the construction of the railway viaduct. A burial placed close to the northern external buttress (Fig. 13:617) did not appear to be a coffin burial, nor was its position well marked, for the lower half from the chest downwards had been removed by the insertion of a later burial.

Fragments of a third skeleton from the northern area outside the church were recovered in February 1989, one month after the excavation, during the cutting of a trench for an electricity cable in the High Street.

Burials from the cloister garth

Six burials were recorded from the cloister garth in the 1988–9 excavations and a further grave in the LAG 1985 work. From the quantity of iron nails around the bodies these appear to have been coffin burials. The graves were cut into the chalk rubble make-up. One of the graves (containing body 326) was cut through a lead pipe, but another appeared to be disturbed by the pipe trench. The graves in the cloister garth, like those in the church, had been filled with slate, brick and tile debris, and indeed two skeletons had been crushed by this material.

Burials from the cloister walk

Burials were closely set within the cloister walk and largely without pattern. It seems unlikely that the cloister walk burials were clearly marked on the ground surface as later graves often cut into and disturbed earlier ones. In some instances the disturbance of earlier graves was considerable. For example, all that remained of one skeleton was a single femur and tibia. The disturbed bones from the earlier graves were often replaced over the later burials in the grave. Skeleton 453 appeared to have been disturbed shortly after burial as the bones redeposited in the grave fill were still articulated.

As a consequence of this intense usage, it is impossible to determine exactly how many burials were inhumed in this area of the cloister walk. The irregular, oval shape of the grave cuts and the compressed posture of the skeletons suggest that these were all shroud interments.

DISCUSSION

The large area examined in the three excavations has allowed the development of the site to be traced over a period of about 800 years. The earliest remains examined predate the friary. A deposit of gravel discovered in the two Field Unit excavations could not have been deposited naturally, but seems to have been a hard laid down over alluvium to provide easy access to the river and probably to provide a surface for beaching ships.[18] The work of constructing the hard must have been considerable, for if the surface was continuous between the two points at which it was observed, then many tons of flint gravel must have been dumped on the muddy river margins.

The gravel deposit suggests that the area below Cliffe Bridge served as an early harbour for Lewes. Few early waterfronts have been excavated in smaller English towns. In London a sloping clay bank with a 10th-century radiocarbon date has been found at New Fresh Wharf and preceded the timber revetments of the later waterfront. Similar beach landing places are suggested elsewhere for this period (Hobley 1981, 3, 7). During the 12th century the gravel hard at Lewes seems to have been covered by a deposit, part alluvium, part rubbish. The nature of this deposit cannot be adequately understood from the observations made below the friary. It is likely that a new, perhaps timber-revetted waterfront was established much closer to the river channel and that the area behind was infilled with rubbish. Natural sedimentation may also have contributed to the build-up of deposits. Work at Bramber has shown that during the last quarter of the 11th and the end of the 12th century 0.6 m of sediment was laid down in the Adur valley in West Sussex (Holden 1975).

The relationship of the large ditch on the west side of the friary, identified as the town ditch, to the gravel hard was not established. The level of ground water prevented the full depth of the ditch being established, nor was the full profile recorded. This did, however, provide the first evidence for a town ditch in this area of Lewes and it must be the continuation of the ditch below the Green Wall which lay to the north on the other side of the High Street (Godfrey 1928, 9).

During the first half of the 13th century the friary

was established on the reclaimed land at the edge of the floodplain. Its situation on the low-lying ground, though appealing to the humility of the Franciscans, posed considerable problems. The earliest excavated friary buildings were constructed directly on the surface of the floodplain. If the first structures had been made of timber, no trace was found. The width of the footings and the traces of the superstructure near the south-west corner of the cloisters suggest that the remains located were of stone buildings.

Little is known of early grants to the friars, but it seems possible that the earls of Warenne may have been important benefactors. Grants of grain by Warenne have already been mentioned and the tithes from Ashcombe, Houndean and Smithwick, all Warenne demesne manors, were received by the friars (*Sussex Notes & Queries* 2 (1929), 145–6).

The area of the friary precinct was relatively large, if, as seems likely, it was identical with the land of the post-Dissolution estate (Martin 1937, 9). The southern part of the estate is followed by the borough and parish boundary (Fig. 1). On topographic grounds it may be inferred that the Winterbourne Stream was diverted from its west–east course around the edge of the friary land and the stream only resumes its former course as it approaches the River Ouse. This diversion was evidently connected with the construction of a series of fishponds which are clearly shown on early maps and still survive in part as earthworks.

The buildings of the friary lay on the northern side of the precinct. The identification of the functions of rooms has been made on the assumption that the friary conformed to the usual claustral plan. Where it may be checked, the archaeological evidence has supported this supposition. The church, the cloisters and the kitchen may all be identified on the basis of the excavated remains alone and the chapter house may be confidently inferred from the presence of a stone bench around three sides. The Franciscans at Lewes were granted a large, open site unconstrained by existing buildings and were able to plan the friary without the restrictions of space which limited the development of some urban houses of the mendicant orders. The topography of the site tended to reinforce the pattern of the normal claustral plan. The friary church was built alongside the major thoroughfare, as was so often the case for Franciscan houses. The cloisters lay to the south where there was privacy from the street. The reredorter was probably situated to the south of the dorter and was flushed into the river to the east by water from the culvert excavated further west.

The evidence of Period 3 is not clear, but suggests that some buildings were rebuilt with floors above the level of the floodplain, apparently because of the damp conditions. When the friary was reconstructed in Period 4, the floor level was again raised to take it above the level of ground water. From Period 3 onwards many of the buildings were roofed in slate. Slates found beneath the earliest floor layers of Periods 3 and 4 were probably broken during roofing and then discarded (*cf.* Martin 1972, 28–9).

The dating evidence for the Period 4 reconstruction is poor. By analogy with other Franciscan houses the work is likely to have taken place in the late 13th or early 14th century. This was the period of the considerable rebuilding and at least 34 friary churches were reconstructed between 1270 and 1320 (Martin 1937, 11–12). The numerous butt joints observed in the Period 4 substructure cannot be readily interpreted (Fig. 22). There is little evidence that these indicated different phases of buildings, for the superstructure walls ran without break across the butted substructure. A separate phase of building was implied only by the junction of superstructure walls of the garderobe and (?)guest quarters. The butt joints must otherwise typify the normal construction method employed in the friary.

The plain, unelaborated form of the church at Lewes was typical of many friaries. The chancel, which measured internally 19.8 m by 7.1 m was both shorter and less wide than in other churches. At Kings Lynn the chancel measured 26.8 m by 8.8 m and at Walsingham the dimensions were similar. The length of the nave at Lewes was not determined, though it is unlikely to have been shorter than the chancel. The Period 4 church must have been built without aisles and a surviving buttress found in the north-west corner of the excavation suggests that none was added later.

Belfry towers were a very common feature of friary churches and were normally situated above the walking place. It is unlikely there was ever a tower in that position at Lewes. The wall on the west side of the walking place (Fig. 13: 443) was quite inadequate to support a tower. Furthermore, both this wall and that on the east side (376) were demolished in Period 5.

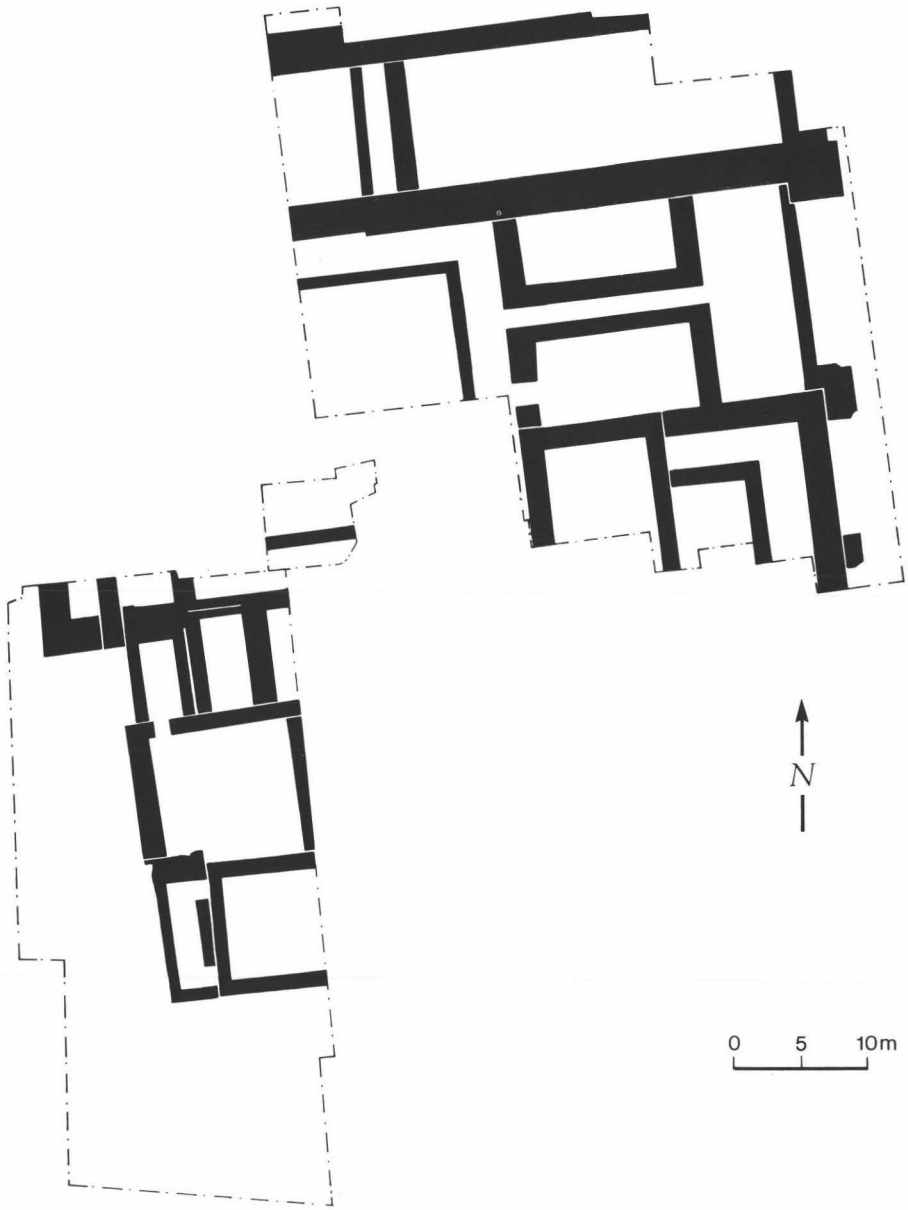

Fig. 22. Diagram showing butt joints at substructure level.

The cloisters, which measured about 26 m square, were constructed alongside the nave and chancel. The usual pattern in friaries elsewhere, and indeed for monasteries more generally, was for the cloisters to be situated beside the nave alone. One of the constraints upon the friars at Lewes was the instability of the ground on the east side nearer the river. The large buttresses on this side demonstrate the nature of the problem. The church is likely to have been constructed as far to the west as possible and that end of the nave probably lay close to the limits of the friary precinct.

The chapter house (8.9 m by 4.85 m) was considerably smaller than similar buildings at Bristol

(14 m by 8 m) (*Medieval Archaeol.* 18 (1974), 189) and Walsingham (14 m by 7.9 m). It was indeed a remarkably modest building.

The buildings south of the cloister and west of the frater have already been discussed in some detail. Medieval kitchens were often detached, because of the risk of fire. Neither the kitchen at Lewes, nor those at the friaries of Walsingham and Ware were separate buildings (Martin 1937, opp. 136, 140). This is probably to be explained by economy of materials and limitations of space. The frater was less wide than the Period 4 kitchen and must have been a long, rather narrow room. The position of the lavatorium near the south-west corner of the cloisters is clearly suggested by the pipe trenches and the taps found near there (*see* below).

Burials were found in the cloisters, church and in a possible graveyard to the north. The most intensively used areas for inhumation were the cloister walk and perhaps the graveyard to the north, though little of this was excavated. The cloister garth was not used for many burials and it is worthy of note that no burials were found in the chapter house. The burials within the nave of the church were in north–south rows, a pattern also found in the friary church at Hartlepool (Daniels 1986, fig. 4). Three of the graves in the chancel were situated on the median east–west line. These graves and two others to their east were lined with well-cut chalk blocks. Indeed all the chalk-lined tombs discovered were found in the chancel. Others have suggested that the friary church was the most favoured burial place and the evidence from Lewes suggests that the chancel was probably reserved for the most important burials, either those of the more important friars, or of major benefactors (Daniels 1986, 272; Poulton & Woods 1984, 69–70). The burials which could be sexed were overwhelmingly male. The fact that there were any female burials at all demonstrates that inhumation was not limited to the friars alone. The age range of the burials is unlikely to be typical of the medieval population as a whole: as at friary graveyards at Hartlepool and Guildford, children are under-represented.

After the Dissolution some of the gravestones covering the burials were removed and most of the buildings were demolished. Some buildings remained and were converted to secular use, a practice which has been most recently discussed for monastic houses in the West Country (Bettey 1989, 119 ff.). In Period 7 most of these too were swept away, but the builder of The Friars was aware of the raised walls of friary buildings and used them for footings for the new house.

FINDS

POTTERY By Mark Gardiner (Fig. 23:1–6)

The medieval sherds were divided into broad fabric groups based on visual examination and using a hand lens where necessary. The main fabric groups were as follows:

Fabric 1 - Buff or grey coloured face and margins and mid- to dark grey core, 0.5–2% fine comminuted shell or chalk, 0.5% water-rounded multi-coloured flint grit, rare grog, handmade and wheel-turned.

Fabric 2 - Red or black exterior faces and margins, mid-grey core. Very common (5%) medium to coarse sand-sized quartz with less than 0.5% sub-angular flint grits and occasional chalk.

Fabric 3 - Not distinguished by colour. Hard, slightly coarse fabric. Copious fine to medium sand-sized quartz and distinguished by the inclusion of 0.1% chalk and/or shell often visible on face. Occasionally glazed.

Fabric 4 - Buff coloured face and buff or light grey core. A coarse fabric tempered with 2–5% coarse grey or translucent sub-rounded quartz grits, flecks of iron ore and occasional fragments of flint and chalk. From the Ringmer kilns.

Fabric 5 - Fine fabric tempered with 2–5% fine or medium sand-sized sub-rounded quartz with rare fragments of flint or chalk.

Fabric 6 - Buff to mid-grey face and margins with dark grey core. Fairly smooth with slightly laminar fracture. Tempered with copious round or sub-rounded grains of white or light grey quartz up to 0.25 mm, but occasionally up to 0.5 mm diameter.

Fabric 7 - Dark face and core. Slightly smooth texture with slightly laminar fracture. Tempered with 2–5% shell fragments up to 2.5 mm across and 0.5% water-rounded grey or brown quartz grains up to 0.5 mm. ?Saxo-Norman.

Fabric 8 - Orange-red face and core. The fabric is soft, fairly smooth and soapy. It is distinguished by a temper of 0.5% translucent or grey fine to medium sand-size quartz, 0.1–0.5% grog up to 1 mm across and occasional pieces of rounded chalk up to 1 mm across.

Fabric 9 - Buff faces and often similarly coloured margins with a light grey core. Hard, fine, slightly sandy fabric with occasional light quartz inclusions up to 0.25 mm across and occasional flecks of iron ore.

Fabric 10 - 'Winchelsea Black' or Black ware. This is described in Orton forthcoming.

Fabric 11 - Saintonge ware. No polychrome ware was found, but all the pieces had a mottled green glaze. The only identifiable forms were jugs (Chapelot 1983, 50).

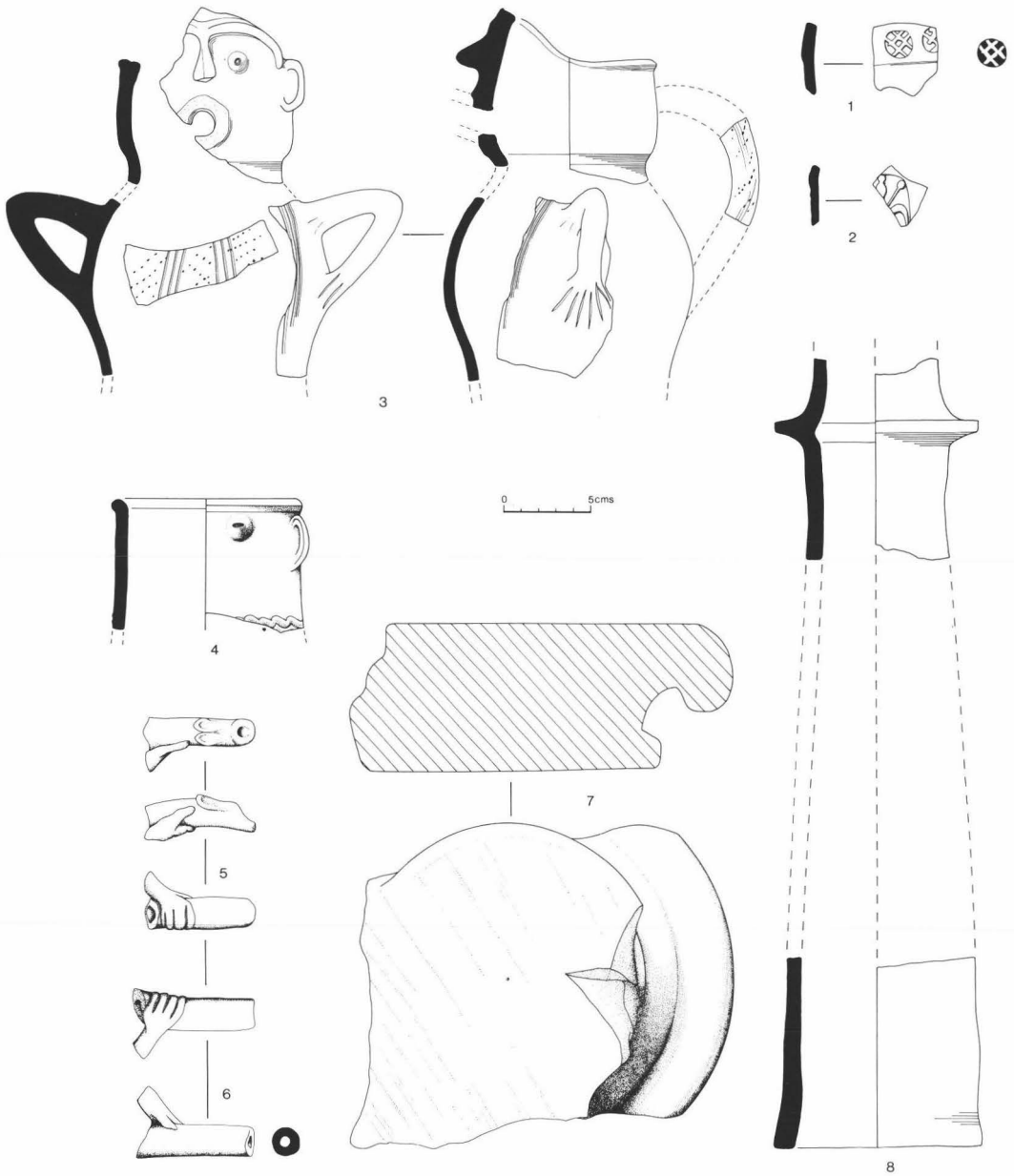

Fig. 23. Pottery (nos 1–6), stone capital (no. 7) and ceramic pipe (no. 7). All × $^1/_4$.

Fabric 12 - White, grey or black faces with pink-grey or white core. Hard, slightly rough fabric often rilled on exterior, tempered with 0.5–5% sub-angular or angular dark grey or black medium sand-sized quartz, occasional fine calcareous (shell?) inclusions and rare flecks of ?iron ore. (North) French.

Some quantification of the pottery from the FAU 1985 excavations was undertaken, but the limited quantity of pottery and the relatively high proportion of residual sherds do not allow detailed analysis. The smaller quantities of ceramics from the FAU 1988–9 trenches also contained intrusive later finds and contexts were simply spot-dated. Full details of the pottery analysis are contained in the site archive.

The pottery examined provides little firm evidence to

refine the sequence or dating of the pottery in the Lewes area. The Ringmer kilns and those producing Fabric 9 appear to have been manufacturing pottery over a considerable period (Hadfield 1981). The latter, used mainly for jugs, was found in some of the earliest excavated layers. Vessel forms varied little during the period of the friary's use. Form may provide some evidence for dating other fabrics. Features usually identified as Saxo-Norman: faceted or pie-crust rims and horizontal lines of dimples above the shoulder of cooking pots, seem unlikely to be later than 1300 and may indeed not have been made after 1250. The later 15th and 16th centuries were poorly represented in the excavated pottery.

The jugs may be divided into two, those of local origin and French imports. One local jug type was identified and is characterized by rilling on the exterior of the body and splash glazing. This is probably to be dated to the 13th century (Barton 1979, 21). Stamp decoration is common on the Fabric 9 jugs. A line of circular gridded stamps occurs on one sherd from the FAU 1985 excavations (context 291) (Fig. 23:1) and on a similar sherd from the LAG excavations. A debased fleur-de-lys stamp with (Fig. 23:2) is broadly similar to those from the Rye kilns (context 1, 1986.4).

The finds from Lewes suggest that medieval imported pottery was not entirely confined to the coast; French ceramics did reach Lewes, but in limited quantities. Although Saintonge Ware constitutes the greater part of the imported pottery, a single sherd of Andenne ware and a number of sherds of North French type, called here Fabric 12 were identified. The only other significant non-local wares were a small number of sherds of 'Winchelsea' Black, Fabric 10.

More detailed work is necessary to separate the sand-tempered wares than was possible here. A study of the pottery from the friary and from Lewes Castle has suggested that at least two centres, Ringmer and Marchants Farm, Streat were producing a range of sandy wares, which are not easily distinguished and that production at the former continued over a considerable period of time.

Anthropomorphic decoration

Fragments of three, or possibly four, vessels were found with anthropomorphic decoration. The most complete jug came from the 1985 excavations (context 329, small find 177, Fig. 23:3). Fourteen sherds of a face-on-front spouted jug in Fabric 9 were recovered. The exterior of the vessel is covered with a mottled yellow-green glaze over a white slip. The top of the inside of the vessel shows a thick white slip alone. The decoration takes the form of a carefully formed human face with a projecting nose, eyebrows, ears and eyes made from pieces or pellets of clay. A spout for the jug projected from the mouth of the face. The decoration is accomplished with economic use of incised lines to emphasize the eyebrows and eyes. Further sherds show that lower down the vessel were projecting arms with the fingers indicated with further incised lines. The remainder of the jug was decorated with vertical combed lines and close fine stabbing. The handle was also finely stabbed.

The 1988–9 excavations produced a further fragment from a face-on-front jug (context 125, Fig. 23:4). It is made in a similar fabric to the jug described above and has white slip decoration on the interior and dark green glaze on the exterior. The eyes and ears are formed from applied clay and the eye slashed with a horizontal line. Traces of horizontal wavy combed decoration are present at the base of the surviving sherd.

Two tubular spouts were discovered in context 122 (1989.6) (Fig. 23:5, 6). They are both made in Fabric 9 and glazed with a dark green glaze. The spouts are grasped by hands with carefully moulded fingers and thumbs. The technique of forming the hands is sufficiently similar, although one is the left and the other right, to suggest they may have been made by the same craftsman, or at least in the same workshop.

BUILDING MATERIAL

Worked stone By Mark Gardiner (Fig. 23:7)

Most of the walls of the friary were built of blocks of clunch or Lower Chalk and were faced externally with a skin of flint, as described above. The chalk was covered internally with a layer of plaster on which, in some rooms, a pattern of red lines had been painted to resemble masonry, a design common in medieval masonry buildings.

Clunch is an unsuitable material for fine mouldings since it weathers badly and has poor structural strength. It could be, and was, used simply for mouldings. The jambs of windows and doors, and window tracery was made of Hastings Beds sandstone which would have been available in the Weald. Jambs found *in situ* in Period 4 walls were invariably of this material.

A number of pieces of moulded stone were recovered, particularly from the FAU 1985 excavation. An important group of window jambs and tracery had been re-used as a foundation (1986.4: context 23) and these had evidently come from a Perpendicular window.

An engaged capital with a roll moulding of water-holding type (Fig. 23:7) was found in context 20 (1986.4) in the garden to the west of the friary buildings. This is of particular interest since this is unlikely to date from after about 1275 and must come from an early phase in the construction of the friary. There is no evidence to show where it was originally used.

Decorated floor tiles By Maureen Bennell

(Figs 24:9–17 & 25:18–22)

Fragments of glazed and decorated floor tile from the excavations totalled 422 from 15 contexts. Corners present were counted in order to establish a minimum number of tiles. None of the tiles was found *in situ*, 347 of them coming from a grave fill (1989.6: context 316) and the remainder from other graves, disturbed demolition layers and modern intrusions. Some tiles appeared to have been re-used as mortar adhered firmly, not only to the lower surface, but also to broken edges. One fragment, perhaps a specially favoured design (Fig. 24:16), had been re-used although the tile had laminated.

Degrees of wear ranged from Grade 2 (more than 50% glaze and 75% slip present) to Grade 4 (less than 25% slip present and no glaze), the majority being Grade 3 (less than 25% glaze, more than 50% slip). There were no nail holes and the few keying marks were stabbed rather than scooped. Lower surfaces were smooth with little sanding.

Three groups were identified based on visual fabric identification and a comparison of form, workmanship and artistic merit. Type A tiles, which were of a high standard of craftsmanship, accounted for all but six fragments. The three designs of Types B and C were crudely executed.

Type A (Figs 24:9–17 & 25:18–20)

These measured 120 by 120 by 15 mm and had steeply bevelled edges (at an angle of more than 7°). The clay was well mixed with an even upper surface and a good fusion between slip

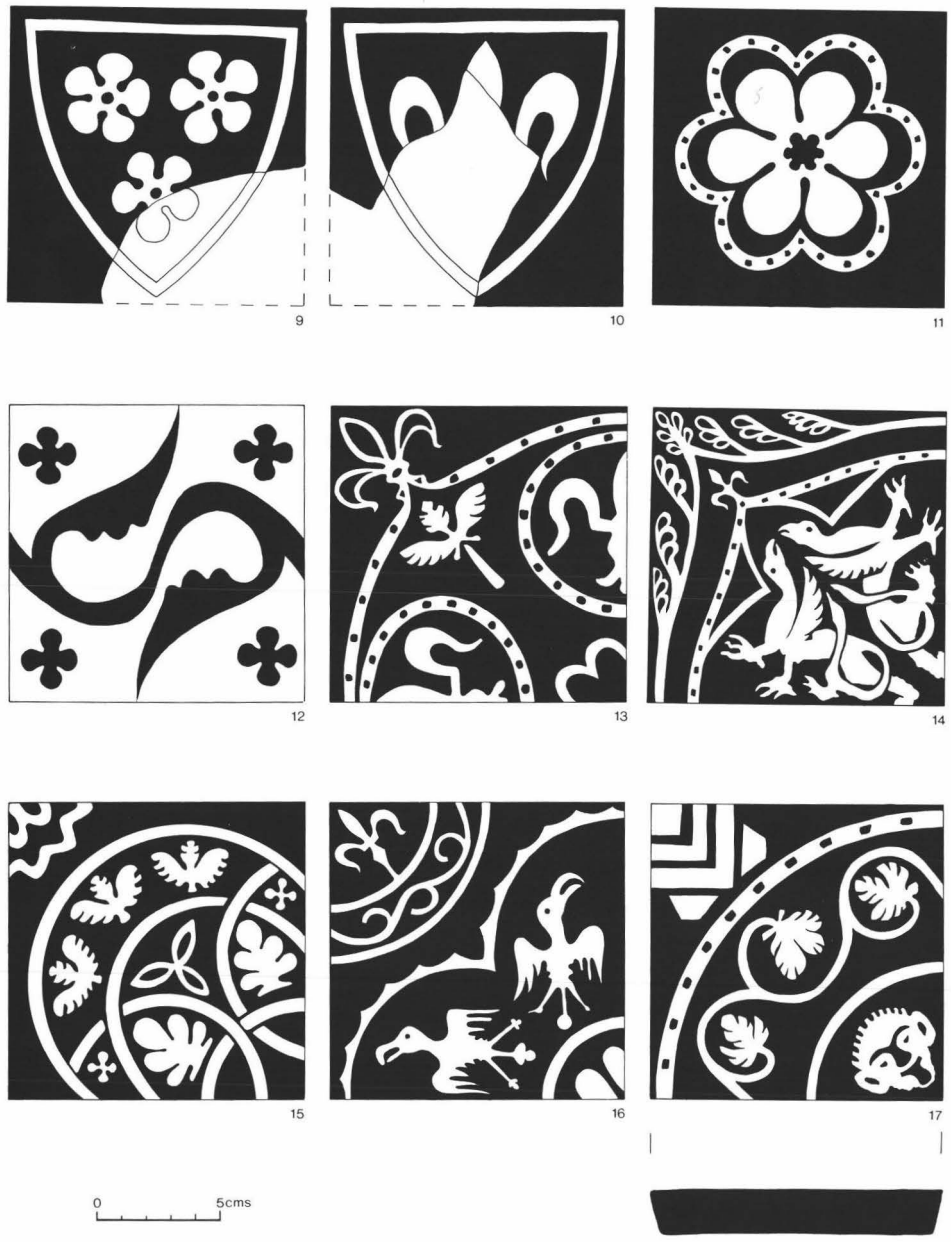

Fig. 24. Decorated floor tiles × $^{1}/_{3}$.

and body clay. The fabric was of average hardness with frequent quartz inclusions. There was no keying on the lower surface, except for the fragment of design no. 20 which had three stabbed round keys. Firing had produced a reduced core with side and lower surfaces oxidized and upper surfaces patchy, part reduced and part oxidized. Depth of slip was shallow (less than 0.5 mm) and generally not more than 1 mm even where wear was light. The general shallowness of slip in Type A suggests that the tiles were stamped and slipped, not inlaid. Glaze showed yellow over the slip and olive green over the patchy body.

Type B (Fig. 25:21, 22)
No pieces of tile with design no. 21 survived to their full width, but the circumference of the circle in the pattern suggests a size of not less than 125 mm square. The depth was 23 mm. The scored and broken rectangular tile and fragments of no.

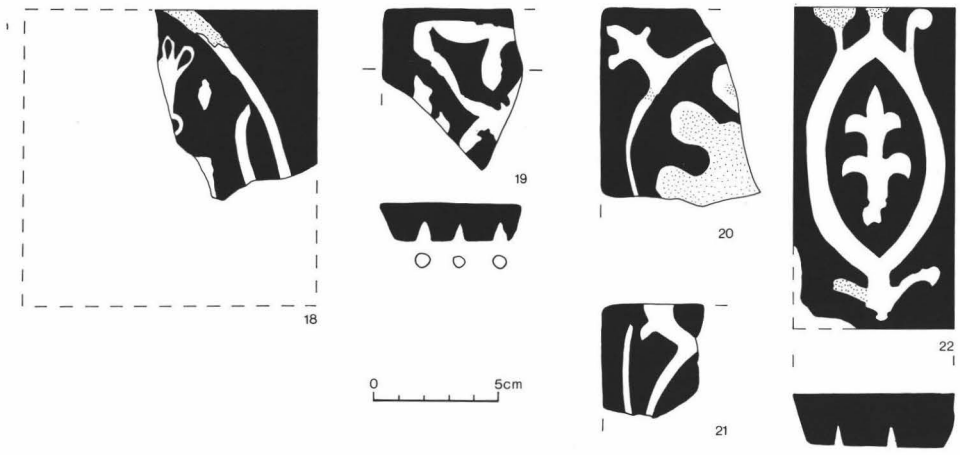

Fig. 25. Decorated floor tiles × 1/3.

22 were from a slightly larger tile of 132 mm square and of a similar depth. They were both steeply bevelled. The clay was fairly well mixed, but showed signs of cracking and spalling. The fabric was hard with fine quartz inclusions. No. 22 had two square stabbed keys 6 mm across on one fragment and 13 slightly smaller (4.5 mm) square stabbed keys on the complete tile. The designs were simple and poorly executed showing almost every defect possible. The glaze was yellow over the slip and yellow/brown over the body clay.

Type C (Fig. 25:20)
The only complete measurement was a depth of 23 mm and, as with design no. 21, the circumference of the circle suggested a tile of not less than 125 mm square. The fabric was of average hardness with fine quartz inclusions and occasional small (2.5 mm) and sandstone inclusions. The core was reduced and the margins oxidized. There were no keying marks. Slip of up to 2 mm in thickness was inlaid with the same lack of skill displayed in Type B tiles. The glaze was light green over the slip and olive green over the body.

The designs
Ten of the eleven Type A designs are unique, but various elements from which they are formed are seen in the tiles from other areas and are part of a stylistic tradition of pictorial, emblematic, geometric and floriated patterns. The potters who created these tiles were skilled both as craftsmen and artists and ably combined the familiar conventions of flowing borders and stylized stiff-leaf foliage with a variety of small fleur-de-lys finials and perforated bands. There is considerable life and movement in the intricate tendrils and interlace and the artists have retained an individuality in their interpretation of standard motifs. The monk's (or gargoyle's) open-mouthed head with extended tongue is a well-known corner device (no. 17). No. 16, which is a representation of the phoenix ascending, is shown here as an astonished eagle (or as Brooke-Little (1988) puts it 'as if flung at a wall'). This fantastic griffin, part lion, part eagle (no. 14) here seems to be modelled on the familiar domestic goose or may be a reference to the arms of the Pelham family which is a long-necked pelican, passant with elevated wings (Lower 1850).

A fragment found at Lewes Priory (Eames 1980, no. 11,265, design 3085) appears to be from no. 16. It has a small section of the double border enclosing two curls of tendril and part of an indented band. No. 20, the heavier less well-made Type C tile and probably of 13th-century date, has parallels with a design from Lewes Priory (Eames 1980, no. 11,262, design 2327) and from Lewes Castle (Bennell 1992, 91). It is an eight-petalled rosette, encircled, with trefoils in the corners.

The fragment, no. 21, although it has the addition of a line at the edge, is significantly similar to the Lewes Castle tiles in technique, colouring and shape of trefoils. The existence of a central rosette can only be surmised, but the tile appears to be in the same series and tradition as the 13th-century castle tiles.

Design no. 22, which is a complete bisected tile, is the firmest parallel and is identical to a 13th-century tile from Lewes Priory. Two fragments are illustrated by Eames (1980, nos. 11,257–8, designs 2571–2) showing two different positionings of the stamp which is rather long to fit accurately on the tile. Both versions are present in the Lewes Friary assemblage. The design which could be used as a continuous band, is a vesica or pointed oval. This is a stylized representation of a fish, an early symbol for Christ. It has a primitive fleur-de-lys at the head and a crocketted motif in the centre. The strange twist in the tail of the this motif, which must surely be a fault, is seen also in the Lewes Priory design, implying that they were made with the same stamp.

Discussion
The parallels between the 13th-century tiles at the castle, priory and friary and the likely parallel between the 13th-/14th-century tiles at the priory implies either the existence of a well-established kiln, or succession of kilns, in the Lewes area, or a regular trade route from kilns further afield. Ponsonby (1934) suggests Rye, the Battle Abbey tilery at Wye in Kent and Boxley Abbey, Kent. It is also possible that travelling craftsmen may have set up temporary kilns to supply the demand created by new building, repairs or refurbishments. Wherever the kilns were or the itinerant potters came from, it is almost certain

that they would have been attached to a religious establishment or commissioned by one. The discovery of similar tiles at Lewes Castle presents no problems as they were found in the supposed chapel area.

The Lewes Friary Type A tiles exhibit some characteristics which make it likely that their date is early 14th century. Although well-formed, the rather patchy surface, part reduced and part oxidized, is diagnostic of an early date in the century before firing techniques became well understood and controlled. The stamped-and-slipped method became more popular at the end of the 13th century and the designs show a transition period as the stiff and stylized foliage of the 13th century gave way to more naturalistic representations.

As none of the tiles were found *in situ*, they cannot be dated by context. Serious late disturbance makes it difficult even to hazard a link between them and building phases. Positive dating cannot be attempted, but comparisons suggest that Type B and C tiles are from the 13th century and Type A tiles are later, probably from the early 14th century.

Other floor tiles By Chris Broomfield

Although it was intended that only plain floor tiles were to be examined, about half of the 643 tiles considered were probably originally decorated. Two main sizes were represented, 155 mm to 165 mm square and 120 mm to 130 mm square. Five fabrics were noted:

Fabric 1 - green, yellow and brown glazes, lower surface sanded, 1% ironstone inclusions 1–2 mm, 1% flint inclusions 1–2 mm, medium bevel, no keys, average hardness.

Fabric 2 - reduced core medium-grey in colour, abundant coarse sand in fabric, sanded lower surface, 1% ironstone inclusions 1–2 mm, hard.

Fabric 3 - reduced core medium-grey in colour, green and yellow glazes, sanded lower surface, 1% ironstone inclusions 1–10 mm, 1% flint inclusions 1–2 mm, various keys including nail stabbing and skewer stabbing, hard.

Fabric 4 - completely oxidized, abundant coarse sand, 1% ironstone inclusions 1–2 mm, 1% flint inclusions 1–2 mm, no glaze, no keys, soft.

Fabric 5 - completely oxidized, sanded lower surface, 1% ironstone inclusions, green, yellow and brown glazes, no keys, average hardness.

Over half of the tile fragments are made of Fabric 1. The wear on these tiles is much heavier than on the other fabrics. In most cases all of the original surface has been lost, but the fabric and uniformity in the thickness is similar to the decorated tiles also found in context 316 (1989.6). Most fragments in Fabric 1 measure 15 mm thick and the size range is small, varying from 9 mm to 20 mm. The tiles in this fabric are notably thinner than others. The majority of triangular and oblong tiles are made from this fabric.

Fabric 3 accounts for the majority of the remaining fragments. These tiles would seem to have been deliberately manufactured in three thicknesses, 20 mm, 25 mm and 30 mm. Almost all tiles in this group were covered in green glaze.

Ceramic pipe By Mark Gardiner (Fig. 23:8)

Clearance of the site after machining in 1985 (context 1) produced five fragments from a ceramic pipe with a mottled green glaze on the exterior. Two pieces are from the neck of the pipe. They show that the pipe had a flange at least 30 mm from the end. The external diameter at the end is 80 mm, while the flange projects a further 15 mm on each side beyond this. A single sherd was recovered from the splayed end into which the flange would have fitted. This piece tapers outwards to an external diameter of 120 mm. The narrow end and the two mid-length sherds are clearly wheel-turned. The sherd from the opposite is not wheel-made, but may have been bent round a form and joined with a seam along its length, though no seam is present on the surviving sherd. Sufficient remains of the pipe to show that the flanged end would have fitted neatly into the splayed section. The total length of the pipe could not be determined.

Though the pipe fragments were effectively unstratified, the fabric is certainly medieval and was possibly produced at Rye. No evidence was found to show where the pipe had originally been laid. Dunning has shown that medieval ceramic pipes were of two types, plain tapering and flanged (Briscoe & Dunning 1967, 89). The example from Lewes Friary belongs to the second category. Finds of similar water pipes are not common, though they have been found on high status sites, particularly in southern England, and were used from the 13th century onwards. Ceramic pipes were manufactured at Laverstock (Wilts.) and possibly at Earlswood (Surrey) (Musty *et al.* 1969, 142; Williams 1984, 141–5).

ROOFING MATERIAL

Tiles By Chris Broomfield (Fig. 26:23, 24)

Ridge tile

No complete examples of ridge tile were recovered from the excavations, but 421 tile fragments were examined. Two tile fabrics were identified:

Fabric 1 - reduced core, medium-grey in colour, sanded lower surface, upper surface usually covered with green glaze, 3% ironstone inclusions 1–10 mm, 1% flint inclusions 1–2 mm, average hardness.

Fabric 2 - reduced core, pale grey in colour, sanded lower surface, upper surface either unglazed or covered with orange or clear glaze, 1% ironstone inclusions 1–2 mm, 1% flint inclusions 1–2 mm, average hardness.

Approximately 97% of the tile fragments are Fabric 1 and only 11 fragments of Fabric 2 were identified. The fragments in Fabric 2 measuring 7 mm to 12 mm were appreciably thinner than Fabric 1 which were 5 mm to 20 mm thick. Most of the ridge tiles were plain, without decorated crests. This conforms to the general pattern of ridge tiles in East Sussex (Barton 1979, 60–61). The only decorated pieces are in Fabric 1 and most have thumbed ridges (Fig. 26:23), but one has triangular crests along the ridge (Fig. 26:24).

Peg tiles

1128 peg tile fragments were recorded, but no complete examples were included in the sample. Five fabrics were recognized.

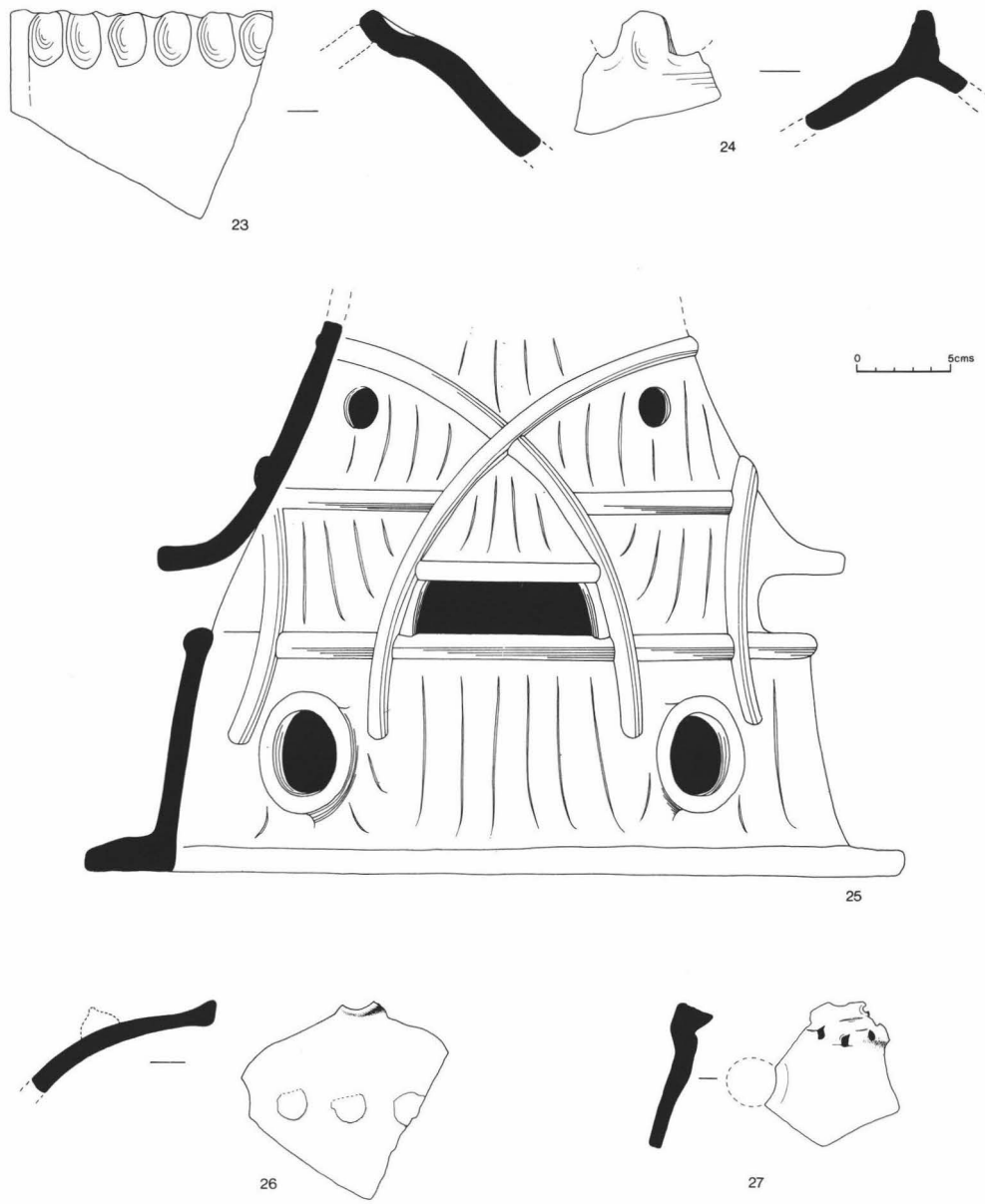

Fig. 26. Ridge tiles (nos 23–4) and roof furniture (nos 25–7). All × $^1/_4$.

Fabric 3 - reduced core, sanded upper and lower surfaces, 1% flint inclusions 1–10 mm, soft.

Fabric 4 - reduced core, sanded lower surface, 3% ironstone inclusions 1–6 mm, 3% flint inclusions 1–2 mm, average hardness.

Fabric 5 - completely oxidized deep red-purple in colour, sanded lower surface, 3% ironstone inclusions 1–2 mm, hard.

Fabric 6 - completely oxidized red-orange in colour, sanded lower surface, average hardness.

Fabric 7 - completely oxidized buff in colour, sanded lower surface, 3% ironstone inclusions 1 mm, average hardness.

Tiles in Fabric 5 had square peg holes which were set diagonally to the edge at the top of the tile. The variation in thickness is very small and the about 90% lie in the range 11 mm to 13 mm. This is probably a post-medieval fabric.

Slate By the late Eric Holden

Roofing slates, mostly broken, were found in destruction layers. They were in varying shades of grey, with lesser numbers of green, also a purple or lilac colour. Generically they are all known as blue slate. The possible source of these slates is the south coast of Devon and Cornwall, especially the former (Holden 1965; Murray 1965). The majority of slates from the 1985 FAU excavations bear traces of lime mortar, showing that they were bedded, and the margins (the visible part of a slate on a roof), where identifiable through differential weathering, vary between 50 mm and 102 mm (n=40). Forty-one slates were sufficiently whole to be measured, with lengths from 135 mm to 286 mm. Breadths were between 58 mm and 180 mm (n=233). Holes for wooden pegs or nails varied from 5 mm to 14 mm (n=228), half being 8 mm to 9 mm across. The average maximum thickness of slates was 9.90 mm (n=179).

Evidence has been established elsewhere that slate from coastal quarries of the West County was used for roof-covering in Sussex from the 12th to the 15th centuries, with perhaps some overlap at either end of that timescale. Its use at Lewes Friary also confirms that it was especially favoured for ecclesiastical and other buildings of high status (Holden 1989).

Roof furniture By Mark Gardiner (Fig. 26:25–7)

25. Eighteen pieces of a dark green glazed louver in a sandy fabric visually indistinguishable from ridge tiles (Fabric 1) were recovered. The base of the louver had a flat flange with mortar adhering to it. It was not intended to sit on the ridge, but must have been separately fitted over a hole in the roof or, less probably in this case, on a chimney shaft. Dunning (1975, 186) defined louvers of this sort as his Type 1.

The lower section of the louver had a series of flanged circular holes measuring about 45 mm in diameter with a neck projecting 20 mm forward from the body. The holes alternated with a series of rectangular openings with canopies and side pieces set above an applied horizontal strap. Though the canopies over the openings have not survived, they can be confidently reconstructed from the scars and from examples elsewhere.

Above the hooded apertures were a series of smaller holes about 25 mm across without necks. The top of the louver was open. The surface of the louver was decorated with applied straps and had been slashed, partly, no doubt, to aid firing. The whole louver was coil-built with an applied base flange and hoods over the openings.

This example is unusually elaborate in its combination of three types of apertures on the sides of the louver. Alternate hooded circular and rectangular openings are found in a louver from Southampton which prompted Dunning (1975, 186, 195, no. 1419) to note that this was an uncommon combination. (1989.6, context 107).

26, 27. Two fragments of two further louvers were found in the 1988–9 excavations. The first is in an identical fabric with a glaze similar to the louver described above. It was globular in form with a small circular hole at the top. Around the opening were the scars of closely placed applied features. These may have been either horns (*cf.* Dunning 1966, 79, fig. 28) or cones (*cf.* Dunning 1975, 194, no. 1414). The second louver was probably also globular with a raised projection at the top around which there were a series of stabbing marks to aid firing. Around the louver were a series of small circular holes of which only one survives. (1989.6, contexts 6 and 107 respectively).

Two large sherds from one chimney pot or two very similar pots were found in the Field Unit's 1988–9 excavations. Both have the same fabric and are probably of local manufacture. The top of the chimneys had a diameter of 120 mm. Around the side, immediately below the rim was a single line of fine stabbing and the top of the pot is densely stabbed with larger holes. Traces of one side hole is present on one of the sherds and the other sherd has evidence of the central vent in the top of the chimney. These pots are of typical 'Sussex-type' as defined by Dunning (1961a) (1989.6, contexts 132, 136).

STAINED GLASS By Jill Kerr

As might be expected of the context, none of the glass is of top quality in design or execution. There are no survivals among the fragments of any heraldry, heads, hands, inscriptions, or any architecture of sufficient completeness to indicate the scale or indeed the stylistic affinities of the glass. There were no glaziers' sorting marks or etched surface inscriptions. Neither can the location of the finds shed any light on the relationship between the glass and the building whence it came.

None of the glass shows any signs of fire damage, and all of it is destruction debris — there was no evidence of reglazing or construction detritus. It appears from the fragmentary state and the incompleteness of the material that this glass was smashed out for the stripping of the leads. The lead cames found in association with the glass confirm this. All are destruction debris with soldered joints and edge-leads wrenched into distorted lumps. They are all cast leads of the medieval period.

Condition

None of the surfaces of the glass had been treated or subject to any form of consolidation or conservation. The glass had been allowed to dry out before being stored. Most of the painted surfaces are intact. On both faces of the majority of the glass there are lead shadows, corrosion pits and weathering entirely consistent with the glass having been *in situ* for a sufficiently significant period of time for the characteristic etching to occur. None of the glass is still translucent, although much of it is still vitreous. All of the glass is fragmented and broken. There are only three complete pieces in the whole collection.

As the majority of the finds come from four distinct contexts, they are catalogued within their locations as excavated.

1. 18th- and 19th-century soil (Figs 27:28–38)

This contained some of the most substantial and interesting finds including the most extensive repertoire of decorative leaf forms (all illustrated).

Formalized foliate designs (Fig. 27:28–31)

Nos 28–31 form a group of similarly executed pointed leaf designs picked out very cursively and imprecisely from a matte brown wash. All are on thick white glass (2–5 mm) with no traces of back-painting or yellow stain. No. 28 is entirely complete and clearly a border design. Nos 29 and 30 are related in form and function but no. 31 is probably from a background design. The naturalistic veining and layout of these designs is 14th century.

Nos 32 and 33 are the most complete examples of a quantity of fragments of large, veined, serrated and stemmed leaf forms set against an unpainted background on white glass with a pointed line frame to counterpoint the lead. No. 32 has

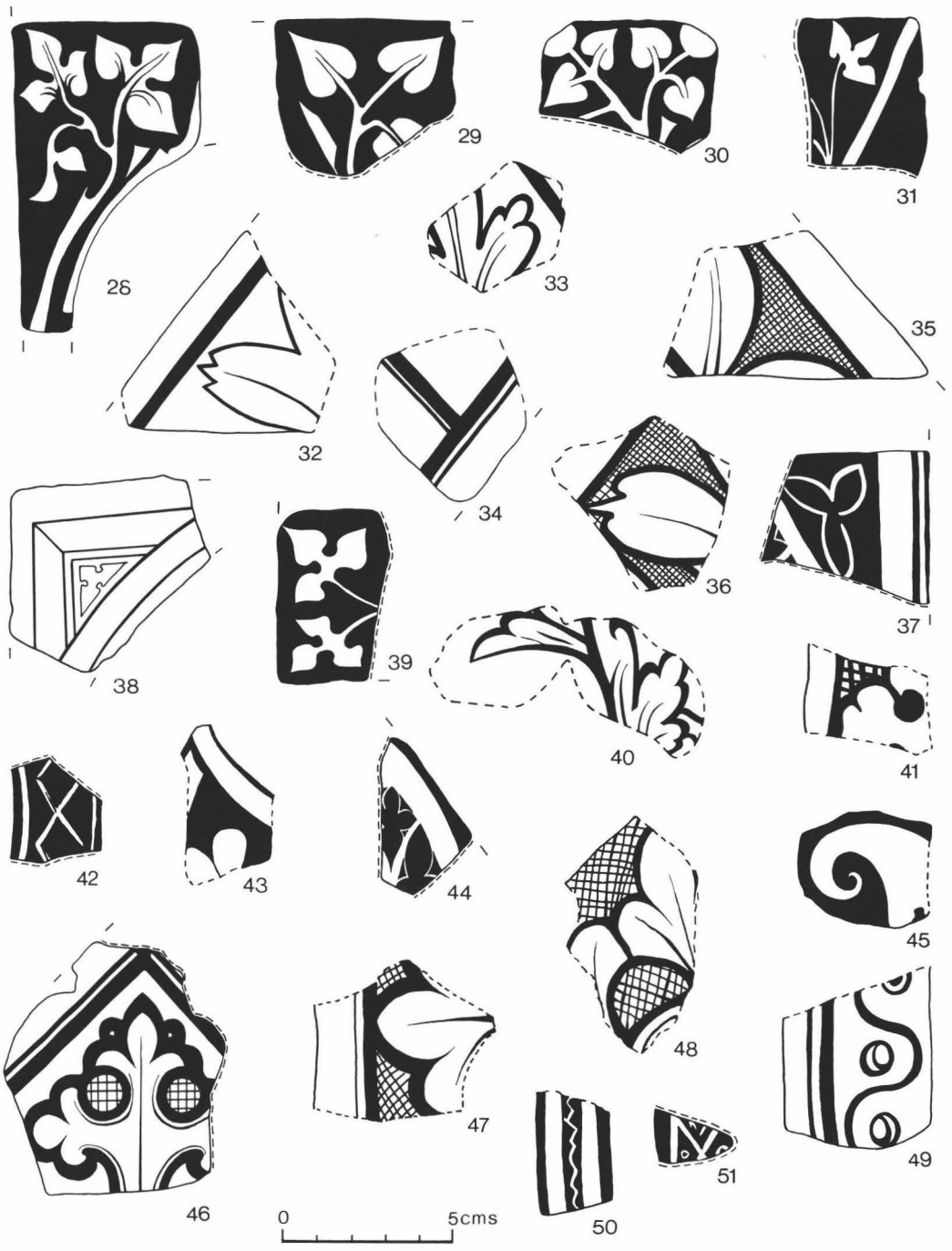

Fig. 27. Stained glass × $^{1}/_{2}$.

pointed edges and no. 33 rounded. These are very typical 14th-century quarry designs commonly used as backgrounds to figures or the setting of heraldic shields. No. 34 is a very common form of painted quarry glazing, the thick and thin lines counterpointed the lead lines to form a diamond — or sometimes square — lattice network of glass and lead.

Nos 35 and 36 are the most complete pieces of a very precisely painted group of formalized foliate forms with veins set against a cross-hatched background. Painted on high-quality 2 mm thin white glass in a strong dark brown paint, this is consistently good geometric grisaille — unfortunately too fragmentary to determine a typology. Late 13th to early 14th century in date.

Architectural fragments (Fig. 27:37–8)
There are only two pieces bearing what appear to be evidence of canopy designs, although there may be fragments of architectures among the small painted pieces catalogued below. Both of these are illustrated. No. 37 has a trefoil picked out of a matte wash set in a spandrel design within a double cut-line to the grozed edge and fragmentary traces of picked-out cusping on the inner, broken edge. No. 38 has a very precisely painted line drawing of a spandrel with a cusped trefoil design painted in the centre. The third dimension is indicated by perspective line drawing. There are also two pieces of very old thick line at right angles to a thinner line (not illustrated) which may well have been part of an architectural frame.

Painted fragments
There is a small quantity of very incomplete fragments bearing painted designs — none of which is big enough to determine precisely, and none of which is substantial enough to convey either scale or form illustrated. The brush strokes which survive on several pieces would be entirely appropriate for drapery painting. Where it is possible to discern the colour of the base glass, only three of these are painted on pot-metal coloured glass — two on murrey and one on flashed red. There are also what appear to be fragmentary remains of a very cursive trilobed foliage design picked out of a very scumbled matte wash on white glass. This is probably a background design although it is painted on white glass.

Unpainted pieces
A surprisingly small collection — there are only two relatively complete pieces: a white oblong 4 mm thick, 28 mm wide and 77 mm long — probably a border, and a small strip of blue glass. There are also small fragments of flashed red and pot-metal yellow.

2. Mid-16th-century destruction layer (Fig. 27:39–46)
Context 198 (1989.6) yielded a very small group of fragments but with some important pieces painted with foliate designs that extend our knowledge of motifs. All the most complete are illustrated. No. 39 is a border design of two pointed trefoils on thin stems picked out of matte wash. Unfortunately, the bottom half is lost and so the information is incomplete; probably 14th century. Equally frustrating is the partial survival of an elegant and elaborate formalized foliate design painted in precise and bold strokes on white glass. Illustrated as no. 40, this design bears an affinity with the formalized foliate design with the line border (illustrated as no. 33) from the topsoil context catalogued above. There are also several fragmentary examples of 13th-century geometric grisaille with stiff-leaf foliage and cross-hatched backgrounds. One is of sufficient size to illustrate: no. 41. There is also a fragment of a criss-cross border design (no. 42) of intersecting triangles picked out of a very relaxed matte wash whose paint strokes are clearly visible. Another fragment of formalized foliate design (no. 43) shows one part of a lobed form picked out of a very strong matte wash. One grozed edge survives with a painted cut-line. No. 44 is a fictive window design, probably from a border. It is painted on white glass with the cusped design of the tracery lights picked out of the paint. Among the collection of painted pieces whose design is too incomplete to determine are more examples of drapery brush strokes. No. 45 is a bold volute picked out of a strong wash — again, scale and design too incomplete for this function to be determined. There are only six discernible survivals of coloured glass — one blue strip 15 mm wide — one green, one red and three pieces of murrey drapery. All these are likely to date from the 14th century.

Also from this context is the most complete and remarkable survival of geometric grisaille design illustrated as no. 46. It is a quarry, almost complete, it bears a sophisticated and very boldly painted stiff-leaf fleur-de-lys in a frame consisting of a thin line containing a thicker one. The circles formed by the meeting of the points of the lower petals of the lily are cross-hatched although the design is set on a plain ground of white glass. 13th century.

3. Mid-16th-century destruction layer (Fig. 27:47–51)
Context number 86 includes painted fragments of geometric grisaille, veined formalized foliate forms similar to 1 above, and one plain white border piece 70 mm by 23 mm. In addition to these are three pieces of 13th-century glass painted with two geometric grisaille designs (3a & 3b) and a serpentine border design frequently found in association with geometric grisaille (3c). All are painted on white glass. Two further, more cursive designs of this type (3d & 3e), both picked out of a matte wash, may also have served a similar function. This context contained no coloured glass that could be determined, although much is so decayed as to be totally black and opaque.

4. 18th- and 19th-century wall containing re-used medieval debris
All the glass from this context is very fragmented and decayed. When set out, the amount recovered occupies two sheets of A4 paper and represents the most substantial find from this site. There are fragments of 13th-century geometric grisaille with characteristic cross-hatching none of which is sufficiently complete to merit illustration. There are pieces of the thick and thin parallel line from quarry glazing (13th to 14th century) and fragments of foliate forms including examples of the designs illustrated as nos. 28 and 30. There is also one piece only of a veined leaf, similar to no. 33, painted on very thick — 5 mm in parts — pot-metal yellow.

The unpainted fragments include pot-metal yellow, green, blue, flashed red and plain white glass some of which is unusually thick — 4 mm — and one piece of the edge of a white cylinder or muff, partly grozed and no less than 6 mm thick at its edge.

There was also a single piece of incomplete plain white glass recovered from context 66, a mid-19th-century disturbance of the eastern end of the church. Undatable.

METALWORK By Miles Russell (Fig. 28:52–68)
Copper alloy
52. Decorated tap. Hollow spout terminates in a heavily grooved zoomorphic face. Small, circular hole, 4 mm diameter at the other end suggests the presence of a tap key to regulate flow. Two identical taps were found with this in the same fill (1986.4) 299.

Mark Gardiner adds: Tap handles of this type are known

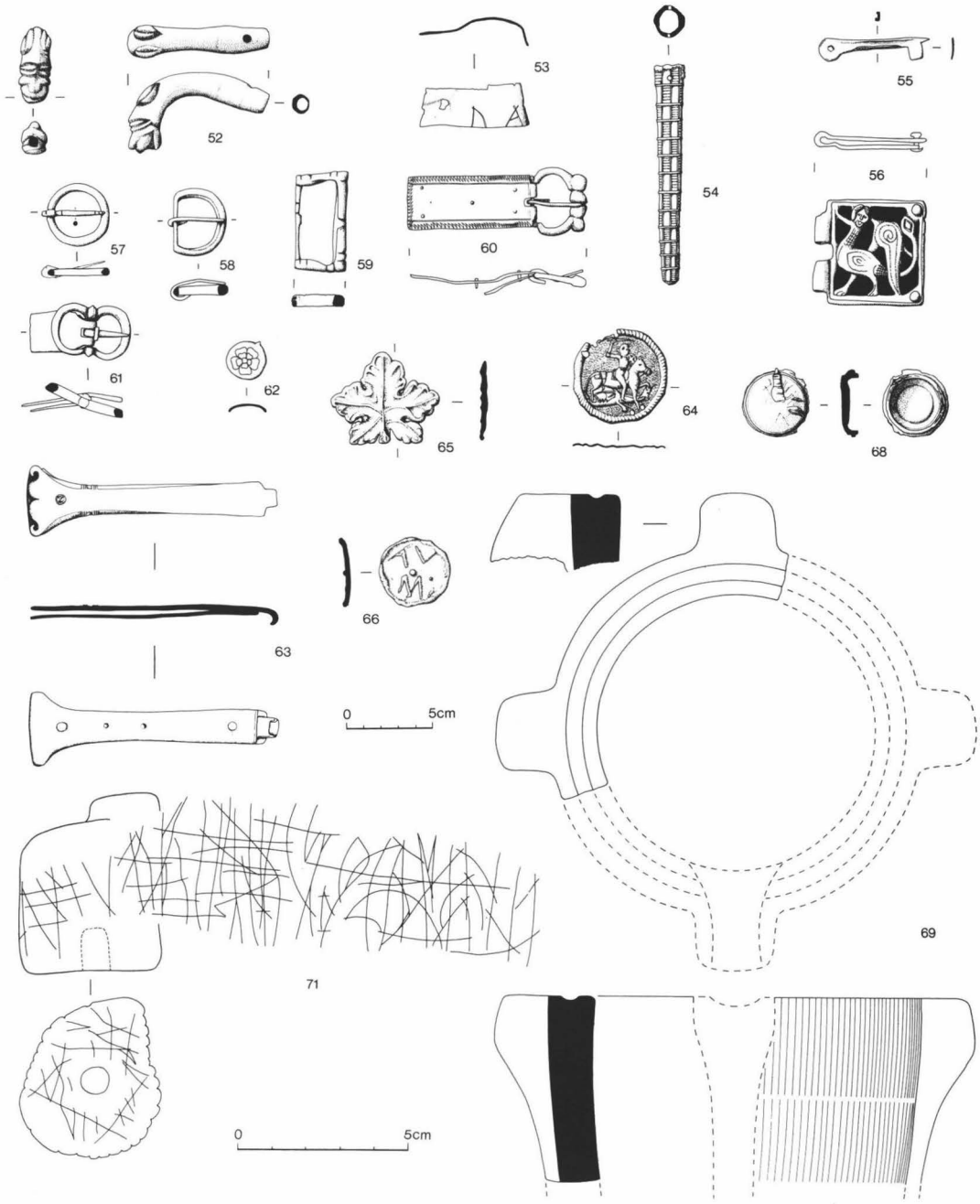

Fig. 28. Copper alloy (nos 52–64), lead (nos 65–6), pewter (no. 68), stone artefacts (nos 69 & 71). Scale A nos 52, 55, 65, 68. The remainder scale B.

from Wallands (Lewes), Kirkstall Abbey and elsewhere. Dunning (1968) has argued that these came from monastic lavatoria situated outside the frater for the monks to wash their hands before eating. He suggests the tap handle from Wallands might have come from Lewes Priory.

Two tap handles from Kirkstall Abbey were found in the frater and three in the kitchen nearby; they are attributed to the 12th century. Their decoration is almost identical to that of the examples from the friary, which were found in a socket for a post supporting the pentice roof, close to the presumed lavatorium and entrance to the frater (Pirie *et al.* 1967, 20). They must have been hidden in this position shortly after the Dissolution when the friary buildings were being demolished. The attributed 12th-century date presents some problems for the finds from Lewes Friary. If it is correct, the tap handles may have been re-used at the friary.

53. Gilded sheet metal plate with possible rivet hole. Broken at both ends. It may have formed part of a folded buckle plate. Incised lettering, 'A....' at the base. 13th century or earlier, layer 13 (1989.6), clay above the Period 2, but below the Period 4 friary church.

54. Elongated, hollow hexagonal rod, closed at one end and decorated with alternate bands of grooving. Two small perforations are evident at the open end. ?Pen or stylus with separate point not present. Mid-13th century or earlier, layer 132 (1989.6), pre-friary deposit below church.

55. Casket key with plain bit and sub-rectangular section. Late 13th century, layer 32 (1989.6), fill of foundation trench for wall 21.

56. Gilded and enamelled ornamental buckle plate. The central plate has the design of a griffin with human face. Emphasis is given to the figure by addition of gilt (traces survive around the head and rivets) and blue enamel (traces on chest, wings and tail). The excess metal around the griffin was cut away exposing the belt leather beneath. 15th or early 16th century, fill 370 (1989.6) from grave with skeleton 425, Period 5 church burial.

57. Annular buckle. Medieval, from layer 11b (1989.6), Period 6 church demolition rubble.

58. D-shaped buckle. Mid-16th century or earlier, layer 243b (1989.6), Period 6 demolition rubble.

59. Trapezoidal buckle with grooved frame. Traces of gilding evident at former joint with buckle plate. Mid-16th century or earlier, layer 146 (1989.6), Period 5 demolition rubble in church.

60. Ornamental D-shaped buckle and buckle plate of common 13th-/14th-century type. Layer 488 (1989.6), Period 6 disturbance in church.

61. Spectacle buckle and buckle plate. The plate is formed by a single, folded sheet of copper alloy and held by two well finished rivets at its base. Unstratified.

62. Small heraldic disc. Head has a grooved Tudor rose motif. Casting present. Late 16th/early 17th century. Unstratified.

63. Book clasp with minimal incised decoration. Traces of gilding evident. Back and front plates held by four rivets, the top three of which are well finished and virtually invisible from the front. Below wall 198 (1989.6) in Period 6 church demolition debris.

64. Circular plaque with repoussé decoration. The central 'Saint George slaying dragon' motif is surrounded by border. Three sets of double perforations are evident: two at bottom right and four (an original pair placed too close to the edge and a corrective set) on the opposing top left. A similar plaque with a pietà scene from Colchester was dated to the 19th century (Crummy 1988, 86, no. 3284). The association of this plaque with Dissolution rubble may, however, indicate an earlier date. Boundary wall 198 (1989.6) over remains of church.

Iron

Large quantities of medieval and post-medieval iron were recorded from all excavations. Generally speaking, preservation was poor due to the wet condition of the surrounding soil. All details of iron material have been archived with the finds.

Lead

65. Ornate leaf with four central perforations. Possibly livery or other secular badge (Spencer 1990, 93 ff.). 14th/15th century, layer 84 (1989.6), clay build-up over Period 4 floor level.

66. Lead token (by David Rudling). Probably 17th/18th century. 4.57 g, 20 mm diameter. Uniface. Central pellet; above: the letters A (?) and V (?); below: the letter M. Context 2 (1989.6).

67. (Not illustrated). Three lead musket balls, two fired and partially impacted, and two musket shot were recovered from 17th-century contexts associated with the end of Period 6.

Pewter

68. Fragmented concave disc. Attachment fracture (for handle?) on smoothed outer face. Possibly part of a seal matrix or ampulla. Mid-16th century or earlier, layer 198a (1989.6), Period 6 church demolition rubble.

Slag By Miles Russell

Quantities of slag were recovered from all three trenches. This material, together with two fragments of furnace bottom recovered from 13th-century contexts 135 and 277 (1986.4), may indicate iron working during the construction of the friary. A total of 42 fragments of copper alloy ingots weighing 392 g, associated with quantities of charcoal, slag, copper alloy and lead melts was recovered from Period 6 context 277 (1989.6). The ingots varied between 24 and 26 mm in thickness. These seem to indicate post-Dissolution copper alloy working during the 16th century.

COINS AND JETONS By David Rudling

John, 1199–1216. Cut farthing. Short Cross Coinage, Class 5b (1205–10). Reverse legend:]LM.B[, i.e. the moneyer Willelm B of the London mint (North 1980, 970). 1989.6 unstratified.

John 1199–1216. Cut farthing. Short Cross Coinage, Class 5b/c

(1205–10). Reverse legend:]GIPE, i.e. the mint of Ipswich (North 1980 970/1). 1989.6 unstratified.

English jetons (reckoning counters). Edward II, Class XI: 1310–14. Two jetons struck from the same pair of dies. Both jetons are partly pierced on the obverse.

Obverse: King's bust (Class XI) in circle: border, pellets.
Reverse: Long cross patonce, six-pellet cluster in each angle: border, pellets.

The king's bust has the same details as on the Class XI penny coins. These jetons are therefore official issues from the king's mint (Mitchiner 1988, 118). Latten: 1.25 g: 20 mm. 1989.6, contexts 2 and 22.

French jeton. 'King under canopy' Series: Standing king with sceptre: after 1326.

Obverse: Crowned king standing facing, holding sceptre in his right hand, beneath a gothic canopy; five small trefoils in exergue: AVE M - ARIA.
Reverse: Triple stranded straight cross fleuretty, with a lys between each arm: all within tressure: A-V-E-M (Barnard 1917, French jeton 21; Mitchiner 1988, 403). Latten: 2.86 g: 25 mm. 1989.6 unstratified.

Nuremberg jeton. Period of Frederick III, 1440–93. Bavarian type.

Obverse: Knot (?) within three-arched tressure: margin: fictitious legend.
Reverse: Lozengy shield of Bavaria (reversed): in three-arched tressure: margin: fictitious legend (Mitchiner 1988, 997). Brass: 1.1 g: 21 mm. 1986.4, context 18.

Nuremberg jeton. Anonymous issue, *c.* 1500–50. 'Rose/Orb' type.

Obverse: Three crowns, alternately with three fleurs-de-lys, arranged centrifugally around a five-petalled Rose: fictitious marginal inscription.
Reverse: Large imperial orb surmounted by a cross: within an ornamental tressure that has three main arches: fictitious legend (type as Mitchiner 1988, 1190). Brass: 1.42 g: 22 mm. 1989.6, context 1 over 198.

Nuremberg jeton. Hans Krauwinckel II: master 1586: died 1635.

Obverse: Three crowns, alternately with three lys, arranged centrifugally around a central Rose with six heart-shaped petals: rosette GOTES. SEGEN. MACHT. REICH.
Reverse: Imperial orb surmounted by a cross patty, within a tressure with three main arches: HANNS. KRAVWINCKEL. IN. NV (*cf.* Barnard 1917, German jeton 84; Mitchiner 1988, 1504). Brass: 1.37 g: 20 mm. 1989.6, context 319.

STONE OBJECTS By Mark Gardiner

69. Purbeck marble mortar. Approximately one quarter of the rim and adjoining body together with one complete and one fragmentary lug remain from a Purbeck marble mortar. The rim, which has a diameter of 210 mm, bears a groove in the top surface. There are no evident signs of wear on the surviving fragments. After the mortar was broken an attempt was made to cut a small notch out of the side of one piece as indicated by clear saw or chisel marks. The mortar is represented by three conjoining pieces, two of which were found in the Lewes Archaeological Group excavation and one in the work in 1985 by the Field Archaeology Unit. The pieces were separated by a horizontal distance of 14 m.

This mortar presents certain problems of interpretation. Sufficient remains of the two lugs to show that they had different profiles. The complete lug has a rib which is prolonged downwards towards the base, Type 1 in the Dunning (1961b, 282) classification. The fragmentary lug projects outwards further and is more tapering in plan. It appears from the adjoining body of the mortar that it may have been pierced lower down to form a handle, though none of the handle itself remains. Pierced ribs or vertical handled mortars belong in Type 4 of the Dunning classification.

This latter form is comparatively rare and found only on Caen stone and Purbeck marble mortars. As Dunning has noted, Purbeck marble is fissile and this form is quite unsuited to the material, which may explain why only one lug was pierced. A feature of the Purbeck marble mortars, to which attention may be drawn is the groove in the top surface of the rim. This is also found on mortars from Northolt in Middlesex (Dunning 1961b, fig. 74, nos 1, 3), Winchester (Dunning 1961b, fig. 75, no. 1), Kings Lynn (Dunning 1977, fig. 147, no. 30), Little Ringstead in Norfolk (Dunning 1977, fig. 148) and Southampton (Platt & Coleman-Smith 1976, 2, fig. 268, no. 2202). 1985 context 315, small find 179; 1985–86 context 44, small find 2.

70. Hone (not illustrated). The Norwegian mica-schist hone survives to a length of 79 mm and the only complete side measures 10 mm across. It has been pierced for suspension about 20 mm from the end by an 'hour-glass' shaped perforation. Fine hones such as this were commonly pierced and suspended from the waist for sharpening small personal knives (Cowgill *et al.* 1987, 53). 1988–9 excavations, context 411.

71. A crude chalk cylinder measuring about 100 mm in diameter and with a similar height was found in context 5 (1989.6), a firmly stratified medieval deposit. It has a hole at one end 27 mm deep and tapering from 18 mm to about 16 mm in diameter. The opposite end is irregular. The surfaces have been inscribed with a rectilinear pattern which may not be representation, but could be a graffito. It is possible that the design may incorporate two overlapping representations of a gable wall. These occur on the right of the illustration. The left-hand gable is pierced by a round arch and the right-hand by a pointed arch. This interpretation is subjective insofar as certain lines are identified as significant and others ignored, and the whole representation is extremely crude.

Architectural sketches on stone are known from elsewhere, the best example being that from St John's College, Cambridge, which is similarly inscribed in clunch. The quality of work on the Cambridge piece is of much higher standard and was evidently intended as a working drawing (Biddle 1961). The Lewes piece is evidently no more than a graffito.

72–5. Grave covers (not illustrated). Four fragments of grave covers made in Sussex marble were found during the

excavation, all disturbed from their original positions. Sussex marble, though it is rather coarse and prone to laminate, was evidently considered a suitable material for making grave covers and was used for covers surviving *in situ* at Poynings church (West Sussex).

Three of the grave slabs from the friary had been re-utilized to form the edges of a soakaway (1986.4, context 85). The largest piece comes from the base of a grave cover and has a polished upper surface with chamfered edges, now partially damaged, and depicts in raised relief the stepped foot and central bar of a cross. A further portion of this or a similar grave cover was found with a further length of the bar of a cross. The third piece is undecorated and has an uneven and unpolished upper surface suggesting that lamination has removed the original face. It is thicker than the other two and has a hollow chamfer at the edges.

The final fragment was found in context 193 in the 1988–9 excavations. It has a polished upper surface and a band from the upright of a cross in raised relief.

CHARCOAL By Simon J. Dobinson

Charcoal from 17 contexts from the 1988–9 excavations was examined. These included the clays on the floodplain predating the friary foundation, deposits below the primary floor layers, charcoal from within the wall mortars and from upon the floors of the Period 6 buildings. The charcoal was recovered by hand during excavation and most of the samples consequently were more than 10 mm along their longest axis. The charcoal was analyzed in terms of fragment number, weight and in terms of presence/absence by context. A full report is available in the site archive and at the Institute of Archaeology, London.

The charcoal taxa displayed indicate typical components of the vegetation of the chalk downland environs, i.e. *Quercus*, *Corylus*, *Fagus*, *Betula*. Thus the fragments could derive from the nearby vegetation of the Downs and could have been brought in for specific purposes such as fuel, building etc. Alternatively, they may derive more locally from common ground near the town or from the domestic gardens of local tenements. A number of trees represented could possibly have been from the friary orchards, namely *Castanea*, Pomoideae or *Populus/Salix* which could have been hedging.

The friars never aspired to the self-sufficiency characteristic of other orders and were chiefly concerned with the provision of fruit and timber. Perhaps it is in this context that the Lewes Friary charcoal should be seen. Pomoideae and *Castanea* being orchard trees and *Populus/Salix* as hedges bordering the gardens and *Betula* used for timber. There is, however, no distinct diachronic patterning in the charcoal assemblage in the samples' composition at Lewes Friary.

ANIMAL BONE By Rod O'Shea

A total of 6071 bones from the 1985 FAU excavation was examined. Of these 3835 (63%) were identified at least to some extent, and 2236 (37%) were not. The bones came from 117 contexts, the majority of which did not provide certain evidence of the friary's meat consumption. Four contexts were, however, from the kitchen during Periods 4 and 5. The bones were mostly from sheep, with a few cow and pig bones. No particular body part was well represented.

The meat bones at Oxford Dominican friary (Harman 1976), the Austin Friars in Leicester (Thawley 1981) and the Greyfriars in London (West 1985) were mostly cattle, followed by sheep and then pig. The Lewes Friary bones follow a different pattern with sheep bones being consistently the most numerous, followed by cattle and then pig. This, perhaps, reflects the position of Lewes in the Sussex Downs with the wooded Weald at some distance. The bones were counted, not weighed, and cannot be directly related to meat weight. Differential preservation of the various meat animal bones cannot be assessed. Thawley (1981) notes that bones from the Austin Friars, Leicester were from no particular body part and that both head and feet bones were present. This leads to the conclusion that live animal or carcasses were brought into the friary, rather than particular joints of meat. The bone data and conclusions from Lewes Friary are similar. Horse and deer bones occurred but in too small numbers to draw a conclusion. Only a few bones showed signs of burning, and there is no evidence in the contexts examined of an organized method of disposal of animal bones. It is possible that horn was removed from horn cores in the friary. A possible floor layer (context 132) had a larger number (14) of cattle horn cores than would be expected. Most of them were from young adults (see Armitage 1982).

As well as mammals, birds were also consumed. Chicken bones (never in large numbers) were found in a total of 38 contexts, and domestic goose bones in 16 contexts. Other birds represented by single bones were heron, crow, cormorant, partridge and pigeon. Fish bones were also found in many contexts, but have not yet been examined.

MARINE MOLLUSCS By E. M. Somerville

Introduction

A considerable quantity of marine molluscs were retrieved by hand collection. In this report I hope to show how a detailed examination of these can lead to some interesting conclusions. For analysis, the contexts containing shells were combined to give three major groups; early (Periods 1/2, 2, 3 & 3/4), middle (Periods 4, 4/5 & 5) and late (Periods 5/6 & 6) as well as a small amount of post-medieval material.

Species present

The total MNI (minimum number of individuals) are given in Table 1. For each species this was calculated as the sum of the MNIs from each context. When only fragments were present, this was recorded as a MNI of one.

The only obvious 'missing' species amongst the edible molluscs is the winkle (*Littorina littorea*). The *Acanthocardia* fragments were too worn to be identified to species. The presence of *C. fornicata* is clearly anomalous and most probably serves to confirm that the context in which it was found (1986.4, context 8) was not well sealed. A likely source for this intrusive species would be beach gravel, perhaps imported from the track-bed of the railway construction work in the late 19th

Table 1. Marine Molluscs from 1985 excavations at Lewes Friary.

	Early	Middle	Late	Post-medieval
Ostrea edulis	138	879	214	21
Mytilus edulis	6	9	3	0
Cerastoderma edule	0	12	2	0
Pecten maximus	1	1	0	0
Acanthocardia sp.	1	1	0	0
Crepidula fornicata	0	1	0	0
Anomia ephippium	0	2	0	0
Patella vulgata	1	0	1	0
Venerupis pullastra	0	1	0	0
Buccinum undatum	0	5	1	1

or 20th century, after this species had arrived from North America.

The domination of the assemblage by oysters seems to be a genuine contrast with other urban sites, for example at *Hamwic* (Winder 1980) and at Okehampton (Rouillard 1982) where winkles and whelks respectively were well represented. In Sussex, whelks are described as being nearly as numerous as oysters in the post-1300 contexts at Pevensey (Dulley 1967). At Hangleton (Holden 1963), mussels and oysters are both described as plentiful, whereas in Lewes (Freke 1976) it would appear that oysters dominated, but did not overwhelm an assemblage which also contained mussels, winkles and whelks. The meat-weight represented by the oyster shells is not great. Using Winder's (1980) method this is 1035.0 g for the early period; 6592.5 g from the middle period and 1605.0 g for the late period.

Oysters

The methods used in further study of the oysters were adapted in part from Smith (1987) and Winder (1980). Unfortunately, a portion of this assemblage was discarded before a full inspection could be made of the oyster shells. A detailed study was made of 29 whole valves from the early period, 298 from the middle period and 149 from the late period. Figure 29 shows the distribution of shell length classes for these three groups, which in all cases is close to a normal distribution.

The proportion of shells between 7.0 and 8.9 cm length declines from 69% for the early period to 54% for the later period. Modern oysters reach this length between three and six years (Walne 1974). However, direct ageing of shells by counting growth lines at the hinge consistently gave a somewhat lower proportion in this age range and the distribution had a tail of older shells. Observer error is obviously a possibility, but it may be the case that the shells coming to the friary included a number of oysters which were relatively small for their age. Such shells are called 'stunters', and in modern industry with relaying would be rejected (Cole 1956).

A marked feature of the shells, although not one which was quantified, was that the shells themselves were often very thick, which is itself a result of poor growth. For all periods more than two-thirds of the shells had traces of infestation, mostly by *Polydora hoplura* and *Cliona celata*. The number of severely affected shells increased from 3% in the early period to 7% in the middle period and 10% in the late period. In the middle and later periods some of these were 'rottenbacks'. These tend to break in transport (Cole 1956) and their presence here may indicate a local source. The vast majority of shells were subtriangular in shape and lacked beaks. This would seem to indicate a relatively uncrowded bed on fairly firm ground (Smith 1987). At least some the shells were 'recycled' since a small number of these shells had traces of mortar and 'pegholes' (*cf.* Holden 1963) were also found. Few of the shells had notches from opening.

Discussion

The size distribution of oysters at this site differs somewhat from that found at Hamwic (Winder 1980) and Okehampton (Backway 1982), with a greater representation of larger (8+ cm) shells. The shape of the distributions implies that a large population was being exploited. It is therefore rather surprising that badly infested shells are also present. This could be taken as indicating either that the oysters were not graded before marketing, or that the shells coming to the friary included some of the rejects from such a grading process! Together with the presence of 'stunters', the impression given is that a proportion of the oysters are of low grade.

Deep-water beds are the most likely source for the majority of the oyster assemblage. This could account for the morphology of the shells, the infestation pattern, and might also explain the presence of 'stunters' if the management of the oyster bed(s) did not include relaying. However, thinking in terms of a single source may be misleading, since scattered throughout the contexts were light, ribby shells, which could have come from a reef, including four conjoined shells from

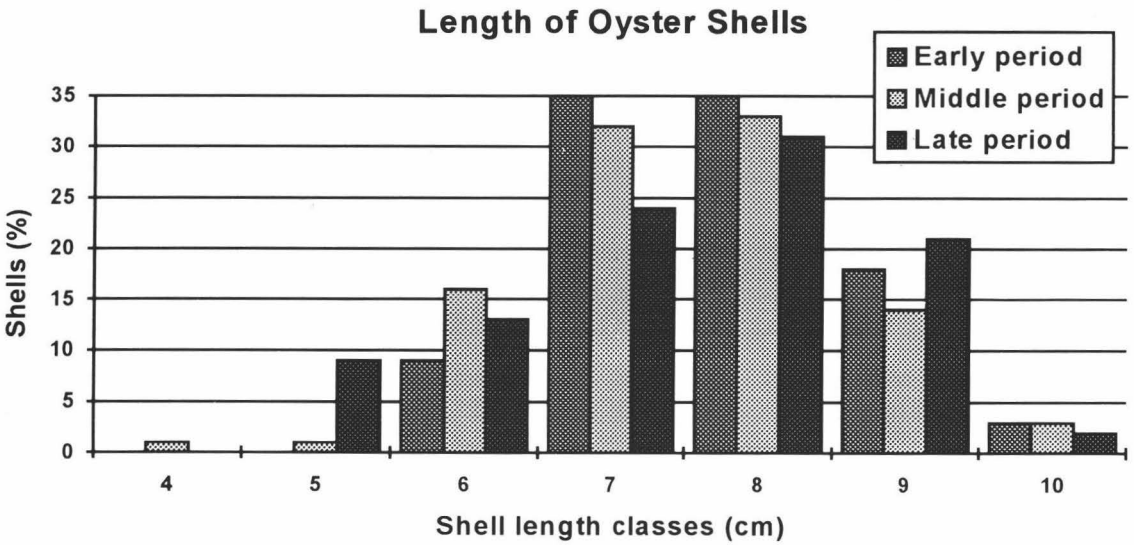

Fig. 29. Length of oyster shells.

the middle period. Tracking down the actual source(s) of the oysters will require more work, and information comparable to that presented here, and in detail in the archive report, needs to be obtained from other excavations in Sussex.

HUMAN BURIALS By Sue Browne

Fifty-two medieval burials from graves in the church, the cloister walk, the cloister garth and the graveyard at Lewes Friary were submitted for examination. Three burials from earlier excavations in the cloister walk were examined in 1985 by Janet Henderson (whose report appears in the site archive) and, where possible, her results are included here; thus the total number of burials discussed in this report is 55. The samples from the four locations are too small to analyze separately and, as there are no outstanding differences in the four burial groups (*see* Tables 2–5 (Tables 4 onwards on microfiche)), they have been treated as one sample. Because space was limited for the published report, this is an abbreviated version of the fuller report on the human bones in the site archive.

Table 2. Burials examined.

Location	Bone preservation Good	Fair	Poor	Total no. of burials
Church	11	3	3	17
Cloister Walk	9	16	4	26+3
Cloister Garth	3	2	1	6
Graveyard	2	1	–	3
Total	**25**	**22**	**8**	**55**

Table 3. Completeness of skeletons.

Location	Complete almost complete	Half complete	A quarter or less
Church	15	1	1
Cloister Walk	21	2	6
Cloister Garth	3	2	1
Graveyard		1	
Total	**39**	**6**	**10**

Generally preservation of the bone is good and 45% of the burials are well-preserved (Table 2); the cloister walk is the only location where the majority of the skeletons are only moderately well-preserved. Thirty-nine (71%) of the skeletons are more or less complete (Table 3). The methods of study used by the writer follow the guidelines outlined in Brothwell (1981). Inevitably there are small differences in the range of data recorded by the writer and by Henderson, but generally the methods used by both workers are similar.

Demography

The burials are listed in Table 4 on microfiche. Perhaps not surprisingly, since this was a friary, most of the burials are adult males. Forty-six (84%) of the individuals are adult (Table 5) and of the 44 sexed burials, 42 (95%) are male or probably male (Table 6). The age range is from approximately eight years to over 50 years; 19 individuals could not be aged more precisely than 'adult' because there are no dental remains (Table 7).

Stature estimation (Table 4)

The height range for 34 males is 1.62 m to 1.86 m (5 ft 4 in. to 6 ft 1 in.) and the mean is 1.73 (5 ft 8 in.). The estimated height of the two females is 1.53 m (5 ft) and 1.67 m (5 ft 6 in.).

Osteometric data

Lists of individual measurements and statistics for samples of 20 or more individuals are shown in the archive and in Table 11. The wide range in the height of the males reflects the degree of variation in the lengths of the long-bones in this burial group.

Discontinuous, morphological characters

A summary of the non-metric characters recorded is shown in Table 8. The frequency of metopism (17.2%) is relatively high, but the sample is small (n = 29) and the burials concerned are not clustered together, so no conclusions can be drawn about the possible significance of this finding.

Fig. 30. Right and left 1st metatarsal of skeleton 503 compared with a normal metatarsal (right). The bony expansion and multiple scooped-out defects adjacent to the articular surfaces proximally and distally are characteristic of chronic tophaceous gout (see also Figs 31–6).

Fig. 31. 1st and 2nd phalanx of the great toe of skeleton 503 compared with normal phalanges (right).

Anomalies

An interesting range of anomalies is present in this burial group. In one individual (315, grave 194), L5 is sacralized and in another (331, grave 253), an extra lumbar vertebra (L6) is present and partially sacralized. There is slight lateral wedging of L6, which also shows a cleft arch. In this and two other individuals (181, 300; graves 290, 299), the vertebral arch of one of the lower vertebrae is separate from the vertebral centrum. In two adults (181, 315; graves 290, 194), the styloid

Fig. 33. Scooped-out defect in the anterior surface of the right patella of skeleton 503; localized osteitis in the cavity also extends downwards from its lower border.

Fig. 32. Left proximal tibia of skeleton 503 showing morphological modification of the anterior intercondyloid fossa.

Fig. 34. Modified distal articulations in the radii and ulnae of skeleton 503.

Fig. 35. Multiple scooped-out defects proximally and distally in the metacarpals of skeleton 503.

process had not united with the distal ulna although otherwise epiphyseal union was complete in the arm bones. The reason for this non-union is uncertain, but perhaps it is an anomaly similar to the *os acromiale*. Henderson notes the presence of accessory ossicles in the navicular bones of one individual (LAG burial 1).

Dental anomalies include rotated incisors in two individuals (182, 259; graves 288, 261) and rotated premolars in four (182, 259, 350, 416; graves 288, 261, 388, 397). A lateral incisor and a canine are misplaced posteriorly and have erupted through the palate in two individuals (respectively 378 and 439; graves 403, 441).

Despite the wide range of anomalies, the frequency of any one anomaly is low. Although some individuals show more than one anomaly, there is no clear pattern in their distribution between individuals, nor in the spatial distribution of the burials involved, so the significance of these anomalies is uncertain.

Oral pathology

The frequency of oral pathology recorded by the writer in individuals aged 12 years or more is shown in Table 9a; no pathology was recorded in the deciduous dentition of burial 485 (grave 487). In addition to the results in Table 9a, Henderson records that the mandible of burial 1 was edentulous and that burial 2 showed one caries cavity, one abscess site and ante-mortem loss of one tooth.

A total of 22 individuals (62.8% of the sample) show caries cavities, twelve (32.4%) show abscess sites and 29 (76.3%) had lost teeth before death (Table 9b). Alveolar recession was noted in 19 individuals (52.5%).

Fig. 36. Scooped-out defects (lateral view) in the palmar aspect of the distal third of the shaft of two 1st phalanges of the hand of skeleton 503 compared with a normal phalanx (right).

Enamel hypoplasia, probably indicating phases of infection or nutritional deficiency during childhood, was noted in the anterior teeth of 22 individuals (73.3%).

Non-oral pathology (Table 10)

a) Arthropathy

i) Erosive arthropathy

The skeleton of a male aged 35–45 years (503, grave 472) shows changes which are characteristic of chronic gout. Although the bones are rather fragmented and friable, the skeleton is more or less complete and multiple scooped-out defects and overhanging bony projections were noted in the feet (especially in the right 1st metatarsal), hands, wrists and knees (Figs 30–36). The right elbow has been damaged recently but appears to have been involved also.

Typically gout focuses on the small joints of the extremities and particularly on the 1st metatarsophalangeal joint; the feet are usually more severely affected than the hands, and the wrists and the knees are often involved also. Classic sites for the deposition of tophi (recognizable by pressure erosion in dry bone) are the para-articular areas of the hands and feet, the forearm and over the olecranon (Grennan 1984, 117). Tophi may become infected and ulcerated (there are certainly indications, in the form of localized osteitis, that this may have been the case in the wrist, knees and feet of this individual) and in untreated chronic gout, secondary arthritis often occurs. Nowadays nine out of ten patients are male and chronic gouty arthritis in an advanced stage usually affects old individuals (Ortner & Putschar 1981, 415–16). Towards the end of his life, this tall and strongly-built individual must have experienced considerable pain and loss of mobility as the disease progressed.

ii) Arthropathy involving eburnation and grooves on articular surfaces, modification of joint contours and spinal ankylosis (*cf.* Rogers *et al.* 1987).

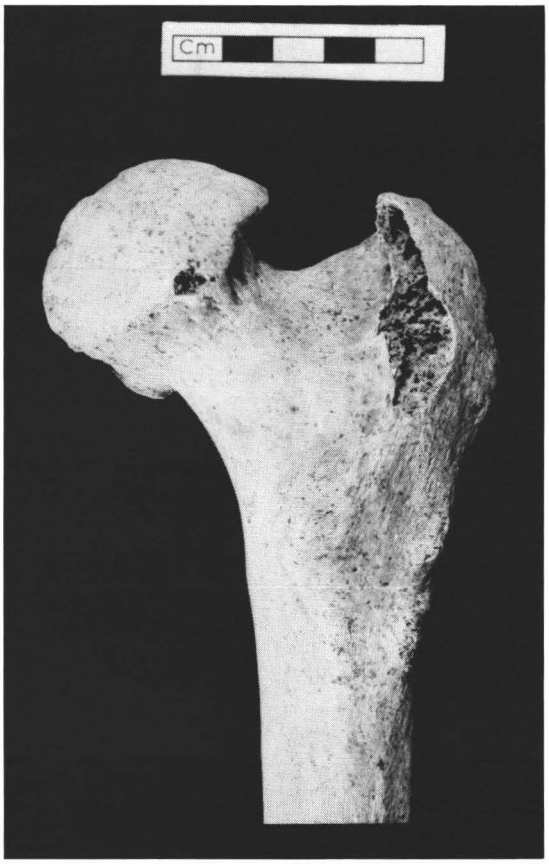

Fig. 37. Posterior view of the right proximal femur of skeleton 481.

Spinal ankylosis was recorded in four individuals (LAG burial 1, 432, 476, 489; graves LAG 1, 446, 478, 491). Henderson suggests DISH, Reiter's syndrome or psoriatic arthropathy as alternative diagnoses of the vertebral ankylosis and soft-tissue ossification observed in burial 1, an elderly male. The spine of burial 432 shows ankylosis and other bony changes (described in the fuller report in the site archive) which are not entirely characteristic of DISH nor of Ankylosing Spondylitis, but their pattern and nature suggest that this is a specific disease rather than age-related changes.

Severe arthropathic changes and grooves were recorded in the intervertebral facets of C2–T8 in burial 543 (grave 545); the centra are poorly preserved but appear not to have been united. Eburnation of joint surfaces was noted in burials 333 (hands), 453 (hips) and 515 (arms, hands, hips and knees) (graves 306, 455, 513 respectively).

iii) Other arthropathy

Bony changes were noted in the right hip (the left hip is normal) of a male aged 17–25 years (481; grave 483). The right femoral head is rather flattened, with an overhanging margin on its anterior aspect (Fig. 37). The surface of the femoral head

is irregular, although it does not show porosity or eburnation. Compared to the left side, the right femoral neck is slightly shorter, but not thicker, the right lesser trochanter is smaller and the right shaft is remodelled and shows modest atrophy. The articular surface of the right acetabulum has a disorganized appearance and a fissure in the iliac portion. Possible alternative diagnoses include Perthes disease, early TB or trauma (e.g. an impact fracture).

b) Schmorl's nodes

Thirty spines were scored for the presence or absence of Schmorl's nodes, which were present in 23 (77%). This somewhat neglected mild pathology, the bony evidence of herniation of the intervertebral disc into the vertebral body during late adolescence or early adulthood, which must represent stress in the intervertebral disc, is commonly seen in archaeological material and deserves fuller study.

c) Trauma

Healed fractures were recorded in the gonial region of a right mandibular ramus (331; grave 253) and a left humerus (521; grave 519), which shows a fracture at the proximal end and an oblique shaft fracture. Morphological anomalies in a right scapula (481; grave 483) are probably related to a healed fracture of the anterior border of the spine or a puncture wound. A left ulna (562; grave 560) shows a mid-shaft fracture which is in the process of healing; a large amount of callus has formed and there is movement still within the fracture zone, involving a false joint where the two pieces of shaft meet. Henderson noted healed fractures in the ribs of LAG burial 1.

Other healed lesions (described in the fuller report in the site archive) which are probably traumatic in origin (and are included in Table 10) were noted in a left temporal crest (181; grave 290) a metatarsal (371; grave 363), two carpals and metacarpals of the right hand (334; grave 332), and several tarsals of the left foot (182; grave 288).

d) Osteitis

Active inflammation at the time of death was recorded in the lower legs of two individuals (182 and 543; graves 288, 545). The lower half of the tibia and fibula shafts show osteitis and minor sub-periosteal deposition of new bone with striations, which are marked in 543.

e) Cribra orbitlia *and Osteoporosis*

Cribra orbitalia, which is thought to be indicative of a dietary deficiency, was recorded in four individuals (18%) out of 22 scored and supra-orbital osteoporosis in seven individuals (24%) out of 29 scored. One of them (182) showed biparietal osteoporosis also.

Summary

This group of burials, predominantly adult males, while obviously not representative of the medieval population of Lewes as a whole, adds to the data which are accumulating for the medieval monastic houses of Britain. The low frequency of caries cavities and abscess sites in the adult dentition suggests that the individuals in the sample had a relatively unrefined diet (or that they practised good oral hygiene), although a high percentage of them appear to have experienced phases of infection or nutritional deficiency during childhood. A range of skeletal anomalies was recorded, but their distribution and frequency do not indicate likely family relationships in the burial group. Non-oral pathology includes four individuals with ankylosed spines and nine individuals with healed traumatic lesions. Alternative diagnoses are suggested for an arthropathic hip in one individual and active inflammation was noted in the lower legs of two individuals. The most interesting burial is of an individual with chronic tophaceous gout; the skeleton is well-preserved and extensive lesions are visible in the bones of the hands and feet, wrists, ankles and knees and, probably, in the elbow.

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NOTES

[1] *The Builder* **19** (1861), 397 (we owe this reference to Dr T. P. Hudson); S. Spokes, 'Reports of local secretaries: Lewes', *Sussex. Archaeol. Collect.* **70** (1929), 222.

[2] Excavations unpublished, but notes and photographs in Barbican House library, Lewes.

[3] E(ast) S(ussex) R(ecord) O(ffice), AMS 5897/61, printed in *Sussex Notes & Queries* **2**, 145–6. For their later sale, *see* ESRO, SAS/WS 152.

[4] B(ritish) L(ibrary), Add. MSS. 29484, 29489.

[5] ESRO AMS 2187. A modern copy of this misreads the owner as Shelley (W. H. Godfrey, 'The family of Kyme in Lewes', *Sussex Notes & Queries* **2** (1929), 182.

[6] Public Record Office, SC6/HEN VIII/3677, m. 15r.; *Sussex Weekly Advertiser*, 18 July 1803.

[7] Godfrey, *op. cit.*; W. H. Challen, 'Kyme family of Lewes', *Sussex Archaeol. Collect.* **100** (1962), 129.

[8] ESRO, AMS 5720.

[9] Sussex Archaeol. Soc. Library, Thomas Woollgar, Spicilegia **2**, 248–9.

[10] *Sussex Weekly Advertiser*, 18 July 1803; ESRO, AMS 5569/25.

[11] ESRO, AMS 5720; W. H. Godfrey (ed.), *The Book of John Rowe* (Sussex Rec. Soc. **34** (1928)), 124.

[12] *Sussex Weekly Advertiser*, 5 April 1819.

[13] Sussex Archaeol. Soc. Library, Spicilegia **1**, 533.

[14] G. Mantell, *A Day's Ramble in Lewes* (1846), 24.

[15] W. Figg, 'Some memorials of old Lewes', *Sussex Archaeol. Collect.* **13** (1861), 34.

[16] ESRO, SAS/FIG 25.

[17] BL, Add. MS. 5677, f. 2; Sussex Archaeological Society, picture no. 3513; T. W. Horsfield, *The History and Antiquities of Lewes and its Vicinity* (1824) 1, opp. 283. Lewes.

[18] We are grateful to Rob Scaife and Paul Burrin who visited the site in 1985 and advised on this point.

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The geography and peasant rural economy of the eastern Sussex High Weald, 1300–1420

by Mark Gardiner

The medieval eastern Sussex Weald contained many contrasting areas, including river valleys, upland heath and woodland. By the 14th century the area was divided into meadow, farmland, upland grazing, common and park. The main crop grown in the region was oats which was sown on between half and two-thirds of the demesne acreage, and perhaps a smaller proportion of the land of the peasants. The heavy soils of the area were improving by marling. Cattle were grazed on the upland ridges and sheep were kept on the lowland pastures. Woodland near to rivers or the sea was cut and transported to the Continent or London. The region was generally too far from the capital city to fall within its hinterland. Industry and craftwork formed a minor part of the economy, and production methods seem to have remained underdeveloped.

The geographical region known as the High Weald is clearly differentiated from the flat clay lands which flank it to the north and south. The ground rises towards a series of ridges, which are separated by deeply dissected narrow valleys, known locally as ghylls, and by the broader valleys of the rivers Medway, Ouse and Rother. The character of settlement in this area of eastern Sussex had been largely established by the late 13th century: a pattern of isolated farms, hamlets and small villages scattered among the commons, hedged fields and extensive woods.[1]

The best agricultural land in the eastern Sussex High Weald lay in the broad river valleys. It is improbable that the first site of Robertsbridge Abbey, on a spur overlooking the Rother, was a desolate waste when the house was founded in the late 12th century, in spite of the Cistercian enthusiasm for such locations. The monks appreciated the value of the land along the Rother and during the 13th century enlarged their holdings.[2] Land in the river valleys was sought with great avidity by many religious houses. There was a string of ecclesiastical holdings along the Rother valley downstream from Mayfield, at Holmshurst (Burwash), Barehurst (Ticehurst) and Collington (Ticehurst) where the abbeys of Robertsbridge and Battle, and the priory of Combwell had land. At Kitchingham (Etchingham) on the River Limden, a tributary of the Rother, lay further holdings of Combwell Priory and of Bayham Abbey. Further east along the Rother lay the meadow lands of Robertsbridge and Battle Abbeys, which extended as far as Bodiam Bridge, and beyond was the grange of Robertsbridge at Methersham (Beckley).[3]

The land in the valley bottom required drainage to improve the pasture and meadow, and canalization to speed the flow of the rivers. The character of the Rother before improvement is suggested by a charter issued shortly after 1229 which mentions two islands in the river at Wreckery (Ticehurst). The River Teise at Lamberhurst on the Kent border was similar. Among the fields there were two named Small Island (*Parva Insula*) and *Wytegose Ye* (from OE *ēg*, island) and close by was Bayham Island.[4] An early 17th-century map suggests that some such 'islands' may have been land within cut-off meanders. The monks of Bayham undertook drainage or canalization works in the early 13th century on land adjoining the abbey, and when Battle Abbey acquired land in the Brede valley east of Whatlington Bridge later that century, they dug further drainage channels, including a leet to their mill at Sedlescombe.[5]

In the lower part of the river valleys the problems were different. Flooding from sea water driven up into the valleys was an increasing problem in the 1330s and 1340s. In 1341, six parishes bordering on the Brede and Rother rivers included submerged

lands. The Knelle Dam was constructed shortly after 1332 as a sea-defence across the mouth of the Rother valley to prevent flooding.[6] Defences had been built at an earlier date elsewhere. A wall called *Damme* was built across the Brede valley to prevent incursions of the sea, probably in the late 13th century and certainly before 1309, and another called *Morespiche* Wall was erected where the Waller's Haven stream entered Pevensey Marsh.[7] Bodiam Bridge seems to have marked the upper limit of marine flooding on the Rother, and money was collected from tenants downstream to maintain the drainage system and sea defences. Similar payments were made in the Brede valley.[8]

In spite of the problems of draining low-lying land, the cost of maintaining sea defences and the periodic flooding which nevertheless took place, the land in the lower reaches of the river valleys was very profitable while agricultural prices remained high. In the manor of Knelle (Beckley) on the edge of the Rother valley the arable in the upland was worth 4d. an acre, but the arable in the brookland was valued at 15d. or 2s. per acre in 1295. Similar values are given in the 1305 extent for the Battle Abbey estate at Barnhorne (Bexhill) on the edge of the Pevensey Marsh. Some of this low-lying land was under plough, but part was used as meadow or pasture.[9]

As these values suggest, there was a sharp contrast between the land on the valley floor and that on the lower slopes and ridges of the High Weald. The soils in the High Weald were difficult to cultivate and required considerable amounts of marl to obtain a reasonable crop. Inquisitions *post mortem* valued lands in the Weald at the rate of only 3d. or 4d., or occasionally up to 6d. an acre for marled land, and 2d. to 3d. an acre for unmarled land. These values are notably less than those recorded in similar documents for land elsewhere in south-east England. The extents of inquisitions *post mortem* tend, however, to underestimate income and a more accurate assessment of value may be that given in an assignment of dower made on the death of Ralph atte Beech in 1317. His lands in Wartling were said to be worth either 4d. or 6d. an acre.[10]

Some areas of the poorer soils on the higher land were managed as woodland or used for grazing, though others were cultivated. The demesne at Herstmonceux included 80 acres which were sometimes ploughed, but otherwise used as poor pasture, described as heath. The 60 acres of *Brounhothe* in Burwash must have been similar, for it was poor grazing land worth only about $1^1/_2$d. an acre. A 10-acre field of downland in Warbleton was used for cattle grazing when first mentioned, but was later let for arable. In Brightling the tenement of *Denyselond* is described as 'land and heath' and lay adjacent to other holdings called *Gretehorthe* and *Melwardeshothe*, the names of which adequately describe their character. Some areas of heath on the ridges were held in large parcels for grazing. Large heathland holdings of 40 acres in Beckley and 100 acres in Guestling are mentioned in the 15th century. Heath and broom grew on *Nolleslond* in Guestling, which was occasionally cut, but was otherwise let for grazing. On the Wadhurst Clay the soils were not only poor, but also badly drained. There were 102 acres of marshy pasture worth only $1^1/_2$d. an acre at Bivelham (Mayfield), which lies on the clay, and 22 acres of meadow valued at 7d. an acre because they were covered in reeds.[11]

The farmland on the lower slopes and the ridges was held in severalty in small fields, rarely more than a few acres in extent. A lease in the manor of Playden mentions an area of three acres lying in two fields, but these closes were particularly small. More typical was an area of 35 acres in Lamberhurst, which lay in five crofts. The assignment of dower to Joan, widow of William de Fiennes suggests that the demesne fields at Herstmonceux were little larger than those of the tenants. The 60-acre holding of Ralph atte Beech nearby, described in a similar document, was held in 11 fields; the more highly valued land lay in the larger parcels. The fields in the Battle Abbey manor of Marley (Battle), which included both upland and meadow land on the floor of the Brede valley, were a similar size.[12]

Some meadow land was held in common, though this does not seem to have been the practice everywhere. A parcel of meadow at Glasseye (Beckley) called *Menewyssh*, meaning 'common marshy meadow', was common to the adjoining tenants of the virgates of *Haysyerd* and *Avolynsyerd*. Not all meadow in the township was held in common; the land called Broc or Les Brokes was held in separate parcels by named tenants.[13] Common meadow in the upper Brede valley held by the 'men of Whatlington' is mentioned in a grant of *c.* 1220 and shares in the fields close by called *Brodewishe* and *Gorwisse* are referred to in charters of the same period. The land called Salehurst Mead in the Rother valley may also have been held in common, and

close by lay another field called *Menewishe*. A further parcel of meadow in Wartling had a similar name.[14]

There was no forest in the legal sense anywhere in the county, notwithstanding the names of some pieces of common land. Most of the commons were wooded and provided pannage and beech mast for swine, and pasture and browse for cattle.[15] They were an important source for fuel and for building. For example, Ashdown Forest provided timber for construction work at Chichester Cathedral in 1234 and joists were cut on the Broyle (Ringmer) in the Low Weald, and scaffold poles and firewood at Clear Hedge Wood (Waldron) for building at Pevensey Castle in 1289.[16] Yet by the end of the 13th century intensive grazing and the practice of firing the vegetation to improve the 'bite' had turned some areas of the common to heathland. The burning of heath recorded on the Broyle and at Ashdown Forest and the cutting of furze, heath and bracken prevented the growth of new trees. Ashdown Forest was intensively used by the many small tenants who lived on the periphery of the waste and were permitted to have pigs without stint on the common and graze as many cattle as could be overwintered on their own tenements.[17] As the population, and presumably the number of animals grazed, declined in the late 14th century, woodland was able to regenerate. By 1393–4 parcels of birch, characteristic of secondary woodland on poor soils, were being sold from Ashdown Forest.[18]

The commons may be divided into the 'forensec woods' controlled by the lord of the rape and the other commons limited to the tenants of one or more manors. The commons of Hawkhurst, Waldron, Clearhedge Wood and Ashdown Forest in the High Weald in Pevensey Rape lay in the first category. There were extensive rights of common on these lands. In late 13th century there were 208 customary tenants on Ashdown Forest, who were tenants of manors in the vicinity. There were also a considerable number of animals grazed by 'outsiders', tenants of manors more distant from Ashdown Forest. As many as 2000 cattle were grazed by the end of the century and the 'outsiders' alone were grazing a similar number of pigs. Many religious houses had been granted the rights of grazing on these commons by the lord of the rape. Wilmington Priory had pannage for pigs and pasture for animals on the commons in Pevensey Rape and could take wood there. Michelham Priory and Bayham Abbey had similar, but more restricted rights. The tithes of Ashdown Forest, Laughton and Waldron chases were received by the church in Pevensey Castle.[19]

The only forensec wood in Hastings Rape was the Forest of Dallington. It is mentioned in Domesday Book, which records that the count of Eu held half a hide in the forest. The land so called was divided into three parts, the Forest itself, an area of assarts and the pasture land adjoining the Forest. The assarts seem to have lain mainly around Mansbrook (Dallington) and in Brightling. The pasture land was bounded by Coblye Wood (Brightling) and Mansbrook to the south, Darwell Stream on the east and Willingford Stream, 'the stream where three roads meet' on the west. In the early 13th century the count granted Robertsbridge Abbey general rights of pasture and dead wood in that area, but later these were defined more closely. The right to take wood was relinquished by the monks and the number of cattle and horses to be grazed on the common was limited. The count granted similar rights to Hastings Priory: to take dead wood, to have pannage for 20 pigs and have common pasture with the vill of Dallington. The count also gave the priory free ingress and egress through the pale surrounding the Forest proper, which seems to have lain to the west of it.[20]

Usage of the other commons in the High Weald was more restricted. The common of Hawksborough Down, for example, was limited to the manor of Burghurst and the others neighbouring the down. Even the extensive common at Rotherfield, said to be twelve or more leagues (about $17^1/_2$ miles) in extent, was only for the use of the tenants of the manors of Rotherfield and Frant.[21] Some of the commons, such as those at Rotherfield and Crowhurst, also served as parks. They, like Ashdown Forest, were enclosed by a pale and were entered through gates. The regulations governing their use were strict and the commoners' animals were excluded from certain areas during the fence month to ensure there was adequate pasture for the deer.[22] Substantial areas of the manorial wastes were covered with woodland, though they, like the forensec commons, may have been denuded of trees during the 14th century under pressure of grazing. The common of Southwood in Heathfield was described as a waste in 1379, though by 1552 it was again wooded with oak and beech of 100 years' growth. The nearby common of Hawksborough Down produced heath, furze and broom in the mid-14th century, indicating that it too had areas of scrub.[23]

The larger areas of High Wealden common land were situated on the top or the flanks of the ridges and were called *terra montana* in Latin, or *dounelond* in the vernacular. Some were contiguous and formed bands of upland grazing. To the north of Waldron Forest lay the 600-acre common of Beacon Down used in the mid-14th century by the tenants of Possingworth manor for their cattle, sheep and pigs.[24] To the east lay an area of common of Laughton manor, the commons of Heathfield manor of which the largest was East Down, an area of 100 acres, and the common of Hawksborough Down. Crowborough Down some distance to the north was a substantial area situated on the edge of Ashdown Forest. Its eastern flank had been partly enclosed by assarters from the manor of Rotherfield. The remainder was common to the tenants of the borgh or township of Greenhurst in South Malling manor.[25]

Grazing on common land formed an important part of the economy in the Weald. In Crowhurst park in 1398, when the number of swine may have been less than earlier in the century, 18 tenants had 108 swine at pannage. In Rotherfield the tenants had similar rights to the pannage and beech mast in the park and gave 200 pigs a year for the privilege. To sustain the considerable herds of pigs through the winter, the lord of the manor contributed 10 quarters of grain to the tenants' swine. The townships in the northern part of the manor of South Malling were divided into wards, each based around an area of common woodland. The wards are not mentioned in the late 13th-century custumal, though a similar system may be implied by the reference to the right of common:

> All the freemen have common in the same wood *appurtenant to their freeholdings* and the customary tenants by the reason of the hens which they give each year to the lord.

Hens were given for a general right of common in the woodland, a payment called *foresteshenn* or woodhen. The customary tenants gave a money payment for the right of pannage by pigs which was collected by ward.[26] Hens were also given for the right of common in the manor of Laughton on the Dicker in the Low Weald. In other manors, however, hen payments are not apparently associated with the usage of the common. At Chalvington and Bexhill, for example, they were included among the dues paid by each virgate.[27]

There were extensive woodlands, parks and heathland, over which there were no rights of common. The 70-acre wood in the manor of Crowhurst called Fore Wood, and Batts Wood (Mayfield), where there were 60 acres of pasture and *Conyngwode*, both in Bivelham, were demesne. The bishop of Chichester had a woodland of an unspecified area in Ticehurst, with pannage in severalty worth 3s. 4d.[28] One of the largest single woods was in Etchingham manor, where there was a woodland park of 300–400 acres and a further 200 acres outside the park. The areas of woodland were generally smaller nearer the coast and away from the ridges of the High Weald. The demesne wood at Barnhorne was only 12 acres in extent, and in the neighbouring manor of Bexhill the area was about the same but was also used for common grazing.[29] There were coppice woods in Herstmonceux, at Bemsell of eight acres, 20 acres at *Lewstrod* and a further wood called Rock Wood held in severalty. These relatively small woods were evidently insufficient to supply the lord's household, for the services of the neifs included the transport of wood from *Baily*, which lay to the north in Heathfield.[30]

Most woodland held in severalty was managed as coppice with standards. The woods of Battle Abbey at Bathurst and Petley (Battle) produced firewood for domestic use and were therefore coppiced. Coppice was destroyed by straying animals in Combe Wood in Mayfield. The park at Crowhurst, even though subject to common rights, contained closes of coppice woodland, as did many of the customary tenements. Only one area of demesne woodland in Udimore is specifically described as coppice, but as the main produce of the wooded area was faggots, that must have been the case generally.[31]

The area of woodland on tenements is rarely recorded, for only the area of arable is mentioned in charters. A late 13th-century custumal of the manor of South Malling does, however, mention the acreage of coppice held by tenants. The figures given for the borghs or townships of Greenhurst, Mayfield and Wadhurst, which lay in the High Weald, suggest that coppice woodland covered the equivalent of about 10% of the area of the cultivated acreage. The corresponding figure in Framfield, which lay on the periphery of the High Weald, was only 4%, and in Uckfield borgh to the south of Framfield no coppice was noted.[32] Woodland in the Weald was rarely rented or sold separately from the adjoining cultivated land, though a small number of grants

were made of woodland alone.[33] The most informative of these is a lease of a wood at Sandhurst in Mayfield granted for three years. That was evidently a coppice, for the wood was to be cut and then fenced to prevent animals feeding upon and destroying the new growth.[34]

Assarting of the waste for arable led to a very substantial decrease in the area of woodland during the 13th and 14th century. Rights of free chase, such as those held by Richard Waleys from Isfield as far north as Withyham and Ticehurst in the manor of South Malling, and by the counts of Mortain in the south of the Rape of Pevensey were of diminishing value as the area of unimproved land contracted. Parks were established to contain and protect deer and allow them to breed free from disturbance.[35] Sometimes parks were formed simply by embanking and empaling demesne woodland; elsewhere to obtain an adequate area it was necessary to buy out existing tenant holdings. The process of establishing a park at Hawksden in Mayfield is recorded in some detail. Lands had been held in that area by the Waleys family since late 13th century and in 1337 Sir John Waleys and Robert de Sharnden, who held the lordship of a neighbouring tenement, agreed to view the bounds to establish the limits for the park. Sir John had already exchanged lands within Hawksden for others nearby to form a discrete block of land.[36] A similar process must have taken place at Broomham in Catsfield where peasant tenements were extinguished and a tract of woodland and heath emparked to form an area amounting to one quarter of the area of the parish.[37] In the late 14th and early 15th century some existing parks were enlarged. This was achieved at Herstmonceux and Frankham (Mayfield) by reducing the area of the cultivated demesne and at Crowhurst and Burwash by incorporating former peasant tenements.[38]

The park at Rotherfield was older in origin, and indeed was mentioned in *Domesday Book*, but the problem was similar: to distinguish an area for cultivation from that given over to hunting. The boundaries of the park left the customary holding of Lightlands as an island of cultivated land inside the pale. On the south-east side the boundary between the tenants' lands and the park was defined arbitrarily by three long, straight alignments. Pressure to acquire further land for cultivation in the later 13th or early 14th century led to the gradual diminution of the parkland. A strip of land was cut out of the park next to the straight boundary to form a further cultivated area called the Assart of Towngate before 1346. Similar areas of land were taken out on the west side to the south of Boarshead (Rotherfield) where successive encroachments described as 'old' and 'new' assart are recorded. A long strip was removed near Eridge before 1296 to make a new area of demesne and probably separated from the park by the ditch called *Maredyke*.[39]

Parkland was used not only for hunting, but was valued for the timber and wood growing there, and some areas were cultivated. Services of the tenants on the manors of Rotherfield and Herstmonceux included boon works on arable lands in the parks. Hay was grown in Wartling park and there were rabbit warrens at Herstmonceux, Wartling and Crowhurst.[40]

Although the High Weald was fairly extensively wooded, the density of parks in the region was not much greater than in other areas of England.[41] Some parks including those at Rotherfield already discussed, Frankham in Mayfield (330 acres) and Battle (Great Park, 725 acres) were particularly large, but in other areas there were few parks. In Waldron parish there was apparently none, partly because of the extent of the forensec woods of Clearhedge and Hawkhurst, but also because of the prevalence of minor manors with demesnes too small to be given over to parkland. There was a single park at Bivelham and one at Hawksden, but these were the only ones in the manor of Bivelham, the greater part of which was divided between many small sub-manors.[42]

THE PEASANT ECONOMY

No class of medieval records describes the economy of the peasantry in detail and consequently there are few details of their sources of income and expenditure. There is no reason to assume that the tenants' economy was similar to that of their lords, though the physical constraints on the types of crops grown affected both equally. The peasant economy, therefore, has to be reconstructed from incidental references to crops, stock, the use of common land and by-employment, and with cognisance of practices on the better-documented demesnes.[43]

A rare insight into the peasant's appreciation of land and its value is given in an inquiry held in *c.* 1258. Witnesses were called to determine the tithes due to Leeds Priory for land held by Robertsbridge Abbey at Lamberhurst on the Kent–Sussex border. The abbey had there 218 acres of arable of which 55

acres had been marled in the past, 113 acres improved by marling by the monks, 36 acres described as 'almost sterile' and 14 acres of fertile land, which could be improved by marling. The field names indicate that the fertile land lay on the floor of a river valley. The witnesses called to assess the land were local men, one commenting that his family lived and was supported on similar land. They agreed that the land was not in fact sterile and suggested that it could produce a crop of winter oats if ploughed twice the first year, could be sown with oats the second year and left fallow the third. It could be let, they judged, for 6d. an acre or for one fourth or one fifth sheaf.[44]

Oats, the crop recommended by the witnesses for the poor soil at Lamberhurst, were widely grown in the Weald. The soils were heavy and damp and less suitable for wheat and barley. Crops cultivated by tenants are mentioned in actions for trespass by animals heard in manorial courts. In a group of manors across the High Weald, 39 cases were noted in which the crop grown was described. Trespass in fields of oats was the most common plaint, mentioned in 17, or more than a third of these actions. Wheat (nine cases) and beans (six cases) were the other main crops with barley, peas, vetch, rye and flax also recorded.[45]

The dominance of oats seems to have been even more pronounced on the demesne fields. In the years ending 1371–7 on the Lamberhurst demesne, which though in Kent lay close to the boundary with Sussex, 64% of the sown acreage was seeded with oats, 30% with wheat, and barley was cultivated on less than 2%. The only other significant crop was beans, grown on about 4% of the acreage. At Udimore the twelve surviving account rolls for the years ending 1362–82 record that the same proportion of sown land was put down to oats, with the figures for barley and wheat of 14% and 9% respectively. The pattern of arable was similar at Battle, Bexhill and Barnhorne with oats covering between half and two-thirds of the demesne acreage sown.[46] Wheat was grown on the demesnes on the better soils. In some fields, both on the land of the lords and their tenants, peas and beans were sown alongside other crops. A trespass in a single field at Herstmonceux resulted in damage to barley, beans and oats.[47]

It is important not to over-exaggerate the importance of oats in Wealden agriculture. A single account roll for Icklesham Rectory lists the tithes received in 1344 and provides a useful overview of agriculture in the whole parish. A total of 140 quarters of oats and 63 quarters of wheat were given in tithes; the quantity of wheat was slightly reduced that year by flooding in the marshland. The value of the wheat tithe was, however, slightly greater than the figure for the oats, for the former grain could be sold at a higher price. That is a useful reminder that the sown acreage provides only a partial view of the agricultural economy of the area; the value of the crops is also significant.[48]

Cultivation in severalty allowed a flexible cropping regime to be adopted on the lands of the lords and their peasants. A practice, similar to the convertible husbandry advocated in the 16th century and later, has been recorded on the Battle Abbey demesne. Fields were cropped for successive years and then allowed to revert to grass to regain their fertility. The alternation of arable and pasture cultivation allowed the poor Wealden soils to be cultivated for as long as they could produce reasonable crops yields, and the pattern could be adapted to the quality of the soil in particular fields. 'Up-and-down' husbandry might have been practised on the 199 acres of the Herstmonceux demesne which was valued at 4d. an acre when sown, and 3d. an acre as pasture when not sown.[49]

Peasant leases may suggest the use of convertible husbandry on the tenants' fields. Leases were normally granted for arable cultivation with the lessor taking a proportion of the crops grown. The fraction paid in rent in kind was commonly a reciprocal of the length of the lease in years. A lease for five years would therefore pay one fifth sheaf. A longer lease gave a smaller part of the crop yield, implying that declining returns were expected from the land and that a smaller proportion of the produce could therefore be charged. After the term of the lease the land was presumably put down to pasture to recover, which was effectively a convertible regime.

That was not the universal pattern. To prevent the exhaustion of soil, longer leases sometimes specified the number of crops which might be grown during the term. Typically these were for two-thirds of the period of the lease. A lease drawn up in 1316 in Bucksteep (Warbleton) for 15 years specified that only 10 crops might be taken during that period.[50] Under such conditions the lessees' interests might be best served by fallowing the land every third year, rather than by putting it down to a long ley at the

beginning or end of the term. A pattern of fallowing one year in three is also suggested by the Lamberhurst witnesses.

The witnesses at Lamberhurst indicated that marling was of great importance in improving and maintaining the quality of land. That is reflected in the valuations of demesne made in inquisitions *post mortem* in which marled land was carefully distinguished from the less highly valued unmarled acreage. The efficacy of marling has been clearly demonstrated in the yields from demesne land on the manor of Ebony in Kent. Marling was very widely practised on the peasants' land and the sums paid by villeins to obtain marl, charged at the rate of 8d. for an acre in Bucksteep, reflect the value placed upon it.[51]

The purpose of marling was evidently to alter the texture of the soil, though where calcareous Wadhurst Clay was applied, the acidity may also have been reduced. Many leases required that the lessee should marl the land during the period of occupancy. Land in Bucksteep was let on the condition that it received four inches of marl. A lease in Robertsbridge manor required three inches and a grant of marl in Herstmonceux was for a similar depth.[52] Clearly the volumes of marl applied to the soil were substantial. Marl was dug from pits at the edge of fields, in woodland or at the side of the road. The costs of excavating marl, transporting it to the fields and spreading were great. At Lamberhurst $3^{1}/_{4}$ acres were marled in 1323–4 at a cost of 40s. $0^{3}/_{4}$d., about 12s. 4d. an acre. A drain had to be dug to clear water from the marl pit. Carting the marl was six weeks' work for three carts. The costs per acre of marling at Icklesham were similar, but these expenses may reflect the problems of digging and moving marl, for four acres were marled at Herstmonceux by contract for a total cost of only 15s. Denshiring, the burning of pared grass, seems also to have been used to improve the Battle demesne.[53]

Improvement of soil texture was of considerable practical significance since the clays within the Weald produce a very heavy tilth. A team of 10 oxen was necessary to pull the wheeled plough, according to the Hammerden custumal. The sticky soils also made carting difficult. In the autumn, winter and early spring months tenants giving carting services for Battle Abbey had to provide a team of four oxen to pull loads of firewood; in summer only two oxen were necessary.[54] Different types of ploughs were used on the upland and for the marshes and river valleys. The marsh plough was not necessarily lighter than the upland plough for the Udimore account rolls, which detail the making of a new plough in 1365–6, show that it too was wheeled.[55]

The rough upland pasture in the Weald, including the heathlands on the ridges, was particularly suitable for cattle. They were grazed on the heath on Ashdown Forest and on the downland on tenants' holdings.[56] Sheep were mainly kept on manors with pasture land in the river valleys or marshes. The peasants' sheep are mentioned in court rolls in Wartling, Brede, Playden and Crowhurst manors, either because they were given as heriots, or in cases when owners of dogs were charged with sheep worrying. A flock of 200 sheep belonging to tenants is recorded in Herstmonceux. Somewhat surprisingly, the Wealden abbeys of Robertsbridge and Bayham are mentioned among the monasteries supplying wool in a list compiled by Pegolotti, the merchant, but both had lands outside the Weald, where the sheep are more likely to have been kept.[57] Fines for animals grazing on demesne, heriots and cases concerning straying stock show that pigs, cattle, and horses were the animals most commonly owned by tenants, though there is very little evidence for the size of herds kept. Fines for pannage detail the numbers of pigs of each tenant and indicate that while many peasants had up to half a dozen swine, individuals did not have large herds.[58]

Lists of tenants' animals suggest that peasants favoured mixed stock. John Hugeles at his death in 1308 had one bullock, one cow, two sheep and two lambs on a holding of three acres in Playden. There was a similar mixture of stock on the more substantial Udimore holding of John Brokax, who in 1349 had four horses, four bullocks, six affers and a flock of 30 sheep. Nicholas Crull, who was indicted as a felon in 1391, had a holding in Crowhurst with at least four fields. He, by contrast, kept only two pigs. When he had surrendered his tenement in 1385 and received it back to farm for life, he had not given a heriot, because he had no animals. His chattels included a wagon, plough and harrow, a field sown with wheat, eight seams of oats and a parcel of hay, suggesting a mainly arable holding and his few pigs were grazed on the common. We must presume that either he had leased or borrowed draught animals from his neighbours, or had recently sold them. Thomas Dod, who held land of uncertain acreage on Herstmonceux and Wartling

manors, had a team of six oxen, eight milking cows, two young bullocks and a calf, and a mare with foal. Finally, Robert Janekyn, who was a tenant of eight acres in Crowham and a further $3^1/_2$ acres leased jointly with another tenant, had four stots, two mares, two cows and two pigs.[59]

Another perspective on the livestock of the peasantry is provided by the heriots given on the deaths of tenants or on their surrenders of the residue of their holdings. Heriots given on a group of manors across the High Weald in eastern Sussex between 1300 and 1420 were examined; the results are presented in the table. Most of the tenants who died between 1326 and 1375 held an animal of some sort, but these years include a high proportion of plague victims who died prematurely. They are not strictly comparable with the periods before and after, when tenants might expect to die in their old age and when they may have divested themselves of some of their land and animals before their death. The evidence suggests that, except in the first quarter of the 14th century, the great majority of tenants would have had at least one animal. The figures bear comparison with similar statistics derived for the manors of the bishopric of Worcester, but show an even greater pastoral emphasis in the Weald.[60]

The species of heriots are generally correlated with the size of tenements, as one would expect. The holders of the larger tenements gave horses and oxen, the holders of the smaller, pigs, or sometimes just poultry. If the absolute numbers of animals given as heriots are examined, these provide further evidence for the predominance of cattle rearing in the Weald. The heriot was the best beast, and therefore species of lesser value are likely to have been taken less frequently. Nevertheless, sheep are infrequently recorded, supporting the conclusion that they were not widely raised in the Weald. Mares occur quite commonly among the animals given as heriots, providing some earlier evidence for the horse-breeding which Mate identified in 15th-century Sussex.[61]

Grazing on the common lands was unstinted, except for the restriction that the tenants could have no more animals than they could overwinter on their own land. Not all manors had access to the extensive commons on the high ridges; elsewhere animals were grazed on pasture on the tenants' holdings and the arable lands between harvest and ploughing. Some leases specifically reserve grazing on the harvested fields. On the manors of Herstmonceux, Bucksteep, Udimore and Wilting the tenants paid fines to graze the demesne fields after harvest and the demesne woodland throughout the year; at least that seems to be the implication from the repeated presentments of tenants for 'damage' or trespass made in the lord's crops and woods.[62]

Fruit was grown in orchards, not only on the demesnes, but also by tenants. A Herstmonceux widow was given among her dower portion five rows of apple trees in a garden. Most of the references to fruit occur in plaints of theft. Adam Dyne, a Wartling tenant prosecuted John Stunt to whom he had leased the pasture on a piece of his land and garden, but John had also removed the apples there, claiming that they were included in the agreement. Similarly, pears and apples were stolen as they were ripening in late July 1383 at Chilsham (Herstmonceux).[63] Some of the fruit was used for making cider and perry. Presshouses are recorded on the *curiae* of

Table 1. Tenants giving animal heriots 1300–1420.

	1300–25	1326–50	1351–75	1376–1400	1401–20
Animal	77%	86%	75%	79%	81%
No animal	23%	14%	25%	21%	19%
Total number in sample	**66**	**122**	**44**	**89**	**67**

Table 2. Species given as heriots 1300–1420.

	1300–25	1326–50	1351–75	1376–1400	1401–20
Horses	9	36	8	16	6
Oxen	9	32	7	16	19
Other cattle	17	46	14	27	23
Sheep	5	2	0	3	3
Pigs	10	18	4	6	3
Poultry	1	1	0	2	0
Total number in sample	**51**	**135**	**33**	**70**	**54**

Penhurst, Brede and Udimore and on a tenement at Northiam where the building housed an apple-mill.[64]

The evidence discussed has shown that peasant agriculture in the 14th century was mixed and, although there was an emphasis on pastoralism, especially where there was access to unimproved waste, arable agriculture was widespread. The wood-pasture regime of the 16th and 17th centuries was not yet established. That impression is confirmed by the detailed draft returns for Henhurst hundred drawn up for the 1332 subsidy levied on goods. The listed stock and grain were not the entire possessions of the tax-payers, but only the saleable excess. Wheat and oats are the only cereals mentioned and there were greater quantities of the latter. There were considerable numbers of cattle, some horses, but few sheep and some of the tax-payers also had swine. A number of the tenants had casks of cider.[65]

Trade, craft and industry also contributed to the regional economy. The large areas of woodland in the Weald were an important source for firewood, timber and tan. Wood was cut either side of the River Rother in Kent and Sussex for export, particularly to Flanders, and also for shipment to elsewhere in England. There were wharves on the Rother in Kent at Reading Street, Maytham and Newenden, and in Sussex at Bodiam, on the River Brede at *Damme* and *Sloghdam* near Winchelsea and in the Combe Haven valley at Bulverhythe. Land transport was used to reach the ports from woods, such as those in Battle not within reach of the Rother, and the presence of wood-merchants at Cranbrook and elsewhere in the Kent Weald suggest that it was moved similar distances from the north to the quays on the Rother. Men from Goudhurst near Cranbrook paid 15s. for wood from the Lamberhurst demesne in 1376–7. Wood formed one of the major exports from Winchelsea and Rye, the greater part of it as firewood. The export of sawn wood increased during the 14th century, though did not approach the value of firewood.[66]

The costs of cutting and transporting faggots from demesne woods some distance from the Channel ports or the river wharves was prohibitive. Clough found that in the period 1421–6 the average annual income derived from wood-sales on the Pelham manor of Bivelham (Mayfield) was only 3s. and between 1409–22 was 6s. 9d. on the manor of Burwash. Accounts of Rotherfield manor in 1283–4 show that sales from the demesne woods at Henley and Castle Wood were worth considerably more and produced the sum of 27s. 2d., though since the manor was at farm that year these may have been greater than usual: wood was a valuable asset, which could be readily realized. Battle Abbey, which had woodlands much closer to the ports, was able to cut firewood and cart it to Winchelsea to pay creditors, though it was not heavily involved in the wood trade.[67] Large quantities of wood were cut and sold from the Udimore demesne. There was ready access to the town and port of Winchelsea and to the wharf at *Damme* on the River Brede. Even so, the costs of carting firewood the short distance from Udimore to Winchelsea more than doubled the price. During the 1360s the quantity of wood produced on the manor per year varied considerably reaching a peak in 1366–7 when 19,000 faggots, two parcels of woodland and some rods were sold, and throughout the later 14th century wood-sales accounted for a significant portion of the demesne income.[68]

Participation in the trade in wood was more difficult for customary tenants who were forbidden to cut wood, except that necessary for 'husbote' (building) and 'heybote' (hedging). The villeins at Wartling argued that they were able to cut and sell timber and firewood freely, and had their claim been recognized, they would have had exceptional rights. In fact, they were allowed wood only for the purposes mentioned and punitive fines of three times the value of the wood were imposed there and at Herstmonceux for cutting the timber trees of oak, ash and beech.[69] There was particular concern that the guardians of underage tenants should not cut timber, and tenants who rented land were limited in the amount of wood they could take to prevent them committing waste. The cutting of wood for billets and timber on the manor of Crowhurst, which was in convenient reach of the ports at Bulverhythe and Winchelsea, was permitted on the payment of nominal fines. Some of the wood was explicitly cut for sale, and in other cases the licences granted for 1000 or 2000 billets at a time indicate quantities greater than required for domestic use.[70]

The Crowhurst neif Thomas Natelegh was possibly a part-time wood-merchant, since his goods seized in 1400 after a conviction for felony included 48 'schypbords' and 800 roofing shingles. Most of his Crowhurst lands were at farm and he paid chevage to live outside the lordship, but had agricultural interests in the manor of Battle, where he kept a herd of 18 cattle. A number of tenants at Crowhurst and Udimore dealt in firewood and

talewood which they cut by licence, either on their own lands, or on the demesne. Similarly, John Remys, a Lamberhurst tenant who paid 79s. for wood from the demesne in 1369, is likely to have been a merchant. Employment was provided by cutting and working the wood. The poll-tax for the vill of Blackham in Hartfield records three carpenters, a cooper and a woodman among the 15 artisans. Wooden items produced by craftworkers in the Weald included casks, troughs and hurdles, which were owed by the customary tenants at South Malling as part of their work-services.[71]

Firewood was a low-value, bulky product which could not easily be transported overland. By converting the wood to charcoal it was possible to create a lighter, less bulky fuel which could be moved at lower cost. Charcoal burning was practised in woodlands without access to water transport and some charcoal was also shipped abroad. The charcoal maker recorded in the poll-tax records at Worth near Crawley in central Sussex was well situated to send his goods by road northwards to London and also to supply the iron industry in the area.[72]

Industry probably formed only a small part of the Wealden economy during the period studied, although there were abundant raw materials available locally. In addition to wood for fuel, there were also iron ore, clay and sand suitable for the production of iron, pottery, brick, tile and glass, and many fast-flowing streams to provide water-power. Yet in spite of these advantages, the industries remained small and the scale of production did not increase significantly until the 16th century.[73]

The medieval Wealden iron industry does not appear to have been very large and in Sussex was mainly concentrated to the west of the area considered here, in the centre of the county. Iron-working took place around Horsham and Crawley, from whence London was relatively accessible. A smithy at Roffey near Horsham leased in 1344 with its anvil, hammer, tongs and other tools may have been the source of 1000 horseshoes ordered in 1327 and 150 sheaves of arrows in 1347.[74] In eastern Sussex excavated sites at Minepit Wood (Rotherfield) and at Chingley in Kent have shown the size of individual sites and have indicated that substantial investment was required for iron-working. Not surprisingly, the site at Chingley lay on the demesne, as did the well-documented bloomery at Tudeley (near Tonbridge) in Kent. A forge established by Ralph Kenne to found iron on the neif tenement of Adam Creppe in the manor of Wartling may have been working on a smaller scale. Nevertheless, Ralph was a person of some local importance who held land in Brightling, frequently acted as witness to charters and was probably related to Alan and Richard Kenne who held a substantial area of land in the same parish.[75]

Studies of pottery manufacture and distribution have pointed to the contrast in the scale of production in the medieval and early modern periods. Kilns of 13th- and 14th-century date are known in eastern Sussex at Brede, Rye, Hastings, Abbots Wood (Arlington) and suspected at Pevensey, most of them near to towns. The greater number of kilns seem to have produced only for local sale. Very little 'Winchelsea' Black Ware made its way along the coast to Lewes, for example, in contrast to its abundance in medieval deposits at Winchelsea. Rye ware was more widely distributed, and has been found as far west as Michelham (Arlington) and Lewes. Although pottery is well represented on archaeological sites, its economic importance was slight. Pottery was not highly valued and its manufacture provided employment for a small number of people. Two men are identified as potters in the Brede court rolls in 1402–3 and a further one is mentioned in 1425. The level of employment at Ringmer seems to have been similar.[76]

Cloth-making in the eastern Sussex Weald was not as important as in Kent where there was a larger industry based around Cranbrook. Nevertheless, cloth-workers or merchants were found in a number of villages, and there were fulling mills in the narrow valleys in the High Weald. Two fulling mills are recorded in the Uckfield borgh of South Malling manor and single mills at Hammerden, Buxted, Rotherfield, Bucksteep (Warbleton) and perhaps at nearby Rushlake Green. The Bucksteep mill was, however, derelict in 1367. The site of a fulling mill is suggested by field names recorded in 1567 to the east of Robertsbridge, though no mill remained by the mid-16th century. Dyeing was carried out in Burwash.[77]

Local supplies of cattle-hides and of oak-bark and the plentiful streams in the Weald made it a suitable area for tanning. The abbeys of Battle and Robertsbridge both had tanneries and other tanners were working in the hundred of Henhurst and in the tithings of Dill (Warbleton), Mountfield, Wilting (Hollington) and *Inlegh* (Westfield). Once the skins had been tanned, there were also numerous curriers who prepared the leather for use.[78] The leather was

then worked into finished items by others, who might undertake the work full-time, like John Kelssche of Rye who described himself in a charter as a cordwainer (*corvesarius*). In the countryside, many were probably like John Baker, a leather-worker in Ticehurst, who evidently worked part-time, since he also held land. He was identified by his craft to distinguish him from a similarly named tenant who was a baker, but he was adaptable in his trade for in a later gloss he is described as 'leather worker, now cooper'.[79]

Salt-working was carried out on the coastal fringe and perhaps as far inland as Hailsham on the River Cuckmere. Though in the 11th century the greatest concentration of salt-working in England had lain in the Rye area, by the 14th century the industry was in decline. In the 1320s Flemish merchants were still shipping salt from ports in the east of the county, but at by the end of the century salt was being imported from the west coast of France. Salt, however, was still being made as late as 1440 on reclaimed land near Winchelsea.[80]

Most crafts and industries in the Weald did not provide full-time employment, but were supplementary to agricultural work. The potters at Brede also held land and their craft was presumably a by-employment which could be carried on in the slack periods of the agricultural year. The example of John Baker, the part-time leather-worker and later cooper of Ticehurst has already been mentioned. Some of the merchants who traded the goods of the part-time craftworkers seem to have been very successful. Thomas Natelegh, the wood-merchant and Crowhurst neif, was a minor trader, but he managed to purchase land in Battle on which he kept a small herd of cattle. Thomas de Vinehall (*Fynhagh*) was of greater wealth. He was a local merchant, but purchased one of the three parts into which Socknersh manor was divided in 1350. Thomas Kenne, the descendant of the holder of another third of the manor, was a rippier or fish carrier.[81]

The 14th-century High Weald of Sussex might, with modern perceptions, be considered to be underdeveloped. The natural resources of water-power, wood, iron ore, clay and sand were not effectively utilized. Economic growth was hampered by the high costs of transport and the distance from major population centres. The eastern Sussex Weald was largely beyond the limits of the 'London region', that area which supplied materials and food to the capital, although some shipments were made from the ports of Rye and Winchelsea. These ports also served ships trading across the Channel, exporting wood and timber, as already discussed, and importing other goods.[82]

One must conclude that it is possible to sketch only the outlines of the peasant economy. The relative contributions of agriculture, craftwork and industry are difficult to ascertain. Though it is probable that craftsmen, such as potters or leather-workers combined their work with agriculture, it is not possible to identify the relative contribution each made to the income of individuals. It is important to stress that there was evident underemployment in Wealden communities. There were large numbers of cottagers and landless labourers who possessed few animals and were dependant upon the opportunities of wage labour and areas of common for grazing. We know even less about these than about the wealthier tenants.[83]

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NOTES

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[7] HEH, BA 436; M. F. Gardiner, 'Medieval farming and flooding in the Brede Valley', in J. Eddison (ed.), *Romney Marsh: the Debatable Ground* (Oxford, 1995), 127–37. It is possible, however, that the *Damme* was constructed earlier still, for two tenants near Lidham (Guestling) in 1278 had the surname 'de Damme', W. Illingworth (ed.), *Rotuli Hundredorum* 2 (London, 1818), 218. W. M. Homan, 'The marshes between Hythe and Pett', *Sussex Archaeological Collections* **79** (1938), 205; R. A. Pelham, 'Studies in the historical geography of medieval Sussex', *Sussex Archaeological Collections* **72** (1931), 173; N. Saul, *Scenes from Provincial Life* (Oxford, 1986), 118, n. 81; L. F. Salzman, 'The inning of the Pevensey Levels', *Sussex Archaeological Collections* **53** (1910), 48–51 and map opposite 32.

[8] For the Rother Valley, see Hastings Museum and Art Gallery (hereafter HMAG), JER collection, unlisted membrane headed 'The wanes 3d upon an acre'. The document can be attributed to 1408 x 49 since it mentions Alice, Lady of Bodiam and Roger de Fiennes (*Victoria County History of Sussex* **9**, 133, 263). For marshland in Ewhurst, *see Calendar of Close Rolls 1389–92*, 76. For the Brede Valley, *see* HMAG, JER collection, unlisted membrane headed 'Roll of the walls of le Damme on the part of the fee of Udimore' and Gardiner, 'Medieval farming and flooding in the Brede Valley'.

[9] Public Record Office (hereafter PRO), C133/71 (5); S. R. Scargill-Bird (ed.), *Custumals of Battle Abbey, in the Reigns of Edward I and Edward II, 1282–1312*, Camden Society n.s. **41** (1887), 17–18; PRO, C135/151 (14); PRO, SC2/205/59, mm. 1r., 6v.; HMAG, JER collection (unlisted Udimore accts); PRO, SC11/660 and 661.

[10] PRO, C132/15 (2); C133/4 (5); C133/68 (7); C134/16 (2); C134/54 (17); C134/98 (2); C135/14 (2); C135/44 (3); E152/4, m. 19v.; SC12/15/66; P. F. Brandon & B. M. Short, *The South-East from AD 1000* (London, 1990), fig. 2.4; BL, Add. Roll 31504, note attached to m. 9r.; PRO, SC11/660, 661. For comments on the doubtful accuracy of inquisitions *post mortem*, R. F. Hunnisett, 'The reliability of inquisitions as historical evidence', in D. A. Bullough & R. L. Storey (eds.), *The Study of Medieval Records: Essays in Honour of Kathleen Major* (Oxford, 1971), 206; E. A. Kosminsky, *Studies in the Agrarian History of England in the Thirteenth Century* (Oxford, 1956), 46–63; N. Saul, *Knights and Esquires: the Gloucestershire Gentry in the Fourteenth Century* (Oxford, 1981), 206–7. For a more optimistic assessment of their worth, *see* B. M. S. Campbell, J. A. Galloway & M. Murphy, 'Rural land-use in the metropolitan hinterland, 1270–1339: the evidence of inquisitiones post mortem', *Agricultural History Review* **40** (1992), 3–6.

[11] PRO, C135/151 (14), m. 6; PRO, C145/149 (15); BL, Add. Roll 31310, mm. 2r., 3v.; ESRO, SAS/RF 1/209, 210, 216; HMAG, JER collection, Bundle D (court of Monday before St Valentine 3 Henry VI (13th February 1425)) and unlisted deed no. 27; HEH, BA 436, BA 450; PRO, C135/40 (8). The value of the grazing at Brounhothe in Burwash may have been underestimated in the inquisition *post mortem*, for in the early 15th century it was let for 26s. 8d. a year (BL, Add. Roll 31359).

[12] ESRO, AMS 4884, m. 16v.; Bodleian Library, MS. Sussex Ch. 171; PRO, C135/151 (14), m. 12; BL, Add. Roll 31504, membrane attached to m. 9r.; E. Searle, *Lordship and Community: Battle Abbey and its Banlieu 1066–1538* (Toronto, 1974), 270–71.

[13] The name contains the Old English elements *(ge)mæne* or *(ge)mænnes* and *wisce*. For *Menewyssh*: PRO, E315/56, f. 5r.; for *Broc* or *Les Brokes*: PRO, E315/56, ff. 5r. and 2r.; HEH, BA 950. On the use of Old English brōc for water meadow, *see* A. Mawer & F. M. Stenton, *Place-Names of Sussex* **2** (Cambridge, 1930) (English Place-Name Society 7), 558.

[14] Lincoln's Inn Library, Hale MS. 87, ff. 59r., 60v., 61v.; HEH, BA 35/1142, 40/1125, 40/1174; *Manuscripts Preserved at Penshurst Place*, 59. D. Martin & B. Martin, 'An architectural history of Northbridge and Salehurst villages', *Historic Buildings in Eastern Sussex* **2** (i) (Robertsbridge, 1980), 21, evidently referring to S. P. Vivian (ed.), *The Manor of Etchingham cum Salehurst*, Sussex Record Society **53** (1953), 63–5. For location of Salehurst Mead, *see* ESRO, AMS 5691/3/4. *Survey of the Manor of Robertsbridge, 1567–70*, 135. *Menewish* was called Mine Brook on the tithe apportionment, ESRO, TD/E86, parcel no. 144. BL, Cotton MS. Otho Aii, f. 33v.

[15] O. Rackham, *Trees and Woodland in the British Landscape* (London, 1976), 135–41.

[16] *Calendar of Close Rolls 1231–34*, 461; L. F. Salzman, 'Documents relating to Pevensey Castle', *Sussex Archaeological Collections* **49** (1906), 11.

[17] J. K. Irons, 'Aspects of the impact of Man of the historical ecology of Ashdown Forest before 1885' (unpublished D.Phil. thesis, University of Sussex, 1982), 328–9; PRO, SC12/15/46; BL, Add. Roll 31864; Rackham, *Trees and Woodland*, 147. For the practice of burning heath and cutting bracken and complaints of the consequent destruction of woodland in West Sussex in the 17th century, *see* BL, Add. MS. 28529.

[18] PRO, DL29/441/7094; P. F. Brandon, 'The commonlands and wastes of Sussex' (unpublished Ph.D. thesis, University of London, 1963), 103; Irons, 'Aspects of the impact of Man', 339. Parcels of birch were also sold in the manor of South Malling in Mayfield and Wadhurst at about the same time: Lambeth Palace Library, ED 1900.

[19] Brandon, 'Commonlands and wastes of Sussex', 32–43; for forensec woods in Kent, *see* F. R. H. Du Boulay, 'Droving, denns and danger', *Archaeologia Cantiana* **76** (1961), 76. For Ashdown Forest: Brandon, *ibid.*, 100–109; PRO, SC12/15/46; ESRO, AMS 3559, 1, being a copy of the Pipe Roll of 26 Edward I; *Calendar of Inquisitions Miscellaneous* **1**, 469, 532. The tithes of Ashdown Forest were granted to the church in Pevensey Castle *temp.* Henry I or before, apparently as part of the endowment of the college, West Sussex Record Office (hereafter WSRO), Ep. VI/1/3, f. 175 v.; *see also* M. F. Gardiner & C. H. C. Whittick, 'Some evidence for an intended collegiate church at Pevensey', *Sussex Archaeological Collections* **128** (1990), 261–2.

[20] PRO, C135/151 (14), m. 10; DB i, 18b; BL, Add. Roll 31359; ESRO, ASH 198; HMAG, HPL/B9; Darwell Stream was the boundary of the fee of Netherfield, HMAG, HPL/B71; *Manuscripts Preserved at Penshurst Place* **1**, 59–60, 82–3; PRO, C135/40 (8); PRO, SC6/1116/9, m. 10r. ESRO, SAS/RA 61.

[21] ESRO, ASH 206, f. 43r.; PRO, C132/27 (5).

[22] ESRO, SAS/LB 34; PRO, C135/40 (8).

[23] BL, Add. Roll 31265, m. 3r.; WSRO, Ep. VI/2/1, f. 39r.; PRO, C145/149 (15); W. D. Peckham (ed.), *Thirteen Custumals of the Sussex Manors of the Bishop of Chichester*, Sussex Record Society **31** (1925), 97.

[24] D. Martin & B. Martin, 'Old farm buildings in East Sussex 1450–1750', *Historic Buildings in Eastern Sussex* **3** (Robertsbridge, 1982), fig. 3; CKS, U1475/T264/533; ESRO, SAS/J606.

[25] ESRO, QDD/6/E2; WSRO, Ep. VI/2/1, f. 39r.; ESRO, ASH 206, f. 43r. BL, Add. Roll 31306, m. 1r. refers to land called le Doune further east; B. C. Redwood & A. E. Wilson (eds.), *Custumals of the Sussex Manors of the Archbishop of Canterbury*, Sussex Record Society **57** (1958), 84; Brandon, 'Medieval clearances', 148.

[26] ESRO, A2300 (Crowhurst court rolls), m. 6r.; ESRO SAS/LB 34 below. *Custumals of the Sussex Manors of the Archbishop of Canterbury*, 94, 116; ESRO, AMS 5512; ESRO, A1244, no. 22. Many of the names of the wards are found in a 16th- or 17th-century list of woodland in the manors of Mayfield and Wadhurst, BL, Harl. Roll I. 5.

[27] A. E. Wilson (ed.), *Custumals of the Manors of Laughton, Willingdon and Goring*, Sussex Record Society **60** (1961), 18; ESRO, SAS/CH 215; WSRO, Ep. VI/1/3, ff. 163r.–v.

[28] PRO, C145/149 (15); PRO, C135/40 (8); *Calendar of Patent Rolls 1405–8*, 185; BL, Add. MS. 6165, f. 108v.

[29] PRO, C133/68 (7); PRO, C134/100 (15); PRO, C135/14 (1). *Custumals of Battle Abbey*, 19; WSRO, Ep VI/1/5, f. 149r., printed in *Thirteen Custumals of the Sussex Manors of the Bishop of Chichester*, 133; BL Add. MS. 6165, f. 108r.

[30] PRO, C135/151 (14), mm. 6, 10; ESRO, SAS/C 250. *Baily* has been known from the 1780s as Heathfield Park.

[31] E. Searle & B. Ross (eds.), *Accounts of the Cellarers of Battle Abbey 1275–1513*, Sussex Record Society **65** (1967), 111, 158 and *passim*; *Calendar of Patent Rolls 1405–8*, 185; ESRO, A2300 (Crowhurst court rolls), mm. 5r., 19r., 22v.; HMAG, JER collection (unlisted Udimore accounts).

[32] *Custumals of the Sussex Manors of the Archbishop of Canterbury*, 30–83.

[33] BL, Add. Ch. 30853; ESRO, ASH B20; ESRO, RYE 137/5; PRO, C146/5773.

[34] ESRO, GLY 1219.

[35] R. F. Dell (ed.), *The Glynde Place Archives* (Lewes, 1964), x; ESRO, GLY 954, m. 2; Lambeth Palace Library MS. 1212, p. 103, translated in F. R. H. Du Boulay, *The Lordship of Canterbury* (London, 1966), 104; *Calendar of Patent Rolls 1247–58*, 161; *Calendar of Charter Rolls* **1** (1226–57), 410. For the identification of the bounds of the area of free warren, *see* I. D. Margary, 'Roman roads from Pevensey', *Sussex Archaeological Collections* **80** (1939), 32–3.

[36] ESRO, AMS 5896/5, m. 2; ESRO, GLY 1595; GLY 1222.

[37] *Custumals of Battle Abbey*, 14–16; *Victoria County History of Sussex* **9**, 242; Searle, *Lordship and Community*, 160; G. Vanderzee (ed.), *Nonarum Inquisitiones in Curia Scaccarii* (London, 1807), 393. The boundary of Broomham Park is shown on ESRO, BAT 4419.

[38] Brandon, 'Medieval clearances', 143; *Calendar of Charter Rolls 1427–1516*, 13–14; Lambeth Palace Library, ED 1900; ESRO, A2300 (Crowhurst account rolls, account of Michaelmas 1405–6); BL, Add. Roll 31359.

[39] Domesday Book i, 16a; ESRO, GIL 32; ESRO, SAS/LB 34; PRO, C133/77 (3); ESRO, SAS/Aber 68; Brandon, 'Medieval clearances', 137–8.

[40] ESRO, SAS/Budgen 9; *Calendar of Patent Rolls 1405–8*, 185; ESRO, SAS/LB 34; ESRO, SAS/C 250; BL, Add. Roll 31503, m. 1r.; Harvard Law School, manorial records 68.

[41] Rackham, *The History of the Countryside*, 123, commenting on data from L. Cantor, *The Medieval Parks of England: a Gazetteer* (Loughborough, 1983) which, however, gives an incomplete list for East Sussex.

[42] PRO, C134/100 (15); ESRO, A1244, enfranchisement no. 27; ESRO, BAT 4419; *Calendar of Patent Rolls 1301–7*, 347; PRO, C145/38 (10).

[43] C. C. Dyer, *Standards of Living in the Later Middle Ages: Social Change in England* c. *1200–1520* (Cambridge, 1989), 109; R. H. Hilton, *The English Peasantry in the Late Middle Ages* (Oxford, 1975), 37–53. For an attempt to examine the peasant economy in this way, *see* C. C. Dyer, *Lords and Peasants in a Changing Society: the Estates of the Bishopric of Worcester, 680–1540* (Cambridge, 1980), 316–54.

[44] Bodleian Library, MS. Sussex Charter 171; *Manuscripts Preserved at Penshurst Place* **1**, 107.

[45] The analysis is based on references to trespass in the court rolls of Brede (HMAG, JER collection (Brede court rolls, unlisted); PRO, SC2/205/59), Bucksteep (BL Add Rolls 31309–13, 32604–5, 32643, 32647, 32674–5, 32678; ESRO, ASH L1597–8), Crowham (ESRO, AMS 5686), Crowhurst (ESRO, A2300 (Crowhurst court rolls)), Hammerden (ESRO, SAS/CO/B 1–5), Herstmonceux (ESRO, D507; ESRO SAS/Budgen1–20; Harvard Law School, manorial records 68–78; Bodleian Library Ms. Sussex Roll 5; BL, Egerton Roll 8838), Playden (ESRO, AMS 4883–6) and Udimore (HMAG, JER collection (unlisted Udimore accounts)).

[46] BL, Add. Rolls 71301–6; HMAG, JER collection (unlisted Udimore accounts); Searle, Lordship and Community, 289; R. A. Pelham, 'The agricultural geography of the Chichester estates in 1388', *Sussex Archaeological Collections* **78** (1937), 200, table II; Brandon, 'Agriculture and the effects of floods and weather at Barnhorne', 75.

[47] Searle, *Lordship and Community*, 289–90; Brandon, 'Agriculture and the effects of floods and weather at Barnhorne', 72–3, table 1; M. Mate, 'The agrarian economy of south-east England before the Black Death: depressed or buoyant?', in B. M. S. Campbell (ed.), *Before the Black Death: Studies in the 'Crisis' of the Early Fourteenth Century* (Manchester, 1991), 81–2; Harvard Law School, manorial records 74.

[48] HEH, BA 452. On the ratio of the price of various grains, *see* D. L. Farmer, 'Prices and wages', in H. E. Hallam (ed.), *Agrarian History of England and Wales* **2** *(1042–1350)* (Cambridge, 1988), 795.

[49] Searle, *Lordship and Community*, 272–86; Brandon, 'Agriculture and the effects of Floods and weather at Barnhorne', 71–7; PRO, C135/151 (14), m. 6.

[50] BL, Add. Roll 31310, m. 6v.

[51] R. A. L. Smith, *Canterbury Cathedral Priory: a Study in Monastic Administration* (Cambridge, 1943), 136–8; M. Mate, 'Medieval agrarian practices: the determining factors?', *Agricultural History Review* **33** (1985), 23; P. F. Brandon, 'Demesne arable farming in coastal Sussex during the later Middle Ages', *Agricultural History Review* **19** (1971), 134; BL, Add. Rolls 31088; 31309, m. 7r.; 31311.

[52] On the effect of marling generally, *see* W. M. Mathew, 'Marling in British agriculture: a case of partial identity', *Agricultural History Review* **41** (1993), 97–110. Brandon, 'Agriculture and the effects of floods and weather at Barnhorne', 77; J. L. M. Gulley, 'The Wealden landscape in the early seventeenth century and its antecedents' (unpublished Ph.D. thesis, University of London, 1960), 141; BL, Add. Roll 31310, m. 2r.; CKS, U1475/M237; ESRO, SAS/Budgen 2.

[53] Brandon, 'Demesne arable farming in coastal Sussex', 134, n. 4; PRO, E315/56, f. 1r.; BL, Add. Roll 31086; *Rotuli Hundredorum* 2, 218; Mate, 'Medieval agrarian practices', 23, n. 5; BL, Add. Roll 71300; HEH BA 436; ESRO, SAS/Budgen 5; ESRO, NOR 18/3; BL, Add. Roll 32686; Searle, *Lordship and Community*, 291, n. 5.

[54] ESRO, SAS/CO/B 72; R. V. Lennard, 'The composition of demesne plough-teams in twelfth-century England', *English Historical Review* **75** (1960), 193–207; P. D. A. Harvey, *A Medieval Oxfordshire Village: Cuxham 1240 to 1400* (Oxford, 1965), 57–8; J. Langdon, *Horse, Oxen and Technological Innovation: the Use of Draught Animals in English Farming from 1066 to 1500* (Cambridge, 1986); BL, Harl. MS. 3586, f. 46v.

[55] HMAG, JER collection (unlisted Udimore accounts); *cf.* Brandon, 'Agriculture and the effects of floods and weather at Barnhorne', 84–5; BL, Add. Roll 32721.

[56] PRO, SC12/15/46; BL, Add. Roll 31310, m. 3v. For a 16th-century assessment of the value of Wealden heathland for cattle, *see* ESRO, SAS/J 606.

[57] Brandon, 'Agriculture and the effects of floods and weather at Barnhorne', 84; BL, Add. Roll 32689; HMAG, JER collection (unlisted, Bundle A); ESRO, AMS 4884, m. 21r.; ESRO, A2300 (Crowhurst court rolls), m. 3r.; ESRO, SAS/Budgen 6; PRO, JUST 1/933, m. 1r.; W. Cunningham, *The Growth of English Industry and Commerce* (Cambridge, 5th edition, 1912) 1, 634, 635.

[58] ESRO, SAS/Budgen 10; ESRO, A2300 (Crowhurst court rolls), *passim*.

[59] ESRO, AMS 4884, mm. 1v., 21r.; HMAG, JER collection (Udimore courts of Wednesday after St James ap. 23 Edward III (29th July 1349), 5th April 24 Edward III (1350)); ESRO, A2300 (Crowhurst court rolls), mm. 1r., 3r.; BL, Egerton Roll 8838; ESRO, AMS 5686, m. 9r.

[60] The court rolls of the manors of Bivelham (BL, Add. Rolls 31080–86), Bucksteep, Crowham, Crowhurst, Hammerden, Herstmonceux, Playden, Robertsbridge (CKS, U1475/M237), Udimore and Wartling (BL, Add. Rolls 31311, 31315, 31502–14, 32599–617, 32619–24, 32626–54, 32656–7, 32659, 32662–8, 32670, 32672–98, 32700–706, 32708–18; ESRO, ASH L1597–8) were used in the analysis. For other sources, *see* note 45 above. Dyer, *Lords and Peasants in a Changing Society*, 323–4.

[61] M. Mate, 'Pastoral farming in the south-east England in the fifteenth century', *Economic History Review* 2nd series, **40** (1987), 531.

[62] PRO, SC12/15/46; *Custumals of the Sussex Manors of the Archbishop of Canterbury*, 140; BL, Add. Roll 31310, m. 5r.; Harvard Law School, manorial records 68; BL, Add. Roll 31309, m. 6r.; HMAG, JER collection (unlisted Udimore court rolls); BL, Add. Rolls 32737.

[63] ESRO, SAS/Budgen 1; BL, Add. Roll 36689; ESRO, SAS/Budgen 17. For other references to apples and pears, *see* BL, Add Roll 31310, m. 4r. and E. J. Courthope & B. E. R. Formoy (eds.), *Lathe Court Rolls and Views of Frankpledge in the Rape of Hastings,* AD *1387 to 1474*, Sussex Record Society **37** (1934), 46.

[64] ESRO, ASH B9; PRO, SC6/1021/5; HMAG, JER collection (unlisted Udimore court rolls); ESRO, FRE 6909. For fruit growing and cider making in the same area in the 16th century, *see* C. E. Brent, 'Rural employment and population in Sussex between 1550 and 1640', *Sussex Archaeological Collections* **114** (1976), 41.

[65] *See* Brent, 'Rural employment and population in Sussex', 39–41 for later 16th- and 17th-century agriculture in the region. HEH, BA 995 (consulted from ESRO, AMS 5926/34–9); L. F. Salzman, 'Early taxation in Sussex, part II', *Sussex Archaeological Collections* **99** (1961), 16–18. The printed returns give only a partial summary of the document. J. F. Willard, *Parliamentary Taxes on Personal Property 1290 to 1334: a Study in Medieval English Financial Administration* (Cambridge (Massachusetts), 1934), 77–85 also suggests subsidies were charged upon the excess of goods and stock above that needed for sustenance and farming.

[66] *Calendar of Patent Rolls 1354–58*, 70, 578–9; R. A. Pelham, 'Studies in the historical geography of medieval Sussex', *Sussex Archaeological Collections* **72** (1931), 173; HMAG, JER collection (unlisted Udimore account rolls), ESRO, A2300 (Crowhurst court rolls), m. 1v.; *Accounts of the Cellarers of Battle Abbey*, 45. For Kent, *see* K. P. Witney, 'The woodland economy of Kent, 1066–1348', *Agricultural History Review* **38** (1990), 37–8; Du Boulay 'Denns, droving and danger', 85–7; BL, Add. Roll 71306. R. A. Pelham, 'Timber exports from the Weald during the fourteenth century', *Sussex Archaeological Collections* **69** (1928), 176, 178–80.

[67] M. Clough, 'The estates of the Pelham family in East Sussex before 1500' (unpublished Ph.D. thesis, University of Cambridge, 1956), 147–9; ESRO, ASH 198; PRO, SC6/1028/7; *Accounts of the Cellarers of Battle Abbey*, 42, 45; Searle, *Lordship and Community*, 267.

[68] HMAG, JER collection (unlisted Udimore accts).

[69] Custumals of Battle Abbey, 21–2; C. R. J. Currie, 'Timber

supply and timber building in a Sussex parish', *Vernacular Architecture* **14** (1983), 52–4; BL, Add. Rolls 32620, m. 2r.; 31503, m. 1r.; 32674, m. 6r.; ESRO, SAS/Budgen 17. The timber trees are defined in BL, Add. Roll 31508, 32683.

[70] BL, Add. Roll 32657, mm. 6v., 7r.; ESRO, A2300 (Crowhurst court rolls), mm. 1v., 3r., 9r., 19r.

[71] ESRO, A2300 (Crowhurst court rolls), mm. 8r.–v. For land held by Thomas Natelegh in Battle, *see* also BL, Add. Ch. 20042. BL, Add. Roll 71301; PRO, E179/189/35, m. 3r.; *Custumals of the Sussex Manors of the Archbishop of Canterbury*, 37. More generally, *see* J. R. Birrell, 'Peasant craftsman in the medieval forest', *Agricultural History Review* **17** (1969), 91–107.

[72] PRO, SC6/1028/7; *Calendar of Close Rolls 1288–96*, 70; R. A. Pelham, 'The foreign trade of Sussex 1300–1350', *Sussex Archaeological Collections* **70** (1929), 109; *Accounts of the Cellarers of Battle Abbey*, 45, 111. The account roll for Burwash in 1295–6 lists no sales of charcoal as 'no one came to buy' (PRO, SC6/1116/9, m. 10r.), implying that in other years it was sold to merchants. PRO, E179/189/41, m. 18v. A misreading of the Patent Roll printed as *Calendar of Patent Rolls 1354–58*, 70 by W. D. Cooper, *A History of Winchelsea* (London, 1850), 120 is the source of the persistent myth that large-scale charcoal burning was carried out at Winchelsea.

[73] On the glass industry not discussed here, *see* G. H. Kenyon, *The Glass Industry of the Weald* (Leicester, 1967), on and rural industry generally, J. Thirsk, 'Industries in the countryside', in F. J. Fisher (ed.), *Essays in Economic and Social History of Tudor and Stuart England* (Cambridge, 1961), 70–88.

[74] H. Cleere & D. W. Crossley, *The Iron Industry of the Weald* (Leicester, 1985), 89, 90; PRO, E326/4039. The forge at Roffey was leased by the widow of Walter de Bonewyk. Walter was clearly a person of some substance as his position towards the head of the witness-lists in PRO, C146/4714 and BL, Add. Ch. 17296 suggests. *Victoria County History of Sussex* **2**, ed. W. Page (1907), 242.

[75] J. H. Money, 'Medieval iron-workings in Minepit Wood, Rotherfield, Sussex', *Medieval Archaeology* **15** (1971), 86–111; D. W. Crossley, *The Bewl Valley Ironworks* (London, 1975); Cleere & Crossley, *The Iron Industry of the Weald*, 92; BL, Add. Roll 32615, m. 4v. For Ralph Kenne as a tenant, BL, Add. Ch. 13605, BL, Add. Ch. 42640–41, 42644, and as a witness see, ESRO, SAS/RF 1/209, ESRO, AMS 4457, HMAG, HPL/B4–6, BL, Add. Ch. 42639, 42649. For Alan Kenne *see* HMAG, HPL/B4, BL, Add. Ch. 42638, 42649 and for Richard Kenne, BL, Add. Ch. 13605.

[76] A. D. F. Streeten, 'Craft and industry: medieval and later potters in south-east England', in H. Howard & E. L. Morris (ed.), *Production and Distribution: a Ceramic Viewpoint* (Oxford, 1981), British Archaeological Reports, international series **120**, 323–46; K. J. Barton, *Medieval Sussex Pottery* (Chichester, 1979); A. J. F. Dulley, 'Excavations at Pevensey, Sussex, 1962–6', *Medieval Archaeology* **11** (1967), 219–20; K. J. Barton & E. W. Holden, 'Excavations at Michelham Priory', *Sussex Archaeological Collections* **105** (1967), 7; C. C. Dyer, 'The social and economic changes of the later Middle Ages, and the pottery of the period', *Medieval Ceramics* **6** (1982), 37; PRO, SC2/205/59, mm. 3v., 10v.; HMAG, JER collection, Bundle D (Brede court rolls); J. Bleach, 'The medieval potters of Ringmer', *Ringmer History* **1** (1982), 43–54.

[77] J. Thirsk, *The Rural Economy of England: Collected Essays* (London, 1984), 225; *Lathe Court Rolls and Views of Frankpledge in the Rape of Hastings*, 38; *Custumals of the Sussex Manors of the Archbishop of Canterbury*, 75; PRO, C145/38 (10); BL, Harl. Ch. 87 G 35; PRO, C135/252; ESRO, AMS 5592/107; BL, Add. Roll 32675, m. 6r. Survey of the Manor of Robertsbridge, 137; the fields called Lower Fulling Mills and Upper Fulling Mills are shown on ESRO, TD/E 86, parcels 22, 23. ESRO, ASH 198.

[78] Searle, *Lordship and Community*, 299–303; CKS U1475/Q4, 5, 6; *Rotuli Hundredorum* 2, 218; *Lathe Court Rolls and Views of Frankpledge in the Rape of Hastings*, 120–21, 128–9, 136–7. On the sale of oak bark, *see* BL, Add. Roll 71304.

[79] BL, Add. Ch. 20156;. ESRO, SAS/CO/B 4, m. 3v.; ESRO, SAS/CO/B 71, B 73.

[80] Lincoln's Inn Library, Hale MS. 87, ff. 59r., 69r.–v.; *Custumals of Battle Abbey*, 40. For the location of Saltland, *see* J. A. Brent, 'Alciston Manor in the later Middle Ages', *Sussex Archaeological Collections* **106** (1968), map facing 89. R. A. Pelham, 'Some further aspects of Sussex trade during the fourteenth century', *Sussex Archaeological Collections* **71** (1930), 183–5; ESRO, RYE 136/51; A. R. Bridbury, *England and the Salt Trade in the Later Middle Ages* (Oxford, 1955), 168–71; *Calendar of Patent Rolls 1436–41*, 485.

[81] PRO, SC2/205/59, mm. 1r., 10v.; BL, Add. Ch. 13605; *Nonarum Inquisitiones*, 373; HMAG, HPL/B14, B36; BL, Add. Roll 32675, m. 3v.

[82] B. M. S. Campbell, J. A. Galloway, D. Keene & M. Murphy, *A Medieval Capital and Its Grain Supply: Agrarian Production and Distribution in the London Region c. 1300* (London, 1993), 24, 86; Pelham, 'The foreign trade of Sussex 1300–1350', 93–118; Pelham, 'Some further aspects of Sussex trade during the fourteenth century', 171–204; Pelham, 'Timber exports from the Weald during the fourteenth century', 170–82.

[83] On seasonal work outside the Weald, *see* P. F. Brandon, 'Demesne arable farming in coastal Sussex during the later Middle Ages', *Agricultural History Review* **19** (1971), 118. M. F. Gardiner, Medieval Settlement and Society in the Eastern Sussex Weald before 1420 (unpublished Ph.D. thesis, University of London, 1995), 267–8 attempts an estimate of the number of landless tenants.

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Reformation and reaction in Sussex 1534–1559

by Jeremy Goring

Throughout England the mid-Tudor period witnessed a great ecclesiastical upheaval. In the years 1534 to 1553 monasteries and chantries were dissolved, parish churches were disfigured, saints' days were abrogated and the Catholic mass was abolished. In the five years that followed an attempt was made to undo the devastation and restore the old religious structures and practices. This article tries to show how the people of Sussex reacted to these changes and raises the question whether, by the accession of Elizabeth, the county had really experienced a 'Reformation'.

In recent years there has been a growing interest in the local history of the English Reformation — usually defined as the quarter-century of ecclesiastical upheaval extending from 1534 to 1559. Historians, no longer content to concentrate on events in London and Westminster, have increasingly turned their attention to what was going on in the provinces. As a result a good deal is now known, for example, about the Reformation in Essex and Lancashire,[1] but not so much about developments in Sussex — always, as one historian of the period has put it, 'a shire given to its own secret ways'.[2] How did Sussex folk, notoriously conservative and resistant to change, react to the destruction of so many time-honoured rituals and institutions and to the introduction of things so strange and (to use a word first used in a pejorative sense at this period) 'newfangled'?

Although it was of great national importance, the event that has traditionally marked the beginning of the English Reformation — the breach with Rome and the establishment of royal supremacy in 1534 — seems to have had little effect upon the life of the localities. In Sussex as elsewhere there appears to have been little desire to uphold papal authority. Unlike Richard Boorde, vicar of Pevensey and Westham, who was said to have fled abroad because he 'would rather be torn with wild horses than assent or consent to the diminishing of one iota of the bishop of Rome his authority',[3] most clerics seem to have taken things calmly. Richard Gwent, archdeacon of London, who carried out a visitation of Chichester diocese in 1535, reported that many clergy had failed to erase the Pope's name from their service books or to preach against the papacy, but he clearly thought that this was due more to ignorance or indolence than to wilful disobedience.[4] The only serious pocket of disaffection was around Chichester, where George Crofts, the cathedral chancellor, was accused of denying the royal supremacy and of conspiring with Lord De La Warr and Sir Geoffrey Pole to oppose the new order. Treasonable conversations were said to have taken place in 1535 at Pole's house at Lordington and it was later rumoured that his brother, Cardinal Reginald Pole, had paid a secret visit to Sussex, staying with De La Warr at Halnaker. In 1538 all three were arrested: Crofts was executed, some of De La Warr's property was forfeited and Sir Geoffrey, although pardoned, left the country.[5] But few Sussex folk knew or cared about the high politics of the Reformation. When in February 1538 a former curate of Tangmere, drinking at the sign of the Swan in Chichester, said that 'the king was a great high man but yet the dignity of a priest was above the king', it is probable that few who heard him understood the full implication of his words.[6]

THE DESTRUCTION OF MONASTERIES AND SHRINES

Some aspects of the Henrician Reformation, however, were of immediate concern to many. One was the dissolution of the county's religious houses which, at the beginning of the 16th century, had numbered 22: 12 monasteries, 2 nunneries and 8 friaries.[7] Two of the monasteries, Bayham Abbey and Pynham Priory, were dissolved by Cardinal Wolsey in 1525 in order to provide an endowment for his new Oxford college, while a third — Hardham Priory —

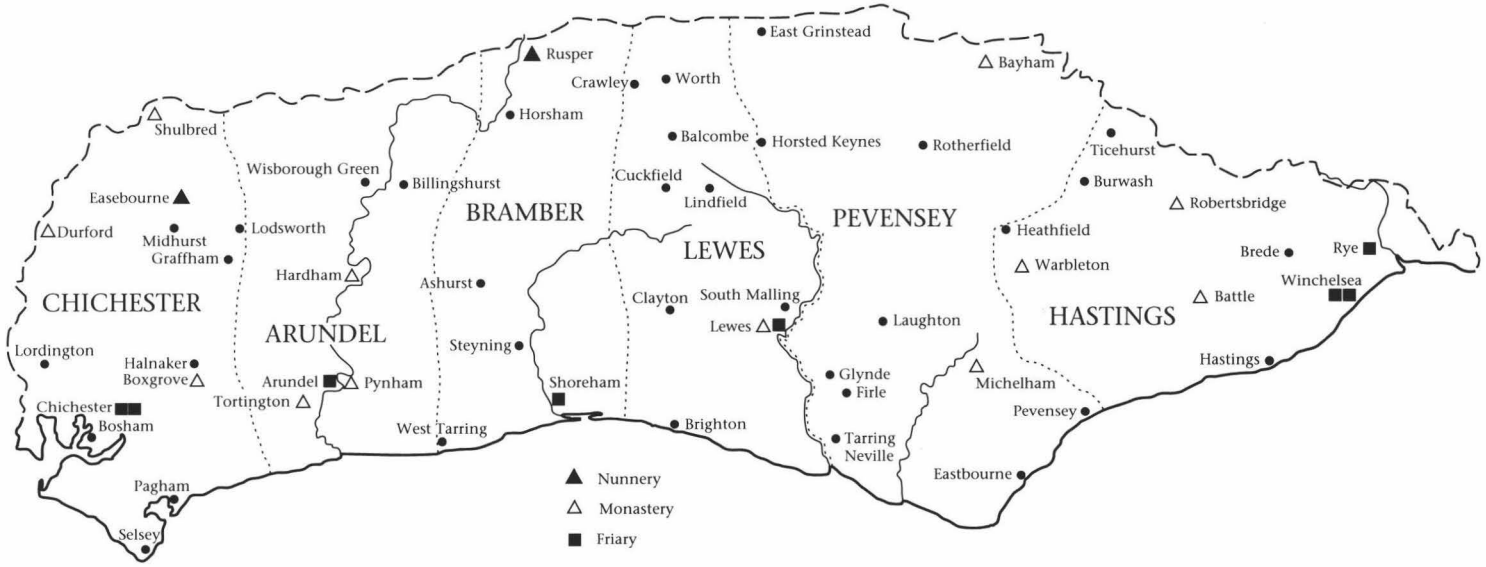

Fig. 1. Map of Tudor Sussex showing rapes, dissolved religious houses and places mentioned in text.

was privately suppressed in 1534 by a local landowner, Sir William Goring.[8] All the others were still in existence in 1535 when Thomas Cromwell instituted his great ecclesiastical survey, the *Valor Ecclesiasticus*. The majority appear to have been functioning satisfactorily: in most houses the numbers of inmates were higher than they had been a century before and moral standards were not as low as some hostile contemporaries contended. The commissioners appointed to suppress the lesser monasteries under the 1536 Dissolution Act recorded only five out of 42 Sussex monks and nuns as 'incontinent', the one black spot being Warbleton, where all four monks were condemned. Only four of the 42 sought a transfer to another house rather than abandon the cloister, but they were not to keep their vocations for long;[9] soon the greater monasteries went the way of the lesser ones and by the summer of 1540 every religious house in England had been dissolved. One of the very first of the major monasteries to go was the great Cluniac priory of St Pancras at Lewes, whose possessions the king's minister Thomas Cromwell himself coveted: after great pressure had been brought to bear on him the prior surrendered his house 'voluntarily' on 2 November 1537. The two remaining houses, at Battle and Robertsbridge, came under the hammer in the following year.[10]

'Hammer' is the appropriate word, for in every case institutional dissolution was quickly followed by physical destruction. Lead was promptly stripped from the roofs and carted away for the king's use: at Michelham and Warbleton the yield amounted to 13 waggon-loads. A similar fate befell the bells: in 1536 a total of 11 tons of bell-metal was collected in Sussex and sold off to local people at 13s. 4d. the hundredweight. But the most valuable confiscated metal was the silver: in 1536 nearly 1000 ounces were found in the religious houses dissolved in Sussex and handed over to the royal treasurer.[11] Nevertheless, not all the monastic booty came into the hands of those officially appointed to receive it, for local people were often quick to join in the plunder. At Lewes the problem of theft was particularly acute because the priory was a 'wide house' and immediately after its dissolution there were only four people keeping watch over it by night. One of the four gave a graphic account of their difficulties: 'When we be at the one end they steal the glass out of the windows, bear away doors and pluck down ceilings at the other end; nor will walls nor doors keep them out.'[12] But here as elsewhere the main demolition work was carried out by the new owners of the buildings. Cromwell, who had received a grant of the priory soon after its dissolution, promptly called in an Italian military engineer called Portinari to demolish its church: his gang of 17 men used the sapping and mining techniques employed in continental siege warfare to raze the huge edifice, larger than Chichester Cathedral, to the ground.[13] There was a ready market for the stone: some of it found its way to Barcombe, Hangleton and Wivelsfield, to be re-used in domestic buildings.[14] Only two conventual churches in Sussex escaped complete destruction: the chancel of the priory church at Boxgrove was retained for the use of the parishioners, while the church of the Grey Friars at Chichester became the city's guildhall.[15]

What were the reactions of the laity to these upheavals? For those able to take advantage of the opportunities for lining their own pockets, the dissolution of the monasteries was a boon. For others, like the 80 employed as servants at Lewes Priory, it may have been a disaster. That monastic servants, faced with unemployment, and local tradesmen, threatened with the loss of business, could protest vigorously at the closure of a religious house had been shown in 1525, when the dissolution of Bayham Abbey had led to a week-long riot and to the temporary reinstatement of the monks.[16] But Sussex people generally do not seem to have been great supporters of monasticism: in the 40 years before the enforced departure of the monks from the scene no more than 60 out of a total of some 700 Sussex testators had remembered them in their wills and most of these had only done so because they wanted the monks to say masses for their souls — or (as in the case of John Thatcher of Ringmer) to provide banking facilities for their heirs. On the whole it seems that in Sussex the friars were more favoured than the monks; in the same period nearly 200 testators had left money to them, usually with no strings attached.[17]

Contemporaneous with the dissolution of the religious houses came the abrogation of numerous saints' days, including that of St Richard of Chichester. The abolition of his feast day was deeply resented at Chichester and in 1537 Bishop Sampson tried unsuccessfully to get the Government to restore it.[18] The saint's popularity is attested by the numerous bequests made to his shrine, which in

the half-century before the Reformation amounted to over 100 from East Sussex alone.[19] But the shrine, which had made Chichester into an important pilgrimage centre, came under the hammer in 1538 when the Government decreed the destruction of all 'feigned images' that were 'abused with pilgrimages or offerings'. Shortly before Christmas royal commissioners arrived to supervise the destruction of the shrine and the carting away from the cathedral of six large coffers of gold and silver and two boxes of jewels.[20] Earlier that year the same commissioners had overseen the dismantling of a smaller shrine at Wisborough Green, where the booty was less valuable but more sensational: the 'feigned and superstitious relics' found there included 'the stones with which St Stephen was stoned', St James' hair shirt, St Peter's beard and a crucifix containing some of the Blessed Virgin's milk.[21]

REACTIONS TO THE HENRICIAN REFORMATION

Probably more upsetting to people than the destruction of shrines was the restriction on the placing of 'lights' before images in churches. How widespread this practice was in Sussex on the eve of the Reformation it is difficult to say. Some, like the 'two or three wilful persons' in Balcombe reported to the bishop for opposing the lighting of tapers,[22] may have objected to such things on principle, but the majority were doubtless happy to maintain the old customs. In the 1520s and 1530s some Sussex people did bequeath money to pay for candles to be lit before a statue of the Virgin or some other saint, but they only constituted a tiny minority of testators. And after 1538, when it was decreed that lights were to be placed only before the rood or the altar or 'about the sepulchre', there were very few bequests even for the permitted lights. Between 1539 and 1547 there were only four bequests for rood lights in the whole of East Sussex, one of which (made in October 1546) was by Richard Stapley of Twineham, who had evidently changed his mind about endowing any other lights:

> Whereas I before this time have willed unto the light of Our Lady at Twineham 12d. and in like wise to the light of Our Lady at Bolney 12d. now I will that the said money be given to poor people in the said parishes.[23]

Traditional practices appear to have been more persistent in West Sussex, where there were 84 bequests for rood lights, three-quarters of them in the rape of Chichester.[24] The evidence of wills, however, should not be pressed too far: that people no longer left money to pay for them is no proof that the lights were no longer burning. It is unlikely that old customs could be so quickly abandoned, particularly where the clergy were opposed to the new order. Soon after the edict of 1538 it was reported that William Potten, a priest in Rye, 'doth maintain the worshipping of images and relics with censing, candling, kneeling and such other abuses'[25] and that Thomas Cowley, vicar of Ticehurst, had urged his people to 'do as ye have done: offer up a candle to St Loys for thy horse and to St Anthony for thy cattle'.[26] There was likely to be even more resistance in parishes where the gentry wished to preserve the old ways — and especially in the far west of the county where the landlords exercised great power. When it was decreed in 1547 that lights should not be placed even 'about the sepulchre' there would almost certainly have been negative reactions in Selsey, Westhampnett and West Wittering, where local bigwigs had recently erected splendid Easter sepulchres.[27]

There were also objections from gentry and clergy to a more constructive change introduced in 1538 — the requirement that a copy of the English Bible should be placed in every church. Thomas Cowley took the view that only educated people like himself were capable of understanding the Scriptures aright: 'You botchers, bunglers and cobblers which have the Testament in their keeping, ye shall deliver it to us gentlemen which have studied therefore.'[28] It was a sentiment echoed by the parish clerk of St Clement's, Hastings, who wished to see all English Bibles burned.[29] But the greatest opponent of the use of the vernacular in church was William Inold, curate of Rye, who, if he read anything at all in English in a service, did so 'after such form that he may not be understanded'.[30] Inold, who had earlier been in trouble with the authorities for keeping abrogated holy days, had compounded the offence by riding over to Burwash to urge the people there 'to remain and do as of old time they had done'.[31] Inold's conservative stand aroused opposition in Rye, where moves to reform the church had been invigorated by the preaching of proto-Lutheran clergy who, with Archbishop Cranmer's blessing, had recently crossed into Rye from the diocese of Canterbury.[32]

It is more likely, however, that in far eastern Sussex popular opinion had been affected by an older brand of heresy. The people in Rye who said that images were 'idols and mammets', that the mass was 'of a juggler's making' and that 'the divine service sung in the church of God is of no more effect than the bleating of a cow to her calf' sound more like Lollards than Lutherans.[33] There had been Lollards in western Kent for over a century, especially in and around Tenterden which, as a 'limb' of the Cinque Ports federation, had very close links with Rye: it is quite possible therefore that in the 1530s there were some latter-day Lollards among Inold's opponents there.[34] Lollards tended to congregate near diocesan boundaries, across which they could flee to safety when pursued by the ecclesiastical authorities; and this — together with the large size of the parishes, the density of the woodland, the preponderance of industrial workers and the lack of manorial control — helps to explain the presence of pockets of heretics in the High Weald of Kent and Sussex.[35] It is significant that Thomas Hoth, a monk of Warbleton charged with heresy in 1533, came from these parts: although he was said to have encountered Lutheranism at Cambridge he may also have imbibed an older, home-grown brand of heterodoxy.[36]

Another Sussex man who got into trouble for his heretical opinions at this time was John Hoggesflesh of Lewes. In October 1534, charged with the stock Lollard offences of denying the validity of the sacrament of the altar and the practice of confession to a priest, he was despatched by six JPs to Chichester, where he was arraigned before a court composed of the diocesan chancellor, the dean, the cathedral chancellor, two canons, two JPs and the mayor of the city. After a lengthy trial in which he defended himself robustly with numerous appeals to Scripture, Hoggesflesh's judges, apparently uncertain about the seriousness of his errors, referred the case to Cranmer, who in turn referred it to the duke of Norfolk, who in his turn referred it to King Henry. The Supreme Head of the Church in England confirmed that the opinions were erroneous and in due course Norfolk wrote to Bishop Sherburne to tell him to have Hoggesflesh condemned. Eventually this 'famous heretic' (as the bishop called him) was forced to recant his 'detestable opinions', do public penance in the cathedral and read out a declaration of his errors in the market-places of Chichester, Midhurst and Lewes. Midhurst and Lewes may have been chosen not only because these were places where Hoggesflesh had lately been living, but because they were towns teeming with artisans — the very occupational group from which most Lollards came. Lewes, moreover, was a major route centre with strong commercial links with the notorious High Weald.[37]

It is because of the presence in East Sussex of sturdy, independent-minded men like Hoggesflesh that we know as much as we do about reactions to the Reformation in this region; for such folk were always willing to criticize conservative clergy and report them to the authorities. It is thanks to a letter to Cromwell (probably written in 1535) by one Thomas Netter, that we have a record of the treasonable words of Ralph Robinson, rector of Brede: having put Netter in the stocks for possessing an English psalter (even though he knew it had been printed *cum privilegio regali*), he is alleged to have said 'that the king's grace did grant many such things, the which is little regarded and less shall be'.[38] Again we know about the recalcitrance of William Inold of Rye because there were many in the town eager to complain about him; contrary to what the curate's supporters were saying, not all the complainants were 'very simple and of small substance'.[39] We know too what seditious things Inold said in his sermon at Burwash because of the testimony of two of his hearers — John and Alexander Collins, local ironmasters and members of a family later to be renowned for its religious radicalism.[40]

Another instance of the laity reporting the clergy to the authorities comes from Eastbourne, where in 1536 the vicar (William Howe) got into trouble for saying that Henry VIII's advisers, before giving him documents to sign, made him drunk with sweet wine, 'whereby they do what they will and no man may correct them'. These treasonable words were spoken when he was walking one day in the churchyard at Eastbourne with a parishioner named William Fenell, who thereupon reported the matter to a local magistrate, Sir John Gage, who in turn reported it to Cromwell.[41] Perhaps the paucity of folk like Fenell in the more westerly parts of Sussex helps to account for the absence of reports about the continuation of traditional practices there. Significantly, the only parish priest in West Sussex whose reactions to the Reformation are known to have upset his flock was the rector of Graffham, whose fault lay not in his conservatism but in his

radicalism. In 1536, when he gave up making holy bread and water and 'let his hair to grow so that he had no sign of any crown', it was reported that the rector's odd behaviour had caused 'a great rumour and grudge amongst the people in these parts, and more is feared to ensue'.[42]

THE DISSOLUTION OF CHANTRIES AND GILDS

At the close of the 1530s the pace of change slowed down and conservative-minded Sussex folk had less cause to grudge; from Cromwell's fall in 1540 to Henry VIII's death in 1547 there were few ecclesiastical innovations. Nevertheless the spoliation of the Church continued. Following the suppression of the monasteries it was widely assumed that the destruction of the chantries would soon follow, and in the early 1540s there was a spate of private 'anticipatory dissolutions'.[43] The most coveted institutions were the colleges of chantry priests, which were often richly endowed. Among them was Arundel College, which the Fitzalan earls had founded in the 14th century and which their descendants, deeply in debt, were licensed to dissolve in 1544; next year it was the turn of the college at South Malling and late in 1546 the one in Hastings Castle was dissolved. On Edward VI's accession Parliament passed an act declaring all chantries forfeit to the Crown, which meant the end of Bosham College, a wealthy pre-Conquest foundation, and of 45 Sussex chantries which had been founded, mainly in the 14th century, to provide masses for the souls of their founders 'for ever'. Many of these institutions were clearly moribund: at Broadwater and West Tarring there had been no resident priest within living memory and at Sullington the incumbent was a 13-year-old schoolboy. Where there were resident priests the consequences of their departure could be serious — as at Horsham, a parish with about 900 communicants, which (it was reported in 1548) 'hath no priest but the parish priest to serve the cure and minister, which is very slender to serve so great a parish'.[44] One of the few places that seems to have gained from the dissolution was Crawley, where the 'free chapel' — the only one out of ten such structures in Sussex that was not in a ruinous condition — was retained as a parish church.[45]

The dissolution of the chantries meant not only the confiscation of endowments but also, in effect, the prohibition of practices that had hitherto been central to the religious life of England. Although the preamble of the 1547 Dissolution Act implied that belief in purgatory was a thing of the past, this was clearly not so in Sussex. In the 1530s nearly 54% of Sussex testators left money for masses to be said for their souls and in the years 1540–46 the percentage was still over 48%.[46] But these overall statistics conceal some interesting local variations. At Horsted Keynes, for example, eight out of ten testators requested masses in these years, probably owing to the influence of the rector, David Mitchell: this cleric, whom Protestants were later to describe as a 'hinderer of true religion', witnessed six of the eight conservative wills.[47] Elsewhere, on the other hand, there was a noticeable absence of requests for masses. For instance, none of the 13 who made wills at Midhurst in this period requested one. Was this because the town was full of textile workers, traditionally associated with radical religious views? Or was it because it possessed a flourishing gild, the Brotherhood of the Holy Rood, one of whose functions was to provide masses for its members' souls — so obviating the necessity for individual requests for them?[48]

The Midhurst brotherhood was one of a large number of Sussex gilds and fraternities swept away by the 1547 Dissolution Act. Such gilds were particularly prevalent in the western part of the county. In Chichester was the great Gild of St George, a wealthy and prestigious confraternity to which almost every citizen of standing belonged.[49] In the coastal region to the south of the city almost every parish had a gild or brotherhood, with some places, such as Pagham, having more than one. In other parts of Sussex the gilds seem to have been confined to market towns, such as Cuckfield, East Grinstead, Lewes and Eastbourne.[50] Eastbourne had no fewer than eight fraternities, foremost among them being the Brotherhood of Jesus, with a fine gildhall and a full-time stipendiary priest: its popularity is attested by the large number of bequests that it attracted in the last seven years of its existence.[51] The consequences of the sudden disappearance of such institutions, which not only provided masses for the dead but acted as 'friendly societies' for the living, may have been serious. Few communities were as fortunate as the citizens of Chichester who, after the dissolution of the Gild of St George, were able to buy back some of its property at a reasonable price.[52]

ICONOCLASM AND PLUNDER IN THE PARISHES

Although the dissolution of the gilds and chantries may have been a matter of concern to some Sussex people there is no doubt that the most traumatic of the Edwardine religious changes were those affecting their parish churches. Except at Lewes, where redundant churches were apparently pulled down voluntarily,[53] there was no destruction of buildings; but their interiors were grossly disfigured. The Injunctions issued at the outset of Edward's reign ordered the removal of 'pictures, paintings and all other monuments of feigned miracles, pilgrimages, idolatory and superstition, so that there remain no memory of the same in walls, glass-windows or elsewhere'.[54] These words, however, were open to a variety of interpretations. In a few places people took them as the go-ahead for a campaign of wholesale iconoclasm. At Rye not only the images but also the rood loft, on which some of them had stood, were taken down almost immediately.[55] At Lewes people were not quite so quick off the mark but their measures were evidently more drastic: in 1548 the churchwardens of St Michael's paid John Harman, a local glazier, half a crown for 'defacing of 2 windows' — a practice uncommon at this time when even the most iconoclastic churchwardens would probably have been deterred by the high cost of replacing glass.[56] The commonest items of expenditure were the purchase of lime and the payment of people to put it on the walls — as at Ashurst, where the work evidently took four days and three bushels of lime. Here, as at Billingshurst, the work was apparently carried out in 1549, the year before the passing of the Act ordering the wholesale destruction of images.[57] Unfortunately, however, the paucity of churchwardens' accounts for this period makes it impossible to say how quickly and thoroughly most Sussex parishes executed the Government's orders. It would be interesting to know, for example, whether there was any delay in whitewashing the walls at Clayton, Hardham and other Sussex churches where the frescoes were especially fine and where one might expect there to have been strong objections to their destruction.[58]

Even more momentous than the destruction of images was the abolition of the mass. When in March 1548 an Order of Communion was issued, requiring all communicants to be given the wine as well as the wafer (and making it no longer compulsory to be shriven beforehand) there was some resistance in West Sussex. At Lodsworth the curate continued to administer communion in the traditional way, saying that none should receive without auricular confession.[59] And after the innovations were confirmed by the 1549 Act of Uniformity and the publication of the first Prayer Book in English, the rumblings of discontent in West Sussex continued. In September 1550, in response to a protest about the 'evil behaviour' of a cleric called Thomas Roose, who was departing from Scriptural teaching and insisting that the sacrament of the altar should be treated with 'honour and adoration', the Privy Council decreed that preachers 'pass not the bands which Scripture limiteth'.[60] This, however, was a difficult decree to enforce in Chichester diocese since among the recalcitrant preachers was the bishop himself.

The bishop of Chichester, George Day, had opposed the Act of Uniformity in the House of Lords and had subsequently refused to implement its provisions. In October 1550 the Privy Council ordered Richard Cox, the King's almoner, to go into Sussex 'to appease the people by his good doctrine, which are now troubled through the seditious preaching of the bishop of Chichester and others'.[61] Matters came to a head in the next month when the Government ordered the destruction of the altars and their replacement by wooden communion tables. Knowing the situation in Sussex, the Privy Council took special precautions over the implementation of policy in the county. Because some were 'not yet so well persuaded in that behalf as we would wish', special preachers were to go round explaining the need to destroy the altars and to instruct the 'weak consciences' of the people.[62] There is no evidence of outright resistance, but there may have been some dilatoriness at Billingshurst, where the payment 'for taking down the altars' was not made until June 1551. Elsewhere, however, there was apparently no such hesitation: at Ashurst the altars were removed before the end of 1550, while at both Rye and St Michael's, Lewes the churchwardens had clearly taken them down over a year before they were officially instructed to do so.[63]

There was, however, one measure that almost certainly met with resistance everywhere: this was the decree that parish churches should surrender all their surplus possessions to the Crown. In 1549 churchwardens were ordered to prepare inventories

of all their plate, jewels, ornaments and other valuables, prior to placing them at the king's disposal; but it was not until 1553 that commissioners were appointed to collect them. Each parish was to be permitted to retain only the minimum requirements of reformed worship — one chalice (or two in large parishes) and a surplice or two for the clergy. But, if what happened in Bramber rape was typical, the Sussex haul was distinctly disappointing. In May one of the Bramber commissioners reported that the amount of stuff collected 'riseth not to such a value as I would wish it did', the reason being that 'there be many poor parishes and their ornaments are very old, broken and very little worth, for of long time there was none given to the church'.[64] There may have been truth in this explanation, but it certainly did not apply to either Horsham or Steyning, two parishes in this rape where the churches had recently received substantial gifts of ornaments.[65] But evidence from other rapes indicates that there was another explanation for the paucity of 'church goods': some parishes, forseeing the spoliation that was to come, had shrewdly sold off their surplus possessions while the going was good. Long before the Government eventually got round to asking the parishes to deliver their goods the churchwardens at Billingshurst, Brede, Rotherfield, Rye, Winchelsea and Worth had all sold items of silver to boost their funds. At Rye over £100's worth of plate had been sold to pay for a new conduit and for the wages of the town's MPs. At Winchelsea the townsmen had sold 'the great chalice' to help cover the cost of repairs to their bridge. At St Michael's, Lewes the illegal expenditure was on a more modest scale: the parish clerk's wife had been paid 6d. for 'making a carpet of our old cope'.[66] Not surprisingly, the king's surveyor, who in the course of his investigations in Sussex had ridden 300 miles, complained that 'the people be very obstinate in doing their duty'.[67]

PUTTING THE CLOCK BACK

Looking back over the first 20 years of the Reformation era, culminating in Edward VI's death in July 1553, it is clear that the main problem for the Government was not the obstinacy of 'the people' but the recalcitrance of those in authority who were supposed to be enforcing its policies, and particularly the bishops. Unlike Kent, where the bishops — Cranmer at Canterbury and Hilsey and his successors at Rochester — were all enthusiastic reformers, the successive holders of the neighbouring see of Chichester were all men of conservative temper. Robert Sherburne, bishop from 1508 to 1536, had belatedly recognized the royal supremacy but, being advanced in years, seems to have left its enforcement to his suffragan William Howe, vicar of Eastbourne and titular bishop of Orense, whose seditious words (as reported to Cromwell in 1536) show to have been no favourer of reform.[68] Sherburne's successor Richard Sampson, although a firm upholder of the royal supremacy, was suspected of being opposed to religious innovations and was imprisoned in the Tower, from which he was released only upon Cromwell's fall in 1540. When Sampson was promoted to the richer see of Coventry and Lichfield in 1543 his place at Chichester was taken by George Day who, as has been seen, turned out to be even more resistant to change. In December 1550 Day's refusal to enforce the Crown's ecclesiastical policies led to his imprisonment in the Fleet and in the following September to his deprivation. His successor John Scory, the first convinced Protestant to occupy the see of Chichester, did not take up his appointment until June 1552 and enjoyed it only until the accession of Catholic Mary in July 1553, when he was promptly removed from his position.[69]

With the accession of Mary, Day returned to Chichester and a sustained attempt began to put the clock back 20 years. Some institutions, such as gilds, colleges and monasteries, could not easily be revived — because most of their buildings had been destroyed and most of their property sold. But it was possible to bring the parish churches back to something approaching their pre-Reformation state. Churchwardens were promptly ordered to restore the altars, roods, vestments, ornaments and other liturgical essentials swept away in Edward's reign; and in some cases they obeyed with alacrity. At West Tarring the first year of the new reign saw the purchase of a white cope and a 'ship to put the frankincense in'; and payments were made for mending a vestment and cleaning a candlestick, which had probably been concealed from King Edward's commissioners to avoid confiscation.[70] At Billingshurst in the same year the parish bought a cope, a censer and an altar cloth and paid sixpence for drink 'at setting up the rood'.[71] Elsewhere the churchwardens were slower to conform to the Queen's regulations: at Brede pyxes, censers, a holy

water stoup and other necessary furnishings were only purchased in 1555, while at St Michael's, Lewes the restoration of the rood was apparently not achieved until 1556.[72] In some instances the wardens were spared the expense of buying ornaments and vestments through the generosity of individual benefactors. One such was John Chaper of Eastergate, who in his will (January 1554) gave to his parish church, 'to the intent that God may the better be served', his portion of the parcel of three copes and five vestments that he and another parishioner had 'bought of the king's visitors'.[73] Similar foresight had been shown by John Walle, rector of Clapham, who also hoped to see better times and had bought from the commissioners a cross, a vestment and a cope, which he later left to his church.[74] In other parishes there were instances of people bequeathing money for the purchase of fixtures and fittings — candlesticks at St Peter the Great, Chichester and altar cloths at Bury, Fletching and East Dean (near Eastbourne).[75] At Billingshurst one Joan Fyst, seeking something more than the glory of God alone, presented the church with an altar-hanging in return for the right to sit in a special pew.[76]

The revival of Catholic worship necessitated not only the restoration of the Church's furniture but also the purification of its personnel by the removal of those who, taking advantage of a statute of 1549, had got married. The Articles issued in March 1554 ordered the removal of all clergymen who had so 'abused themselves',[77] and in Chichester diocese a total of 61 — between a fifth and a quarter of all the beneficed clergy — are known to have been deprived. Marriage may not have been the reason for deprivation in every case, nor did dismissal necessarily mean disaster: at least 16 were able, perhaps having hidden away their wives, to get themselves presented to new benefices — 14 in Sussex and two in Essex.[78] The most distinguished (and most radical) of the deprived clergy, Edmund Scambler, formerly vicar of Rye, went to live in London, where he spent the rest of Mary's reign ministering to an 'underground' Protestant congregation.[79] By this time some other ardent Sussex Protestants had gone into exile on the continent: they included the former dean of Chichester, Thomas Sampson, and two laymen, John Pelham of Laughton and his cousin William Morley of Glynde, who were together at Geneva in 1557.[80] But it was normally only well-to-do Protestants who could afford to take refuge overseas: lesser folk had to remain at home and, if they wanted to stay out of trouble, keep their opinions to themselves.

Not all were able to do this, as is clear from a Privy Council letter of August 1554 ordering the county's JPs to be more diligent in punishing 'such evil disordered persons as use to rail upon the mysteries of Christ's religion'.[81] Among the most notorious railers was Dirck Carver, beer-brewer of Brighton, and Richard Woodman, ironmaster of Warbleton, whose activities are very well documented.[82] Both were arrested that year and were among the 41 men and women in Sussex later to be burned at the stake for heresy. At least 15 of these people came, as did Woodman, from the High Weald. In addition to the martyrs there were other suspects who escaped punishment: in March 1556 a group of ten were summoned by the archdeacon of Lewes but failed to appear and were apparently never caught.[83] Most were from the High Weald, three being inhabitants of Rotherfield, a parish which (together with neighbouring Frant) was described by the Privy Council later that year as being 'out of order, especially in matters of religion'.[84] The prevalence of such disorder in north-east Sussex may have owed something to the influence of Thomas Hoth, the man who had been in trouble for heresy in 1533 and who later ministered at East Grinstead: he was in fact named by the authorities for corrupting the mind of Anne Tree, burned at East Grinstead in July 1556 — a month after he had paid the same penalty at Lewes.[85]

It is likely, however, that in the Weald of Sussex, as in the Weald of Kent, some of the Marian martyrs came from families with a long tradition of Lollardy.[86] Alexander Hosmer of Rotherfield, one of ten burned in the same fire at Lewes in June 1557, was the son of Richard Hosmer, who in 1540 had bequeathed his soul to God 'to have an habitation among his holy saints in Heaven'.[87] It was most unusual at this date for testators to express such sentiments, but they would have come naturally to those who believed, as did the Lollards, that they belonged to a select company of saints on earth.[88] Hosmer's fellow-martyr Margery Morris of Heathfield, whose son also perished in the fire, was the wife of a notorious tithe-refuser and had herself been in trouble with the authorities in 1551 for not attending communion for two years.[89] In the case of a woman of her mettle, ready to die for her beliefs, it is arguable that her failure to receive the sacrament

(even in its purified post-1548 form) was due less to negligence or indolence than to the holding of radical 'sacramentarian' views akin to those of the Lollards.

WILLS AND OPINIONS

While a handful were prepared to die for their beliefs the great majority of Sussex people who lived through the turbulent mid-Tudor years were probably content to conform outwardly to whatever patterns of faith and worship the authorities prescribed. What were the innermost convictions of these ordinary people, 'who sat bewildered in pews or befuddled in alehouses'?[90] This is a very difficult question to answer, although in the case of the minority with property to dispose of some inklings may be gained from the language of their wills. A recent study of East Sussex wills shows that the 1540s and 1550s saw a gradual abandonment of the old custom of bequeathing the soul to Almighty God, the Blessed Virgin Mary and the whole (or holy) company of Heaven. One of the first to abandon it was the afore-mentioned Richard Hosmer, who in 1540 left his soul to God alone. By the end of Henry VIII's reign traditional preambles are found in only about 60% of the wills and by the end of Edward VI's, with the Protestant campaign in full swing, the proportion had fallen to below 10%; and although there was a revival of traditional formulas under Mary, they never recovered the popularity they had enjoyed in her father's time. However, some people, not content with merely omitting the old wording, were adopting an overtly Protestant form of words, 'trusting to be saved by the merits of Christ's death and passion'. By the close of Edward's reign over 10% of East Sussex testators were using this new formula and, although the percentage fell under Mary, it is significant that in 1558 one out of 15 wills began with a statement of the characteristically Lutheran doctrine of justification by faith alone.[91] But such evidence, as has often been pointed out, has to be used with caution, since it is always possible that the language of a preamble is not that of the testator but that of the scribe who wrote the will or of the clergyman who witnessed it. A clear instance of this is found in a number of Warbleton wills, which contain a most unusual trinitarian formula doubtless provided by George Fairbank, the curate who witnessed them; when he left the parish in 1552 the formula went too, only to turn up again at Tarring Neville, where he had gone to be rector.[92] But there is another reason for not taking will preambles too seriously. Can we be sure that the language employed has religious, as distinct from merely cultural, significance? In Elizabeth's reign Anthony Browne, Viscount Montague included some seemingly Calvinistic terminology in his will preamble, but no-one would want to brand this most influential Sussex Catholic as a supporter of the Reformation.[93] However, although they need to be used cautiously, will preambles can be good guides to general trends and are particularly useful in plotting regional differences. In East Sussex, as one might expect, the swing away from traditional formulas was more marked in the Weald and the Marsh than in the Downland — and was most noticeable in the eastern coastal towns of Hastings, Winchelsea and Rye.[94]

Perhaps more reliable as a test of opinion than the terminology of preambles are the provisions made in wills for funerals and memorials, for if a testator was prepared to go to the trouble and expense of endowing masses for his soul it is arguable that he was doctrinally conservative. As has been seen, in the years 1530–46 about half of the testators in Sussex had made such endowments but, when the passing of the 1547 Chantries Act rendered them liable to confiscation, they understandably all but disappeared. What is perhaps surprising is that, when the ban was lifted under Mary, only about 15% of testators requested masses.[95] There were, however, some significant local variations: at Hastings, where there were 31 testators, there was only one such request, and at Horsham, where there were also 31, there were no requests at all; on the other hand eight out of 23 at Battle and eight out of ten at West Firle wished to revive the old custom.[96] These look like instances of *cujus regio ejus religio*, for Battle and Firle were the respective domains of the Brownes and the Gages, two leading Catholic families determined to maintain the old religion in the region under their control. Anthony Browne, Viscount Montague and Sir John Gage were in fact the only people to found perpetual chantries in Marian Sussex.[97] In providing for priests to sing in perpetuity for their souls they were evidently expressing confidence that Roman Catholicism would remain the religion of England for ever, but the absence of such provisions in surviving Sussex wills may be a sign that few shared their hopes for the future. It is perhaps an indication of the general uncertainty of the times that when, in the middle

of Mary's reign, the Billingshurst churchwardens accepted Joan Fyst's offer of an altar hanging as a *quid pro quo* for a better pew they cannily safeguarded themselves by adding the proviso — 'if the altars be continually maintained'.[98] In the age in which they lived they doubtless felt that no ecclesiastical arrangement could ever be regarded as permanent. And how right they were! Within a year or so Mary was dead, Elizabeth was on the throne and presumably, when the altars came down again, poor Joan had to vacate her pew.

CONCLUSION

What light do developments in Sussex throw upon the questions that continue to exercise the minds of historians? Was the Reformation imposed 'from above' upon a population that was, if not actually opposed to religious changes, at least unenthusiastic about them? Or was there a strong impetus 'from below' — from people at the grass roots eager to see the old ecclesiastical order overthrown and a new and better (and more Scriptural) one put in its place?[99] There is simply not enough evidence to bring to bear on these questions, but the little that there is suggests that in Sussex, as elsewhere in England, both of them can be answered in the affirmative. There certainly was resistance to change, especially among the clergy, when it meant the removal of time-honoured practices and customs. On the other hand there was enthusiastic support for change from some of the laity, who apparently were sometimes prepared to implement the Government's reformist policies even before being ordered to do so. The only firm conclusion to be drawn from the conflicting evidence is that reactions to the Reformation varied considerably from place to place. There was more support for the Reformation in East Sussex than in West, more enthusiasm for religious change in the Weald than in the Downs, more positive signs of Protestantism in towns and other industrial areas than in the purely agricultural countryside. And there was stronger loyalty to the old religion in regions where the landlords had firm control and *cujus regio ejus religio* prevailed.

Is it right, however, to confine a discussion of 'the Reformation' to the quarter-century that came to an end in 1559? Certainly this terminal date has seemed appropriate to those viewing things from the centre of power at Westminster, where statutes were passed and edicts were issued and new policies proclaimed. But at the local level, where the policies were implemented, things look rather different. To those surveying the Sussex scene in the early years of Elizabeth it appeared that the Reformation, far from being a process completed, was one that had barely been begun. William Barlow, who came to Chichester as bishop in 1560, found that Protestantism had made little progress in Sussex except in the towns of Rye, Hastings, Lewes and Brighton, which were 'governed with such officers as be faithful favourers of God's word'.[100] And the oft-quoted report of a visitation of Chichester diocese in 1569 provides ample evidence of the survival of old religious practices.

> They have yet in this diocese in many places images hidden up and other popish ornaments, ready to be set up for mass again within 24 hours' warning . . . In many places they keep yet their chalices, looking for to have mass again, when as they were commanded to turn them into Communion cups . . . They use in many places ringing between morning prayers and the litany, and all the night following All Saints' Day, as before in time of blind ignorance and superstition taught by the Pope's clergy . . . Many bring to church the old popish Latin primers, and use to pray upon them all the time when the lessons are being read and in the time of the litany.

For the most part the report does not identify the 'many places', referred to but occasionally the names are given — thus confirming what has been said earlier about regional variations. Battle is designated 'the most popish town in all Sussex' and in Lindfield the people were said to be 'very blind and superstitious'. The conclusion was that 'except it be about Lewes and a little in Chichester, the whole diocese is very blind and superstitious for want of teaching'.[101]

The want of teaching, the lack of preachers able and willing to plant Protestantism firmly in the land, was seen to be the main problem; and it was to this that the reforming Bishop Curteys, who came to Chichester in 1570, turned his attention. His aim was to place in every parish a minister who could preach the Word, reform the ungodly and root out the last vestiges of 'popery and superstition'. This 'reformation of the ministry', which was continued after his departure by so-called 'puritans', did meet with some resistance.[102] As elsewhere in England the

process of religious change was long and slow, but it seems to have been particularly slow in Sussex, a county where communications were poor, ecclesiastical authority was weak and the people were notoriously unwilling to be 'druv'. In fact it could be said that even at the end of the 16th century the Reformation in Sussex was still far from complete.

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APPENDIX
REQUESTS FOR MASSES IN SUSSEX WILLS, 1520–60

Years	County	Battle	Chichester	Hastings	Horsham	Lewes	Midhurst	Rye
1520–29	64.1%	2/2	10/19	5/7	9/13	2/4	2/8	1/5
1530–39	53.8%	9/16	5/16	0/2	7/9	6/13	0/3	1/3
1540–46	48.3%	13/24	24/39	5/21	2/28	13/19	0/13	12/36
1547–53*	5.5%	2/20	4/37	1/32	0/17	0/23	0/12	2/30
1553–58**	15.3%	8/23	14/46	1/31	0/31	9/36	0/9	2/30
1558–60	6.3%	1/13	1/17	0/16	0/16	2/19	0/8	0/12

* Wills dated before Edward VI's death (6 July 1553)
** Wills dated after Mary's accession and before her death (17 November 1558)

NOTES

1 *See* J. E. Oxley, *The Reformation in Essex to the Death of Mary* (Manchester, 1965); C. Haigh, *Reformation and Resistance in Tudor Lancashire* (Cambridge, 1975).
2 G. R. Elton, *Policy and Police: the Enforcement of the Reformation in the Age of Thomas Cromwell* (Cambridge, 1972), 84. For a good introduction to the situation in Sussex, *see* M. J. Kitch, 'The Reformation in Sussex' in M. J. Kitch (ed.), *Studies in Sussex Church History* (Oxford, 1981), 77–98.
3 Elton, 84. For Boorde, *see* card index of Sussex clergy in library of Sussex Archaeological Society (hereafter SAS, Clergy index).
4 *Letters and Papers of Henry VIII* (hereafter *LP*) **9**, 25.
5 *LP* **13(2)**, 821, 822, 831(2), 979(11), 986(10–13), 1062; *Dictionary of National Biography* (hereafter *DNB*), *s.v.* George Crofts, Sir Geoffrey Pole, Sir Thomas West (9th Baron De La Warr). An unpublished paper by Malcolm Kitch shows that disaffection with the Reformation amongst Chichester cathedral clergy went beyond George Crofts.
6 *LP* **13(1)**, 354.
7 For the dissolution of the Sussex monasteries, *see* Kitch, 88–93.
8 *LP* **10**, 1038.
9 'Inventories of goods of the smaller monasteries and friaries in Sussex at the time of their dissolution', *Sussex Archaeological Collections* (hereafter *SAC*) **44** (1901), facing p. 64.
10 For the fortunes of the ex-religious, *see* L. F. Salzman, 'Sussex religious at the Dissolution', *SAC* **92** (1954), 24–36.
11 'Inventories of goods', 55–65.
12 *LP* Add. 1274.
13 W. H. St J. Hope, 'The Cluniac priory of St Pancras at Lewes', *SAC* **49** (1906), 74–83.
14 I. Nairn & N. Pevsner, *The Buildings of England: Sussex* (Harmondsworth, 1965), 551n.
15 F. W. Steer, *The Grey Friars in Chichester*, Chichester Papers **2** (Chichester, 1955).
16 J. J. Goring, 'The riot at Bayham abbey 1525', *SAC* **116** (1978), 1–10.
17 Information from R. G. Rice, *Transcripts of Sussex Wills*, Sussex Record Society (hereafter SRS) **41**, **42**, **43**, **45**, (1935–40), *passim*.
18 *LP* **12(2)**, 4.
19 SRS **41**, 269–71. Those living in West Sussex (i.e. the three western rapes of Bramber, Arundel and Chichester) are likely to have made their offerings in person.

[20] *LP* **13(2)**, 1049, 1103.
[21] 'Relics at Wisborough Green church', *SAC* **60** (1919), 143.
[22] Letter from Ninian Burrell, vicar of Cuckfield, to Bishop Sherburne, *c.* 1534, in J. Dallaway & E. Cartwright, *The Parochial Topography of the Western Division of the County of Sussex* **2(2)** (1830), 297–8.
[23] SRS **45**, 261.
[24] SRS **41**, **42**, **43**, **45**, *passim*. There were eight bequests in the Rape of Bramber, 14 in Arundel and 61 in Chichester.
[25] Public Record Office (hereafter PRO), SP 1/133, f.8 (*LP* **13(1)**, 1150).
[26] Elton, 22.
[27] For these sepulchres, *see* Nairn & Pevsner, 320, 373, 377; E. Duffy, *The Stripping of the Altars: Traditional Religion in England* c. *1400–*c. *1580* (New Haven, 1992), 32, 461.
[28] *LP* **13(1)**, 1199(2).
[29] *LP* **14(2)**, 301.
[30] PRO, SP 1/133, f.8 (*LP* **13(1)**, 1150).
[31] Elton, 20–21.
[32] G. J. Mayhew, *Tudor Rye* (Falmer, 1987), 62.
[33] Elton, 88.
[34] Mayhew, *Tudor Rye*, 60.
[35] *Cf.* J. A. F. Thomson, *The Later Lollards 1414–1520* (Oxford, 1965), 1–2, 179, 182; P. Clark, *English Provincial Society from the Reformation to the Revolution: Religion, Politics and Society in Kent* (Hassocks, 1977), 30–31, 101; Kitch, 96.
[36] C. E. Welch, 'Three Sussex heresy trials', *SAC* **95** (1957), 60–63.
[37] Welch, 65–70. It seems that at this period nearly everyone named Hoggesflesh lived in the vicinity of Midhurst; R. McKinley, *The Surnames of Sussex* (Oxford, 1988), 252.
[38] *LP* **9**, 1130.
[39] Mayhew, *Tudor Rye*, 62.
[40] PRO, SP1/124, f.23 (*LP* **12(2)**, 505(2), J. J. Goring, 'Wealden ironmasters in the age of Elizabeth', in E. W. Ives, R. J. Knecht & J. J. Scarisbrick (eds.), *Wealth and Power in Tudor England* (London, 1978), 220–21.
[41] PRO, SP1/105, f.296 (*LP* **11**, 300).
[42] PRO, SP1/102. f.25 (*LP* **10**, 277).
[43] *See* A. Kreider, *English Chantries: the Road to Dissolution* (Cambridge, Mass., 1979), 155–6.
[44] *Victoria County History: Sussex* (hereafter *VCH Sussex*) **2**, 108–19; J. E. Ray (ed.), *Sussex Chantry Records* (SRS **36** (1931)), xxi, 51–2.
[45] SRS **36**, 58.
[46] *See* Appendix.
[47] SRS **43**, 1–6. For Mitchell, *see* T. J. McCann, 'The clergy and the Elizabethan settlement in the diocese of Chichester', in Kitch, 100, 109.
[48] SRS **43**, 215–25.
[49] *VCH Sussex* **3**, 92–3.
[50] There were gilds at West Thorney, West Wittering, West Itchenor, Birdham, Fishbourne, Appledram, Donnington, Hunston, Sidlesham, Pagham, Bersted and Felpham. For evidence of the existence of gilds, *see* SRS, **36**, 112–29 and **41**, **42**, **43**, **45**, *passim*.
[51] SRS **42**, 113–14.
[52] *VCH Sussex* **3**, 93.
[53] *VCH Sussex* **7**, 41.
[54] W. H. Frere & W. M. Kennedy (eds.), *Visitation Articles and Injunctions of the Period of the Reformation* (London, 1910) **2**, 126.
[55] Mayhew, *Tudor Rye*, 69.
[56] H. M. Whitley (ed.), 'The churchwardens' accounts of St Andrew's and St Michael's, Lewes from 1522 to 1601', *SAC* **45** (1902), 53.
[57] West Sussex Record Office (hereafter WSRO), Par. 11/9/1, f.8; MP 245, f.36.
[58] Nairn & Pevsner, 234–5, 473–4.
[59] J. Fines, 'An example of local opposition to the Order of the Communion of 1548', *Sussex Notes and Queries* (hereafter *SNQ*) **16** (1967), 293–6.
[60] *Acts of the Privy Council*, n.s. (hereafter *APC*) **3**, 133–4.
[61] *APC* **3**, 137.
[62] *APC* **3**, 168–9.
[63] WSRO, MP 245, f.38; Par. 11/9/1, f.8v; Mayhew, *Tudor Rye*, 69; Whitley, 53.
[64] British Library, Stowe 141, f.63.
[65] SRS **42**, 346; WSRO, Par. 183/9/1, f.13.
[66] WSRO, MP 245, f.35; Par. 516/9/1, f.32; E. Austen, *Brede: the Story of a Sussex Parish* (Rye, 1946), 52; C. Pullein, *Rotherfield: the Story of Some Wealden Manors* (Tunbridge Wells, 1928), 238; R. F. Dell (ed.), *Winchelsea Corporation Records* (Lewes, 1963), 4; Mayhew, *Tudor Rye*, 70; Whitley, 53.
[67] SRS **36**, 137.
[68] For Sherburne, *see* F. W. Steer, *Robert Sherburne, Bishop of Chichester*, Chichester Papers **16** (Chichester, 1960); and S. Lander, 'The diocese of Chichester 1508–1558; episcopal reform under Robert Sherburne and its aftermath' (unpub. Ph.D. thesis, Univ. Cambridge, 1975); for Howe, *see* SAS, Clergy index; *cf.* Kitch, 80.
[69] *DNB*, *s.v.* Richard Sampson, George Day, John Scory.
[70] W. J. Pressey (ed.), 'The churchwardens' accounts of West Tarring', *SNQ* **4** (1932), 9–10.
[71] WSRO, MP 245, f.38.
[72] Austen, 54; East Sussex Record Office (hereafter ESRO), PAR 414/9/1/1a, f. 75v. (wrongly dated 1 & 2 Philip & Mary in Whitley, 56).
[73] SRS **42**, 117.
[74] SRS **42**, 19.
[75] SRS **41**, 245, 340; **42**, 69, 184.
[76] WSRO, MP 245, f.44.
[77] Frere & Kennedy **2**, 326–7.
[78] I owe this information to Peter and Jane Wilkinson, who are at present preparing an article on the Marian deprivations in Sussex. For the clergy who moved to Essex (Aristotle Webb of Warbleton and Lambert Peche of Eartham), *see* H. E. P. Grieve, 'The deprived married clergy in Essex 1553–61', *Trans. R. Hist. Soc.*, ser.4 **22** (1940), 155.
[79] *DNB s.v.* Edmund Scambler.
[80] C. H. Garrett, *The Marian Exiles* (Cambridge, 1938), 231, 247–8, 279–81.
[81] *APC* **5**, 61.
[82] *See* Kitch, 95–7.
[83] L. F. Salzman, 'Sussex excommunicates', *SAC* **82** (1941), 140.
[84] *APC* **5**, 326; *see also* Pullein, 266–74.
[85] G. J. Mayhew, 'The progress of the Reformation in East Sussex 1530–1559: the evidence from wills', *Southern History* **5** (1983), 65.
[86] Clark, 30–31, 101; Thomson, 179, 182.
[87] Pullein, 271. Foxe calls him 'Hosman'; S. R. Cattley (ed.), *The Acts and Monuments of John Foxe* **8** (1838), 332–3. The error is repeated on the Lewes martyrs' memorial.

[88] Graham Mayhew tells me that it is rare to find such a soul clause at this early date. For the predestinarian views of 15th-century Lollards, *see* A. Hudson, *The Premature Reformation: Wycliffite Texts and Lollard History* (Oxford, 1988), 320–21.

[89] WSRO, Ep.II/9/1, ff.29, 30v.

[90] The phrase comes from C. Haigh, *English Reformations: Religion, Politics and Society Under the Tudors* (Oxford, 1993), 16, where Lewes is named among the towns experiencing religious upheaval.

[91] Mayhew, 'Progress of the Reformation', 46. Unlike other discussions of the subject this masterly analysis takes into account not only the preambles but also the other contents of wills, such as requests for obits and sermons.

[92] ESRO, W/A1/16; W/A3/2, 4, 56, 63, 89, 115, 134; J. J. Goring, *Church and Dissent in Warbleton 1500–1900* (Warbleton, 1980), 5.

[93] Goring, 'Wealden Ironmasters', 219.

[94] Mayhew, 'Progress of the Reformation', 47–8.

[95] *See* Appendix.

[96] SRS **41**, 92–3; **42**, 169–71, 278, 288, 294, 354.

[97] Mayhew, 'Progress of the Reformation', 48; Kitch, 79; *cf.* R. B. Manning, *Religion and Society in Elizabethan Sussex* (Leicester, 1969), 39–41.

[98] WSRO, MP 245, f.44.

[99] *See* C. Haigh, 'The recent historiography of the English Reformation', in C. Haigh (ed.), *The English Reformation Revised* (Cambridge, 1987), 19–33.

[100] M. Bateson (ed.), 'A collection of original letters from the bishops to the Privy Council, 1564', *The Camden Miscellany* **9** (1895), 8–11.

[101] *VCH Sussex* **2**, 24–6, reproduced with corrections in McCann, 100–102.

[102] Manning, 63–90; J. J. Goring, 'The reformation of the ministry in Elizabethan Sussex', *Jnl. Eccl. Hist.* **34**, (1983), 345–66.

The decline of the ordnance trade in the Weald

THE SEVEN YEARS' WAR AND ITS AFTERMATH

by Jeremy S. Hodgkinson

During the Seven Years' War the iron industry in the Weald was called upon to supply a greater volume of iron ordnance to the Government than in any period before, but although more gun-founders from outside the region gained contracts than hitherto, the Weald's position as principal source of guns for the Government was not threatened. With the onset of peace, however, two events in particular, the emergence of the Carron Company and the bankruptcy of Richard Tapsell, seriously undermined this regional paramountcy and contributed significantly to the subsequent, terminal decline of the iron industry in the region.[1]

GUN-FOUNDING IN THE WEALD UP TO THE OUTBREAK OF WAR

For more than 200 years the Weald was the principal source of ordnance for the government service in England, and later, Britain. The reasons for this may be summarized as an advantageous location, a particularly suitable iron ore, abundant woodland, and a specialized workforce. As far as location was concerned, both by water and overland, the Weald lay within reach of London, wherein was the Royal Arsenal, initially at the Tower of London and later at Woolwich. No other iron production region lay as close. Also close at hand were the Royal Dockyards at Portsmouth and Chatham, the eventual destination of much of the ordnance produced.

Early writers commented on the suitability of Wealden ores.[2] Gun-founding in iron was a highly specialized craft, and its practice had developed empirically from 1543 when the first iron cannon had been cast at Buxted. Three factors limited the spread of such practice: traditional skills passed down from father to son and from master to apprentice; a demand for ordnance which could be satisfied by a relatively small number of furnaces; and little movement of skilled labour away from the region where it was most likely to be employed.[3]

Much of the ordnance production in the Weald in the 16th century had been either for export or for land-based fortification. The navy was slow to accept iron ordnance and it was not until the early 1600s that a substantial shift from bronze to iron guns on warships took place.[4] However, limited demand because of a lack of naval hostilities during the relative peace of the first part of the century allowed the monopoly of supply to the Government to be concentrated into the hands of a single founder, John Browne, and it was not until the Civil War that this was disturbed.[5] The predominantly Parliamentarian complexion of the iron-producing area in the south-east caused the royalist side in the conflict to seek supplies of both naval and field ordnance from other sources, notably the Forest of Dean.[6]

By the end of the First Dutch War the nature of the iron industry in the Weald had changed. The gradual spread of blast furnaces into south Wales and the west Midlands, where there was a growing market for bar-iron, coupled with the increasing importation of Swedish iron by London merchants, made serious inroads into the traditional markets for Wealden bar.[7] Lists of Wealden ironworks from the late 17th century show a decrease in the number of forges, and many of the surviving furnaces have been identified as gun-foundries, supplying the demand for ordnance created by continued conflict with the Dutch and trade with burgeoning national interests in America and India.[8] In the last quarter of the 17th century London iron merchants began to take leases of Wealden furnaces and cast ordnance for both the Government and the merchant trade.

Increased demand during the wars of the 1690s caused many furnaces to be leased for the short-term supply of guns and shot, but also led to the construction of three new furnaces, at Heathfield, Lamberhurst and Pippingford, specifically for gun casting.[9]

The lengthy period of peace which occupied the first third of the 18th century caused a further contraction in the iron industry in the Weald. Pippingford furnace, new-built in 1696, was probably not used for gun-founding after 1718.[10] With bar-iron markets reduced to the local area and the ordnance trade diminished by the lack of government orders, many furnaces and forges ceased to be viable. Those that survived did so either because they were sustained by the landed estates that owned them, or because their lessees were able to integrate them with mercantile interests in London or elsewhere.[11] Of the forges that survived, most refined the surplus iron from gun-founding furnaces. In a few instances forges served a particular local market, deriving their iron from founders who welcomed a peacetime outlet for their furnaces.[12] In a number of cases the furnaces and forges that survived were those with a record of almost continuous production over nearly 200 years.

The outbreak of war in 1739 revived the ordnance trade and stimulated output at those furnaces which had remained in work. In the following year William Harrison, a London merchant and iron-founder, who had been commercially active in the Weald from as early as 1722, renewed, with William and George Jukes, his joint lease of Robertsbridge furnace, which they had occupied since 1734.[13] In 1741 he formed a partnership with John Legas, a Wadhurst founder, increasing his interest in Wealden ironworks to six furnaces and four forges.[14] Also in 1741 William Bowen, who had occupied Barden furnace near Tonbridge since at least 1729, purchased the freehold of Cowden furnace.[15] Other works in operation at this time included the furnace at Heathfield owned by the Fuller family, and at least one furnace in the western division of the county where John Butler seems to have been active.[16]

A figure of some influence in this period was Samuel Remnant. He was a London merchant and a neighbour of William Harrison. He also occupied a foundry at Woolwich, adjacent to the Royal Arsenal, where he manufactured round shot and other ironwork, doing a great deal of business with the Board of Ordnance. In addition, he acted as agent for William Bowen and the Fullers in their dealings with the Board.[17] Remnant was the Fullers' agent from as early as 1729 until 1750, negotiating contracts with the Board and keeping his employers informed of the results of proofs. Remnant also arranged for the various founders with whom he was connected to subcontract advantageously where one founder could assist another to complete a contract.[18] In this way Samuel Remnant was in a position to administer, largely in his own interest, what amounted to an integrated gun-founding organization. Although there are a number of instances where either a single ironfounder or a partnership had co-ordinated the use of several furnaces during a period of high demand, for example the Browne family during the Dutch wars, William Benge in the 1680s, and Harrison and Legas in the mid-18th century, this was perhaps the only time the integration of several independent iron-founders had occurred in the Weald. In the late 1740s John Fuller became increasingly concerned that Remnant was not using his best efforts to further the Fullers' interests, and in 1750 transferred his agency to Jefferson Miles, an Ordnance Board official.[19] It may not be a coincidence that at the same time Samuel Remnant was involved in a major scandal whereby he was accused, together with a number of disaffected Board of Ordnance officials, of having defrauded the Board of over £10,000.[20]

William Harrison died in 1745 and his estate was put in trust for his two sons, John and Andrews. The trustees and executors of his will were John Legas and Samuel Remnant, and the surviving papers from the period of the trust show activity at the partnership's four furnaces as well as use of an air furnace at Hamsell.[21] In his will Harrison recommended that his sons take his clerk, Robert Bagshaw, into the partnership. John, the elder of the sons, came of age in 1750 and appears to have taken his father's advice, for Bagshaw's name took its place with that of the brothers in dealings with the Board. John Legas died in 1752. Shortly before his death and under the terms of the partnership, he appointed his wife's nephew, Richard Tapsell, for fifteen years his assistant, to take his place.[22]

Two other gun-founding concerns operated in the Weald before the outbreak of war in 1756. The Crowley family, who had iron mills on Tyneside, a warehouse at Greenwich, and who were major

importers of Swedish iron, had taken leases of Ashburnham and Darwell furnaces in the mid-1730s.[23] They had begun to cast ordnance for the East India Company in 1736 and for the Board of Ordnance in 1745. Unusually, they did not operate a forge, having converted the one at Ashburnham to a boring mill. Instead they exported the surplus pig-iron and gun-heads from Hastings, presumably to their forges in the north. The head of the family business was Theodosia, the widow of John Crowley who had died in 1728. She had assumed control after the deaths of her two sons, Ambrose and John, in 1754 and 1755 respectively. The following year her daughter, Elizabeth, married John, Earl of Ashburnham. John Churchill took the lease of Robertsbridge furnace and forge in 1754, in succession to the Jukes brothers.[24] The timing of his entry into the Weald and into the gun-founding business may have been prompted by the inconclusive nature of the peace declared in 1748, which failed to resolve the many territorial issues that had been a source of conflict during the previous eight years. Like the Crowleys, Churchill had iron-founding interests elsewhere, operating a furnace and two forges in the west Midlands.[25] Although established in the Weald before the resumption of hostilities, Churchill did not tender for orders from the Board until war was declared.

In addition to the founders named above, in this period ordnance was being cast for the Board by the Revd Philip Sone and his son, at Sowley furnace near Lymington in Hampshire. Their success in obtaining contracts was due, in no small part, to their association with the Duke of Montagu, Master General of the Ordnance in the 1740s. The Revd Sone's father had been vicar at the Duke's seat at Beaulieu, and Sone and his father-in-law, Miles Troughton, developed iron mines on the Duke's land in Cumberland. After peace was declared in 1748 the Sones retained their contracts with the Board of Ordnance until they sold the lease of Sowley in 1756.[26] There is no evidence for the notion that the Board of Ordnance favoured the Wealden founders.[27] Since the 17th century gun-founders outside the Weald had periodically won contracts to supply ordnance, especially in periods of war when demand was high.[28] However, the Board remained loyal to its regular suppliers as long as quality was maintained; only periods of high demand or tenders at lower prices provided an opportunity for other gun-founders to gain contracts.

THE SEVEN YEARS' WAR

Following the outbreak of war in February 1756, a letter was sent to gun-founders by the Board of Ordnance, asking what guns and shot they could supply, how soon and for what price. Reporting on their replies, the Surveyor General of the Ordnance noted offers from the Harrison partnership and from John Churchill, but made it clear that he was '. . . well informed of their Combinations and of their being too well acquainted of the Exegency of the Service'. In this he may have been referring to what Stephen Fuller had written (and what many gun-founders, perhaps, felt), that Fuller was not prepared to name a quantity until he was assured of a price the equal of that paid during the previous conflict. The Board were in no position to bargain. They needed guns in large quantities and from reliable founders, and acceded to Fuller's demand.[29] Such was the urgency of the Board's need for guns that they were even prepared to pay wartime prices for guns ordered in peacetime.[30] In time of war the gun-founders, and at this time that effectively meant those casting in the Weald, could force the price upwards to their own advantage.

With a new pricing structure, the Board tightened up the conditions under which ordnance and shot would be received and paid for. Prior to the outbreak of hostilities, orders in the form of warrants had been placed with founders and payment had been made at the completion of each warrant.[31] Sometimes a period of years elapsed between issue and payment and founders could experience considerable cash flow problems if, for example, guns failed the proof and payment was delayed until replacements had been cast and received by the Board's officers. Gun-founders devised ways round this, either by combining to help each other, as Samuel Remnant had been able to arrange, or by other means.[32] Under the new conditions, warrants were given a time limit, usually the end of the year, and those uncompleted by then would not be paid. Founders then had to apply for a Warrant of Justification to secure payment for the guns already supplied. In spite of this, Fuller, Harrison and Company and John Churchill petitioned the Board in 1759 to make six-monthly payments, or pay 4% interest to gun-founders because of the considerable amount of capital that was tied up in their stock.[33]

The difficulties which gun-founders experienced

under these new conditions were different, and particularly affected the Wealden founders. Furnaces were normally 'blown in' about October, when the harvest was over and the autumn rains would ensure a reliable water supply for the bellows, and for the first month of a campaign the iron was not of sufficient quality for guns to be cast. Also, founders had to work up from small castings at the beginning of a campaign to the largest at the end, when the hearth had been eroded and its capacity increased. They were therefore limited, both in number and type, in the guns they could produce in the closing months of the year, and that could make the completion of warrants before the end of December difficult, especially if a warrant was for large-calibre guns. Again it was theoretically possible for founders to co-operate, but the problem affected all founders at the same time of year.

Another problem imposed by the time limit on warrants was in the transportation of guns. The closing date for warrants occurred at the time of year when transport was at its most difficult. Where possible, ordnance cast in the Weald was carried to the Royal Arsenal at Woolwich by sea, avoiding the slow, expensive, overland route. However, both nature and wartime presented many hazards to shipping. The threat of enemy action necessitated the use of convoys and naval vessels to guard them, and valuable time could be lost awaiting the assembly of a convoy or the arrival of its guardships. Impressment of merchant sailors could further reduce available shipping.[34] Ultimately, enemy action itself could prevent cargoes from reaching their destination.[35] Winter weather was an additional impediment to shipping with contrary or violent winds, or alternatively fog, sometimes causing lengthy delays.

Transport of guns and shot overland was safer, but in winter attracted a premium, which could not normally be passed on to the purchaser. The great weight of iron ordnance meant that often only one gun could be carried on a single wagon, and in the winter the condition of the Wealden roads, particularly those which had not been turnpiked, was notoriously bad. The regular carriage of guns from the Warren and Gravetye furnaces, near East Grinstead, to Woolwich, however, shows that carriage of heavy loads out of the Weald in winter was quite normal.[36] These two furnaces were unusual in that they did not use water transport at all. The overland journey from furnaces further south invariably terminated at the river Medway, either at Branbridges or at Maidstone, to be continued round into the Thames. In summer, the additional charge for land carriage from Heathfield was about six shillings a ton (1.5%), and at the beginning of the war, when the Board were in urgent need of guns, they were willing to pay the extra. In winter the additional charge for land carriage was as much as twenty shillings a ton (5%).[37]

Although as many as fifteen furnaces capable of making ordnance may have been in blast in the Weald at this time (*see* Fig. 1), the demand for guns and shot in the first three years of the war, and the high price exacted from the Board by the Wealden founders, were such that ironmasters in other parts of Britain were tempted to offer their services. Wilkinson and Company, in North Wales, were encouraged to tender and although they initially declined, they later offered to cast guns for the Board.[38] Abel Walter, who had taken over Sowley furnace from the Sone family, and Robert Morgan at Carmarthen furnace, both seemingly new to gun-founding, requested orders from the Board in 1757.[39] In the following year Thomas Pryce, at Neath furnace, offered to cast ordnance and round shot.[40] The only other firm from outside the Weald to tender for orders was the Bristol partnership of Allen, Coram, Vaughan and Crofts, who wrote to the Board in early 1760, offering to deliver 600 tons of guns and shot that year, but at the competitive price of fifteen guineas a ton.[41] The output of most of these founders was small in comparison with that of many of the established founders. Pryce fared the worst; out of 33 guns sent to Woolwich only three passed the proof, and he withdrew from gun-founding to concentrate on shot.[42] Abel Walter's guns were a little more successful, but both he and Robert Morgan, whose output was comparable to that of the Crowleys, suffered from the difficulty non-Wealden ironmasters had in securing the services of competent founders and moulders.[43] As for John Wilkinson, this period was very much the beginning of what was to be a career of fundamental significance to the gun-founding industry.[44]

While new gun-foundries were being set up in Wales and western England to take advantage of the high price being paid for ordnance by the Government, two more Wealden furnaces were being brought into operation. In late 1758, Edward Raby, a London ironmonger who was already supplying the Board with iron and steel plates and

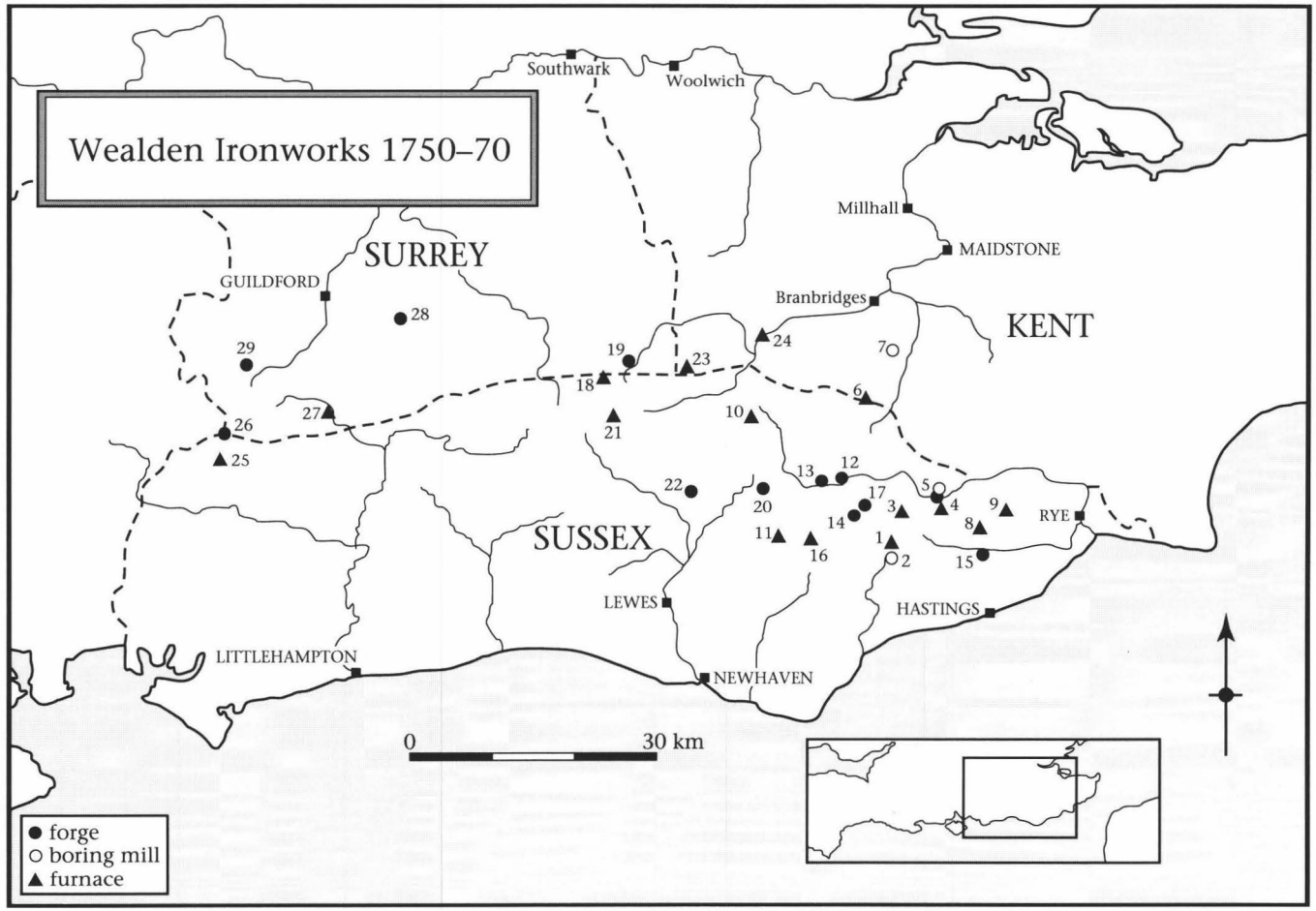

Fig. 1. Furnaces and forges in the Weald 1750–70.

1 Ashburnham Fu.
2 Ashburnham Fo.*
3 Darwell Fu.
4 Robertsbridge Fu.
5 Robertsbridge Fo.
6 Gloucester (Lamberhurst) Fu.
7 Horsmonden Fu.*
8 Brede Fu.
9 Beckley (Conster) Fu.
10 Hamsell Fu.
11 Waldron Fu.
12 Bivelham Fo.
13 Hawksden Fo.
14 Glazier's (Brightling) Fo.
15 Westfield Fo.
16 Heathfield Fu.
17 Burwash Fo.
18 Warren Fu.
19 Woodcock Fo.
20 Howbourne Fo.
21 Gravetye Fu.
22 Maresfield Fo.
23 Cowden Fu.
24 Barden Fu. & Fo.
25 North Park (Fernhurst) Fu.
26 Pophole Fo.
27 Burningfold Fu.
28 Abinger Fo.
29 Thursley Fo.

bars, proposed to the Board that he cast 400 tons of guns and shot.[45] From the accounts of the East Grinstead carrier, Robert Knight, his furnace has been identified as the Warren, which had been built in the 16th century. Presumably it had had to be rebuilt by Raby. The other Wealden gun-founders to take advantage of the opportunity presented by the war were William Clutton, and his partner, John Norden, at Gravetye, West Hoathly. The son of the rector of Horsted Keynes, it is not known what Clutton's background was in the iron industry, nor where he acquired the considerable capital outlay necessary to build a new furnace.[46] Clutton never offered to cast guns or shot for the Board of Ordnance, but it is apparent from accounts of guns carried away from Gravetye after Clutton's bankruptcy that he subcontracted for the London firm of merchants and chandlers, Eade and Wilton.[47] Jonathan Eade and William Wilton were based at King Edward Stairs, Wapping, and had supplied the Board with guns and shot since the opening year of the war. Eade in particular had other interests, including the manufacture of gunpowder. There is no evidence that they operated a blast furnace of their own, although their description as iron-founders in one London directory suggests that they may have had an air furnace at Wapping.[48] It is likely, therefore, that they drew on subcontractors like Clutton for all the guns they supplied to the Board. The bankruptcy of Clutton in late 1762, and the fact that Eade and Wilton were able to continue supplying the Government thereafter indicate that they contracted with at least one other gun-founder. One of these was John Wilkinson, and it is likely that another was John Butler, at Fernhurst, who, like Clutton, did not contract personally with the Board.[49]

Eade and Wilton also supplied the Board with round shot, for which the demand was understandably huge during the war.[50] The Board insisted that the guns supplied to them should be cast from iron smelted directly from ore.[51] This favoured the founders in areas like the Weald where the industry had been long-established. Requirements for the manufacture of round shot, and of small guns for the merchant service were less exacting. These could often be made in air furnaces, which did not require water power, and could be situated in towns. London shot founders, such as Richard Gilpin and Stephen Remnant, supplied the bulk of the Board's requirement, although founders in other parts of Britain, as far afield as north Lancashire and Scotland, helped to satisfy the demand. Except where Wealden gun-founders possessed air furnaces, the supply of round shot formed a small percentage of their iron production.[52]

The supply of guns for the merchant service provided a useful outlet for gun-founders in peacetime, and was also a means of limiting losses when guns failed the rigorous Board of Ordnance proof.[53] At a disadvantage in this were the founders who cast 'great guns', eighteen-pounders and larger, which were not carried by merchant vessels and would not, therefore, be resaleable on the private market. This made many Wealden founders particularly vulnerable when government orders ceased at the declaration of peace, and with this in mind John Fuller sought to persuade the Board to remain loyal to its suppliers of larger guns when hostilities ended.[54] Some founders, such as Harrison and Company, Churchill and the Crowleys, cast directly for the merchant trade, whereas the Fullers relied on intermediaries, such as Eade and Wilton or Robert Bagshaw, to dispose of the guns they had had refused.[55] A special case was the East India Company, which enjoyed semi-official status, and for which gun-founders in the Weald had cast ordnance since the early 17th century.[56] The lack of a requirement for them to be cast directly out of ore opened the market to founders who operated urban air furnaces and, although the company's guns were subjected to the Board of Ordnance proof, only about 16% of their guns, in the period 1750–70, were supplied by founders in the Weald.[57]

THE AFTERMATH OF WAR AND THE CAUSES OF DECLINE

The likelihood of war had been anticipated by the Board of Ordnance early in 1756, and orders had been placed with several gun-founders — Churchill, Crowley, Fuller and Harrison — before hostilities officially commenced. In the next three years large numbers of warrants were issued, but this initial rearmament was sufficient to bring the navy, the principal destination of the guns purchased by the Board, to a level of readiness. In 1760 there was a marked downturn in demand by the Board, both for ordnance and round shot. Only Churchill received any orders. Demand revived in 1761–2, coinciding with the entry of Spain into the conflict in the latter year, and with the considerable backlog of uncompleted warrants, caused by late delivery,

guns continued to be received, warrants still being issued to several founders in January 1763.[58] The declaration of peace in the following month caused orders to cease, and only Warrants of Justification, for guns or shot delivered late, were issued for the next two years. The price paid for guns had remained steady until peace was declared, after which competitive tendering returned, although the Board continued to pay wartime prices for many of the guns delivered up to the end of 1764.

The cessation of a government requirement for guns when peace was declared was not unexpected by gun-founders, whether in the Weald or in other parts of Britain. Most founders compensated by dealing more with the merchant trade, restrictions on coastwise traffic having been lifted. The return of peace served to encourage the development of British interests overseas, notably in North America where Canada had been ceded to Britain, and in India where French influence in Bengal had been removed. The Crowley family had always devoted part of its output to the private side of the market, particularly the East India Company. The Fullers, however, were harder hit. They had spurned the merchant trade, and for decades their output had been solely destined for the Board of Ordnance. It is likely that Heathfield furnace did not operate at all in this immediate postwar period. John Churchill and his son tendered for orders in late 1763 but to no avail, and in any case early in the following year they reported that their works had blown up, preventing them from delivering guns already ordered.[59]

In November 1764 Roebuck and Company, who had the Carron ironworks near Falkirk, proposed casting guns and shot for the Board at £14 a ton.[60] The fact that they had previously tendered for orders, unsuccessfully, in early 1762, at the prices prevailing during wartime, and that they were undercutting their own estimate of the cost of production, shows that their intervention into the market was a calculated gamble to seize business.[61] The Board accepted their tender and asked other gun-founders whether they would tender at the same price. William Bowen, who had cast guns for the Board for more than twenty years, accepted. Churchill, Morgan and Fuller, the other founders the Board contacted, did not, and Rose Fuller responded that he could not afford to cast at the new price using charcoal, but thought that it might be done using coke. He queried the quality of guns cast using coke, but the experiments he suggested to assess the difference do not seem to have been carried out.[62]

Strengthened rather than diminished by seven years of war, the region's gun-founding industry retained its paramountcy despite a number greater than hitherto of non-Wealden gun-founders winning contracts. Having entered the trade to reap the benefits of the high prices secured by the established founders in the Weald, most had not enjoyed success, and it is not without significance that none continued to supply the Board in the immediate postwar period. All, however, had been able to turn to the manufacture of other iron goods when they had lost government contracts. The Fullers, more than the others, relied on peacetime contracts from the Board to maintain profitability; their loyalty to the Board, and reluctance to diversify has been taken as typical of gun-founders in the Weald. In fact only the Fullers, John Butler and William Clutton did not have other interests in the iron industry. All the other founders operating in the Weald had mercantile or manufacturing businesses in London or the Midlands.[63] By its scale alone, the intervention of the Carron Company threatened all suppliers of government ordnance in that it reduced their opportunities for contracts.[64] Most of the gun-founders still smelted with charcoal, so Fuller's comments on the relative costs of wood and coal-based fuel should have affected them, if not equally, then in proportion to charcoal costs in their areas. It is notable, therefore, that apart from Carron, the few gun-founders that continued to win government contracts until the end of the decade smelted with charcoal, and were based in the Weald.[65]

To what extent the lowering of prices and the drop in demand were responsible for the bankruptcies which occurred among founders in the Weald towards the end of the war and after it, is difficult to estimate as the bankruptcy records concerned offer only the barest information. Rose Fuller held that the Board of Ordnance's slow payment system was a major cause, and it is clear from correspondence in the Minutes of the Surveyor General throughout the period that, irrespective of the pressures imposed by the expense of war on the supply of money from the Treasury to the Board, they invariably delayed payment to their suppliers for as long as possible.[66] The key to individual cases often lay in the identity of the person or persons appointed by the creditors as assignees of the bankrupt. In many cases these

Table 1. Guns received by the Board of Ordnance 1750–70 (tons).

	1750	**1751**	**1752**	**1753**	**1754**	**1755**	**1756**	**1757**	**1758**	**1759**	**1760**	**1761**	**1762**	**1763**	**1764**	**1765**	**1766**	**1767**	**1768**	**1769**	**1770**	**TOTAL**
Bowen	146	58	240	41	118	0	145	130	173	179	75	32	150	84	0	177	59	37	0	23	89	**1955**
Churchill	0	0	0	0	0	0	184	290	354	548	721	277	259	110	42	20	0	0	0	0	0	**2807**
Crowley	108	0	0	0	0	0	90	56	44	114	226	130	88	79	0	22	0	0	0	0	0	**959**
Eade & Wilton	0	0	0	0	0	0	31	0	0	139	39	325	91	96	0	30	56	109	101	0	0	**1016**
Fuller	80	273	144	76	107	210	263	309	252	209	288	221	166	100	0	0	0	0	0	0	0	**2698**
Harrison	24	82	8	0	0	0	330	676	676	938	1366	517	99	74	0	0	0	0	0	0	0	**4789**
Raby	0	0	0	0	0	0	0	0	0	114	164	391	228	119	0	0	0	56	76	0	0	**1148**
Weald	358	413	392	117	225	210	1043	1461	1499	2241	2879	1893	1081	662	42	249	115	202	177	23	89	**15,372**
Carron	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*139*	*54*	*196*	*307*	*507*	*341*	1543
Crofts	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*14*	*98*	*54*	*76*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	242
Morgan	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*69*	*236*	*337*	*122*	*46*	*54*	*121*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	986
Pryce	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*3*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	3
Sone	*23*	*113*	*119*	*86*	*11*	*77*	*78*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	507
Walter	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*47*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	47
Wilkinson	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*89*	*20*	*99*	*60*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	268
Other GB	*23*	*113*	*119*	*86*	*11*	*77*	*78*	*69*	*283*	*340*	*225*	*164*	*207*	*257*	*1*	*139*	*54*	*196*	*307*	*507*	*341*	3596
TOTAL	**381**	**526**	**511**	**203**	**236**	**287**	**1121**	**1530**	**1782**	**2581**	**3104**	**2057**	**1288**	**919**	**43**	**388**	**169**	**398**	**484**	**530**	**430**	**18,968**

Note: The annual tonnages for each founder have been rounded. The totals of the rounded amounts may be at slight variance with the actual total tonnages received (PRO, WO51/170–246).

were the principal creditors whose actions had initially precipitated the bankruptcy.[67] In two of the four cases bankruptcy may even have been a convenient method of extricating an individual from a difficult financial situation.

The first to occur was that of William Clutton, at Gravetye furnace.[68] His apparent lack of a background in the iron industry, together with uncertainty about the extent of his financial resources, have already been mentioned. The assignees of his bankruptcy included his brother and his future father-in-law, and it may be significant that after less than a year Clutton had married and was active as steward to a nearby manor.[69] Also his bankruptcy did not occur after the war had ended, when orders ceased, but four months before, in October 1762. Clutton was acting as subcontractor to the London-based merchants, Jonathan Eade and William Wilton, so a likely scenario may be that he was in debt to his brother and others, and that the Board of Ordnance's slow payment arrangements, compounded by delay in Eade and Wilton paying Clutton, led to his backers wishing to forestall further loss.[70] Clutton's partner, John Norden, was not named in the suit.

The joint bankruptcy of Edward Raby and his partner, Alexander Master, occurred in November 1764 and the petitioning creditor was Robert Macky, a fellow London ironmonger.[71] A Certificate of Conformity, indicating that a proportion of their debt had been repaid, was granted within 18 months, and by October 1766 Raby alone, having moved from Smithfield to a Southwark address, was requesting orders from the Board at the Carron Company's prices.[72] In the meantime Raby had acquired the lease of Clutton's furnace at Gravetye, in addition to the Warren furnace.[73] Prior to their bankruptcy, it was Raby's name which appeared most often in correspondence with the Board, suggesting that he was the partner most concerned with the gun-founding side of their business, and that Master was more involved with the London ironmongery and was, perhaps, the more liable when bankruptcy occurred. This might explain the sole re-emergence of Raby, and his ability to recover his solvency to the extent of being able to match the Carron Company's prices.

Of the bankruptcy of John Churchill in July 1767 even less is known; the records do not even reveal the name of the petitioning creditor.[74] Although he had continued to receive payments from the Board as late as 1765, these were for guns ordered before the end of the war and delayed because of his works blowing up.[75] Ordnance Board records show that his son, John, worked with him, although any partnership between them does not seem to have been formal. During the closing stages of the Seven Years' War, Churchill subcontracted for Robert Morgan when the latter was experiencing difficulty finding a skilled founder, and it is known that during the earlier war period Churchill had been selling guns and shot privately, suggesting that he had the means of sustaining production when government orders ceased.[76] Churchill, senior, died in October 1767, so his bankruptcy was not resolved, and in correspondence with the Board in 1773, his son sought employment by way of relief from the loss his father had incurred because of the fall in the price of guns and the investment he had made in his furnace.[77]

The bankruptcy of Richard Tapsell, while no better documented than any of the others, had implications which were much more far-reaching.[78] The petitioning creditor in this instance was Robert Bagshaw, Tapsell's erstwhile partner, who, it will be recalled, was brought into the partnership on the testamentary recommendation of William Harrison. Because of the absence of more informative records, a certain amount of speculation must attend any explanation of the circumstances of Tapsell's failure. From the beginning of the Harrison–Legas partnership William Harrison, based in London, appears to have been more actively involved in the mercantile side of the business, with Legas, in Wadhurst, concerned more directly with the iron-making operations. Bagshaw, an iron merchant in his own right, seems to have taken over much of the administration of the London end of the partnership after Harrison's death, and may have acted as mentor to Harrison's sons after the first one came of age in 1750; the other senior partner, Legas, died two years later.

The term of the original partnership expired in September 1757, and it is not known if it was renewed or whether, instead, Bagshaw and the Harrison brothers, who by then were committed to substantial orders for the Government, subcontracted Tapsell to complete many or all of their warrants. Either way, the arrangement flourished during the war years, producing more guns for the Board of Ordnance than any other firm of gun-founders.[79] Harrison and Company did not tender for orders from the Board after peace was declared, and from the end of 1763 no more iron was received from

them by the Board until after 1770. The extent to which the former partnership's furnaces continued to be employed in casting for the merchant service is not known, but it is inconceivable that the volume of production seen in wartime would have been needed during the peace. From Land Tax records it appears that Tapsell was the legal occupier of several of the ironworks hitherto operated for the partnership, so his bankruptcy entailed the closure, albeit temporarily, of about 50% of the ironworks then active in the Weald.[80] Apart from as instigator, Robert Bagshaw's role in Tapsell's bankruptcy is unknown. Lower's unflattering description of Tapsell's business acumen, whereby he 'sunk the money acquired by his uncle [John Legas] . . . and died in indigence twelve years after', suggests that a formerly profitable business relationship may have been soured.[81] Of the furnaces, only the Gloucester furnace at Lamberhurst worked again, while all the forges were eventually re-occupied by different tenants.[82] Not only had four gun-foundries closed, but the successful integration of a group of ironworks had come to an end.

The emergence of the Carron Company and the bankruptcy of Richard Tapsell exposed weaknesses long inherent in the gun-founding industry in the Weald. Tomlinson described Wealden gun-founding as technically and financially insecure.[83] The 1760s saw developments in a number of areas of iron technology. Both Wilkinson and Carron were smelting using coke, which had only begun to be economically viable in other branches of the iron industry at this time.[84] This fuel permitted the use of larger furnaces, which required a stronger blast and more efficient methods of blowing than water-powered bellows made of wood and leather. In the next decade Wilkinson's boring machine would marginalize the hollow casting method of gun-founding. However, until these developments firmly took root, the technology employed by the other gun-founders who cast for the Board of Ordnance was no different from that used in the Weald. The weaknesses in the Wealden industry owed much to the past. The loss of markets for Wealden bar-iron in the 17th century, and the relatively small capacity and short smelting campaigns of the Wealden furnaces, a legacy of the early development of iron-founding in the Weald, meant that while many were specially equipped for gun-founding, the commercial infrastructure for greater diversification was largely absent, and the attraction of the short-term gains of gun-founding in periods of high demand resulted in short leases for furnaces, and a lack of incentive for long-term investment. To that extent gun-founding in the region was at a disadvantage compared with areas where more recent furnace building had been able to accommodate innovations in hearth and stack size, and where better water supply allowed for longer campaigns, and, therefore, greater output.[85]

Financially gun-founding in the Weald was no less secure than in other regions, for the majority of founders working in the Weald were no longer indigenous, having other works in London and elsewhere. More than in other regions its location in relation to its main market, and its reservoir of skilled labour, made the Weald more financially secure, and made it attractive to iron-founders like Churchill and Raby, and, in the early 1770s, Joseph Wright. Less financially secure, as gun-founders, were those who had no other widely marketable iron-making interests to which they could divert their attention when demand for guns slackened. The Fullers were in this category and, while having their estates in Sussex and Jamaica to cushion their losses at such times, sought only one market for their guns. The wealth of information about the iron industry in the 18th century, derived from their extensive family archive, has highlighted their singular approach to gun-founding, and their unique experience has been mistakenly interpreted as typical of the founders in the Weald.[86]

The resilience of the gun industry delayed the demise of iron-founding in the Weald. The emergence of the Carron Company and the bankruptcy of Richard Tapsell seriously weakened that resilience, in that Wealden furnaces would be seen as progressively less attractive to potential gun-founders, but it would not be until ten years after the end of the Seven Years' War, with the insistence, by the Board of Ordnance, on the boring of solid cast guns, that the main market for Wealden guns was removed, and more than a decade after that before gun-founding in the Weald would cease altogether.[87]

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NOTES

[1] *See also* H. C.Tomlinson, 'Wealden gunfounding: an analysis of its demise in the eighteenth century', *Economic Hist. Rev.*, 2nd ser. **29** (1976), 386; it is not the intention of the present paper to disagree with the main thrust of Tomlinson's argument. However, recent research, by the present author, has brought to light more detailed information about the industry in the period around the Seven Years' War, which challenges some of the perceptions of Tomlinson and others; J. S. Hodgkinson, 'The iron industry in the Weald in the period of the Seven Years' War 1750–1770' (unpublished M.A. diss., CNAA/ University of Brighton, 1993).

[2] Emanuel Swedenbourg, in his treatise *De Ferro* (translated in de Courtivron & Bouchu (eds.), *Descriptions des Arts et Métiers*, vol. 3: *Art des Forges et Fourneaux à Fer* (Paris, 1762), 96), described the ore in Kent and Sussex as softer than that used in other parts of England, which allowed it to melt more easily, and he also commented on the low sulphur content which reduced the danger of brittleness, essential in gun-founding. Ambrose Crowley considered the Wealden ore comparable in its 'toughness' to Swedish iron; M. W. Flinn, *Men of Iron* (Edinburgh, 1962), 35–8.

[3] Formal apprenticeships in iron-making in the Weald are rare. That of Alexander Raby, to his uncle Alexander Master (of Master and Raby) in 1762, would have been based in London; Drapers' Hall, ex inf. the late G. E. Buttriss.

[4] E. B. Teesdale, *Gunfounding in the Weald in the Sixteenth Century*, Royal Armouries Monograph **2** (London, 1991), 110–13.

[5] H. F. Cleere & D. W. Crossley, *The Iron Industry of the Weald* (2nd ed., Cardiff, 1995), 175–82.

[6] I. Roy, *The Royalist Ordnance Papers 1642–1646*, Oxfordshire Rec. Soc. **43** (1964).

[7] Cleere & Crossley, 184–5.

[8] D. W. Crossley, 'The lists of furnaces and forges of 1664', *Wealden Iron*, Bulletin of the Wealden Iron Research Group (hereafter *WI*) **8** (1975), 2–7.

[9] R. R. Brown, 'Notes on Wealden furnaces in the records of the Board of Ordnance, 1660–1700', *WI*, 2nd ser. **13** (1993), 20–30.

[10] Cleere & Crossley, 198–9.

[11] In the period 1723–39, 61% of production at Heathfield furnace was in pig-iron for fining at the Fullers' own forge at Burwash, and for sale to other local forges; R. V. Saville, 'Income and production at Heathfield Ironworks 1693–1788', *WI*, 2nd ser. **2** (1982), 39–46.

[12] Maresfield forge was operated for many years in conjunction with an ironmongery shop in Lewes; C. Brent, *Georgian Lewes* (Lewes, 1993), 41. Abinger Hammer may have had a similar connection with an ironmonger's in Guildford; Hodgkinson, *diss.*, 38–9.

[13] East Sussex Record Office (hereafter ESRO), SAS/RF/15/27. The Jukes (or Jewkes) brothers were also London merchants, being based at Allhallows Lane, near the Steelyard. They had separately leased Robertsbridge forge from Sir Thomas Webster since 1737, and were sometime occupiers at Burningfold, Dunsfold; Huntington Lib., San Marino, California, (hereafter HEH), BA vol 72; West Sussex Record Office (hereafter WSRO), Cowdray 364.

[14] According to William Harrison's will, his partnership with John Legas began with an agreement, for sixteen years, dated 29 September 1741. It was formalized into a partnership on 29 November 1743 (the partnership deed has survived, but its present whereabouts is not known to the author). They jointly occupied Lamberhurst and Beckley furnaces and Westfield forge, together with the boring house at Horsmonden. They also had Waldron furnace and the forges at Brightling (Glazier's) and Bivelham, which Legas had previously leased, with Thomas Hussey, from the Pelhams. Legas and Hussey also had had Hawksden forge, while Harrison brought to the partnership Brede furnace, which he had leased separately since at least 1735. Not included was Hamsell furnace, part of the Manor of Birchden, which Harrison owned outright; Public Record Office (hereafter PRO), PROB11/ 737.

[15] Centre for Kentish Studies (hereafter CKS), U1280 T2; Bowen also had a brass foundry by the river Thames at Marigold Stairs, off Upper Ground, in Christchurch parish; Southwark Local Studies Lib., 8287.

[16] In 1738 John Butler, of Bramshott, had written to John Fuller asking for 15 to 20 eighteen-pounder guns. In the lists of 1788 Mr Butler is listed as occupying 'Burnham' or 'Burhamfold' furnace, which must be a reference to Burningfold. However, in a lease of 1769 for North Park furnace, he is cited as its current occupier; D. W. Crossley & R. V. Saville, *The Fuller Letters*, Sussex Record Society **76** (Lewes, 1991), 113–14, 9 September 1738; Science Mus. Lib., MS 371/1; Birmingham City Lib., Boulton and Watt Muirhead II; WSRO, Cowdray 1443 and 1444.

[17] In his will, Remnant specifically named William Bowen as a friend, suggesting that there may also have been a business connection between them. John Fuller's letter to Remnant on 20 August 1747 confirms that Remnant was receiving commission from Bowen and was therefore presumably acting as agent. Bowen was, in due course, to make Remnant's son, Stephen, a beneficiary of his will; PRO, PROB11/794; PROB11/973. The correspondence between Fuller and Remnant illuminates the latter's role as agent; Crossley & Saville, xix, xxii.

[18] If guns failed the Board of Ordnance proof it was seldom possible for the resulting deficiency in a founder's contract to be filled from his stock, as founders rarely cast surplus guns. Thus if suitable guns could be purchased from another founder, and others cast subsequently as replacements, contracts could be completed more quickly. As agent for more than one founder, Remnant was ideally placed to make such arrangements, both to the advantage of his clients, and to his own by way of commission.

[19] Crossley & Saville, xxii

[20] O. F. G. Hogg, *The Royal Arsenal*, vol. 1 (London, 1963), 396–400.

[21] Guildhall Lib., Mss. 3736/1–12, 6482–3.

[22] Tapsell informed the Board of this on 12 February 1752; PRO, WO47/39, p. 137. Legas died on 22 May, aged 62.

[23] Flinn, 101; Professor Flinn greatly underestimated the scale and duration of the Crowley family's ordnance business.

[24] For the correspondence relating to Churchill's occupation of the Robertsbridge ironworks *see* C. H. C. Whittick, 'Wealden iron in California — The Huntington Library, San Marino, California', *WI*, 2nd. ser. **12** (1992), 56–62.

[25] Churchill had a forge at Hints, where he lived, and a

furnace at Rushall (both Staffs.) and also a forge at West Bromwich (Worcs.); P. Riden, *A Gazetteer of Charcoal-fired Blast Furnaces in Great Britain in Use Since 1660* (Cardiff, 1993), 79.

[26] R. R. Brown, *British Gun-founders and their Marks* (forthcoming).

[27] T. S. Ashton, *Iron and Steel in the Industrial Revolution* (3rd ed., Manchester, 1963), 14; Tomlinson, 386.

[28] Apart from guns cast for the Royalist cause in the Civil War (*see* note 6), which were not supplied to the then Office of Ordnance, gun-founders from outside the Weald prior to the mid-18th century, included William Clayton (Stavely, Derbys.); Brown, *Notes*, 22.

[29] PRO, WO47/47, p. 188; prices paid for ordnance (per ton) were as follows:

	pre 1756	**1756–63**
24 pounders and over	£15 0s.	£20 0s.
18 and 12 pounders	£14 10s.	£20 0s.
9, 6, 4 and 3 pounders	£13 3s.	£18 0s.
$^1/_2$ pounders	£17 0s.	£24 0s.

[30] PRO, WO47/51, p. 197; in 1758 both Crowley's and Churchill benefited in this way.

[31] A warrant was regarded as complete when all the guns ordered had been inspected and had passed the proof.

[32] PRO, WO47/36, pp. 383–5; in 1750, what was described as a 'most barefac'd fraud,' was unmasked when it was discovered that Crowley and Company, at Ashburnham, had been applying for, and been issued with, warrants for small numbers of guns of the same type as others which formed part of larger but uncompleted warrants. They then substituted the guns supplied under one warrant with those for the other, to ensure earlier payment. When the Crowleys presented warrants for payment where the gun receipts predated the warrants, they were found out.

[33] PRO, WO47/53, p. 560.

[34] PRO, WO47/54, p. 237.

[35] An extreme example was that of Robert Morgan, founder at Carmarthen, whose cargo of guns and shot, en route to Woolwich in 1759, had been forced in to Ostend and detained. Duly released at the cessation of hostilities, it arrived at its destination four years late. The Board agreed to pay at the wartime price; PRO, WO47/61, p. 433.

[36] J. S. Hodgkinson, 'The carrier's accounts of Robert Knight, part 2: the accounts', *WI* **14** (1978), 14–24; WSRO, Add. Ms. 46,861.

[37] PRO, WO47/47, p. 618.

[38] PRO, WO47/47, p. 676; 63, p. 445; it is likely that the Wilkinson and Company at Bersham, Flintshire, who declined to tender in 1756, were Isaac Wilkinson and Company. In 1759 it was Isaac's son, John Wilkinson, at Willey furnace, Shropshire, who approached the Board; *see* I. Edwards, 'John Wilkinson, gunfounder, 1756–74', *Trans. Denbighshire Hist. Soc.* **39** (1990), 123–35.

[39] PRO, WO47/49, pp. 59 and 512; *see also* L. J. Williams, 'A Carmarthenshire ironmaster and the Seven Years' War', *Business History* **2** (1959), 32–43, for a relevant account, comparable to the Wealden example.

[40] PRO, WO47/51, p. 98.

[41] PRO, WO47/55, pp. 185 and 208. Crofts and Co. acted as merchants, subcontracting their orders elsewhere. In a letter of 1763, Wilkinson and Company refer to the delivery, at Woolwich, of guns cast for Crofts; PRO, WO47/61, p. 13; and in the following year Crofts and Company confirmed John Jones, a Bristol ironmaster, who was also a partner of Isaac Wilkinson, as subcontractor of shot they supplied; PRO, WO47/64, p. 38; W. H. Chaloner, 'Isaac Wilkinson, potfounder,' in L. S. Pressnell (ed.), *Studies in the Industrial Revolution* (London, 1960), 49.

[42] PRO, WO47/53, pp. 267 & 582; 54, pp. 39 & 152.

[43] Williams, 34–5.

[44] *See* I. Edwards, 'John Wilkinson and the development of gunfounding in the late eighteenth century', *Welsh Hist. Rev.* **15(4)** (1991), 526 n.1, for a list of relevant sources.

[45] Raby, whose father had been apprenticed to Sir Ambrose Crowley, was in partnership with his brother-in-law, Alexander Master, in West Smithfield; Hodgkinson, *diss.*, 21. PRO, WO47/52, p. 216; from the quantity of iron Raby offered to cast it is clear that he was subcontracting part of his order and, in a letter written to the Board subsequently, he excused the late arrival of his shot from Bristol; PRO, WO47/54, p. 507.

[46] Until the 1760s the only references to a furnace in West Hoathly can be linked to the early site at Chittinglye Manor, or to Mill Place furnace, in East Grinstead; J. S. Hodgkinson, 'Mill Place and Gravetye furnaces', *WI*, 2nd ser. **14** (1994), 29–31. It is, however, difficult to accept that an apparent newcomer to the industry should embark on the complete construction of not only the furnace and associated buildings, but also the pond, bay and watercourses, when, in the Weald at that time, there were several furnaces that would have fallen out of use in the comparatively recent past.

[47] J. S. Hodgkinson, 'William Clutton — ironmaster', *WI*, 2nd ser. **9** (1989), 27–33.

[48] J. Coote, *The Universal Director* (London, 1763).

[49] Edwards, *Wilkinson Gunfounder*, 127. Butler was in partnership with a Mr Eade, although a James Eade later occupied Abinger Hammer; W. Butler & J. Butler, *A Genealogical Memoranda of the Butler Family* (Sibsagar, 1845), 10–11; Surrey Record Office, Abinger Land Tax 1781–2.

[50] The Board purchased over 14,000 tons of shot between 1750–70, of which Eade and Wilton accounted for 1141 tons; Hodgkinson, *diss.*, 55, fig. 10.

[51] The quality of iron from which a gun was made was very important, needing to be a grey cast iron which had the great tensile strength necessary to withstand the explosive force of a charge of gunpowder, yet soft enough to allow cutting and filing. To achieve this the founder had to be able to vary the strength of the blast, and the proportions of ore and fuel in the charge. Such care could not be exercised when remelting iron such as scrap, which would have been of variable quality, in an air furnace.

[52] Between 1750 and 1770 Wealden founders accounted for about 5% of round shot purchased by the Board of Ordnance; Hodgkinson, *diss.*, 55, fig.10. William Bowen had an air furnace at his Southwark foundry, as did Edward Raby, at Smithfield. Harrison and Company had built one at Hamsell furnace, Rotherfield, in 1745, but John Churchill had asked for the one built at Robertsbridge Forge by the Jukes brothers to be dismantled; Whittick, 62.

[53] A twelve-pounder cast for the Board in 1757 might fetch £20 a ton, but as scrap it would only be worth £5 a ton; a price of £9 a ton sold to a merchant vessel, including

commission, would diminish the loss to the founder.

[54] Crossley & Saville, 254–5, John Fuller to Charles Frederick, 23 October 1749.

[55] During the war the coastwise traffic in 'warlike materials', which included guns, shot and gunpowder, was prohibited except under licence from the Privy Council. Guns for government service were automatically exempted by the Board of Ordnance, but some indication of the movement of guns for the merchant trade can be gauged from the records of licences granted by the Council; PRO, PC2/105–8.

[56] Cleere & Crossley, 173.

[57] J. S. Hodgkinson, *diss.*, Appendix 4, 119. East India Co. records do not include guns purchased for the Company's ships, which would have accounted for a considerable number; British Library Oriental and India Office Collections, L/A/G/1/5/15–19.

[58] PRO, WO51/194–228.

[59] PRO, WO47/63, p. 112.

[60] PRO, WO47/64, p. 197

[61] PRO, WO47/59, p. 90; the company believed even £16 a ton to be unprofitable; R. H. Campbell, *Carron Company* (Edinburgh, 1961), 83.

[62] PRO, WO47/65, p. 56.

[63] Robert Morgan had a tinplate business in Bristol, Crofts and Co. were essentially bankers and merchants, and John Wilkinson continued to cast guns for the merchant trade, and as a subcontractor for others; Williams, 42–3.

[64] In the peacetime years of 1765 to 1770 Carron supplied the Board with over 1500 tons of guns, worth nearly £22,000 (*see* Table 1).

[65] An exception may have been Eade and Wilton, one of the firms supplying the Board in this postwar period, as it is not known with whom they were subcontracting. Although Wilkinson and Co. appear to have been using coke from when they started working Willey furnace, they did not become important suppliers of ordnance until the 1770s; Riden, 93; Edwards, *Wilkinson Gunfounder*, 133–5.

[66] Rose Fuller to John Baddington, 4 August 1773; ESRO, RAF/F/6/1.

[67] J. Hoppit, *Risk and Failure in English Business 1700–1800* (Cambridge, 1987), 36–8.

[68] PRO, B4/16, p. 238.

[69] Hodgkinson, *William Clutton*, 31.

[70] In addition to Gravetye furnace, Clutton was also working the forges at Howbourne, in Buxted, and Maresfield; Hodgkinson, *diss.*, 100.

[71] PRO, B4/17, p. 166.

[72] PRO, B6/3, p. 132; WO47/68, p. 133.

[73] It is not known whether Raby's lease of Gravetye has survived. However, it was being advertised for sale in 1764, and Knight, the carrier, was transporting guns from there to the Warren in 1768; *Sussex Weekly Advertiser*, December 31 1764; Hodgkinson, *Carrier's Accounts*, 20.

[74] PRO, B4/18 index.

[75] PRO, WO47/63, p. 112; WO51/220, 224–5 & 228.

[76] Williams, 42; PRO, PC2/108, p. 600; 109, p. 20.

[77] PRO, WO47/81 f.203v.; it is clear from the size of Churchill's initial tender to the Board that he was operating more than one furnace. After his death, his kinsman and former clerk, James Bourne, leased Robertsbridge furnace, but is later listed as occupying Darwell furnace as well. Trunnion markings on guns cast by Churchill indicate that he was also occupying Darwell; Hodgkinson, *diss.*, 98–9.

[78] PRO, B4/17, p. 185, January 1765.

[79] *See* Table 1.

[80] ESRO, ELT Beckley, Brede, Brightling, Mayfield, Waldron and Westfield; the Gott family paid tax for Beckley until 1766.

[81] M. A. Lower, 'Historical and archæological notices of the iron works of the county of Sussex', *Sussex Arch. Coll.* **2** (1849), 213.

[82] Hodgkinson, *diss.*, 115, table 1.

[83] Tomlinson, 393.

[84] C. K. Hyde, *Technological Change and the British Iron Industry, 1700–1870* (Princeton, 1977), 53–62.

[85] Some Wealden furnaces, such as Gloucester or Ashburnham, were comparable in size to those in other parts of Britain, and were capable of greater output than other Wealden furnaces. Archaeological research has not been comprehensive enough to allow it to be known to what extent these or other furnaces in the region incorporated the changes in design known in other areas; Cleere & Crossley, 212–15.

[86] Tomlinson, 394.

[87] Edward Raby died in 1771, and although his son, Alexander, completed his warrants, he did not continue the business, preferring to move into other areas of iron-making, and later coal mining; Hodgkinson, *Carrier's accounts*, 12. William Bowen also died in 1771, but his will gives no indication of a successor; PRO, PROB11/794 f.104. James Bourne had taken on the lease of the Robertsbridge ironworks, and presumably that of Darwell (although it is unlikely that he worked the latter), and cast guns for the Board in 1773; HEH, BA vol. 71 f.30; PRO, WO47/82, p. 46 *et seq.* The Southwark firm of Wright and Prickett worked John Butler's furnace at Fernhurst, as well as casting briefly at Raby's furnace (presumably the Warren) and at Gloucester furnace; WSRO, Cowdray 1444; PRO, WO47/81 f.99; CKS, U274 T54; PRO, WO47/81, p. 46. Even after guns made by the hollow casting method were no longer accepted, as late as 1779 the Fullers occasionally supplied the Board, and in the early 1780s solid bored guns may have been cast for government service by William Collins at Lamberhurst, while Millington and Company, successors to Crowley and Company, continued to cast for the East India Company until 1789; R. R. Brown, 'Wealden ironmasters and the Board of Ordnance after 1770', *WI*, 2nd ser. **14** (1994), 31–47.

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'A garden in a desert place and a palace among the ruins'

LEWES CASTLE TRANSFORMED, 1600–1850

by John H. Farrant

Having lost its military potency by the late 14th century, Lewes Castle was by c. 1600 being used for popular recreation near to the town's market. From the late 17th century it was the focus for polite society with, by 1760, a bowling green, gardens to the coffee house on the High Street and a pleasance on the Keep Mound; a theatre came a little later. Commercial and associated residential usage were more in evidence by 1800, but in 1838–40 the Keep and the Barbican were purchased for permanent preservation. and passed to the care of the Sussex Archaeological Society in 1850.

The foundation of the Sussex Archaeological Society in 1846 was triggered by the destruction of much of Lewes Priory in the path of the railway. But a few years earlier the Keep and Barbican of Lewes Castle had been 'saved for posterity' and in 1850 were the first relics of antiquity to be occupied by the Society. On our 150th anniversary this article explores the Castle's history in the two centuries before those parts passed to the Society's care.[1]

For clarity the two mounds, east and west, are here called Brack Mount and the Keep Mound respectively, and the area between them within the Castle walls, the Castleyard; these three, with the Barbican, make up the Castle. Other features or sites carry their current or last recorded names.

Lewes Castle had lost its military potency by the end of the 14th century. In 1377 the Earl of Arundel left it undefended against the French, and in June 1381 local protesters against labour services with seeming ease broke in, to burn his muniments — and broach ten casks of his wine. It had also ceased to be a lordly residence with the end of the Warenne line in 1347 and, as part of the Manor and Borough of Lewes which descended with the barony and rape of Lewes, it was from 1439 onwards divided between three lords, none of whom was thus likely to take up residence. The deed of partition in 1439 implies that each lord was possessed of a different portion of the Castle, but (as will be evident below) in later centuries leases were granted by one lord or by all three jointly and copyholds from the waste by all three as lords of the manor.[2]

Only intermittently did Lewes Castle house a gaol. In July 1381, with the gaol at Guildford overfull, the Crown ordered its temporary use. The gaol established at Lewes as the result of a petition from the County in 1487 seems to have been short-lived. Although commissions continued to enjoin the delivery of Lewes Castle, it had clearly been replaced by the new county gaol at Horsham by 1541. An order by the justices in 1579 to remove the gaol to Lewes may have been for the assizes held there the following summer. When a house of correction was built in Lewes in 1610, the justices preferred to spend £200 on purchasing a tenement in the Cliffe rather than revert to using the Castle.[3]

Two maps of 1620 portray the Castle with complete circuits of wall on both mounds and around the Castleyard.[4] But the fabric was already being eroded. Lieut. Hammond in 1635 noted the Castle as 'now quite demolish'd' and John Rowe cannot have been the only Lewesian to find building materials there when, in 1620–21, he paid for 78 loads of flints to be removed from the Castle for repairing a wall.[5] Before 1498 the Lords of the Manor were making copyhold grants from the waste around the outer edge of the Castle. The Gun Garden was granted in 1559 and 1574, and the western half of the Keep Mound in 1567. Grants between 1614 and 1634 covered over half the north or west frontage of Castle Ditch Lane, between the Castle wall and the rear of 169-186 High Street and of Fisher Street as far as the Star Brewery.[6]

The grants of the Gun Garden surely relate to the establishment or expansion of the White Horse Inn which fronted the High Street on the west corner of Castlegate, just by the Market House built in 1564/5. This area became the town's commercial hub, the market probably having been moved from the site at the High Street's junction with Fisher and Station Streets, on which the Sessions House was built, also in 1564.[7] Edward Homewood, innholder at the sign of the White Hart at 173 High Street, was doubtless hoping to exploit the throng around the Market House by leasing, in the 1610s, the Barbican and a fourth part of the Keep Mound and the Castleyard from the Earl of Dorset; presumably he leased from the other two Lords (the Duke of Norfolk and Lord Bergavenny) their shares as well. The continuity and rough character of recreation in the Castleyard is indicated by 'the great pieces in the Castle' being fired to celebrate the defeat of the Spanish Armada in 1588; by the order in 1595 that the Society of the Twenty-four should be chosen in the Sessions House rather than the Castle, 'for the avoidance of further disorder'; and by a case in the Archdeaconry court in 1633, when Richard Gun claimed to have been defamed by fellow Brightonian John Walles accusing him of being drunk twice in one day, before witnesses in the Castle.[8] By January 1639 part of the Castleyard had been appropriated for bowls, for the Justices granted an alehouse licence to John Standing at his house in the Castle where he kept the bowling green. One map of 1620 definitely and the other possibly shows three buildings in the Castleyard: a substantial, three-gabled house in the vicinity of Castlegate House, a single-gabled one (Castle Precincts House?) and a small structure between them — perhaps a pavilion by the green.[9]

During the Commonwealth playing bowls was likely suppressed — that would explain the post-Restoration reference to a Quaker prayer meeting in 1658 on 'the old Castle Green (now made a Bowling Green)'. Although the meeting was broken up, the tone of the area was rising. In that year, Lord Bergavenny granted Thomas Henshaw, the undersheriff, a lease of Castle Precincts House, and in 1661 the Lords sold a long lease of the ground south and east of the bowling green (the substantial house of 1620 having evidently gone) as a garden, soon to be enclosed with a stone wall. The purchaser was Sir Thomas Nutt, Sheriff in 1660/61 and a very assiduous Justice in 1664–75, who surely used the garden for political purposes with his mansion across Castle Ditch at 181–183 High Street almost facing the Sessions House. He sold to the equally active Justice, William Spence, in 1673.[10]

On Spence selling in 1679, this house came into the same ownership as that on its west, and on the combined site by 1687 William Pellatt built a house which Sir John Ashburnham considered the best in Lewes excepting only Pelham House. Between 1711 and 1734 its owner Benjamin Court occupied it as an ironmonger's shop, while, in 1723–25, acquiring as copyholds the sites of The Maltings and Castle Lodge and of the north-east quadrant of the Keep Mound. In 1734 he leased the house and gardens to the Duke of Newcastle who had it fitted up as a political coffee house and assembly rooms. As George Vertue noted in September 1738, in Lewes 'is assembly kept and in a handsome house and a large room many neighbouring gentry come once a week'. Court retired to what he called his 'Little Castle' within the precincts, probably Castle Lodge, in the shadow of the Keep. His holdings in the Castle were augmented after his death in late 1736 by his heirs, Samuel and Robert Chester, taking a lease of the bowling green from the Lords in 1745. Play there was from 1753 organized by a formally constituted club, the Lewes Bowling Green Society.[11]

In about 1730, Court received a visit from the Revd John Burton of Corpus Christi College, Oxford, who wrote that, while the public buildings of Lewes were unimpressive, privately-owned ones

> are gracious, numerous and outstanding. Among these is an ironmongery, a most expensive affair and well worth a look . . . The master of the house received us in friendly fashion, strangers though we were, being willing to oblige us in every way, and he led us up through the back room onto gardens — they were amazing — both the height and the layout; for in this place which was uneven and precipitous, huge banks had been heaped up and spread out into a level area. Upon these level parts parallel walks are laid out. Being higher than all the surrounding houses, the result is that from here, as if from a look-out place, it was possible for us to survey all the surrounding scene clearly from afar. There were many things to see and most beautiful they were. I believe that this amazing affair of the gardens had been constructed upon the ruins of the ancient castle, for here appear the traces of a large broken-off wall and of steep

> towers and of a palisaded enclosure with no way through. Indeed, all the fortifications had been advanced in front.[12]

Burton, I suggest, climbed Brack Mount. He approached from Court's gardens, now the car park and The Maltings.[13] 'Huge banks . . . heaped up and spread out into a level area . . . parallel walks . . . laid out' describe the bank against the curtain wall south and east of the gardens, and the gardens themselves. 'Traces of a large broken-off wall and of steep towers and of a palisaded enclosure with no way through' may refer to the curtain wall, to the masonry on Brack Mount, more extensive in the 18th century than today,[14] and to the view across the Castleyard or indeed towards the enclosure in which St John-sub-Castro stood. Burton's speculative 'I believe' surely discounts the possibility that his point of view was the Keep Mound, on which the ruins of an ancient castle are obvious.

While Court and his visitors enjoyed the summit of Brack Mount, the built-up area of the town was creeping round its edge. Between Fisher Street and Mount Place had stood Nathaniel Trayton's barn, the Hoghouse, until Dr Richard Russell acquired it in the 1720s and started to develop Russell Row. On the opposite side of Mount Place, at the edge of Brack Mount, the Lords granted from the waste the sites of the Lewes Arms in 1723, the Christian Alliance to its north in 1730, a plot on the west side (for the parish poor house) in 1732, and the whole of the northern circuit to Russell in 1738 (though not developed until *c.* 1820). Leaving a 50-foot frontage for access to the Mount, the Lords made the last grant round it, for Brack Mount House, in 1757. Grants followed on the west side of Castle Banks lane, in 1767 and 1772.[15]

West of Brack Mount was a 100-foot section of north-facing Castle wall (Fig. 2). Behind this and/or on the north part of the Castle Lodge site, since at least the 1750s, was stabling for the detachment of cavalry which was stationed in Lewes while patrolling the coast and river valley against smugglers. On the site of New Road, part way down the Castle's north flank was a ditch and breastwork; townsfolk dumped rubbish in the ditch and the military by the 1780s levelled the area to provide a ride on which to break in new horses, while carters wanting to bypass the High Street used it as a track to and from Westgate.[16]

In December 1751, preparing his travelogue for publication some twenty years after his initial visit, Burton added:

> Since the time when I wrote these words I know that both the area, the houses and the men themselves have experienced many changes. This ironmongery has by now disappeared, but many splendid buildings have been newly constructed and on the mound one of the citizens, an enthusiastic and ambitious man, having made innovations round the ancient remains, has achieved a great project and provided both, so to speak, a garden in a desert place and a palace among the ruins.[17]

Although the literal reading is that he was referring in both *c.* 1730 and 1751 to one and the same mound, I suggest that he confused Brack Mount (*c.* 1730) with the Keep Mound (1751).

The ambitious citizen was Thomas Friend, a mercer and banker to local gentry. By 1726 he was occupying Barbican House (169 High Street), overlooking the Market House, and was responsible for its Georgian remodelling.[18] In 1732 he extended his command of the commercial hub by purchasing the tenements which made up the White Horse Inn, comprising 165–167 High Street, 1 Castle Gate and the Gun Garden. The Lords of the Borough granted him copyholds of the south-east face of the mound (where the steps now are) in the same year, of the Barbican (on condition that it should not to be altered, pulled down or destroyed) in 1733, and of the interior of the Keep in 1750 (on condition that he should repair and not pull down).[19] Burton was referring to works which Friend had recently put in hand.

Figure 1 summarizes the occupancy of the Castle in the later 1750s. At the south end Thomas Friend let the White Horse, with outbuildings in the Gun Garden. As an amenity for both it and his own residence at Barbican House he had developed a pleasance on the Keep Mound. Further along the High Street the New Coffee House (leased by Court's niece Abigail Chester to the Duke of Newcastle) still enjoyed, across Castle Ditch, its extensive gardens which bounded the bowling green. The gardens also gave onto Brack Mount, access to which the Lords evidently allowed without grant or lease. Bowls was among the games on which the young John Bridger of Coombe (1733–1816) was betting during frequent visits of the coffee house in 1755–58, and his father may have built for him Brack Mount House overlooking the gardens. But the other properties

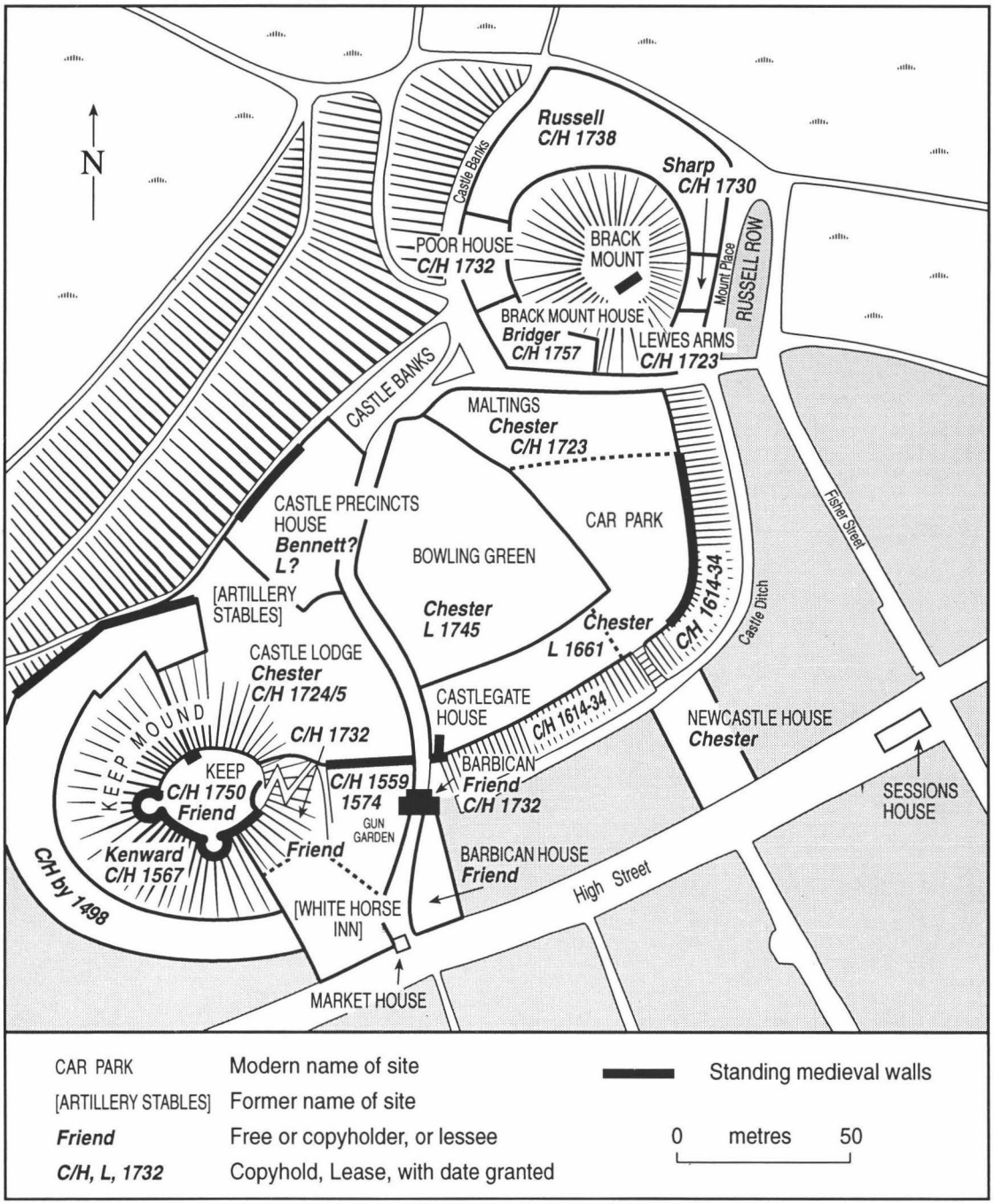

Fig. 1. Lewes Castle in the late 1750s.

around the Mount, facing away from the Castleyard, were more modest. The Lewes Arms alehouse on the south-east corner was established there before 1747.[20] On the west of the Castleyard were the Artillery stables. South of them and west of the bowling green Abigail Chester had her residence (Castle Lodge) until her son Robert inherited it in 1759. With its fine view through the river gap to the Weald, Castle Banks (the terrace between Brack Mount and Castle Precincts House) was likely a public promenade. For the Castle had come to provide for Lewes what many a provincial town created in the century after the Restoration: gardens, walks, games and other amenities for genteel recreation. They complemented, at a more central location, Baldy's Garden at the east end of the town, which was open by 1746.[21]

The main elements of Friend's works on the Keep were the large rusticated doorway which still graces the west tower and a three-gabled summer-house just below the line of the curtain wall on the east side (Fig. 2). The antiquary Richard Gough, visiting in August 1757, recorded:

> The Castle a considerable ruin is now private property, and standing on a high hill is ascended to by a winding path planted with flowering shrubs and secured by Chinese railing. The area within is laid out in parterres, the apartments plastered with rough lime and pebbles and stuck about with prints, vases on brackets, and chinese ornaments in the manner of a summer house. From the leads of one apartment we had a fine view of the sea through an indifferent telescope kept there: and from another quarter saw a pleasant seat of Dr Russell's.[22]

Frances Grose's view from Brack Mount in September 1762 (Fig. 2) shows a fence to have divided the mount into southern (Friend) and northern (Chester) portions. The southern was planted, the northern bare.[23]

The East Hoathly shopkeeper, Thomas Turner, visited Lewes one Sunday in June 1758 with his wife:

> We also went to see the Castle Mount, which I think a most beautiful sight, it being so well adorned with a great variety of shrubs and flowers, and so exceeding high that you have a command of the prospect of all the circumjacent country round. We came home, thank God, very safe, sober and well about 8.30.[24]

James Powell, visiting Brighton from Suffolk in 1770, made a similar account, though the shrubs had grown:

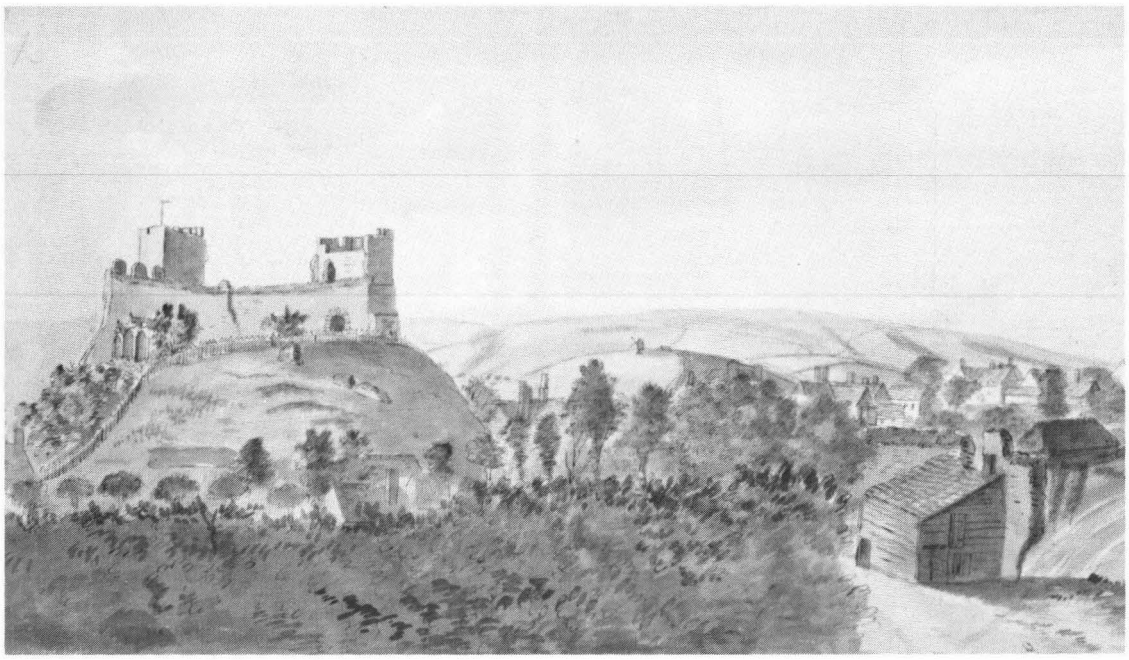

Fig. 2. Lewes Castle from Brack Mount. (Watercolour by Francis Grose, September 1762: author's collection.)

> We put up at the Star and having refreshed ourselves with a cup of wine and water, some cold ham and some tongue we set out for the Castle. This is a fine piece of antiquity, the first gate leading to the old Castle being almost entire, the second not in such good condition. This formerly was the entrance when in use as a castle, but the way up now is by a winding walk made on the outside hill, the ascent rather steep but being through a shady walk the whole way made it not disagreeable. The prospect here is beyond anything we have yet seen: on the one hand a field full of men carrying in the harvest where formerly the Barons fought Edward [*recte* Henry] the 3rd and brought him prisoner to the Castle, and on the other the River laden with craft of 40 or 50 tons winding through a delightful vale.[25]

The Quaker Mary Capper, with her sister-in-law, 'first went to the Castle garden which we ascended by a flight of very many steps' in 1782, while for the Hon. John Byng in August 1788:

> Our evening ramble . . . was to inspect what exists of the old castle; where remain an entire gateway, blocked up by houses, and two towers with a wall at the top of the keep, to which we were shown by winding steps. It is neatly kept; the two towers form rooms, and to the summit of one is an ascent, whence is an extensive view and to the sea.[26]

These three visitors enjoyed what they saw. Not so Gough: Friend's improvements were not to his taste, for on a second visit in July 1767, he observed that 'The inside is fitted up by the proprietor in a gimcrack manner'. Gough (1735–1809) became Director of the Society of Antiquaries in 1771 and was a leading exponent of the careful and systematic study of medieval remains. William Gilpin (1724–1804), the influential arbiter of taste in the picturesque, was similarly critical, in 1774, and made Lewes Castle an object-lesson for the antiquary:

> It is not in itself an unpicturesque fragment; but some busy hand has been employed in making hanging gardens around it, and adding other decorations, which only discover how much the improver missed his aim by trying to shew his taste. It is among the first principles which should guide every improver, that all contiguous objects should suit each other, and likewise the situation in which they are placed. A modern building admits modern improvement, — a ruin rejects them. This rule, though founded in nature, and obvious to sense, is scarcely ever observed. Wherever we see a ruin in the hands of improvement, we may be almost sure of seeing it deformed.
>
> But you say, a ruin may stand as an ornament in an improved scene.
>
> It may: but it must appear, that the improved scene does not belong to the ruin, but the ruin got accidentally into the improvement. No improvement, however, should come within the precincts of the ruin. Deformities alone may be removed: and if the ruin retire into some sequestered place, and is seen only through trees, or rising above some skreening wood, its situation would be better, than if it stood a glaring object in full sight.[27]

The last addition to the Castle's amenities was a theatre opened in October 1774. Built in the Castleyard with entrances into Castle Ditch Lane, a spacious gallery and seating for 600, it was perhaps on the site of The Maltings, making use of the fall of the ground for raked seating. Its closure in 1787 was symptomatic of decline in the Castle's position as the focus for the leisure of polite society. The New Coffee House closed in 1779, and the White Horse about 1775.[28] Thomas Friend had died in 1761 and his heir, a nephew of the same name, died late in 1763. The properties then passed to another nephew John Kemp who died in 1774; and to the latter's nephew Thomas Kemp. He lived in Barbican House only until 1785, when he removed to Conyboro, Barcombe, dying in 1811. The main residences of his son, Thomas Read Kemp, were first at Herstmonceux and then in Brighton. In 1787 the elder Kemp allowed a house for the borough's fire-engines to be built in the Gun Garden — one among several uses which detracted from a tourist attraction.[29] Robert Chester opened the Castle public house against the north-west face of the Norman gateway between 1759 and 1768, but it seems not have been a smart establishment, probably drawing its custom from the Artillery stables and his brewery. It was closed in 1825.[30]

Commercial and associated residential use of the Castleyard were well in evidence in 1808 when it was described as encompassing:[31]

> a public bowling green (in a hut on which an aged pauper lived until the previous year)
> a large garden [the car park and The Maltings] hired at a considerable rent by a tradesman in the town [Arthur Lee, printer]

a capital messuage, garden and common brewery [Robert Chester at Castlegate House: a recent five-bay house was standing in 1772, and the brewery is recorded in 1780; The Maltings were built for the brewery in the early 1850s][32]

a messuage and garden occupied by another respectable brewer [Christophilus Chitty at Castle Precincts House. 'The New buildings' postdate Grose's view of 1762 (Fig. 2) but stood on the site in the early 1770s and were offered for sale as befitting a small genteel family in 1796; the section of Castle wall may have been partly demolished during rebuilding the house in 1816][33]

the dwelling house of a common London carrier, waggon house, and stabling for all his horses [John Shelley who had acquired Brack Mount House from Sir John Bridger in 1787][34]

alehouses at the signs of the Castle and of the Lewes Arms.

stabling for a great number of horses, occupied by the Artillery [with the Castle Inn (which was close to the Norman Gate) on the Castle Lodge site].[35]

T. R. Kemp did do some works on the Keep, but these were incidental to a novel use for the Castle. In 1816 he retired as a Lewes MP, sold Barbican House and took to preaching for the Dissenting sect which he had founded with his brother-in-law George Baring. In 1818 he recovered the fire-engine house as the sect's chapel in Lewes — and provided accommodation for himself when visiting to preach, by adding the rectangular stair-turret to the south tower of the Keep, fitting up three rooms in it, and installing in the west tower the widow of a servant, all at a cost of £600. She showed John Stuart Mill around in 1827. The sect having dissolved four years earlier, Mill inspected, with approval, the infant school Kemp had installed in his erstwhile chapel. The Gun Garden probably also accommodated the four-stall stable, two coach houses and large carpenter's shop which were there 11 years later. The South Saxon lodge of freemasons had by 1805 a room in the Barbican.[36]

Mill noticed the Keep only as 'an old building' with 'two watchtowers' affording a good view. With William Gilpin's tenets of taste now widely accepted, sophisticated observers did not approve of Kemp's alterations: 'The ruins of the castle', wrote J. D. Parry, 'are however far from interesting, very little of the primary features of architecture are discernible, and though it has been liberally repaired, this has been done in a very modernized and mediocre style.' Indeed, even the guidebooks to Lewes by local residents Mantell and Lower in 1846, after the Priory had suffered the ravages of railway construction, also give little attention to the Castle, to be commended more for the view from the Keep than for itself.[37]

Kemp had started on his speculative development of Kemptown, on land he had inherited in Brighton, in 1823 — a disastrous enterprise for his finances, for he was forced to live abroad from 1837. His departure placed in question the future of his property in Lewes. John Hoper was a Lewes solicitor who acted for Kemp. Motivated by the wish 'to secure from injury if not destruction a beautiful monument of antiquity', between 1838 and 1840 Hoper bought from Kemp and others the copyholds of most of the mound, the Gun Garden, the Keep and the Barbican. He resold them with trusts for their preservation to Earl De La Warr and Lord Bergavenny, two of the Lords of the Borough, and to the Countess Dowager of Plymouth who was recruited by De La Warr to take the place of the Duke of Norfolk. The enthusiasm of De La Warr and Bergavenny was remarkable. Thus, the latter's agent wrote, on his lordship's and his heir's behalf, deploring the grants made a century earlier, and that: 'In purchasing it money or income as it regards the Castle part does not enter their consideration. They think the peers should hold it, not merely as their freehold, but as their own in the eyes of the public. . . . As a Town Object it should be for the benefit of the whole town . . . some person should live in it rent free to take care of it.' To appreciate the structures as antiquities in their own right and even more to secure their preservation by purchase were for their time notable initiatives.[38]

A decade later, the Committee of the fledging Sussex Archaeological Society, in only its fourth year, resolved on the desirability of taking a lease, and entered on the property at Michaelmas 1850, setting about, as Hoper had envisaged in 1838, clearing modern accretions and repairing the medieval structures.The summit of Brack Mount, meanwhile, was appropriated by the landlord of the Lewes Arms as a pleasure-ground for the delight of his customers, at least from the 1840s until the 1920s; it was purchased from the Lords and presented to the Society in 1937.[39]

Having quoted John Rowe's purchase of

demolition materials from the Castle 240 years earlier, William Figg, a founding father of the Society, observed in 1861:[40]

> And in this wanton manner, and for the sake of this small amount of money the stones would fetch, how many other of our ancient buildings have been destroyed! . . . [B]ut let us hope, now that we have so many societies similar to our own, whose members are continually watching over the remains of the stony relics of the grandeur of past ages, the perpetration of such vandalism will become impossible.

The Society can take pride in having cared for the Keep Mount and the Barbican for nearly 150 years. But we should also recognize John Hoper's bold initiative in 1838 and the readiness of the Lords of the Borough to forego opportunities for more remunerative use, both in requiring the structures to be preserved in 1733 and 1750 and in financing Hoper's purchase.

Acknowledgements

Any student of Lewes' topography is deeply indebted to the work of John Houghton in reconstructing the history of the town's properties, most of which is unpublished but deposited the Society's Library and the East Sussex Record Office. John Bleach, Colin Brent and Christopher Whittick have, as always, given much help and many references.

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NOTES

[1] The standard account of the Castle and its association with the Rape is in *Victoria County History of Sussex* **7** (1940), 19–24. Knowledge of the medieval keep is greatly extended by P. L. Drewett, 'Excavations at Lewes Castle, East Sussex 1985–1988', *Sussex Archaeological Collections* (hereafter *SAC*) **130** (1992), 69–106. The present article supersedes my '"A palace among the ruins. . .", *Sussex Archaeological Society Newsletter* **52** (August 1987), 12–13.

[2] H. Eiden, *'In der Knechtschaft werdet ihr verharren. . .' Ursachen und Verlauf des englischen Bauernaufstandes von 1381*, Trierer Historische Forschungen **32** (1995), 139, 383–4. L. F. Salzman, 'The sacking of Lewes Castle, 1381', *Sussex Notes and Queries* (hereafter *SNQ*) **9** (1942–3), 94. *VCH Sussex* **7**, 3–7. W. H. Godfrey (ed.), *The Book of John Rowe*, Sussex Record Society **34** (1928), 185, 188, 189, 152–5.

[3] R. B. Pugh, 'Medieval Sussex prisons', *SAC* **97** (1959), 78–80. Guildford Muniment Room, Surrey Record Office, LM 976. As the coroner was required to investigate all deaths in custody, the absence of any such inquests in respect of Lewes Castle in R. F. Hunnisett, *Sussex Coroners' Inquests 1485–1558*, Sussex Record Society **74** (1985), puts in question whether in fact a gaol was established there. J. S. Cockburn (ed.), *Calendar of Assize Records, Home Circuit Indictments, Elizabeth I and James I, Introduction* (London, 1985), 21, 171.

[4] East Sussex Record Office (hereafter ESRO), ACC 2187 (by George Randoll, the Castle redrawn and printed in W. H. Godfrey, 'Barbican House, Lewes', *SAC* **82** (1941), 2); SAS/E 5 (probably by John De Ward).

[5] L. G. Wickham Legg (ed.), 'A relation of a short survey of the western counties', in *Camden Miscellany XVI*, Camden Society 3rd s. **52** (1936), 30. W. Figg, 'Some memorials of old Lewes', *SAC* **13** (1861), 19.

[6] L. F. Salzman, 'The Borough of Lewes in 1498', *SNQ* **5** (1934–5), 66, 98, 99. *Book of John Rowe*, 13, 14, on the assumption that the earliest date in the 1624 rental to court transactions is to the grant. ESRO, ADA 156, extracted by John Houghton.

[7] L. F. Salzman (ed.), *The Town Book of Lewes 1542–1701*, Sussex Record Society **48** (1945–6), 15–16. *Book of John Rowe*, 125. The White Horse also served administrative functions, by housing the Sheriff's chamber in 1641: West Sussex Record Office (hereafter WSRO), EpII/5/17, f.63.

[8] Centre for Kentish Studies, U269 E66/2, f.24. ESRO, ADA 45, p. 27. *Town Book 1542–1701*, 36, 39, 132. WSRO, EpII/5/12, f.52; 14, ff.30, 32. *Book of John Rowe*, 12, 180–81.

[9] ESRO, QR/E44, mm. 1, 97. The three-gabled house is a mystery of which no other record has been found; perhaps it was the Sessions House until 1564.

[10] ESRO, SOF 5/1, p. 27; ABE 74/6; R/C4/62(1). P. Le Fevre, 'The workhorses of the county. The Sussex Justices of the Peace, 1660–1714', *SAC* **132** (1994), 138. C. Brent, 'The neutering of the Fellowship and the emergence of a Tory Party in Lewes (1663–1688)', *SAC* **121** (1983), 103.

[11] W. H. Godfrey, 'Newcastle House, Lewes', *SAC* **92** (1954), 1–5, corrected by John Houghton and ESRO, ASH 933 (8 June 1687). British Library (hereafter BL), LOAN 29/232, f.384. ESRO, ADA 158; LEW/C/5/3/6; W/A 55/199. *The Game of Bowls at the Tilting Ground, Lewes* (Lewes, 1968).

[12] J. H. Farrant, 'The dates of John Burton's journeys through Surrey and Sussex', *SAC* **114** (1976), 337. J. Burton, *Οδοιπορουντος Μελετηματα sive Iter Surriense et Sussexiense* (London, 1752), 43–5, translated by Mrs M. B. L. Farrant.

[13] Both are marked as gardens on the *c.* 1770 sketch plan in Eastbourne Public Library, Antiquarian notes of John Elliot (1725–82), f.185v., and in BL, Add. MS 5703, f.12.

[14] e.g. Byng 'climbed a keep or bastion, at some little distance from the castle, where remains a piece of old wall' in 1788: David Souden (ed.), *Byng's tours. The Journals of the Hon. John Byng 1781–1792* (1991), 83; William Green's plan issued in 1776, in F. Grose, *Antiquities of England and Wales* 3 (1775); and Sussex Archaeological Society (hereafter SAS), picture collection, 3511, by James Lambert, 1772, showing about 20 feet of wall, up to four feet high.

[15] ESRO, ADA 158, 159.

[16] The wall is on Green's plan (above). J. A. Houlding, *Fit for Service. The Training of the British Army, 1715–1795* (Oxford, 1981), 32, 83. Corpus Christi College, Oxford, MS 443.II.35, view of the wall, by J. B. Melchair, probably 1754/55, shows soldiers. ESRO, LAN 292, brief for defence in case about New Road, 1825.

[17] Burton was a keen gardener: *Gentleman's Magazine* **41** (1771), 307. I was wrong to say, in Farrant, 'Burton's journeys', 337, that the innovations were Newcastle's coffee house.

[18] Godfrey, 'Barbican House', 5. Friend as banker: C. Brent, *Georgian Lewes 1714–1830* (Lewes, 1993), 56; BL, Add. MS. 33341, f.20, 33617, ff.2–3 (Henry Pelham, 1718, 1722), 33161, f.58 (Thomas Pelham, 1732).

[19] ESRO, ADA 159; SAS/HC 601; SAS/DD 127. Friend offered, in 1734, to sell the White Horse to the Duke of Newcastle for the Whig coffee house and assembly room: P. Lucas, 'The Verrall family of Lewes', *SAC* **58** (1916), 92–3.

[20] ESRO, ADA 159 (4 May 1757), for Brack Mount House; SHR 1373, John Bridger's personal cash accounts 1751–58; SAS/WH 219, for Lewes Arms.

[21] P. Borsay, *The English Urban Renaissance. Culture and Society in the Provincial Town 1660–1770* (Oxford, 1989), 162–76, 350–54. W. H. Challen. 'Baldy's Garden, the painters Lambert, and other Sussex families', *SAC* **90** (1951–2), 103–5. I owe to John Bleach the dating of Baldy's Garden, from *Gentleman's Magazine* **17** (1747), 493, and *Western County Magazine* (Jan. 1790), 31.

[22] Bodleian Library, MS Top. gen. e.24, ff.348, 350.

[23] The whole of Grose's view is reproduced in Sotheby's London, *The Collection of the late Dudley Snelgrove*, 19 Nov. 1992. SAS, picture collection 93, is a companion view from the Paddock.

[24] D. Vaisey (ed.), *The Diary of Thomas Turner 1754–1765* (Oxford: OUP, 1984), 151.

[25] ESRO, AMS 5785/3, cutting from *East Sussex News*, 26 Feb. 1926.

[26] 'Mary Capper's diary', *SNQ* **11** (1946–7), 106. *Byng's tours*, 83.

[27] William Gilpin, *Observations on the Coasts of Hampshire, Sussex, and Kent, relative chiefly to Picturesque Beauty: made in the summer of the year 1774* (London, 1804), 45.

[28] Brent, 141–3, 138. Two views (private collection) of Castlegate by the James Lamberts, dated 1773 and 1776, suggest that the Gun Garden was cleared of buildings between those dates.

[29] J. Comber, *Sussex Genealogies, Lewes Centre* (Cambridge, 1931), 124, 141. A. Dale, Fashion*able Brighton 1820–1860* (London, 1947), 49–50. V. Smith (ed.), *The Town Book of Lewes 1702–1837*, Sussex Record Society **69** (1972–3), 74.

[30] N. E. S. Norris, 'Miscellaneous researches, 1949–56', *SAC* **94** (1956), 6. Brent, 33.

[31] ESRO, PAR 412/13/2, St John-sub-Castro parish, case for opinion of Mr G. Courthope, 1808; LT, St John-sub-Castro.

[32] SAS, picture collection, 3154, 1784 copy by James Lambert jnr of a 1772 view through the Barbican. ESRO, LT, St John-sub-Castro, 1780.

[33] John Elliot's sketch plan of the Castle, 1770s. Substantial buildings are evident in 1778 in SAS, picture collection, 2433. *Sussex Weekly Advertiser*, 4 Jan. 1796. ESRO, ABE/2W.

[34] ESRO, LT, St John-sub-Castro.

[35] Departure of the military explains the drop in the Precincts' population from 78 in 1801 to 17 in 1811.

[36] Brent, 165–6. 'Walking tour of Sussex' in *Collected Works of John Stuart Mill* **27**, ed. J. M. Robson (London, 1988), 464–5. ESRO, ABE 17L. SAS, picture collection 2617, dated 1818, shows arched windows on the exterior of the south tower, matching the new ones on the interior; the external windows were returned to square heads by the Society in 1852. J. V. Button, *The Brighton and Lewes Guide* (Lewes, 1805), 33.

[37] J. D. Parry, *An Historical and Descriptive Account of the Coast of Sussex* (Brighton and London, 1833), 329. G. A. Mantell, *A Day's Ramble in and about the Ancient Town of Lewes* (London, 1846), 103–11. M. A. Lower, *A Hand-book for Lewes* (London, ?1846), 27–8.

[38] Dale, 54–5. ESRO, ABE 17L; SAS/SAT 39, 155. For how progressive they were, compare T. Champion, 'Protecting the monuments: archaeological legislation from the 1882 Act to *PPG 16*', in M. Hunter (ed.), *Preserving the Past* (Stroud, 1996), 39–40.

[39] L. F. Salzman, 'A history of the Sussex Archaeological Society', *SAC* **85** (1946), 27–8. J. Magill, *A Chronology of the Lewes Arms* (Lewes, 1981), 9. ESRO, C/C65/5, file note 4 May 1928.

[40] Figg, 19.

Sir Richard Hotham's chapel at Bognor

by Ron Iden

This article examines the dispute, 1792–7, between Sir Richard Hotham and his former friend the Revd Thomas Durnford, vicar of South Bersted, over the licensing of Hotham's private chapel. The dispute is the subject of a collection of correspondence of Archbishop Moore held at Lambeth Palace Library. The collection includes details of the agreement hastily negotiated after reconciliation in 1797, although how the reconciliation was procured remains a mystery. The particular issue explored here is why Hotham chose not to resolve the matter normally by Act of Parliament. Instead, he prolonged hostilities by prevaricating over the degree of public use he intended for his private chapel, seeking to accommodate the distinguished visitors to his newly-created seaside resort.

In many of the 'watering places' and other fashionable areas established in the 18th and early 19th centuries, extra provision was needed for church accommodation. This was often met by the building of a proprietary chapel (one built and maintained privately by either a group of trustees or a wealthy individual) which, with the status of a chapel-of-ease, would meet little opposition from the local incumbent. In many cases, however, and often when the proprietor was a large landowner erecting a chapel for private domestic use and charging high pew-rents for a selected congregation, parochial rights were encroached upon, or the parish priest was otherwise offended by extreme Evangelicalism or the religious doctrine preached. In the Established Church tradition, such proprietary chapels possessed no constitutional or parochial rights themselves and were seldom consecrated; the bishop had the power to grant (or alternatively to revoke) licences for ministers to perform the duties of these chapels, but only with the consent of the incumbent of the parish in which the chapel lay.[1]

When Sir Richard Hotham, the 'founder' of Bognor (then a tithing within South Bersted parish) built a private chapel next to his own house in the 1790s, consent for its licensing was withheld by the vicar, the Revd Thomas Durnford. South Bersted was a peculiar under the jurisdiction of Canterbury diocese, in which the Archbishop served as bishop; and the appeasement of the vicar between 1792 and 1797 is the subject of a fine collection of correspondence and legal opinion on the status of Hotham's chapel, preserved at Lambeth Palace Library.[2] Others involved in the dispute were Archbishop John Moore, Sir William Scott (commissary of the Archbishop and vicar-general for the province of Canterbury), and George William Dickes and the Revd Francis Tutte, respectively the Archbishop's registrar and chaplain at the time of the dispute.

Richard Dally's assertion in 1828 (reiterated by others since) that consecration of the chapel was the main issue in the dispute and that 'all difficulties were overcome' is misleading.[3] Hotham stated in 1797 that he would 'on no account think of having it consecrated', concurring with the Archbishop's view that this would be detrimental to the parish should Bognor fail 'as a place of great public resort'.[4]

Hotham's initial relationship with Durnford was described by Dally as 'a close and intimate acquaintance'.[5] Hotham had arrived on the Sussex coast in 1784 at the age of 62 in search, it is said, of rest and recuperation.[6] His choice of Bognor, however, may well have derived from personal connections with Durnford's family.[7] The connection is a tenuous one, but Hotham evidently relied heavily on the vicar's knowledge of the local terrain and landholding for, as Durnford reveals in his letters, it was he who purchased 'upwards of 1,300 acres' in and around Bognor for Hotham's benefit.[8] And the significance for a hitherto poor parish of Bognor's inauguration as a purpose-built seaside resort had inspired Durnford to record in his parish register the laying by Hotham of 'the first Foundation Stone of a Public Bathing Place' on 18 January 1787.[9]

In August the following year Hotham applied to the Archbishop to replace an existing gallery on the

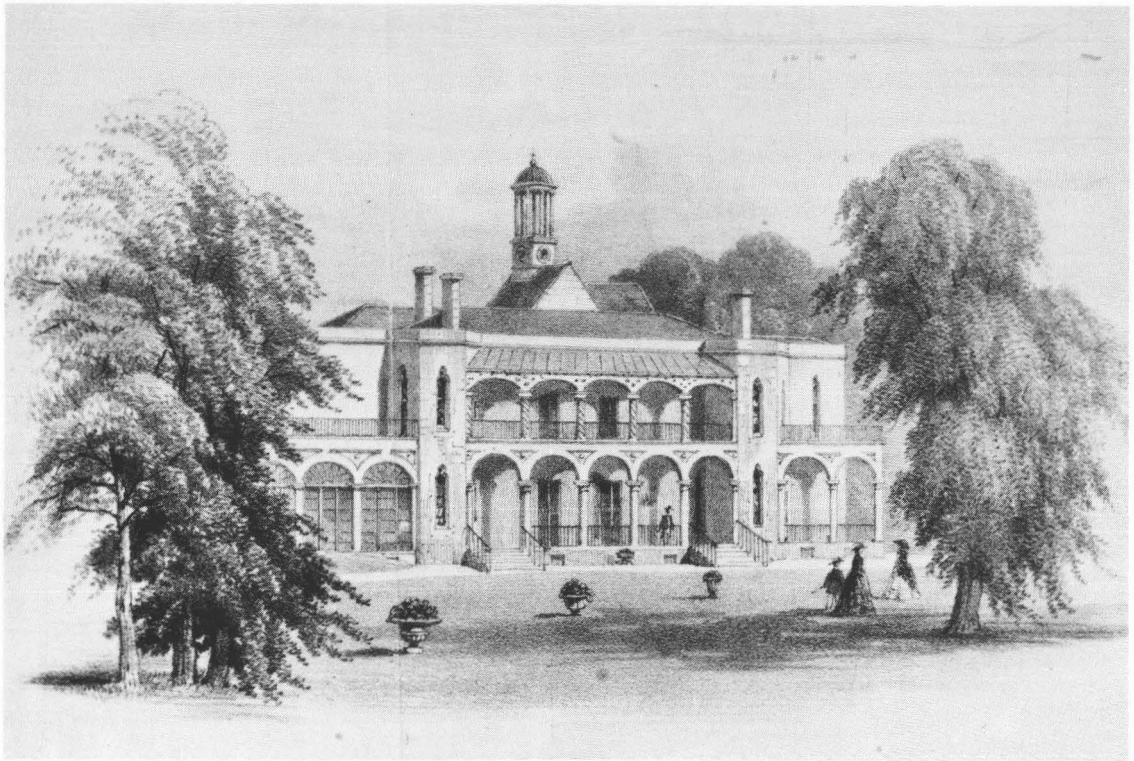

Fig. 1. Bersted Lodge, formerly Chapel House, showing the roof-line of the chapel, around the clock-tower (from sale particulars, 1857, in WSRO UD/BR/10/12).

north side of the parish church at Bersted, with 'a convenient and proper' gallery for himself and his household, complete with its own entrance, staircase and windows, and reserving the space below the staircase as a burial vault for himself. These and other improvements were duly made at a cost of £600.[10]

On 12 August 1793, by which time Hotham had completed some 30 houses and the success of his venture was more assured, the Duke of St Albans laid the corner-stone of a new chapel attached to Hotham's own residence, Chapel House (now Hotham Park House). By all accounts the occasion was a grand affair attended by 'upwards of 120 persons'.[11] But already the vicar was uneasy. Correspondence with the Archbishop had opened in October 1792 when Durnford alerted him to Hotham's intentions, which included the pocketing of the chapel pew-rents, so that the Archbishop might

> . . . guard against any thing being done injurious to the Rights and Interests of the Vicarage; which must otherwise be the Case, as the Burdens of Duty will be greatly increased, without any emolument annexed to it . . .[12]

Two years after the stone-laying, a visitor complained of the crowded accommodation at Bersted Church. Hotham's chapel was still 'not quite finished' and indeed the vicar's intransigence was to delay the opening for a further two seasons.[13]

The reasons why the friendship turned sour are fairly clear. In the presentation of his case to Sir William Scott early in 1796, Hotham argued that as 'some of the most respectable Families in the Kingdom', these short-term visitors would be no burden on parish expenses, he would be paying a 'satisfactory stipend' to an ordained minister as well as taxes on well-furnished houses, and the absence of christenings, marriages or burials absolved him from any dispute with the incumbent over surplice-fees.[14] Durnford, on the other hand, was naturally opposed to a plan which would rob the Bersted congregation of its newest and wealthiest members and benefit Hotham by way of income from

pew-subscriptions. Hotham's 30 houses already occupied land which had previously yielded vicarial tithes, and the absence of chapel surplice-fees was hardly to his advantage.[15] Lastly, but by no means least, there was Hotham's prevarication over the precise purpose his chapel was intended to serve.

What is less clear is firstly why this dispute lasted so long and secondly what exactly intervened to bring about the 'perfect reconciliation' in the summer of 1797. There are references throughout the correspondence to letters which apparently have not survived and the answers may well have lain hidden in these and in undisclosed meetings and conversations. Of the 47 folios in total, 33 are concerned with the final month and a half of negotiation over legal points to facilitate a temporary licence for the fast-disappearing season.

Hotham's reluctance to disclose to what extent the private chapel was intended for public use borders on duplicity. At the time of the stone-laying ceremony in 1793, he assured the vicar that he was building no more than an oratory for purely private use, although Durnford recognized it as 'evidently intended for a Place of Publick Worship'.[16] Why, after all, had he expended time and money in erecting a large gallery at the parish church for the use of himself, his family and household, merely to repeat the operation at his own house? Dally's assertion that the chief reason was the distance to Bersted Church (roughly 3/4 of a mile) is hardly credible.[17]

In his initial approach to the Archbishop in October 1792, Durnford spoke of being 'credibly informed' of Hotham's intention to build 'a large Chapel', which suggests a break in communication between the two protagonists even at this early stage.[18] The response from Lambeth on this occasion and following the start of building operations ten months later, was that no proceedings could be taken on rumour alone and 'till the Purpose discloses itself in some open and unequivocal Manner'.[19] But not until 30 January 1796 when, presumably, the chapel had been finally completed, did Hotham appeal directly to the Archbishop, 'as none but your Grace can now interfere'.[20] Hotham himself spoke of the matter as concerning 'Public Worship at a Public Place'. Indeed, the size of the completed chapel implied just that; a later description refers to 'A very elegant Chapel . . . 60 ft by 42 ft, pewed all round with handsome Galleries over, an Altar-piece, Pulpit and Vestry, painted wainscot color, and furnished in a style of chaste simplicity: an excellent turret Clock, and various Rooms in the roof'.[21]

There is what might be seen as similar prevarication in Sir William Scott's summary of the case presented to him by Hotham which, in Sir William's words, deserved 'serious Consideration in many particular Circumstances, as being entirely new'.[22] The proprietor had built a chapel 'under his own roof' for the purpose of divine service for himself and his family, 'not meaning any private pecuniary advantage either to himself or any other Person' (no mention here of pew-rents). He wished also to accommodate the 'overflowing visitors' who were now too numerous for the parish church. Furthermore,

> . . . It is meant that the Vicar and the Parishioners at large shall be without any cause of complaint whatsoever, as they are not to be admitted, therefore there can be no possibility of alienating the Affections from the Vicar.

Here, perhaps, was the real bone of contention. Hotham's private chapel was for public use — but only on a selective basis. His new resort of 'Hothamton' was for the *haut monde*; a select haven from the rowdyism then blighting Brighton. St Alban's Chapel (otherwise known as 'Hothamton Chapel') would emphasize that exclusiveness and also save his distinguished visitors the indignity of mixing with village yokels. Furthermore, Scott seems to imply that, as merely temporary occupiers of the newly-built dwellings on which Hotham paid taxes and furnished 'exactly as if they dwelt under the same Roof with himself', his chosen congregation were on equal footing with his family and thereby reinforced the status of a private chapel.

Hotham had 'fallen between two stools'; and that was possibly why he was unable to resolve matters by applying for a private Act of Parliament, the normal course of action had his chapel been intended for all-comers. Among the series of suggestions presented by Dr Scott to break the impasse was that of obtaining a licence through application to Parliament in defiance of the diocese and incumbent; that was deemed likely to prove 'ineffectual' and 'an improper attempt to break in upon the general Discipline of the Established Church'.[23]

Whether Hotham was deliberately clouding the issue is open to question. Faced with heavy expenses of landownership and the upkeep of property in Surrey as well as in Sussex, had he relied on his

friendship with Durnford to save him the additional cost of a private Act of Parliament? Did Durnford later suspect an ulterior motive in Hotham's early improvements to the parish church — another ingratiating action of a social climber perhaps? And was Hotham's choice of the Duke of St Albans to lay the foundation stone and the use of his name for the dedication significant? Hotham had been a member of the St Alban's Tavern group during his brief political career a decade earlier.[24] But the Duke's connection with Hotham remains a mystery; was he by coincidence visiting the new resort at the time or was this a ploy by Hotham, already aware of Durnford's opposition, to appoint a minister as chaplain to nobility?

Durnford's claim of 'all Our former differences buried in total Oblivion' in July of 1797, given Hotham's allusion, fifteen months before, to 'a man of Mr Durnford's Cast', whose 'most gross ill treatment' had caused him to all but abandon his chapel, and had 'driven away' his family from the parish church in favour of Sunday worship in a private room, is equally baffling.[25] This one letter reveals both the degree of acrimony which then prevailed and uncharacteristic despair on the part of Hotham, who on numerous occasions in his life had won over formidable opposition.[26] Few men over 60 would have launched themselves on such an ambitious project at Bognor. But at Bognor he found himself thwarted by the local parson. So why the change of heart? Did Durnford grow as tired of the quarrel as Hotham? Did the Archbishop proceed with his offer in January 1796 to act as mediator?[27] Nothing intervenes in the Lambeth correspondence and no final explanation can be made.

Though hostilities had ceased, and Hotham was dividing his time between Bognor and his other home at Merton, the finer details of the peace treaty had still to be legally resolved. Hotham's proposal was to appoint the Revd Archer Thompson from London as chaplain for three months in the summer.[28] As compensation for Thompson's refusal to divide the pew-subscriptions with Durnford, Hotham would convey to the vicar and his successors 40 of his 45 seats in the gallery at Bersted Church, together with £10 per year from his estate. In reply to queries from the Archbishop, Durnford wrote twice to George Dickes in the final week of July 1797, waiving all claims to the subscriptions, but expressing reservations as 'Steward to the Succession of the Vicarage'.[29] Under the faculty terms the gallery seats were attached to certain of Hotham's houses and might prove a future liability through damage or dilapidation.[30] The vicarage would benefit more from an annual payment of £20, secured by endowment on part of Hotham's *land*, than from the £10 per annum allied to the gallery seats. But even this arrangement foundered a week later with the realization that the Mortmain Act prohibited the devise of property to ecclesiastical uses.[31]

Finally, with 'the Company . . . big with expectation' at Hothamton, the Archbishop approved an interim arrangement whereby the vicar received £10 each from Hotham and Thompson, in the hope that 'all things will be settled to the Satisfaction of All Parties' before the next summer.[32] The chapel was opened on Sunday 13 August 1797, just four years and a day after the stone-laying ceremony.[33]

The final item in the Lambeth collection, dated 18 October 1797, is a presentation for the Archbishop's sanction of a 'conclusive agreement'. Durnford would continue to receive his annual £10 from Hotham and Thompson, the former to be 'perfectly secured to the Vicar's satisfaction' — echoing a desire three months earlier to 'bind Sir Richard Hotham to the Settlement'.[34] Hotham had reached a separate three-year agreement with Thompson regarding a sixty-guinea salary for his fourteen-week summer engagement. That was to be made good with income from subscriptions the excess of which would be shared with another clergyman officiating out of season on Sundays when Sir Richard was not attending the fortnightly Morning Service at Bersted Church.[35] Accordingly, on 13 December 1797 the Vicar General act-book records the granting of a licence to the Revd Archer Thompson for three years.[36]

The chapel's subsequent history has been covered in some detail elsewhere.[37] Hotham died on 13 March 1799 and was buried at South Bersted, followed by Durnford in December 1800.[38] In 1801, the vicar's successor, the Revd John Phillips, was licensed to officiate at the chapel pursuant to an agreement with Colonel Richard Scott, who had purchased Chapel House along with much of the 'Hothamton' empire in August 1800.[39] Following a succession of owners and officiating ministers, the chapel was demolished around 1859, its last recorded use being a grand (private) occasion in 1841.[40] Only the clock-tower remains today, its mechanism still in working order.[41]

As a footnote to the dispute, it is worth noting

an entry in the diary of John Marsh the musician, who had settled in the area in 1787. On 25 June 1821 he enquired about the delay in opening the new St John's chapel-of-ease in the Steyne at Bognor, erected by a local speculative builder, Daniel Wonham, for the growing township. (The chapel was financed by subscriptions and pew-rents and consecrated by Archbishop Manners Sutton on 25 January 1822.[42]) He was told that the Archbishop 'had come to a determination never to grant another licence to officiate at any chapel that was not endowed and consecrated'.[43] Was this, perhaps, an oblique reference to the succession of ministers at St Alban's chapel and the troubles experienced by his predecessor?

Acknowledgements

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NOTES

1 F. L. Cross & E. A. Livingstone (eds), *The Oxford Dictionary of the Christian Church* (Oxford, 1964), 1133.

2 Lambeth Palace Library (hereafter LPL), Moore Papers 4, ff.1–47.

3 R. Dally, *Bognor, Arundel and Littlehampton Guide* (Chichester, 1828), 19. The chapel was described as 'not consecrated' in the Vicar General act book (LPL, VB I/12, p. 392).

4 LPL, Moore Papers 4, f.25r.

5 Dally, 17.

6 J. B. Davis, *The Origin and Description of Bognor, or Hothamton; and an Account of Some Adjacent Villages* (London, 1807), 77–8; and G. Young, *A History of Bognor Regis* (Chichester, 1983), 8–9. For details of his earlier life *see* Young, 1–8; and C. S. Nicholls (ed.), *The Dictionary of National Biography; Missing Persons* (Oxford, 1993), 331.

7 Chichester Institute of Higher Education, Gerard Young Collection (hereafter CIHE, GYC.), file GY.5002, f.2/D4.

8 LPL, Moore Papers 4, f.2r.

9 West Sussex Record Office (hereafter WSRO), Par. 19/1/1/4, f.28; and Davis, 81. In the Archbishop's visitation returns of 1758 (LPL Ms.1134/5, ff.21, 24) it was stated that the parish contained 'not a Gentleman's house' and no pensions, etc. with interest had been given to the church or poor.

10 WSRO, Ep.IV/2/28 (Act Book), f.17; and Ep.IV/13/2 (faculty papers); and Davis, 87.

11 *Sussex Weekly Advertiser*, 19 August 1793; and Davis, 81–4.

12 LPL, Moore Papers 4, f.2v.

13 Lady Newdigate-Newdegate, *The Cheverels of Cheverel Manor* (1898), quoted in Young, 24–5.

14 LPL, Moore Papers 4, f.11r.

15 LPL, Moore Papers 4, f.37v.

16 LPL, Moore Papers 4, f.4r.

17 Dally, 19.

18 LPL, Moore Papers 4, f.2v.

19 LPL, Moore Papers 4, ff.3r, 6v, 7r.

20 LPL, Moore Papers 4, f.9r.

21 CIHE, GYC, GY.320 (sale particulars, 1812); also notes in GY.5004, f.2/T.7. Davis, 23–4, describes the chapel as 'commodious within, and very neatly distributed, having also a boarded floor'. J. Osborn's *Visitor's Guide to Bognor and its Vicinity* (1852) mentions 'some very valuable paintings' of the Entombment of Christ, the Descent from the Cross and the Transfiguration, mounted over the altar. John Marsh's diary (see note 43) in 1817 (**31**, 141) and 1818 (**32**, 55) refers to the chapel's barrel-organ. The location of a sketch he made in September 1805 (**25**, 45) is unknown.

22 LPL, Moore Papers 4, f.11r.

23 LPL, Moore Papers 4, f.11v.

24 Sir L. Namier & J. Brooke, *The History of Parliament: the House of Commons, 1754–1790* (London, 1964), II, 643.

25 LPL, Moore Papers 4, ff.13, 23r.

26 Young, 1–8.

27 LPL, Moore Papers 4, f.10r.

28 *Gentleman's Magazine* **LXXV**(I) (1805), 191; **LXXV**(II), 979. Dally, 19, says his father, the Revd Seth Thompson, officiated at 'Sir Richard's death' in 1799. Marsh's diary (see note 43) **19**, 66, confirms that both Thompsons preached at the chapel in August 1798.

29 LPL, Moore Papers 4, ff.35–8.

30 WSRO, SP 2076 (sale particulars of Hotham's estate, 1800; each house included a pew in the gallery of South Bersted parish church).

31 9 Geo. II. c.36.

32 LPL, Moore Papers 4, ff.41r., 43r., 44r.

33 *Sussex Weekly Advertiser*, 21 August 1797.

34 LPL, Moore Papers 4, ff.25r., 46r.

35 LPL, Moore Papers 4, f.46.

36 LPL, VB I/12, p.398.

37 R. Iden, 'Sir Richard Hotham's chapel', *Bognor Regis Local History Society Newsletter* (hereafter *BRLHSN*) **29** (August 1993), 12–15.

38 Young, 39–40.

39 LPL, VG 2/6, f.63; VB I/13, p. 93. *Gentleman's Magazine* **LXX** (1800), 891.

40 *Sussex Agricultural Express*, 16 October 1841; 23 October 1841.

41 R. Iden, 'Time to remember', *BRLHSN* **31** (August 1994), 7–11.

42 WSRO, Ep.IV/2/28, ff.73b–95.

43 Henry Huntingdon Library, California, HM 54457 (John Marsh, *History of my Private Life* **1–37**). Microfilm copy at WSRO, MF 1165–1170. The entry quoted is from **33**, 124.

Chichester and the Westhampnett Poor Law Union

by Barry Fletcher

This article examines the relationship between the city of Chichester and the Westhampnett Poor Law Union between 1835 and 1930 and discusses the reasons why a poor-law union based on Chichester and the surrounding rural parishes was never formed.

Studies of poor-law unions have tended to focus on the workings of particular unions, or broad issues at a national level, and relatively little attention has been paid to what might be called the politics of the unions.[1] By this phrase is meant the interplay, the manoeuvering and jockeying for position between different unions, the politics, tension and motives involved in the formation of particular unions and the ways in which inter-union politics reflected wider political tensions and divisions. Brundage and Digby both discuss the initial formation of the new poor-law unions in different parts of the country. They note the involvement of the local gentry and the tendency for unions to be constructed within established boundaries in some cases reflecting the extent of such gentry estates. In this article it is intended to examine the relationship between the City of Chichester and the Westhampnett Poor Law Union, which virtually surrounded it, between 1835, when the Westhampnett Union was formed, and 1930 when poor-law unions were abolished and their duties taken over by the County Council. If matters had been arranged purely in terms of geographical and administrative convenience, a poor-law union would have been established in 1835 with Chichester at the middle providing ease of access from all parts of the union to its natural centre in the same way that unions were formed based on Horsham, Petworth, Midhurst and Steyning elsewhere in West Sussex; that this did not take place was due to the politics of the local situation.[2]

In 1753 the nine parishes in Chichester had combined under a Local Act for poor-law purposes to form the Chichester Poor Law Incorporation.[3] Guardians were elected by all those who paid the poor-rate and the Act enabled the new Incorporation to take over the existing Cawley Almshouses, and some adjacent fields, to develop a workhouse on the site. By the early 1830s, however, it was apparent that poor-law reform was imminent and the Chichester Incorporation began to amend its practice to bring it into line with what might become national practice. In October 1833 the Chichester Guardians adopted what was to become known as the 'workhouse test', only offering relief inside the workhouse in many, although not all, cases.[4]

In the rural area surrounding Chichester the poor law was administered by the individual parishes with the exception of eleven parishes to the north and east of the city that had come together to form the Westhampnett Gilbert Union. This was formed under Gilbert's Act of 1782 which allowed parishes to combine for poor-law purposes without the need for a separate act of parliament. No records have survived for the Westhampnett Gilbert Union but there can be no doubt that, in the latter years at least, it came under the influence of the Duke of Richmond. In February 1835 when the decision was taken to become part of the new and much larger Westhampnett Poor Law Union, the chairman of the Guardians was the Duke of Richmond, the key post of Visitor was held by his steward and race course manager, John Rushbridger, and Westhampnett House, owned by the Duke, was used as the workhouse. The first three signatures on the document dissolving the existing Gilbert Union were John Rushbridger, the Duke of Richmond and Charles Scrase Dickins; Dickins, who owned extensive Brighton property, was a friend and tenant of the duke and became the first vice-chairman of the Westhampnett Poor Law Union.

There was considerable opposition to the implementation of the proposed new poor law in Chichester and this centred partly on the loss of control over its own affairs that would occur if Chichester were to become part of a larger union. The opposition was also partly ideological, drawing

together both the Radicals and the Tories who were opposed to it as a Whig measure, imposing a central authority in what had previously been local concerns. If Chichester were to become part of a new poor-law union based on the parishes around the city, then the new union might become dominated, or at least heavily influenced by, the Duke of Richmond. The Tory Dukes of Richmond had always taken an interest in the political life of Chichester and a member of the family usually served as one of the two members of parliament for the city. In the affairs of the city council, after the Municipal Reform Act of 1835, and among the poor-law guardians, however, the Radicals exercised considerable power. In the late 1830s the leading Radicals were James Gray, a small shopkeeper, and John Fullagar, a Unitarian Minister and schoolmaster, who between them served as President of the Chichester Guardians for every year, bar one, between 1835 and 1842.[5] In 1839 Gray was to propose the adoption of the Chartist national petition at a meeting in the assembly room in Chichester. In 1835 they supported John Cobbett, son of William Cobbett, as a Radical candidate in the parliamentary election at Chichester. Cobbett was defeated but a petition was presented to parliament seeking, without success, to unseat the successful candidates, Lord Alfred Lennox and Mr John Abel Smith, on the grounds of bribery and treating of voters. The first name on this petition was that of James Gray closely followed by that of John Fullagar.[6]

During the course of 1834 the Chichester Guardians continued to adapt their practice to the new Poor Law Amendment Act which would come into force in November. In September they passed the following resolution in which their use of the words Act and Bill in different parts of the same sentence shows a confusion over the status of the Bill then before parliament.

> . . . acting according to the directions of the new Poor Law Bill the present weekly pension list must be abolished and that the parties can only be relieved at a Court of Guardians or Committee as directed by the 54 clause of that Act.[7]

They went on to say that all paupers were to apply in person to the relieving committee, that in future no rents were to be paid and that while money might be paid to the elderly, bread and other resources would be given to the able-bodied 'agreeable to the 52nd clause of the new Act'.

On 9 November 1834 Henry Pilkington, the Assistant Poor Law Commissioner with responsibility for West Sussex, arrived in Chichester, staying at the Swan Inn in East Street. He soon wrote enthusiastically to the three Poor Law Commissioners in London about the new large Westhampnett Union that he was in the process of forming.[8] However, at no time in his formal reports or in his correspondence did he refer to the possibility of forming a union based on Chichester, which to an impartial observer might have seemed the natural if not proper thing to do. The reason for this is not hard to find. Pilkington worked very closely with the Duke of Richmond in the formation of the new unions and in his first letter to the Commissioners he related his journey down to Chichester in the company of the Duke, who on their arrival introduced him to key local figures at the Petty Sessions which were then meeting.[9]

The Richmond family were traditionally Tory but in 1829 the fifth Duke had fallen out with the then prime minister, the Duke of Wellington, over the issue of Catholic Emancipation and joined Grey's Whig administration as Post Master General in 1830. He had a particular interest in the new Poor Law Amendment Act, having been a member of the cabinet committee which had been responsible for it, and closely involved in its passage through parliament. He left the Government in 1834 and it has been shown how he gradually returned to the Tory camp.[10]

For Pilkington the public show of support from Richmond made his task much easier in gaining agreement to the formation of his new unions, but equally very difficult for him to go against Richmond's wishes. Because they were close at hand matters tended to be settled on a face-to-face basis rather than by letter; very few written accounts of their negotiations survive.[11]

Pilkington told the Commissioners that his proposed Westhampnett Union had very promising features and had the 'general approbation of the parties most interested'; a coded message that Richmond, the party most interested of all, approved.[12] His country house at Goodwood was in the parish of Westhampnett and he was chairman of the existing Westhampnett Gilbert Union of eleven parishes, whose workhouse he owned. If Chichester did not want to lose its independence, neither did Richmond want to see a new union based

on the city. As it was formed the new Union was to become a vehicle for his influence. The fifth Duke remained as perpetual chairman until his death when he was succeeded by his son, who retained this position until 1901. The clerk to the union was Robert Raper, the Duke's personal solicitor and political agent, who was also succeeded on his death by his son, Robert George Raper. John Rushbridger, the Duke's steward and race-course manager, was a Guardian in the important early years and acted in effect as the Duke's alter ego at meetings of the Guardians, proposing key resolutions in a way that the Duke as chairman could not do; it was Rushbridger who proposed the appointment of Raper as clerk to the Union.[13] Other Guardians were either actual or aspiring tenants. Thomas Cosens of Felpham was Guardian for that parish and subsequently became tenant of the Duke's land there. The Westhampnett Union was created in such a way that the Duke of Richmond was able to exercise a major influence on the way it operated. If Chichester had been included in the Union then there would have been a strong element economically independent of the Duke of Richmond and to some degree hostile to him politically.

At that stage the Commissioners were happy with the arrangements Pilkington had made. They wrote to him on 6 December 1834 to say that they had read his report with 'much satisfaction and entirely approve of all that you have done' in proposing to form a union of 33 parishes with Westhampnett as the centre.[14]

Chichester's determination to resist the Duke's influence was very evident at the elections for the Chichester Poor Law Incorporation at Easter 1835, when a joint committee of Radicals and Tories was formed with the common purpose of electing candidates who would be prepared to resist the Commissioners.[15] The campaign seems to have had limited success; although Fullagar was elected President for 1835–36, it was only by a single vote, 15–14.[16]

The Westhampnett Union came into being in April 1835. Initially the old parish workhouses of Pagham, Sidlesham, Aldingbourne and Yapton as well as Westhampnett were retained, which enabled the system of different classes of paupers going to different workhouses to operate. By the end of the first year, however, it was apparent that the withdrawal of out-relief had not led to large numbers seeking admission to the workhouse and that all the different groups could be accommodated at Westhampnett, which would hold up to 500. In September 1835 Pilkington was replaced as Assistant Poor Law Commissioner for the area by W. H. T. Hawley, a Hampshire magistrate and the existing Assistant Commissioner for East Sussex. He had strong views about pauperism and was to be involved with poor-law affairs in Sussex, on and off, for nearly 40 years.

It seems that the Commissioners had now realized the unsatisfactory nature of Chichester's exclusion from the Westhampnett Union and that Hawley was instructed to try and bring about a merger. It was clear from the start, however, that there was little chance of success given the entrenched positions of the two sides. The Duke was aware of the proposal and wrote to George Nicholls, one of the three Poor Law Commissioners at Somerset House. He passed the letter on to Hawley who returned it commenting that he was 'sorry to find little hopes are held out of our being able to effect a junction of the Westhampnett and Chichester Unions'.[17] Despite his doubts Hawley did raise the question of uniting the two Unions, although without success. He attended a meeting of the Westhampnett Guardians on 21 March 1836 and put the case for a merger. This resulted in the following resolution:

> Mr Hawley the Assistant Poor Law Commissioner having suggested to the Board that the City of Chichester should be added to this Union. *Resolved unanimously* that this Board will not in the slightest degree, or in any way whatsoever, entertain such a proposition but that this Board will be ready to entertain any proposition for uniting to it any other rural parishes.[18]

Hawley reported to the Commissioners the following day, 22 March, that there was no possibility of persuading the two sides to come together.

> I am entirely of the opinion from what transpired yesterday that any attempt to bring the two Unions together would be similar to an amalgamation of fire and water, . . and the strongest argument against it is probably the high political feeling which exists at Chichester which if brought into a Board of Guardians will produce irredeemable mischief.[19]

He went on to say that Chichester had 'an *ultra radical Methodist parson* at the head of their board

[so] you will see in a moment how the land lies'; this was a reference to Fullagar, incorrectly described by Hawley as a Methodist.

In view of the reluctance on both sides to consider a merger and their own lack of powers to force them to unite, the Commissioners decided to beat a diplomatic retreat and leave matters as they were for the moment. In April 1836 the *Hampshire Telegraph* reported that:

> The excitement and discussion which has prevailed in Chichester for some time, regarding the probable interference of the new Poor-Law Commissioners with the management of the workhouse of that City, has been laid to rest by an official communication from the Board of Commissioners received by J. Powell Esq. Town Clerk on Friday last.[20]

The Commissioners said that they had received a report from Mr Hawley on the state of the Chichester Incorporation and the generally sound and very exemplary manner in which the administration of relief was conducted. In view of this they did not propose 'immediately' to interfere although, they went on to say, 'eventually it will be necessary for them to do so to ensure a uniformity of action under the provisions of the Poor Law Amendment Act'.[21] In their third report in 1837 the Commissioners, although not mentioning Chichester or Westhampnett by name, made the general point that power should be given to them to dissolve the incorporations that were under Gilbert's Act, '. . . or under any Local Act, without the consent of the Guardians'.[22]

The anti-poor-law forces in Chichester seem to have been encouraged by the letter of April 1836 and later the same month a public meeting was called at the Fountain Inn 'to consider the tendency of the Poor Law Amendment Act and the propriety of petitioning parliament for its total repeal or extensive revision'. James Gray was called to the chair and the Revd Fullagar addressed the meeting, saying that he was a Christian Minister and not a political agitator, and moved a long petition to parliament stating his objections to the Act and calling for its repeal or extensive modification.[23]

The petition soon received 555 signatures, which the *Hampshire Telegraph* regarded as almost unprecedented and which it felt reflected the feeling against the Act.[24] The petition set out in detail the objections to the Poor Law Amendment Act held by Fullagar and others. The only reference to the Duke of Richmond was an indirect one: while the petitioners were not willing to impute to the framers of the Act the intention of enriching the landed proprietors at the expense of the labouring classes, they were of the opinion that this was its most evident tendency. Although tenant farmers had benefited from reduced poor rates, they were now expected to pay increased rents to their landlords, '. . . notices to which effect have, as your Petitioners have been credibly informed, been served on some tenants in the county in which your petitioners reside'.[25]

By the middle of 1836 the various parties seemed to have reached a 'stand-off' position, with the Westhampnett Union and the Chichester Incorporation refusing to consider a merger and the Poor Law Commissioners being driven to accept that they did not have the powers to enforce one. However, the essential weakness of the positions adopted by the two local bodies was demonstrated by events later that year. The civil registration of births, deaths and marriages was to commence in July 1837. The Government intended to make use of the new poor-law unions to administer the legislation and it was assumed that the clerk to the union would become the superintendent registrar for the area. It was, however, a general requirement that the superintendent should live in the area for which he was responsible; Robert Raper, clerk of the Westhampnett Union, lived in Chichester. In December 1836 the Westhampnett Guardians wrote to the Registrar General asking for a variation of the general rule on residence.[26] They pointed out that although Chichester was not part of the Union, it 'is situate within the Limits and in the Centre of and wholly surrounded by the parishes comprising the said Union and is the only Post Town within the said Union'. The letter went on to say that the Guardians had resolved unanimously that Chichester was by far the best situation for the offices and residence of the new superintendent, and was in fact the only place such an office could be established without great inconvenience to the public. Raper was confirmed in this post, adding it to the considerable list of his existing jobs. This incident does, however, show the weakness of the position held by the Chichester Incorporation and the Westhampnett Union. If Chichester was at the centre of the Union and in such an excellent administrative position for the new superintendent

why was it not part of the Westhampnett Union?

In March 1837 the mayor of Chichester received a requisition signed by 86 citizens for a public meeting to consider petitioning against further powers being granted to the Poor Law Commissioners 'as would interfere with the Local Act of this city'. A meeting was held on 27 March 1837 in the assembly room and a petition, drawn up by Fullagar, was read and a number of speakers, including Gray, addressed the meeting. One of the speakers was a Revd W. Malden, a Nonconformist like Fullagar, and minister at the Independent Chapel in Chapel Street. According to the local press he: 'particularly animadverted in strong terms on the impolicy of tacitly according to any plan from the Poor Law Commission of its interfering in any way with the Local Act of this city'. The petition was signed by upwards of 700 people and Lord Stanhope was asked to present it in the House of Lords.[27]

In 1837 the House of Commons appointed a Select Committee to examine the operations of the 1834 Poor Law Amendment Act as the conditions of the previous winter would show how it had operated under difficult circumstances.[28] Evidence was taken concerning the Westhampnett Union and this developed into a full-scale review of its operations. In what must have been a major event locally, Robert Raper fluently put the case for the Westhampnett Union, demonstrating that the overall cost of poor-relief for the parishes in the Union had fallen to a third of what was paid before 1835. He had to defend his position as a succession of witnesses, called by supporters and opponents of the 1834 Act and including guardians, doctors, clergymen, poor law-officials, labourers and paupers gave their evidence. The Westhampnett Union became in effect a test-case for the operation of the new Act: this was the 'model' poor-law union and if it could be shown that its operations were in any way flawed, then the Act itself would be discredited.

Among the witnesses was James Gray of Chichester who had succeeded Fullagar as President of the Chichester Incorporation. Gray bitterly attacked Raper personally and the new poor law in general. Raper's evidence was 'totally incorrect' he claimed, and sought to prove his point by giving details of individual cases and disputing the accuracy of claims that Raper had made. He also attacked Richmond personally, using words that echoed the petition of the previous year. He said that he could prove that Richmond had gained by the Act to the tune of thousands of pounds and that almost every one of the Guardians of the Westhampnett Union had obtained additional profit. 'They get more money; the landlord gets more money and the labourers is starved nearly.' Raper sought to refute these claims and revealed that one of the sources of Gray's information was a man who had been dismissed from his post as a Relieving Officer by the Westhampnett Union.

In 1838 the Westhampnett Union sent a lengthy report to the Poor Law Commissioners reviewing the first three years of its operations.[29] The report advocated the dissolution of the Gilbert Unions and the addition of the various parishes to the existing unions; it also expressed the belief that '. . . the feeling of opposition on the part of the Guardians of Gilbert's Unions in our own immediate neighbourhood' was gradually decreasing. No mention was made of unions under a Local Act. Two thirds of its 55 foolscap pages were devoted to reviewing the evidence given to the Select Committee the previous year. Raper, for the report was surely written by him, although it was actually signed by the Guardians and Raper together, went over the evidence given by the witnesses and commented favourably or otherwise or what they had said. It is apparent that James Gray had deeply angered Raper by his evidence.

> We have no wish in the slightest degree to impugn the conduct of this individual [James Gray]. We have no doubt he was actuated by the most proper motives and intended to do only what he considered an act of duty to his poorer neighbours but we think we may safely refer to the evidence itself even without an examination of that of Mr Gilbert [Master of the Chichester workhouse] (to which we shall subsequently advert) and carrying with it its own refutation and proof of its own incorrectness.

His systematic refutation of Gray's evidence included phrases such as 'totally incorrect', 'equally untrue', 'too absurd for us to notice' and 'the incorrectness of the knowledge of facts professed to be produced by the President of the Chichester Guardians'. Raper and Gray knew each other personally; Raper lived in West Street and Gray in South Street, Chichester. They had served together as poor-law guardians for Chichester some years before and there was clearly no love lost between them. There are a number of political leaflets from this period which make

uncomplimentary references to Raper; while they may not have been produced by Gray personally, they clearly originated with the Radicals of whom he was one of the leaders.[30]

In 1839 there was a surprising development in the affairs of the Chichester Guardians with the election of not only Raper, but a number of others of like-minded views. The explanation for this development would seem to be a Chartist meeting held on 28 March just five days before the elections for the poor-law guardians. The meeting was held in the assembly room by permission of the mayor despite a petition by nearly 200 people asking him to change his mind. It was at this meeting that James Gray proposed the Chartist national petition. According to the *Hampshire Telegraph*, the majority of the inhabitants of the city criticized the mayor for 'having granted the use of the Assembly Room on such an occasion'.[31] In these circumstances it is perhaps not surprising that there was a swing away from Gray and towards Raper in the poor-law guardian elections.

The radical *Brighton Patriot* commented that the majority of the Chichester Guardians were now 'the partisans of the Lord of Goodwood'.[32] Neither Gray nor Fullagar was elected and at their first meeting the new guardians unanimously elected Robert Raper as the President.[33] The *Brighton Patriot* could hardly believe it;

> This Raper, be it remembered, is not only law agent to the mighty duke, but clerk to the Union, the far-famed West Hampnett Union of which his Grace of Goodwood is president and lord. So that we have placed at the head of our boasted independent Chichester Union, a 'servant of servants'; The servant of the West Hampnett Union, the servant of the Duke of Richmond, the servant of the Poor Law Commissioners. Mr Robert Raper is the president of the Chichester Court of Guardians! Now though we prophesied last week that the new court would be everything the Duke of Richmond could desire, we were not quite prepared, we confess, to see his serving-man placed in the chair.[34]

Raper soon introduced changes and at the second meeting the relief-list was reviewed and of the 30 people on it 6 were offered admission to the workhouse and 17 had their relief totally discontinued; others were to be further investigated. Whatever had happened was not sustained the following year. In 1840 Gray and Fullagar were re-elected, but not Raper. Gray, proposed by Fullagar, succeeded him as President and was in turn succeeded by Fullagar in 1841.[35]

By the 1840s the situation seemed to have settled down although in 1842 there was a further petition, this time just by the Chichester Guardians, against any attempt to repeal Gilbert's Act, presumably on the assumption that other Local Acts might go at the same time.[36] The Chichester Guardians, while retaining their independence under the Local Act, accepted some degree of supervision from the Poor Law Commissioners. At each meeting the minutes record that the clerk had examined the Master's Day Book and the various books kept by the Master and Relieving Officers '. . . in conformity with the Poor Law Commissioners' Order in that behalf'.[37] The Commissioners felt able to issue regulations to parishes or unions still under Gilbert's Act or a Local Act, although they could not direct them to elect guardians under the provisions of the Poor Law Amendment Act. Their opinion was upheld by a series of test-cases in the courts, and seems to have been accepted in Chichester.[38]

The Westhampnett Union also settled into a routine. Robert Raper, having served one term as mayor of Chichester in 1845, died in 1855 and was succeeded in his various posts, including that of clerk to the Westhampnett Union, by his son Robert George Raper. In 1860 the fifth Duke of Richmond died and was succeeded as perpetual chairman by his son. He did not, however, have the same close connection with the Union as he was more closely involved in national politics. He served for a few months as President of the Poor Law Board when he was Earl of March, and later as President of the Board of Trade and leader of the Conservatives in the House of Lords.

It was in the 1860s that the possible amalgamation of the Westhampnett Union and the Chichester Incorporation again became a public issue. Two factors provoked the renewed controversy. The physical condition of the Chichester workhouse, parts of which dated back to 1681, was very poor, and in 1868 the Government took powers to dissolve Gilbert Unions and Local Act Unions without the consent of their Guardians.[39] It would now be possible for a merger of the two unions, which the Poor Law Commissioners had wanted in 1836, to be imposed.

In April 1867 the Chichester Guardians received

a letter from the Poor Law Board regarding the state of the lavatories in the workhouse, probably prompted by a report from Hawley in February of that year. He stated that although the Chichester workhouse had undergone several changes in recent years, it was incapable of any further improvements that would '. . . make it fit for the purpose of a regular workhouse'.[40]

The following month the medical officer for the workhouse, a Dr L. Buckell, called the attention of the Guardians to the absence of any ward for separating sick children from the rest of the inhabitants.[41] Dr Buckell was a member of a well-known Chichester medical family his father having been a chemist, and his son was to follow in his footsteps as a G.P. in the city. He was then asked to report on the deficiencies and requirements connected with the workhouse in general. He produced a most comprehensive report detailing the shortcomings of the buildings, including the lack of gas and piped water.[42] As a first response a nurse was appointed in February 1868, but by the end of the year the Guardians had agreed to substantial alterations to the workhouse.

They commissioned a Mr Maynard, the architect responsible for building the new Brighton workhouse, to produce plans for major alterations to the workhouse at Chichester. The estimated cost of implementing his plans was £11,000. The Guardians then asked him to estimate for building an infirmary and fever ward only, which came to £3000. By this time, however, the annual Easter elections were approaching and it became apparent that many ratepayers were opposed to paying to patch up the old buildings when, as everyone was aware, there was a large underused workhouse just outside the city at Westhampnett. On 22 March 1869 an amendment was put to a motion, which sought to proceed with alterations, seeking to defer any decision until after the Easter elections. The vote was tied, but the chairman gave his casting vote against it and a decision was then taken to proceed with the recommendations to provide an infirmary and fever ward at a cost not to exceed £3000.[43]

At the Easter elections that year only one of the Guardians who had voted to proceed with the refurbishment was re-elected as against five of the nine who had voted to defer a decision. It was clear that the consensus of opinion among the ratepayers of Chichester had changed since the 1830s; they now felt that however important a principle independence under their Local Act might be, they were not prepared to pay for it.

At their first meeting the newly elected Guardians passed a resolution to the effect that the expenditure on refurbishing the workhouse would be 'very injudicious at the present moment', giving as their reason the belief that in all probability changes in the law would 'compel us to annex ourselves to Westhampnett or some other Union'. They asked the Poor Law Board to return the plans that had been submitted and agreed unanimously to consider applying to the Poor Law Board to add the United Parishes of Chichester to the Westhampnett Union.[44] The following week a resolution was passed, with seventeen votes for and one against, that it was 'expedient' to apply to the Poor Law Board for the repeal of the Local Act and to add the parishes of Chichester to the Westhampnett Union.[45] Although the cost of changes to the Chichester workhouse undoubtedly played a part in this change of mood, there was also clearly a belief that the Poor Law Board was likely to use its powers to force a merger with the Weshampnett Union in the same way that it was already forcing the dissolution of the Sutton Gilbert Union and the East Preston Gilbert Union elsewhere in Sussex.

The resolution was confirmed on 14 May when it was also agreed to send a copy of the resolution to the Westhampnett Union in order to solicit their views. The letter was read to the Westhampnett Guardians at a meeting on 17 May 1869 and the clerk, Robert George Raper, was instructed to summon a special meeting to consider the matter. This was held on 24 May and was attended by 23 elected Guardians and three ex-officio Guardians with the sixth Duke of Richmond in the chair. Such an attendance compared with an average of six or seven at the normal meetings. Raper read a report 'as to certain facts and information bearing upon the matter'. No copies have survived of this report which was not circulated in advance and a copy of it was not sent to the Poor Law Board. After discussion it was unanimously agreed that it was not 'expedient' to agree to amalgamate with the United Parishes of Chichester.[46]

The meeting took place on a Monday; on the Friday of the same week, 28 May 1869, the Chichester Guardians held their usual weekly meeting. They were aware of the vote by the Westhampnett Guardians as a copy of the resolution had been sent to them and was read to the meeting.

They agreed to present a memorial to the Poor Law Board setting out the arguments in favour of amalgamation: principally, the poor state of the Chichester workhouse, the cost of a new workhouse and the surplus capacity at the Westhampnett workhouse. The memorial stated their belief that it was 'very desirable' that the Act of 1753 should be repealed and the United Parishes of the city of Chichester added to the Westhampnett Union. A copy of the memorial had been signed by 'a large number of ratepayers' in favour of amalgamation.[47] There was only one vote against and the memorial was sent to the Poor Law Board who now had two resolutions; one from Chichester, virtually unanimously proposing a merger of the two unions, and one from Westhampnett unanimously rejecting it.

Although we do not know what Raper's report said, some insight into his thinking may perhaps be gained by considering the report that Hawley, as the District Inspector for the area, sent to the Board.[48] Even though he was not present at the meeting when Raper's report was read out, he would have known what it contained. He had, of course, known Robert George Raper's father and indeed the father of the sixth Duke more than 30 years before and it is not unreasonable to suppose that he had discussed the issues with Raper. In his report to the Board dated 5 June 1869, Hawley summarized the points made in Chichester's memorial and concluded that the object on which it was principally based was to escape from the expense of building a new workhouse and that beyond the financial saving, there would be no advantage for either the ratepayers or the poor of Chichester. He then proceeded to respond to the various points in turn although some of his arguments seem a little weak. Towards the end of his report, however, Hawley came to what he perhaps saw as the real reason why a merger could not be recommended. This was that, 'the feelings of the Ratepayers of the two localities, towards each other, is not of so cordial a nature as to ensure that co-operation so necessary to the conduct of their affairs'.

How accurate an assessment was this? Hawley knew the local situation well and could certainly quote the unanimous vote of the Westhampnett Guardians against a merger as evidence of the lack of cordial feelings. On the other hand, the Chichester Guardians had clearly been elected by the ratepayers with a specific mandate to negotiate a merger with the Westhampnett Union and so save the cost of building a new workhouse. It may well be that in Hawley's report we find some, if not all of the arguments that Raper would have used. Although Chichester had moved to a position by which, for whatever motive, it would accept a merger with the Westhampnett Union, the latter was still not prepared to agree.

Hawley's report, which was of course confidential, was dated 5 June and on 25 June the Poor-Law Board wrote to the Chichester Guardians saying that:

> . . . having carefully considered the subject and having consulted the Inspector of the District the Board have arrived at the conclusion that it is not desirable to add the United parishes of the City of Chichester to the Westhampnett Union.[49]

What was behind this decision? The phrase 'Poor Law Board' was of course a polite fiction as the 'Board' never met and this was presumably a decision taken by its President at the time. On the face of it Hawley's report, giving quite a strong recommendation from the local official, provides a sufficient reason for rejecting the Chichester memorial and reversing the policy held in the 1830s by the then Poor Law Commissioners who had pressed Hawley to try and negotiate just such a merger. At the same time it is possible that considerations other than purely objective ones came into play. The sixth Duke of Richmond, as chairman of the Westhampnett Guardians, had presided over the meeting that had unanimously rejected the merger. However, he had also recently been a member of the cabinet. He had been President of the Board of Trade 1867 — 1868 and in 1870, on the death of Lord Derby, he became leader of the Conservatives in the House of Lords. In 1868 there had been support for him, rather than Disraeli, to succeed Lord Derby as Prime Minister.[50] The President of the Poor Law Board was G. J. Goschen and it is possible that an unwillingness to offend a prominent politician may have influenced his decision. Whatever the reasons, the opportunity to bring about a merger of the Westhampnett Union and the Chichester Incorporation, even at the risk of offending the Duke of Richmond and the other Westhampnett Guardians, was lost.

A further letter to the Chichester Incorporation two weeks later contained a broad hint that the Board felt that building a new workhouse for Chichester might be the best option; 'steps should

be taken for extending the area of the present site or for obtaining one of greater extent and more conveniently situated'.[51] In the end, however, the Guardians did not move to a new site but carried out improvements to the existing buildings, including the introduction of running water. In October 1870 the Poor Law Board wrote to the Chichester Guardians to inquire what action had been taken to improve matters; the clerk was instructed to reply that looking at the small number of inmates at present in the workhouse, they considered the existing accommodation sufficient and quoted the latest entry by Hawley in the visitors' book which said that he had inspected the workhouse and found it satisfactory.[52] Hawley endorsed this letter with a statement that his comments referred to the management of the workhouse and not to its structural arrangements, which were most unsatisfactory, 'but I fear the present Board will not be induced to make any alterations in the buildings'.[53]

During the 1870s and 1880s the relationship between the Chichester Incorporation and the Westhampnett Poor Law Union again entered a period of calm, but in June 1895 the minutes of the Chichester Guardians record almost casually the approval of the draft order of the Local Government Board, which had by then succeeded the Poor Law Board as the central authority responsibility for the poor law, for repealing the Local Act relating to the poor law in Chichester.[54] What had brought about this change of heart on the part of local and national authorities? The action was linked to the expansion of the boundaries of Chichester by which the parishes of Rumboldswyke and Portfield, which had previously formed part of the Westhampnett Union, and the extra-parochial areas of St James and New Town, were incorporated into the city. It would clearly have been an awkward anomaly if part of the city of Chichester had been part of the Westhampnett Union for poor-law purposes. The only unusual feature about the new Chichester Union was that rather than each parish electing its own guardians, as was usual, Chichester was treated as a single parish for poor-law purposes, with three wards which were coterminous with the three city council wards. Although the 1753 Act had finally been repealed and Chichester had become a poor-law union like any other, the opportunity was not taken to bring about a more radical reorganization by combining the Chichester and Westhampnett Unions, and from the minute books and local newspapers this does not seem to have been considered as an option.

On 4 November 1899 the Westhampnett workhouse burnt down and was never rebuilt.[55] The closure of the workhouse provided another opportunity for the reorganization of the Chichester and Westhampnett Unions. After the fire the Westhampnett paupers had initially been sent to a number of surrounding workhouses. A new system was now established by which they would go to the Chichester workhouse in the first instance, where a separate admission register was kept for them; they were then allocated either to Chichester or to one of the neighbouring workhouses. The minutes of the two Unions have little to say about any discussions concerning a merger, and archives of the Local Government Board do not survive for this period, so little would be known about any discussions were it not for press reports of meetings. In March 1901 it was revealed at a meeting of the Chichester Guardians that informal discussions about a possible merger involving Mr J. S. Davy, who had succeeded Hawley as the District Inspector for the Local Government Board, had taken place.[56] The chairman of the Chichester Union was an Ebenezer Prior of Northleigh House, a man of great influence in Chichester during the latter years of the 19th century, when he was one of the leading wool buyers and merchants in the south of England. He seems to have been the moving spirit behind an amalgamation and he suggested three possible ways forward:

1. that the Westhampnett Union should build a new infirmary to which the sick and infirm of both Unions should go, while Chichester would be responsible for the able-bodied poor;
2. that there should be a complete merger between the two Unions;
3. that there should be a dissolution of the Westhampnett Union with a new union to be formed based on Chichester and to extend down to the coast to include Bognor, Felpham and Middleton with the outlying parishes being joined to the Southbourne, Midhurst and East Preston Unions.

The last of these was Mr Prior's preferred option and he developed it with a map and a list of which union the various parishes would be assigned to.

The newspaper accounts of this meeting were raised at the next meeting of the Westhampnett

Guardians, amid what the press described as 'considerable anger'. It was suggested that the Westhampnett Board 'like the poor innocent fly was to be taken into the web of Chichester'. Another speaker remarked that it was 'easy to see the hand grasping Bognor and Westhampnett and placing it in Chichester's tender mercy and care'. The vice-chairman, Mr C. J. Drewitt, a member of a prominent farming family from Oving, who was shortly to succeed the Duke of Richmond as chairman, said that Mr Prior had explained his plan to him and he that had simply said 'yes' and 'no' adding that he personally would never consent to a division of the union and that if Westhampnett was to be forced into the Chichester Union, the whole of it must go.[57]

On this occasion the question of amalgamation was not raised formally and there was no unanimous vote against the idea by the Westhampnett Guardians as had occurred in 1836 and 1869. However, the account above shows the continued hostility to the idea of a merger with Chichester. One is inevitably reminded of the comment of Hawley in 1869 that the feelings of hostility between the two localities did not give 'that co-operation so necessary to the conduct of their affairs'.[58] The question of any merger seems to have been quietly dropped and in May 1905 the Westhampnett Union took a long lease on premises at 5, South Street, Chichester to provide offices and meeting facilities in the city.[59]

This arrangement, with both Unions holding their meetings in Chichester, although not at the same venue, continued until their dissolution in 1930 and the passing of their functions to the Public Assistance Committee of the County Council. From 1835 until 1930 Chichester and the Westhampnett Unions existed in parallel and on four occasions there was a possibility that they might come together; in 1836 when the Poor Law Commissioners wanted it, in 1869 when Chichester wanted it but the Poor Law Board did not, in 1896 when the Local Act was repealed and some reorganization of parishes took place, and after 1899 when the Westhampnett workhouse was closed for good. That a merger was not accomplished on any of these occasions suggests that something more than just a concern for local independence was at stake. In 1836 and 1869 the Westhampnett Union voted unanimously against any merger and the comment of Hawley in 1869 was significant. He was using guarded language, but he was clearly suggesting that the feeling between the city and the rural parishes surrounding it was so strong as to make it difficult for them to conduct their affairs in a harmonious manner. That such feelings did exist cannot be doubted, the political leaflets circulating in Chichester at the time are full of uncomplimentary references to the Dukes of Richmond in this period.[60] It was because of a remark made about him by a guardian from South Bersted, within the present day Bognor Regis, that the sixth Duke refused to continue as chairman of the Westhampnett Union in 1901, giving up a position that he and his father had held continuously since 1835.[61] It is surely the case that poor-law administration reflected the antagonism that existed between city and the surrounding area. Chichester represented a different economic structure, a different class structure, and cherished an independence based on its own charters and Local Acts that set it apart from the rural parishes, where the population was largely dependent on the goodwill of the local landowners. This antagonism however, operated in both directions. If Chichester wanted to retain an independence free from the influence of the Dukes of Richmond, so in the same way the Dukes of Richmond wanted to maintain their own sphere of influence without the injection of an independent element which had little direct economic dependence on them.

The two poor-law Unions were dissolved in 1930 and in 1933 there was a reorganization of the district councils which combined the Westhampnett and Westbourne Rural District Councils to form a new Chichester Rural District Council which encircled the city.[62] This continued in parallel with the Chichester City Council until 1974. Then a further reorganization of local government formed a more extensive Chichester District Council which exercises its powers across both the city and the surrounding rural area, providing for the first time a common forum for the whole area in local government affairs. The City Council itself, although keeping its name, certain assets and ceremonial duties, has the powers of a parish council. At the same time it would be wrong to suggest that recent organizational changes have eliminated differences of opinion. When in 1994 local government reorganization was again under discussion, the Conservative-controlled District Council, representing the rural area around the city as well as the city itself, sought to form a new unitary authority based on

the west of the county. The City Council, however, which was controlled by the Liberal Democrats, sought to retain the *status quo*. The separation of interests that had been reflected in poor-law affairs still exists today.

How typical was this situation with Chichester and the Westhampnett Union? Only research in different parts of the country would show, but the impression is that most anomalies of this nature were ended by the new powers given to the Poor-Law Board in 1867. Certainly the Sutton Gilbert Union was dissolved and South Bersted incorporated into the Westhampnett Union, and the East Preston Gilbert Union was dissolved and the situation in that area of the county regularized. It has been suggested that in East Sussex the situation between Lewes and the Chailey and West Firle Unions may have had similar features, but in 1898 the Chailey Union was amalgamated with Lewes and the West Firle Union divided between the Lewes, Eastbourne and Hailsham Unions.[63] The length of time that the division between Chichester and the Westhampnett Union continued, and the fact that it continued even when one of them did not have its own workhouse, makes the story if not unique then certainly very unusual.

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NOTES

1 'Chichester workhouse', *Sussex Archaeological Collections* **79**, 132–67; R. Robbins, *The Workhouses of the Purton and the Cricklade and Wootton Bassett Union* (Purton, 1992); J. Surtees, Barracks, *Workhouse and Hospital — St Mary's Eastbourne 1794–1990* (Eastbourne 1992); M. & G. Langley, *At the Cross-roads: a History of Arclid Workhouse and Hospital* (1993); A. Brundage, *The Making of the New Poor Law 1832–39* (London, 1978); A. Digby, *Pauper Palaces* (London, 1978).

2 The Poor Law Commissioners stated that the most convenient union area was 'that of a circle, taking a market town as a centre, and comprehending those surrounding parishes whose inhabitants are accustomed to resort to the same market'. *First Annual Report of the Poor Law Commissioners* (1835), 12.

3 A printed copy of the 1753 Act can be found in the West Sussex Record Office (hereafter WSRO) Add. Mss.22,255.

4 WSRO WG5/1A/5 1 Oct 1833.

5 WSRO WG5/1A/5 and WG5/1A/6.

6 WSRO Add. Mss. 41,259 f.8.

7 WSRO WG5/1A/5 1 Sep 1834.

8 Public Record Office (hereafter PRO) MH12/13198 4 Dec. 1834.

9 PRO MH12/13198 10 Nov 1834.

10 A. Brundage, 49–51; and D. A. Smith, 'The Richmond interest and party politics 1834–1841', *Sussex Archaeological Collections* **117**, 201–19.

11 PRO MH12/13198 10 Nov 1834 and WSRO Goodwood Papers 1570/147 and 1570/169. The Goodwood archives are quoted by courtesy of the Trustees of the Goodwood Collections and with acknowledgements to the West Sussex Record Office and County Archivist.

12 PRO MH12/13198 4 Dec 1834.

13 WSRO WG12/1/2 28 Mar 1835.

14 PRO MH12/13198.

15 WSRO Add. Mss. 41,258 f.69.

16 WSRO WG5/1A/5 27 Apr 1835.

17 PRO MH 12/12813 20 Mar 1836 .

18 WSRO WG12/1/3 21 Mar1836.

19 PRO MH12/12813 22 Mar 1836.

20 *Hampshire Telegraph*, 4 Apr 1836.

21 *Hampshire Telegraph*, 4 Apr 1836.

22 *Third Report of the Poor Law Commissioners* 17 Jul 1837, p. 43.

23 *Hampshire Telegraph*, 25 Apr 1836

24 *Hampshire Telegraph*, 2 May 1836

25 Listed in House of Lords Public Petitions, 1836, p. 247 and given in full in Appendix to *Public Petitions*, 1836, pp. 683–4. A printed pamphlet giving the text of the resolution is included in the Chichester Incorporation correspondence at PRO MH12/12813.

26 WSRO WG12/1/3 19 Dec 1836.

27 *Sussex Agricultural Express*, 1 Apr 1837, 29 Apr 1837 and 3 Jun 1837. The receipt of the petition is recorded in 'House of Lords petitions 1837–1838 No. 776' from the inhabitants of Chichester and is shown as having 722 signatures. The text is not given in an appendix, but no doubt was not very different from the one agreed at the Fountain Inn the previous year.

28 The verbatim evidence given to this inquiry is given in House of Commons Papers - *Poor Law Amendment Act Select Committee Reports* (1837). These reports are available locally in the Chichester Institute of Higher Education, Bognor Regis Campus library in volumes 1 and 2 of the Irish University Press Parliamentary Papers on the Poor Law.

29 WSRO WG12/1/4 26 Feb 1838.

30 WSRO Add. Mss. 41,259. This collection of political leaflets and pamphlets contains a number of references to Robert Raper described by name but also as R—— and 'Lawyer Bob'.

31 *Hampshire Telegraph*, 1 Apr 1839. Another account of the

same meeting is given by a newspaper cutting pasted in a notebook WSRO Add. Mss. 29,710.

[32] *Brighton Patriot*, 9 Apr 1839.

[33] WSRO WG5/1A/6 8 Apr 1839.

[34] *Brighton Patriot*, 16 Apr 1839.

[35] WSRO WG5/1A/6 27 Apr 1840 and 19 Apr 1841.

[36] WSRO WG5/1A/6 31 May 1842.

[37] WSRO WG5/1/3. The first use of the words Poor Law Board, which had in fact taken over from the Poor Law Commissioners in 1847, came on 1 May 1868.

[38] *8th Annual Report of the Poor Law Commissioners* 1842, paras. 91–4 and the 9th Annual Report 1843, para. 46.

[39] S. & B. Webb, *English Poor Law Policy* (London, 1963), 338.

[40] PRO MH12/12817.

[41] WSRO WG5/1/3 17 May 1867.

[42] A copy of Dr Buckell's report is not included in the minutes of the Chichester Guardians but the *Chichester Express* for 18 August 1868 states that they 'happened to come across the report in question' and under the heading 'Sanitary Conditions of the Chichester Workhouse' they give a detailed account of it. The report of the committee appointed to consider the report is given in full at WG5/1/3 20 Mar 1869.

[43] WSRO WG5/1/3 22 Mar 1869.

[44] WSRO WG5/1/3A 27 April 1869.

[45] WSRO WG5/1/3A 7 May 1869. An account of this meeting is given in the *Chichester Express*, 11 May 1869.

[46] WSRO WG12/1/27 24 May 1869.

[47] A copy of the memorial is printed in the *Chichester Express* 1 Jun 1869. The memorial itself is in the PRO MH12/12817 with some, although not all, of the supporting signatures. These include five JPs two of whom were doctors and three solicitors.

[48] PRO MH12/13205 5 Jun 1869.

[49] PRO MH12/12817 25 Jun 1869.

[50] G. E. Buckle, *The Life of Benjamin Disraeli, IV* (London, 1916), p. 598; and R. Blake, *Disraeli* (London, 1966), p. 486.

[51] *West Sussex Gazette*, 12 Aug 1869.

[52] WSRO WG5/1/3A 28 Oct 1870.

[53] PRO MH12/12817.

[54] WSRO WG5/1/17 14 Jun 1895.

[55] For a fuller account of the fire and its aftermath *see* B. Fletcher, 'A Sussex workhouse fire', *Sussex History* **2(8)** 1984, 2–14.

[56] WSRO WG5/1/21 29 March 1901 and *Sussex Daily News*, 30 March 1901.

[57] *Bognor Observer*, 1 May 1901.

[58] Report by Hawley to the Poor Law Board, 5 Jun 1869, PRO MH12/13205.

[59] WSRO WG12/1/50 27 Jan 1905.

[60] WSRO Add. Mss. 41,259. This collection of political leaflets and pamphlets has numerous uncomplimentary references to the Dukes of Richmond.

[61] For a fuller account of this incident *see* B. Fletcher, 'Mr Staffurth and the Sixth Duke of Richmond', *Bognor Regis Local History Society Newsletter* **11**, July 1984, 13 & 14.

[62] V. Porter, *The Village Parliaments* (Chichester, 1994), p. 34.

[63] S. & B. Webb, *English Poor Law Policy* (London, 1963), p. 326. The similarity of the situation with Lewes and Chichester was of course apparent to Hawley. In a letter to Poor Law Commissioner Nicholls in 1836 in which he was writing about the difficulties of trying to persuade the Chichester and Westhampnett Unions to combine, he talks about the similar problem at Lewes and said that to try and make Lewes the centre of a large rural union would 'be like throwing a firebrand amongst them'. PRO MH12/12813 20 Mar 1836.

Neville Lytton, the Balcombe frescoes and the experience of war, 1908–1923

by Keith Grieves

The Hon. Neville Lytton of Crabbet Park and the Royal Sussex Regiment left much evidence of a reflective approach to the impact of the First World War on his life as a squire. In 1914 his leisured lifestyle was overtaken by the age-old function of the landed gentleman in war which was to go to the Front at the head of his tenantry. In 1916 substantial portions of the Crabbet estate were sold and in Worth the association of locality and controlling landowner abruptly diminished while he served in a front-line unit during the Somme offensive. In France, Lytton grew to appreciate the essential role and virtues of the 'common man' and to understand that his advance would bring an end to squires and their 'kingdoms'. After the war he revealed himself as an acute observer of the impact of war on the 'South Country' landed elite. Lytton also contributed to the memorial hall movement by undertaking War and Peace frescoes at the Victory Hall, Balcombe in 1923. He visualized a village community which was not dependent on the country house and celebrated the natural beauty of the Sussex landscape. As an artist-memorialist of the Great War, who had served in a locally-raised battalion, Lytton provided as much insight as Edmund Blunden into the effect of total war on the pastorally-minded.

INTRODUCTION

As a member of an old-established gentry family in Sussex the Hon. Neville Lytton left Crabbet Park House in Worth to fight a gentleman's war and make the world safe for the *status quo*. As men left the parklands and farms of Sussex to serve in locally-raised battalions they did not envisage any changes to the timeless social dynamics of paternalism and deference characteristic of 'close' communities, which by the early 20th century existed even in Wealden areas alongside the 'open' pastoral holdings on the heathlands.[1] As the war unfolded, the hierarchical assumptions in the rural social structure were silently challenged by the unfolding economic and social consequences of large-scale war.

Neville Lytton experienced this watershed personally as the Crabbet lands were dispersed. The gulf between the fighting men and their relatives grew wide, privilege became questionable as the mystique of *noblesse oblige* collapsed and financial imperatives forced gentlemen into professions in the postwar era. Lytton was a percipient commentator of these trends in books written to improve his parlous finances. These changes made their impact felt within the context of Sussex topography, estate management and regimental activity. In his war service he remained connected to the county, but increasingly distant from the community of landed gentry.[2]

Lytton did not return to Crabbet Park in 1919, but he retained a firm attachment to the countryside. Before he finally left Sussex, Lytton painted two remarkable scenes in the Victory Hall, Balcombe which are the legacy of his life in Sussex and express an affinity with the new possibilities of village living in the postwar era. In addition, an insight is gained into the memorial hall movement. Consequently, the life of the Hon. Neville Lytton in the years 1908-23 interconnects the themes of land ownership, military service, democratization and reform in the context of the Sussex landscape.

The experience of war of this Sussex squire by marriage, for he was of aristocratic birth, shows that the traditional domination of localities by estate-owning families was substantially weakened during the years 1914–1919.[3] Through the evaluation of family correspondence, estate papers, official war diaries, postwar memoirs and the Balcombe frescoes

a dimension of the war and social change debate emerges. Neville Lytton's life illuminates a transitional moment in the history of parkland Sussex and provides an example of the departure of South Country squires from their seats of residence as an inevitable result of the gradual democratization of rural life.[4] Lytton's wartime service with a battalion from Sussex on the Western Front will be considered so that the depiction of war in the Balcombe frescoes can be contextualized.[5] The purpose and opening of the Victory Hall will then be discussed and a parallel drawn between the idea of a memorial hall and Lytton's depiction of Peace in the Balcombe frescoes. Finally, the changes at Crabbet Park will be identified so that the cultural shift from country house living to more democratic visualizations of village community can be identified in the context of war and its immediate aftermath.

WARTIME SERVICE

It was rarely the case that artist-memorialists not only knew the vicinity of their commissioned work in the pre-war years, but also undertook regimental service in a locally-raised battalion. Lytton's association with the 11th Battalion, Royal Sussex Regiment spanned the period September 1914 to July 1916, a period which included its formation, initial and divisional training and early experience of trench warfare. On his departure for France on 4 March 1916 Lytton held the rank of major and commanded 'C' Company which included many men he had encouraged to enlist in the autumn of 1914. Such continuity of contact between officers and enlisted men from civilian to military life was not unusual in a 'Service' battalion. Some comprehension of the protracted recruiting and training processes in a landscape known to all participants is needed to understand the poignancy of the men's initial wartime experience and to appreciate Lytton's observations of war. The military usefulness of 'locality' broke down during the large-scale 'breakthrough' battles on the Somme in 1916.

On the outbreak of war in August 1914 the Hon. Neville Lytton was 36 years of age, a father of three children and a portrait and landscape painter. He lived at Crabbet Park House in Worth, near Three Bridges railway station on the northern fringes of the county. Until Lord Kitchener, Secretary of State for War, proposed the likelihood of a long large-scale war, Lytton had wondered whether he might become an interpreter, having lived in France to attend the *Ecole des Beaux Arts*, or a galloper or, indeed, if England was not in danger, whether it was appropriate to 'abandon profession, home, family — in fact, everything?' In the hot, balmy days of August 1914 Lytton was reflecting on his ignorance of military affairs, on the threat to France and on the death of a friend who was a cavalry officer, but was shocked into action by the arrival of an acquaintance whose peacetime life of pure idleness was but a memory. Lytton wrote,

> It was not till my young friend Edward Horner arrived and camped with the Somersetshire Yeomanry in a neighbouring park that my doubts and misgivings disappeared. Instead of his usual dandified pallor he was bronzed and robust. His example proved beyond doubt that there was only one way to serve, and that was to become a soldier.[6]

Of course, Edward Horner's death and commemoration at Mells parish church became emblematic of a 'lost generation'.[7] Consequently, his transformative impact might be overstated, yet the arrival of the Somersetshire Yeomanry with a young squire who was no longer 'dressy and scented' suggested that soldiering had again become the *duty* of the landed gentry regardless of their military expertise.[8]

The clarity of this situation was reinforced by the emergence of local raisers of manpower. In Sussex, Colonel Claude Lowther MP of Herstmonceux Castle gained War Office permission to form 'Southdown' Service battalions of the Royal Sussex Regiment. As part of the 'pals' initiative men were urged to join, train and serve together in Kitchener's New Army.[9] Lytton did not contemplate joining the Sussex Yeomanry whose links with landownership and horsemanship in the county were well-established.[10] Instead, he quickly associated himself with Lowther's initiative which combined county patriotism, using the downland as a unifying symbol of Sussex, with traditional methods of finding recruits for the army at a time of crisis. According to Lytton, Lowther had asked

> if I had any influence in the county and whether I thought I could raise him some men. I said that I had a certain amount and that I would do my best, so he gave me a big parcel of attestation papers and sent me off. The next day I hired a car and started on a tour of my part of the county.[11]

These illuminating references to 'influence in the county' and 'my part of the county' identify residual quasi-feudal knight-service features of rural landownership which took an age-old, personalized form as Lytton visited cottages on, and near, Crabbet Park estate to obtain recruits who would follow him to war.

As a Justice of the Peace, which required a land qualification, he administered the process whereby recruits swore an oath of loyalty to the Crown, while the accompanying country doctor ensured that the cottagers were fit for military service. Lytton noted that he was a far from welcome visitor, but it was more remarkable that this act of squirearchical power facilitated a response to war which was not dissimilar to responses made in 1588, 1804, or, on a lesser scale, in 1899. In September 1914 Lytton was not assured of a temporary commission, but the recruiting process was pursued in the expectation that as a landed gentleman of local 'influence' he would lead the men in war.[12] At this time, the long-term socio-economic changes in the countryside had not yet diminished the military prerogatives of landownership, nor had the significance of the horse in war been seriously questioned. In the first few months of war there was little intimation of the profound changes which would quickly ensue.

Instead, a hectic round of recruiting activity took place. On 10 September 1914 Lytton was a member of the platform party at a recruiting meeting at the Carfax, Horsham, to raise a Southdown battalion.[13] During the recruiting campaign Lytton obtained a captaincy and on 12 November his participation in a pageant which included a regimental band, the Boy Scouts, the Civil Guard and many spectators, resulted in the signing on of a further contingent of Horsham and district men. Lytton emphasized that Colonel Lowther was a 'Sussex man' and had gained the affection of the recruits. He congratulated the Chief Constable on encouraging police officers to join the first Southdown battalion. He precipitately announced that conscription would follow in three weeks and told the meeting, 'don't let it come to that'.[14] The meeting emphasized a local, voluntary response and the relevance of paternalistic social relations to military service.

On 15 November 1914 he 'received much warmth' at the George Hotel, Crawley where, as elsewhere, he highlighted the successful early development of the Southdown battalions.[15] By this time he had left Crabbet Park for Cooden Hill Camp, near Bexhill, and as he travelled from Three Bridges many of the 150 men he had enlisted joined the train at Crawley, Horsham and Balcombe. The county remained the training ground for the first half of 1915 and after the war Lytton remembered marches and manoeuvres in familiar places. Billets in barns and farm sheds during four-day marches brought intimation of the discomforts which would abound in the following year. Alongside *his* men Lytton dug trenches on the South Downs and he effectively undermined a complex training manoeuvre at Ashburnham Place by knowing the parkland 'like the palm of my hand'.[16]

After its arrival at Le Havre the battalion, as part of 116 Infantry Brigade, 39 Division, entrained for the front and on 12 March 1916 'C' Company marched up the waterlogged trenches to the front line at Fleurbaix. At 5 p.m. on the following day German artillery shelled the billeting area. Twelve 5.9" shells exploded, one of which was a direct hit on a billet. Nineteen men were killed and Lytton noted, 'Some of them were men from our own farms in Sussex whom I had known for years'.[17] During the same action, and nine days after arriving in France, Lytton sustained two leg wounds. He went to a Casualty Clearing Station and, subsequently, to the Duchess of Westminster's Hospital at Le Touquet. On 29 March he returned to his unit, prematurely, in the sense that he was unable to get on a horse which was available to him at the front.

During April 1916 the brigade moved to the Givenchy-Festubert brickstack sector and Lytton experienced the constant danger inherent in a 'lively' portion of the front line. A steady attritional rate of casualties was caused by shrapnel fire from whizz-bangs, machine-gun fire and snipers, wire drill and the defence of mine-craters by sapheads, forward of the front line.[18] The intensity of this active period of trench warfare induced Lytton to remark that, 'He who has never had a first leave from France during this war does not begin to know what life is, nor ever will know'.[19] His period of ten-day leave was an 'eye-opener' because a gap clearly existed between his experience of war, in which some sense of the 'doctrine of impermanency' was quickly obtained, and the understanding of those friends and relatives at home who had no mind-picture of the Western Front and could not respond to the heightened emotional circumstances of home leave.

After his return to France news reached units of 116 Brigade on 23 June that they were to undertake

an attack near Richbourg. One day later the battalion's commanding officer, Lt-Col. H.J. Grisewood, had to relinquish his command for having opposed an earlier plan for a raid on Givenchy, thus incurring the wrath of the brigade commander. Lytton deeply admired Grisewood's protective action and bitterly regretted the ending of a friendship which reflected the fraternal existence of the Southdown battalions. The attack was primarily undertaken by 12th and 13th battalions, Royal Sussex Regiment, supported by one-half of 11th battalion, who otherwise were to form the burial and salvage parties on 30th June 1916. It was a diversionary action ahead of the imminent Somme offensive. In a congested, narrow section of line five hours' fighting after daybreak under incessant shell fire brought severe casualty levels. The Aubers Ridge raid by the 'pals' battalions of Sussex caused for people in country towns and villages within sight of the South Downs a misery as concentrated as that experienced in the manufacturing districts after the first day of the Somme.[20]

Lytton's company was not deployed to go over the top but some insight into his outlook, following Grisewood's departure, was clear in his letter of 28 June to his wife, 'Eight nights running without closing an eye is a bit thick isn't it, and the noise has been too much to sleep by day, and the rain and mud terrible'.[21] Shortly afterwards Lytton joined the brigade staff as Sniping Officer and observed the attack of September 3rd on Schwaben Redoubt on the Somme, which was the second substantial attack by the Southdown battalions. It marked the end of the intimate link between Sussex and the battalions formed in the county in the autumn of 1914. Both before and after the attack of 3 September Lytton tried to return to the battalion as a company commander, but without success. In November 1916 he took charge of French war correspondents at General Headquarters (GHQ). Thereafter, on his constant visits to the front line with journalists and visitors to the British armies in France he sought news of his old battalion and emphasized in subsequent correspondence with civilian officials who only knew him as a conducting officer at GHQ his regimental service and regard for the junior officers.[22]

Lytton was not alone in his admiration of the distinctive county composition of the battalion. One of the first officer replacements for Lytton's company was the poet and former Christ's Hospital schoolboy, Edmund Blunden, who arrived on 15 May 1916. In his prose memoir *Undertones of Wār* Blunden referred to a 'warm fraternity', to a 'family atmosphere', and of Aubers Ridge he noted: 'so closed the admirable youth or maturity of many a Sussex and Hampshire worthy'. In particular, Blunden characterized the 'alert and proud' battalion and its ready admiration of unconventionalities, abhorrence of parade-ground discipline and keenness to demonstrate its readiness for battle — if not for the unfolding dehumanized artillery war — by describing the personification of these qualities he so deeply admired. Lt. Blunden served under Lytton in May and June 1916 and concluded,

> He was outspoken in his loathing of war, he did not rely on his rank to cover all points of argument or action, and his gallantry in going through the dirtiness, the abnegation of service, the attack upon all his refinement, was great. It naturally remained unrecognized by the crasser part of the officers and men. He commanded the company with thoroughness and caution, and sat at our mess, piously endeavouring to keep up his vegetarian habits (apart from an occasional ration of bacon) and to keep alive a spirit of artistic insight without refusing military method.[23]

Lytton undertook the demands of front-line service with an assiduous attention to detail which reflected an acceptance of military procedures, but fell short of support for the customary practices of the regular army. He conscientiously undertook the duties of junior command, but resisted the temptation to modify sensibilities which were vigorously *ante bellum*. Lytton's experience of front-line conditions, of infantry battalion defined by county and voluntarism, of the impact of war on different social classes and his reluctant acceptance of military method provide one essential context for discussion of the War fresco at the Victory Hall, Balcombe.

THE WAR FRESCO

Twenty-two male figures in the sombre colours of khaki and grey fighting kit are depicted in three groups divided by two scarred trees on the east wall of the hall (Fig. 1). The theme of the panel is the relief of a party in the front line, 'some fresh and clean, going into battle, others all torn and tired with unutterable suffering'.[24] On the left German

prisoners stand, having been captured by the retiring party. One of them has a bandaged head and Tommy Atkins, in his humanity, offers a cigarette to a wounded or exhausted man. In the centre a wounded man is borne on a plank of wood at shoulder height by four stretcher-bearers, one of whom gazes fixedly out of the panel. They are helmeted, wear puttees and carry no arms. The wounded man is covered by a blanket. The purpose and significance of this group is the most clearly delineated and reflects with direct relevance back on the group on the right of the panel where nine men are moving forward 'fresh and clean' to battle while several rest, one of them drinking from a water bottle. The rifle muzzles are protected and packs are carried.

Large-scale war is portrayed in two crowded scenes and a central dominating panel which draws attention to the destructiveness of war. The everyday features of the unglamorous toll of war highlight the attritional nature of trench warfare and take place against a background of broken pithead winders. The structure depicted is similar to his sketch 'Pit-head near Lens' which dated from his visit to Canadian troops in Flanders in July 1917.[25] In the foreground a rubble-strewn path of wood and stone blocks provides an unfamiliar setting when compared with representations of the third battle of Ypres by war artists such as Paul Nash.[26]

Consequently, the foreground and background features reflect the opportunities Lytton gained after November 1916 to sketch near the front line, rather than an attempt to depict a specific moment in the history of the war. To the right is the purposeful deployment of men; in the centre and to a lesser extent to the left of the panel we are confronted by the impact of war on individuals. No one is in charge. The uniforms literally disguise individuality and highlight the mass of working men whose toil achieved victory. Lytton recognized that the Great War was not won on the playing fields of his *alma mater*, Eton College. The panel highlights the exhausting, relentless, almost fatalistic production-line process of troops concentrating at the front line; and later, the stretcher-bearers and guards of prisoners going about their duties.

The images accord with his tributes — perhaps in a self-consciously unexpected way — to the 'uncommon virtues of the common man'.[27] In 1924 he remembered the columns of British gunners who moved through Arras in 1917. Apart from the fact that they were on horseback his description, like the panel, focused on the 'glorious harrowing' of the *soldier*, albeit in a more romanticized idiom.

> They might have been the Archers of Agincourt or Cromwell's Roundheads — they were the Briton of all time. The round helmet, the buckskin jacket, and the slung gasmask gave an appearance of glorious vitality. Then there was that graceful salute with the whip, and the sad, overwrought expression that comes from the danger and lack of sleep. It was not so much the well-groomed officer whom I adored, but the men swollen with cold and clotted up with mud.[28]

The round helmets and slung gas masks are strong features of the panel. The endurance and courage of men in war accorded the 'Briton ' a value which Lytton had not contemplated in peace. This dawning realization was compounded by his personal knowledge of 'their families who are aching for news of them'. The War fresco not only emphasized the 'common man' without using the language of class, but used the shared memory of war to demand 'gains' in peace in an artform which was an integral feature of the new memorial hall. As true fresco the pigments were applied directly to wet lime plaster to produce a permanently fixed image of monumental appearance. True fresco experienced a revival in the early 20th century in techniques which were imitative of those of Renaissance painters. Collectively the War fresco and the opening of the Village Hall in 1923 signified the belief that consequent social improvement should ensue from the unexpected mobilization of one-sixth of Balcombe inhabitants for military service.

MEMORIAL HALLS AND BALCOMBE

In many villages in Sussex memorials in parish churches to the war dead of the Great War formed the main commemorative expression as at Bolney, Northiam and Shipley. At Bramber, Rye and Sompting lychgates formed a focal point of remembrance.[29] Elsewhere in Sussex the granite cross was widely chosen, as at Warnham, and some towns contain sculptured figures on a plinth, as at Worthing, but few indeed are war memorial halls which contain meaningful frescoes and the names of men from the district who *served* in the Great War. At Balcombe the initial response to the war

reflected the assumption that the parish church remained the embodiment of the village and that the subject of remembrance was essentially a religious one. Shortly before the legislative reform of parochial government one of the last actions of the Vestry of St. Mary's Church, Balcombe, was the design of a wall panel to commemorate the 38 men of the parish who died in the war. It also agreed that the words to be inscribed should read, 'Remember ye with thanksgiving and all honour before God — know these men of Balcombe who gave their lives for King and Country in the Great War, 1914-1919'.[30] On 15 January 1920, without wide discussion and on behalf of all Balcombe residents, the Vestry undertook to apply to the diocese for permission for the wall panel. The application conveyed no sense of the quest for social change in the village.

After 1918 a lively national debate took place on the contrast between recreational and educational facilities for troops in army camps and the absence of village halls and institutions in English villages. Although the Local Government Board was prepared to sanction expenditure for this purpose, few rural district councils saw the need.[31] Redundant hutments existed in limitless numbers in France, but the unrepeatable feat of their construction was emphasized by the dismantling of the war economy in 1919. In 'close' villages the well-established gentry were not quick to support memorial halls which were an expensive form of commemoration. Furthermore, like schemes of cottages for disabled soldiers and scholarships for the children of fallen men, a memorial hall implied criticism of the limitations of paternalistic structures. Memorial halls typically emerged in large villages where there was no dominant landowner but where influential, enlightened, pushful personalities acknowledged the significance of the memorial hall movement.

Gertrude, Lady Denman of Balcombe Place was such a figure. She advocated the benefits of mixed village clubs for men and women and was the driving force behind the rebuilding and enlargement of the working men's club and institute, which had originally opened in 1902. She was anxious to ensure that the enlarged hall contained facilities for the Women's Institute (WI). Her national leadership of the WI movement did not preclude her foundation and presidency of Balcombe WI in 1917.[32] An important feature of the formal opening of Victory Hall on 10 November 1923 was the emphasis given to the parity of representation of the Men's Club and the WI on the Hall Management Committee, as explained by the honorary secretary, Digby Haworth-Booth of Mill House.[33] In a letter to H. Faure Walker, Chairman of the Parish Council, he made clear that 'representatives of every interest in the Parish should take part in the Inauguration'.[34]

Lady Denman and Faure Walker were the two principal landowners in the parish of 4,700 acres. She was the daughter of Sir Weetman Pearson Bt., first Viscount Cowdray, who had acquired neighbouring Paddockhurst (3000 acres) in 1894. He doubled his landholding in the parishes of Worth and Balcombe with the acquisition of 15 farms, which comprised the Balcombe estate, in 1905. Shortly after her marriage in 1906, Lady Denman took managerial responsibility for the estate and subsequently in 1919 for Brantridge Park. Her authority stemmed from an 'improver' landlord reputation rather than from an age-old familial attachment to land.[35] Before 1914 Weetman Pearson had seriously pursued the possibility of developing the Balcombe estate for housing. Neither Faure Walker nor Lady Denman dominated employment opportunities in Balcombe, which was a large village of over 1200 inhabitants. It included a substantial number of servant-keeping private residents, two nonconformist chapels, important railway and water-supply functions, independent forestry and nursery activity and a rector whose living was not in the gift of the principal landowners.[36] While Lady Denman was a powerful presence as early as the Great War, when compared to other Sussex villages on larger, well-established estates, Balcombe was less 'feudal' at that moment.

Over 400 inhabitants of Balcombe took part in the opening ceremony which began with the singing of 'Land of Hope and Glory' by the Balcombe Musical Society, and was followed by the singing of 'Jerusalem' as Lord Denman and ex-servicemen progressed to the vestibule where the carved oak panel was unveiled. It contained the names of 200 men who served in the war. Unlike the *monuments aux morts* in France, memorials in England were not always confined to the dead and approximately one in twenty commemorative events listed men who served and returned.[37] On this occasion reveille was sounded from the steps of the hall and Mrs Molly Sanderson, games player and friend of Lady Denman, sang a solo. A presentation — akin to the

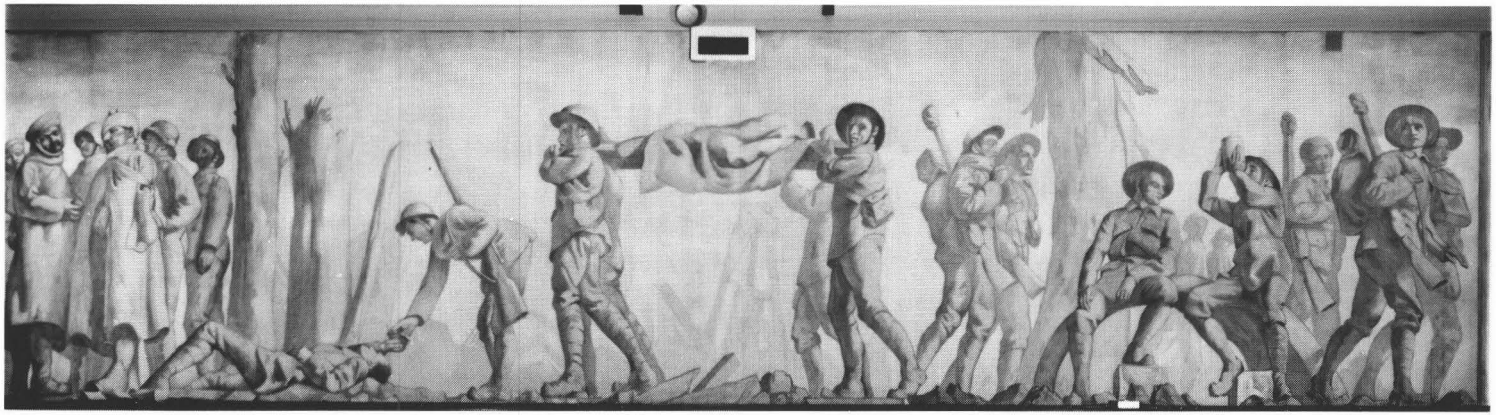

Fig. 1. The War panel, Victory Hall, Balcombe. (Reproduced courtesy of RCHME and the Victory Hall Management Committee.)

Fig. 2. The Peace panel, Victory Hall, Balcombe. (Reproduced courtesy of RCHME and the Victory Hall Management Committee.)

freedom of the premises — was made to Lord and Lady Denman and short speeches included Neville Lytton's brief comments on the technique and key features of the frescoes. The end of the proceedings was marked by the National Anthem and the hymn 'Now thank we all our God'.

The communal event clearly expressed the preference in Balcombe for the amenity of a large hall which could accommodate 500 people, rather than a stone shrine. No longer was the parish church the only appropriate place for a war memorial. The new hall drew attention to the utility of an undenominational, depoliticized meeting place in the countryside as debates on rural conditions moved on from elementary education, sanitary cottages and clean water. Despite the focus on Lord Denman, the opening of the hall did not reflect gentry or aristocratic paternalism. His grandeur as a dignitary arose from a pre-war career as an imperial administrator and his pretensions to the duties and privileges of landownership were circumscribed by his wife's fortune from Pearson global mineral exploration.[38] The unveiling of the Hall and the frescoes was dignified and semi-processional, but the public act of thanksgiving, although patriotic, was largely unmilitary and mostly informal.

To appreciate the less deferential proceedings at Balcombe a brief contrast can be made with the remembrance service held the following day at Boxgrove parish church on the Goodwood estate. That concluded with a written message from the Earl of March, inevitably president of the Boxgrove branch of the British Legion, who noted,

> I thank you for turning out in such numbers to do honour to my boy and those Boxgrove and Halnaker comrades of his, who kept the flag flying, and whose names shine upon us from the wall of Boxgrove Church, with the glory that can never be dimmed.[39]

This expression of loss placed loyalty above comradeship and came close to suggesting that his son, Lord Settrington, who died in north Russia in 1919, and Major Lord Bernard Gordon Lennox, who made the ultimate sacrifice in 1914, died in defence of community — defined by the estate system — rather than in defence of nation and that the experience of war bound this particular *locale* more closely together. In contrast, the opening of a self-governing village hall in Balcombe suggested greater possibilities for the gradual democratization of village life as the Public Library opened, the Working Men's Club continued its independent path under the secretaryship of builder Tom Bell, and the Women's Institute took a crusading interest in social conditions in the countryside, albeit under the watchful eye of Lady Denman.

THE PEACE FRESCO

These themes were mirrored in Lytton's panel on the north wall of the hall which depicted Peace (Fig. 2). Consequently, the artist's insight was in harmony with the idea of renewal inherent in the construction of Victory Hall and an overall unity of expression was obtained. The panel on Peace is connected to the War panel by a group of mourners and the friends of a blinded man in the shadow of St. Mary's Church who are being lured by a child towards the music makers and the dancer.[40] In the middle portion the entertainment is enjoyed by a man and woman who listen and watch in the shade of an oak tree whose lower branches frame the upper edge of the panel. In the third portion of the panel men are at work 'on the restorative arts of peace', i.e. they are building the hall under the supervision of Mr. J. Bond, Clerk of Works and Balcombe estate bailiff, and Lady Denman.

The oak trees, church and construction of the hall place the panel in Balcombe, and the central portion contains the clear bare outline of the South Downs, surmounted by the knot of beeches which makes Chanctonbury Ring one of the best-known landmarks in Sussex.[41] The topographical unity of the flat Wealden commons and the 'beechen boss' to which all Sussex looked, not least from Balcombe where the view towards Chanctonbury Ring is a fine one, was invigorated by the sense that its features were also recognizable in France. In April 1917 Lytton explained the landscape around Arras by noting 'it is not unlike the Weald between the North and South Downs, but much less wooded'.[42] During the Second World War he noted that the hall had 'become a place of Pilgrimage for the county of Sussex and neighbouring counties'.[43] The portrayal of local and county images enabled Balcombe to become a place of significance beyond the needs of the immediate area.

Similarly, the depiction of 'calm restorative activity' held appeal because working people were given a place in the panel. Sidney Parker, the plasterer and builder, is shown in fine detail. In true Fresco painting the plasterer works very closely with

the artist. Three estate workers form a purposeful ensemble as Lady Denman, in a far from dominant position, scrutinizes the plans beneath a sturdy oak tree, which conveys the values of endurance and rootedness and is emblematic of a South Country scene. Friends of Lady Denman are located in the central portion which includes Molly Sanderson, who sang at the opening ceremony and was the English-born wife of a Melbourne businessman, and Denis Brown, an Australian doctor, who looks towards the Downs. As lifelong friends of Neville Lytton, the French artist, Charles Geoffroy Dechaume and his wife Geneviève were shown in the shadow of St Mary's Church. The viewer is reminded that the artists suffered during the war for 'Charlot', the man with the stick, was severely wounded and lost a leg.[44] Neville Lytton is the flute player, which was illustrative of his admiration of the cultivated sensibilities of the late-18th-century English gentleman, prior to the onset of industrialization. '*Le commandant et sa flûte*' was a celebrated feature of Lytton's management of French war correspondents at GHQ. Whenever argument became excessive the ivory flute restored calm because 'Such unreasonable varieties of loud and soft tones give the instrument an open-air pastoral quality that is enchanting to the listener'.[45] His interest in the charm of old English airs was accompanied by a fascination for the decorous beauty of country dances — the model for the dancer was possibly Elizabeth Geoffroy Dechaume — and in depicting Alexandra (Sandra) Fortel, his future wife, as the guitar player, Lytton looked forward to new horizons as a difficult postwar era of transition came to an end. She was also depicted as one of the women with scarves over their heads. The countryside might yet become a focal point for delight, elegance and freedom of self-expression in a panel which idealised an anti-feudal and anti-materialistic form of village community.

Lytton's artistic statement in the Peace panel was self-consciously new. Up to 1914 Lytton was *part* of a political and social structure which defined rural community as the maintenance of tenant welfare by squires and parsons who imitated aristocratic courtliness and lived settled sporting lives with part-time judicial responsibilities. Unlike Edwin Lutyens and Edward Marsh, Lytton's pre-war expectation was that an estate would maintain his squirearchical life, even if confidence in this assumption was gradually being undermined. For Lytton South Country images were not the invented product of an urban world, but his *lived* experience of a tradition-centred life in Worth with no sense of its imminent collapse. In 1924 he reflected, with considerable detachment, on the lifestyle of a squire which had once been his own. He noted that they had 'governed their small kingdoms well, and were kind to their tenants in return for respectful adoration; they never questioned their divine right to rule and govern, and, like God in the first chapter of Genesis, they saw that everything was good'.[46] In the Peace panel Lytton marked the end of the feudal epoch and suggested that the salvation of the English countryside lay in 'sovietic' models of village self-government as, for example, in the capacity of Women's Institutes 'to run clubs and village organizations without the help of the squire or parson or any else.'[47] These pronouncements were not unique, but when uttered by a participant of traditional social order from a landed estate, they took vivid form.

As the antithesis of feudalism, the Peace panel depicted people of diverse social origins who undertook work and social interaction without arrogance or servility in a naturally beautiful landscape and within sight of a spire. It is not too fanciful to suggest that the communitarian resources of locality and friendship were celebrated in the Peace panel as a new form of parish patriotism, rather than as homage paid to families of 'influence' due to accidents of birth. Lytton's romanticized attachment to a specifically south country landscape and to fellowship, conservation and artistic endeavour provided an anti-hierarchical response to the experience of war in frescoes which marked the end of his residential association with his 'part of the county'.

He had first visited Lady Denman at Balcombe Place in 1906 and became grateful for her patronage in the postwar years. On the completion of the Balcombe frescoes he wrote, 'I can't tell you how satisfactory it is to do a decoration for a definite spot and to finish it in place, as in the days of the great renaissance'.[48] Lytton regularly stayed at Balcombe Place for long visits in the years 1919–23 and his thankfulness for remunerative activity was in marked contrast to his pre-war outlook. The ebbing fortune of Crabbet Park was reflected in the wartime correspondence of the Blunt family and marked the collapse of one small example of unquestionable, self-confident, aristocratic hegemony.

CHANGES AT CRABBET PARK

In 1899 the Hon. Neville Lytton, second surviving son of the First Earl Lytton of Knebworth Park had married Judith Blunt. She was the only child of Wilfrid Scawen Blunt, Arabist, anti-imperialist and poet who was referred to as 'Squire'by his estranged wife Lady Anne Blunt, traveller and horsewoman. Despite the Wealden context, Crabbet Park was one of five 'picturesque' seats in the parish of Worth. It was the oldest in continuous occupation by one family and its sylvan scenery once comprised ironworks and hammer ponds.[49] The estate included a neo-Queen Anne house (1873), parkland, Arabian Stud, much of Worth Forest and adjacent farms east of the London-Brighton line in Pounds Hill, Worth and Hayheath and west of the line in Crawley, Three Bridges and Ifield.[50] Ample opportunities existed for aesthetic and sporting interests on the forest ridge of the Weald.[51] In a settlement of 1904 Wilfrid Scawen Blunt made a gift of Crabbet Park House to Judith and moved to his Newbuildings Place estate at Shipley.[52] A joint agent was appointed to manage his life interest in the Crabbet Park estate and in 1908 Neville and Judith Blunt Lytton moved into the pedimented brick mansion which overlooked an extensive trout lake.

Neville Lytton was described by his son, in these pre-war years, as 'An artist, a bohemian, a horseman and a champion tennis player'.[53] He was also devoted to his work as a painter of portraits and landscapes and stood outside avant-garde artistic movements. Instead, he relished the way that rural inhabitants respected tradition and probably agreed with Hilaire Belloc's dictum that families of sufficient antiquity, such as the Blunts, constituted 'a true framework for the countryside'.[54] Lady Anne Blunt urged her son-in-law to worry less about his paintings and the effort of contributing to the 'family pot' and, instead, to accommodate tennis and the outdoor life.[55] She funded a prime example of Edwardian conspicuous consumption at Crabbet Park. In a period of 'building mania' up to 1914 a 16-bay orangery and real tennis court was built, comprising arched windows, engaged Tuscan columns, balustrade and veranda. In the years 1911–13 Neville Lytton was an international tennis champion and his competitive, athletic wife Judith, devoted herself to becoming an expert player who would gain parity with men. In the war years army officers were told not to visit the real tennis court in the fear that broken ankles would delay their departure for France. In September 1910 Emily Lutyens, sister of Neville Lytton, visited Crabbet Park and was irritated by 'their supreme indifference to the rest of the world'.[56] The contrast between this outlook and the seriousness of the recruiting process in 1914 was a stark one. The pre-war family letters conveyed a sense of settled income secured by marriage settlements and stable rent charges, privileges maintained by natural laws of inheritance and a social conservatism which condemned Lloyd George's politics and described the encroaching house construction in Crawley in such prejudicial, dismissive terms as 'low-class Levantine villas'.[57]

In contrast, surviving wartime correspondence constantly focused on financial issues made worse by the separation of family members by the war. In October 1914 Wilfrid Scawen Blunt concluded that the oak woodland — which was the only timber 'natural' to Sussex — was an unprofitable resource. It would be 'cuttable' in 70-100 years and in the short term the underwood was too small to be cut.[58] He was slightly cheered that Judith decided against letting Crabbet, as early as January 1915, but thereafter their relationship sharply deteriorated as the burden of Blunt's fragile inheritance turned them into 'belligerents', in Neville Lytton's war-driven vocabulary. One month after he was hospitalized in France the scale of the financial crisis at Crabbet Park became clear. The annual interest charge on the mortgage of £15,000 had risen from £450 to £750 by 1916.[59] Wilfred Scawen Blunt criticized motor and tennis court expenses and an extravagant country house lifestyle. Judith Blunt Lytton drew attention to land mortgaged prior to the settlement of 1904 and emphatically denied that the estate had ever produced a small net income.

The quarrel contained a complex *mêlée* of grievances which stemmed from Blunt's scandalous relationship outside marriage and his conviction that the tenets of 'Honour, Justice, Kindness, Noble Traditions, Noble Lineage' had been insufficiently evident at Crabbet Park after his departure.[60] The prospect of the sale of lands, except outlying farms west of the railway line, was anathema to Blunt whose radical anti-imperialist world view was subordinated at home to a fiery (and endangered) Toryism. Of land which had last been on the market in 1698 he observed, 'they are an integral part of the family Estate and without them Crabbet would be reduced from the position of a landed Estate to

that of a Villa Residence'.[61]

Two years after Neville Lytton appeared at recruiting meetings at the George Hotel, Crawley, approximately 40% of the Crabbet estate was sold there on 20 September 1916. Farms were sold in Worth, Three Bridges and Pounds Hill. Wilfrid Scawen Blunt was severely embarrassed that Lord Cowdray bought Blackwater farm at Three Bridges to 'save it from being built over and preserve its rural character', and it was far from coincidental that Blunt immediately started to write a history of the Crabbet estate.[62] His possession of an almost complete series of family deeds dating from 1602 constantly reminded him of a coherent estate of long existence. He wrote to his wife, 'It has been a great interest to me and will explain some day to Anthony [grandson] why it was that I felt so strongly the disgrace of the sale of the Crabbet lands'.[63] In fact he bought back Frogshole at the sale and his wife obtained Woolborough for the Arabian Stud, which enabled him to claim that the Worth Forest lands were maintained intact in his oft-repeated quest for continuity.[64]

Thereafter, there was rarely 'a break in the clouds at Crabbet'.[65] In Egypt the indefatigable Lady Anne Blunt was exasperated that her daughter could describe the Crabbet Arabian Stud as an amusement rather than work of national importance. In 1917, as another indication of aristocratic decline, horse-breeding became less important than cereal production. After Lady Anne's death much litigious activity ensued between Judith and her father. In their correspondence conflicting points of view were passionately stated. Their near-deathbed meeting of reconciliation brought some relief, but marked a point far removed from Wilfrid Blunt's pre-war expectation that the estate could be managed on 'liberal and easy lines' derived from customary local practice. Blunt insistently opposed land resettlement schemes for ex-soldiers on Sussex smallholdings after 1916. He noted, 'We don't want a lot of foreigners from the North of England upsetting our native ways and introducing intensive cultivation.'[66]

Amid inter-generational rhetorical rages and increasingly anachronistic debates on titles and inheritance of mortgaged Sussex lands, Neville Lytton became estranged from Judith. After a family gathering Emily Lutyens noted in March 1916, 'The war is to her a constant nightmare, but she does not seem to take the slightest share in helping and Betty [Lady Elizabeth Balfour, sister of Neville Lytton] thinks it has entirely cut her life off from Neville's and made a big gulf between them'.[67] In April 1916, Wilfred Scawen Blunt recorded that Neville Lytton had 'next to no influence with her and nor had he been more than occasionally at Crabbet during the past year.'[68] The *Crabbet Park Tennis Book* revealed Judith Blunt Lytton's incessantly competitive playing of tennis during the war and Neville Lytton's brief periods of leave at Crabbet.[69] By 1920 he looked on continuing strife at Crabbet Park from afar, except where their children were concerned, and in 1923 they were, at last, divorced.

As the war wore on the landed gentry became despondent about their postwar prospects. In July 1916 Lady Anne Blunt had speculated on the survival of their lifestyle. She wrote, 'I never shut my eyes in sleep, or sit down to a meal, without being thankful that the war has left these privileges. If salvation of any sort remains for this 'patria' of ours it will be owing to the terrible ordeal of this war.'[70] In 1919 Neville Lytton knew differently. After demobilization in early January he reflected on postwar opportunities in an apologetic note to his former patron and constant visitor to pre-war Crabbet Park, Edward Marsh. He noted 'Forgive me for being so sordid about money, but it is now a serious necessity for me'. Lytton considered applying for a temporary post at the War Office, secured work in sporting journalism and looked forward to 'a 300£ job to decorate a hall likely to take effect in the spring'.[71] He also undertook 'cheap portrait painting in the villages of the South of England' and by the end of 1919 worked as an artist by day and author by night to 'keep the wolf from the door'.[72]

Consequently, his conclusions on the relationship between war and ensuing social change, as it affected the landed elite, arose from direct experience and were clearly expressed. Firstly, no one could have returned from the Western Front unchanged. Secondly, the war had been a profoundly dramatic moment in history equivalent to the coming of Christ: it had brought in its wake the end of leisured lives and the disappearance of residual feudalism. Thirdly, 'for the moment there is nothing but the bitterness of a fruitless struggle'.[73] This statement highlighted a new age of uncertainty for the sector of society which before the war had enjoyed high levels of conspicuous consumption. In January 1919 Knebworth Park was let by his brother the second Lord Lytton and First Lord of the Admiralty.[74] Fourthly, the gap between the soldier and the 'stay

at homes' was a significant new fissure in English society which transcended social classes. Fifthly, without an acre of land, but in every other sense a gentleman, Neville Lytton became an authoritative voice on the countryside he no longer inhabited. He was representative of a dispossessed community and adopted the romantic self-image of a wandering gypsy who spent increasing periods of time in France.[75]

CONCLUSION

The Hon. Neville Lytton had arrived in Sussex after marriage into the Blunt family, and thereby into the county community, in 1899. He occupied Crabbet Park in the years 1908-15 and, consequently, obtained local 'influence' in the parish of Worth and beyond as a Justice of the Peace and in 1914 as a recruiter on the northern fringes of the county. The military functions of landed families on the outbreak of the Great War were performed in remarkable continuity with Elizabethan and Napoleonic responses to war. Even if the gentleman travelled to training camp by railway, he was still expected to be a horseman whose knowledge of terrain would ensure the safe deployment of men in open ground. Lytton's many criticisms of the army never extended to regimental service and his keen interest in battalions of the Royal Sussex Regiment was amply demonstrated in his writings.

He experienced at first hand the transition to the uncertain and reduced circumstances of the county community undergone by a timeless self-confident landed elite. At Crabbet Park the diminishing estate receipts, cost of country-house living and the gap between military and civilian life was compounded by lack of investment income, family strife and its isolation from wartime imperatives. In particular, the 'distancing aura' was eroded in a war which did not make the world safe for the hereditary principle.[76] Instead, enforced land sales after 200 years of continuous ownership quickly followed the confident use of the estate system to impel men to enlist in 1914. From Lytton's vantage point Wilfrid Scawen Blunt's obsessively regional and patrician outlook lacked credibility in conditions of total war and uncertainty also prevailed at Newbuildings Place in the postwar years on its future ownership. Lytton's life as a 'novitiate squire' in Sussex was quickly dissolved by four and a half years of military service.

However, Lytton intellectualized the plight of the country gentleman and had a more flexible approach to the fluid social conditions of peace because he had witnessed and admired 'the uncommon virtues of the common man' in war. The Balcombe frescoes portray 'everyman' near the front line and the restorative arts of peace. They achieve a unity of design, which is not determined either by Victorian values, Christian ethics or aristocratic principles.[77] The military victory was not obtained by gentlemanly virtues. Indeed, 'patriotic self-sacrifice was not special to any one portion of the community'.[78] As the financial integrity of estates was undermined and the largest transfer of land took place since the dissolution of the monasteries, Lytton idealized the village community and in the 'Peace' panel provided a vision of what the countryside might become. Using age-old artistic procedures, his hopeful message was simply told in representational form with much variety of colour. It depicted the idea of self-fulfilment in the countryside rather than the survival of compliant social order.[79] He was a traditionalist whose social outlook was largely recast by war and in the Balcombe frescoes he left a moving, inspirational testimony of his war service, of his enjoyment of the Sussex landscape and — in the best sense of the word — of a disinterested hope for the future.

Acknowledgements

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NOTES

1 P. Brandon & B. Short, *The South East from AD 1000* (London, 1990), 319.

2 For a definition of the community of landed gentry *see* D. Cannadine, *The Decline and Fall of the British Aristocracy* (London, 1992 ed.), 356; and for confirmation of the place of Crabbet Park in this community *see* the list of principal seats in Sussex in *Kelly's Directory of Sussex* (London, 1915), ix and W. T. Pike (ed.), *Sussex in the Twentieth Century* (Brighton, 1910), 95 & 202.

3 On the national context *see* F. M. L. Thompson, *English Landed Society in the Nineteenth Century* (London, 1963), 333; A. Howkins, *Reshaping Rural England: a Social History 1850–1925* (London, 1991), 280.

4 In this article Martin Wiener's 'southern metaphor' is used to clarify the place image of South Country which suggests order and tradition in an ancient, idealized, apparently natural landscape inhabited by hierarchical and anti-industrial communities. M. J. Weiner, *English Culture and the Decline of the Anti-industrial Spirit, 1850–1980* (London, 1981; reprint Harmondsworth, 1985), 42–8; J. Urry, *Consuming Places* (London, 1995), 204–5. On this subject very helpful remarks are available in B. Short, 'Images and realities in the English rural community: an introduction', in his (ed.), *The English Rural Community: Image and Analysis* (Cambridge, 1992), 2–4.

5 This article is not a piece of art criticism but draws strength from the value of juxtaposing the artistic image with a narrative of the artist's life and the wider changes of the era, so that the frescoes become the product of historical moment and lived experience. To this end Stephen Bann's '"Views of the past"; reflections on the treatment of historical objects and museums of history', in his, *The Inventions of History* (Manchester, 1990), 131 has been useful.

6 N. Lytton, *The English Country Gentleman* (London, 1924), 185.

7 C. Dakers, *The Countryside at War* (London, 1987), 210.

8 N. Lytton, *The Press and the General Staff* (London, 1920), 2.

9 K. Grieves, '"Lowther's Lambs": rural paternalism and voluntary recruitment in the First World War', *Rural History* **4** (1993), 55–75; P Simkins, *Kitchener's Army: the Raising of the New Armies 1914–16* (Manchester, 1988), 84.

10 P. Horn, *Rural Life in England in the First World War* (New York, 1984), 24.

11 N. Lytton, *The Press and the General Staff,* 3.

12 W. J. Reader, *'At Duty's Call': a Study in Obsolete Patriotism* (Manchester, 1988), 79.

13 *Sussex Daily News* (Hereafter *SDN*), 11 Sept 1914.

14 *SDN,* 13 Nov 1914; *West Sussex County Times,* 14 Nov 1914.

15 *SDN,* 16 Nov 1914.

16 N. Lytton, *The Press and the General Staff,* 15.

17 N. Lytton, *The Press and the General Staff,* 27; West Sussex Record Office (hereafter WSRO) RSR MS 7/23, Official War Diary of 11th Battalion, Royal Sussex Regiment, 13 March 1916.

18 Compiled from entries from March and April 1916 in WSRO, RSR MS7/23, Official War Diary of 11th Battalion, Royal Sussex Regiment.

19 N. Lytton, *The Press and the General Staff,* 38.

20 P. Reed, *Forgotten Heroes* (privately printed, 1986); J. M. Bourne, *Britain and the Great War 1914–1918* (London, 1989), 64–5.

21 N. Lytton to J. Blunt Lytton, 28 June 1916, quoted in N. Lytton, *The Press and the General Staff,* 39.

22 Imperial War Museum (hereafter IWM) 252/6. N. Lytton to A. Yockney n.d. [1920]. 'I was in the Royal Sussex Regiment three years before being posted to the G[eneral] S[taff]'.

23 E. Blunden, *Undertones of War* (London, 1928; reprint Harmondsworth, 1982), 39, *see* also 168, 150, 62, 50. Blunden wrote of the goodwill of fellow Sussex men. *See* B. Webb, *Edmund Blunden: a Biography* (New Haven, 1990), 52–3.

24 N. Lytton, *The English Country Gentleman,* 163. Battle is depicted in less dominant portions of the hall as an extension of the initial sequence, i.e. soldiers replacing casualties and German soldiers surrendering. These more isolated scenes do make emphatic the importance of depicting military victory.

25 N. Lytton, *The Press and the General Staff,* facing p. 102.

26 On 12 May 1917 Nash noted that the landscape in the Ypres Salient was 'not unlike Sussex'. P. Nash, *Outline: an Autobiography* (London, 1949), 202. For discussion of his 'We are Making a New World' *see* R. Cork, *A Bitter Truth: Avant Garde Art and the Great War* (London, 1994), 201–2.

27 N. Lytton, *The Press and the General Staff,* 210.

28 N. Lytton, *The English Country Gentleman,* 113–14.

29 W. F. Sellers, 'Sussex War Memorials "Pro rege et patria"', *Sussex County Magazine* **8**, 1934, 694–7; personal observations.

30 WSRO PAR 234/12/3, Special meeting of the Vestry of Balcombe Parish Church, 15 Jan 1920; *Victoria History of the County of Sussex* **7** (London, 1940), 135.

31 *House of Commons Debates* **113**, 17 March 1919, Col. 1716. For the wider context *see* N. Mansfield, 'Class conflict and village war memorials, 1914–24', *Rural History* **6** (1995), 79.

32 For Bishop Bell's summarizing of Lady Denman's life *see Sussex County Magazine* **28** (1954), 351.

33 I am grateful to Mrs Joan Dutton of the Victory Hall Management Committee for information on this matter.

34 WRSO PAR 234/49/3, D. Haworth Booth to H. Faure Walker, 19 Oct. 1923, read at the quarterly meeting of the parish council, 25 Oct. 1923.

35 G. Huxley, *Lady Denman GBE 1884–1954* (London, 1961), 131–2; A. Spender, *Sir Weetman Pearson, First Viscount Cowdray* (London, 1930), 15; L. Fairweather, *Balcombe: the Story of a Sussex Village* (Balcombe, 1981), 102. *See* also the entry on Sir Weetman Pearson Bt in *Sussex Historical, Biographical and Pictorial* (London, 1907).

36 *Kelly's Directory of Sussex* (London, 1924), 33–4.

37 K. S. Inglis, 'War memorials: ten questions for historians', *Guerres Mondiales et Conflits Contemporains* part 167, 1992, 10.

38 Lord Denman was Governor General of Australia from 1911 until his retirement through ill health in 1914. In 1939 he left Balcombe Place to live in Hove.

39 *West Sussex Gazette,* 15 Jan 1923.

40 *The Times,* 12 Nov 1923.

41 H. J. Massingham, *English Downland* (London, 1936), 82; A. Beckett, *The Wonderful Weald* 3rd edn. (London, 1924), 267.

42 N. Lytton to J. Blunt Lytton, 10 April 1917 quoted in N.

Lytton, *The Press and the General Staff*, 92.

[43] IWM 252/6. N. Lytton to Director General, IWM 27 Oct. 1942. Lytton has not been discussed in cultural histories of the Great War, despite his apposite activity, because he was not an official war artist (until 1919) nor a middle-class semi-fictional prose writer reflecting on the bourgeois experience of war. In his treatment of landscape some comparison might be made with the novelist Mary Butts in her depiction of Purbeck as a 'hollow land' which conveyed the sense of 'Europe's broken continuity in the post-war era'. P. Wright, *The Village That Died for England* (London, 1996), 85.

[44] I am grateful to Lady Madeleine Lytton for confirmation of this point and for her helpful memories of people depicted in the Peace fresco. Lady Lytton was the model for at least two of the three girls in a row in a scene where a woman (her mother) kneels in front of a soldier.

[45] N. Lytton, *The Press and the General Staff*, 175 & 112.

[46] N. Lytton, *The English County Gentleman*, 110. *See* 26, 31, 39, 133. On the invented or reconstructed relationship which emerged in the 1890s and 1900s so that 'Purity, decency, goodness, honesty, even 'reality' itself are closely identified with the rural south'; *see* the important exploratory essay by A. Howkins, 'The discovery of rural England', in R. Colls & P. Dodd (eds.), *Englishness, Politics and Culture 1880–1920* (London, 1986), 63.

[47] N. Lytton, *The English Country Gentleman*, 136. For the wider context *see* A. Howkins, *Reshaping Rural England*, 278–9; P. Horn, 226; Dakers, 192–3.

[48] N. Lytton quoted in G. Huxley 132. *See* also A. Powers, 'Public places and private faces — narrative and Romanticism in English mural painting 1900–1935', in J. Christian, *The Last Romantics: the Romantic Tradition in British Art* (London, 1995), 63.

[49] W. Smith Ellis, *The Parks and Forests of Sussex* (Lewes, 1885), 69–72; F. A. Douglas, 'A literary corner', *Sussex County Magazine* **3** (1929), 160–61; B. Short, 'The evolution of contrasting communities within rural England', in his (ed.), *The English Rural Community*, 33.

[50] A. J. C. Hare, *Sussex* (London, 1894), 147; I. Nairn & N. Pevsner, *Sussex: the Building of England* (London, 1965; reprint Harmondsworth, 1985), 642.

[51] On Forest country *see* W. Hading Thompson & G. Clark, *The Sussex Landscape* (London, 1935), 37.

[52] WSRO Add. Ms. 36, 416. Copy of conveyance of freehold property known as the Crabbet Park Estate, The Public Trustee to J. H. & F. W. Green Ltd, 19 Aug 1959. The collection of deeds and documents includes the best available plans of the mansion and parkland which comprised 412 acres in 1959.

[53] WSRO Blunt Mss Box 69, Family Portraits No. 5 Crabbet, Script for Home Service transmission, The Earl of Lytton, 25 Oct. 1957), 1.

[54] H. Belloc, *The County of Sussex* (London, 1936), 137. Hilaire Belloc of King's Farm, Shipley regularly visited Blunt as a near neighbour. The Blunts were specifically celebrated on p. 142.

[55] British Library (hereafter BL) Wentworth Bequest Add. Ms 54117, Lady Anne Blunt to N. Lytton, 28 Feb. 1912. See also her letter to N. Lytton, 21 Sept. 1912.

[56] C. Percy & J. Ridley (eds.), *The Letters of Edwin Lutyens to his Wife, Lady Emily* (London, 1985); Emily Lutyens to Edwin Lutyens, 13 Sept. 1910, 206.

[57] BL Wentworth Bequest Add. Ms. 54117, Lady Anne Blunt to N. Lytton, 31 March 1913.

[58] BL Wentworth Bequest Add. MS. 54116, W. S. Blunt to J. Blunt Lytton, 7 Oct. 1914.

[59] Interest rates rose from 3.5% to 6% during the war, Cannadine 93 and Thompson 328.

[60] BL Wentworth Bequest Add. Ms. 54116, W. S. Blunt to J. Blunt Lytton, 17 April 1916 with handwritten emendations by Judith Blunt Lytton. Her reply of 28 April 1916 was published in the [4th] Earl of Lytton, *Wilfrid Scawen Blunt: a Memoir by his Grandson* (London, 1961), 249–52. In her letter of 25 June 1916 she described her father as an 'impecunious mischief-maker', p. 254.

[61] BL Wentworth Bequest Add. Ms. 54116, W. S. Blunt to J. Blunt Lytton, 17 April 1916.

[62] WSRO Blunt MSS Box 64, W. S. Blunt to Lady Anne Blunt, copy, 11 Nov. 1916.

[63] WSRO Blunt MSS Box 64, W. S. Blunt to Lady Anne Blunt, copy, 18 Aug. 1917; Wilfrid Scawen Blunt, *History of the Crabbet Estate in Sussex from Original Documents in the Possession of its Late Owner*. Part 1 (Privately printed, 1917).

[64] Blunt was pleased to obtain Frogshole as 'Cowdray wanted it'. WSRO Blunt MS Box 64, W. S. Blunt to Lady Anne Blunt, copy, 6 Nov. 1916.

[65] BL Wentworth Bequest Add. Ms. 54116, W. S. Blunt to N. Lytton, 20 Feb. 1916. For Judith, Lady Wentworth's firm last word on the matter *see* WSRO Blunt Ms. Box 64, Lady Wentworth to Earl of Lytton, 28 May 1957.

[66] Quoted in E. Longford, *A Pilgrimage of Passion: the Life of Wilfrid Scawen Blunt* (London, 1979), 431.

[67] Percy & Ridley (eds.), *The Letters of Edwin Lutyens to his Wife Lady Emily*. Emily Lutyens to Edwin Lutyens, 1 March 1916, 336.

[68] W. S. Blunt to Mary Lovelace, 22 April 1916, quoted in Earl of Lytton, *Wilfrid Scawen Blunt*, 259.

[69] BL Wentworth Bequest Add. MS. 54149 *Crabbet Park Tennis Book 1909–19*. The relative and neighbour Lord Leconfield of Petworth House regularly visited to play.

[70] BL Wentworth Bequest Add. Ms. 54117, Lady Anne Blunt to N. Lytton, 14 July 1917.

[71] BL Wentworth Bequest Add. MS. 54154, N. Lytton to Edward Marsh, 24 Jan 1919. This is a tantalizing statement which includes a reference to his brother-in law Edwin Lutyens as the source of the work. Edwin Lutyens, memorial architect *par excellence*, attended the opening of the hall which is 'elemental' Lutyensque in the sense that it used a simple form of classical ratios to obtain a mass of proportion and lodge profile. It is not referred to in his private papers or in his catalogue of drawings. Plans for the proposed Victory Hall drawn by John Bond, probably in 1922, survive.

[72] N. Lytton, *The English Country Gentleman*, 14.

[73] N. Lytton, *The English Country Gentleman*, 193. These points invite research, on a far larger scale, on what happened at Petworth, Goodwood, Northiam, Ashburnham and Coombe Place after 1914. *See* P. Blackwell '"An undoubted jewel"; a case study of five Sussex country houses, 1880–1914', *Southern History* **3** (1981), 183–200.

[74] The first Lord Lytton remained a career diplomat and on his death his wife became lady-in-waiting to Queen Alexandra for financial reasons. The family were 'impoverished' aristocrats and had a small estate of 4800

acres in Hertfordshire.

[75] 'Frontiers are a sufficient nuisance in themselves without the addition of passports. Let us abolish them', N. Lytton letter to *The Times*, 11 July 1923.

[76] Cannadine, 85.

[77] At Boxgrove Parish Church, a stained glass memorial to Lord Bernard Gordon-Lennox depicts him as a young knight in armour with lance astride a medieval castle. The fresco by Reginald Frampton in the Cubitt family chapel at St Barnabas Church, Ranmore in Surrey emphasizes the virtues of Faith, Hope, Charity, Peace, Justice and Fortitude (1919). At the front of the Balcombe Hall the figures of Dolor and Spes (Sorrow and Hope) establish a different memory of war.

[78] N. Lytton, *The English Country Gentleman*, 183.

[79] Wiener, 50–51.

Short articles

Recent archaeological work at Pyecombe church, West Sussex

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INTRODUCTION

The Mid Sussex Field Archaeological Team was asked to record an area of tiled floor exposed in the tower of Pyecombe church in November 1994, prior to the installation of a new suspended floor. The opportunity was also taken to remove rubble from two areas of earlier disturbance cutting through the tiled floor, and record the sections revealed.

BACKGROUND

The chancel and nave of the church date to the 12th century; the tower is believed to have been added in the 13th century. The church is built of flint, now obscured by pebble-dash added during restoration in the 19th century. Alterations were made to the church in the later medieval period, 1914 and 1951 (*V.C.H.* 1940; Phelps n.d.).

THE TOWER FLOOR

The exposed floor surface of roughly square undecorated floor-tiles in two sizes (102 × 102 mm, 130 × 130 mm), was cleaned and recorded (Fig. 1). Some tiles were missing or had been covered with later mortar, remaining perhaps from repair work or from a floor laid on top. Two sleeper walls (12 & 3) had been laid on top of the floor, and probably supported a wooden floor installed in the church tower during the 19th-century restoration. Two further sleeper walls (8 & 9) appear to have been added during the work carried out in 1951, probably as additional underfloor support for the new organ.

In the central area of the tower some larger stone pieces had been incorporated into the tile floor, possibly to support posts from a wall/partition or a timber staircase.

THE EXCAVATION OF THE DISTURBED AREAS

The rubble fill connected with the insertion of the 1951 walls was removed, exposing a compact area of flint nodules admixed with chalk in a sandy mortar (15). This is the original western end wall of the nave, which extends under the modern bricks (8). Cutting into this wall was a grave cut (16) filled with chalk rubble. This was partially excavated to show that it extended eastwards into the nave, under the present church floor. A single human bone was found in the chalk rubble.

In the north-east corner of the tower, at the junction of the original west wall of the nave and the north wall of the tower, a hole (20) had been excavated down to the chalk subsoil. This was probably dug during the 1951 improvements when a pipe was inserted through the north wall of the church tower. The repairs to the north wall of the church after the insertion of the pipe can be clearly seen in Figure 4:2 (31) (microfiche).

The removal of this modern fill also enabled the join between the tower wall and the west wall of the church to be inspected. It was seen that the tower wall simply butts up to the original west wall of the church, with no attempt made to bond the two together. Both walls rest directly on the chalk subsoil, and are slightly wider at the base. They are constructed from irregular flint nodules, although knapped flint flakes found in the rubble suggest that some nodules were prepared before being incorporated into the walls. The mortar of the west wall of the church is grey/white, whilst that of the tower is an orange-red. This orange-red sandy mortar also appears to have faced the inner wall of the tower.

Below the modern rubble disturbance, a layer comprising frequent medium/small flint and chalk pieces with occasional large flint nodules bonded with a yellow-brown sandy mortar (19) had been dumped directly on top of the chalk subsoil to bring the floor level of the tower up to that of the church.

A section through a sequence of floors beneath the tiled floor was revealed by the removal of the modern rubble (Fig. 4:1 microfiche). As this section shows a number of different layers, it is likely that frequent repairs were made to the floors, with previous floors being removed or only partially removed before the next one was laid.

THE FINDS

A number of small finds came from the various rubble fills that were excavated during the watching brief, and are summarized on microfiche.

UNDECORATED FLOOR TILES

Samples of some of the undecorated floor tiles found in the rubble were recovered. The three main types found are listed below.

1. Dark orange-red colour. Sandy fabric with medium and small-sized inclusions of flint, chalk and iron. Large holes and fissures present in the fabric, some of which have a yellow brown sand filling them. Approx. 33 mm thick. Fragment only. Context 6. Post-medieval.

2. Dark orange-red colour. Fine sandy fabric with small iron and occasional flint inclusions. Trace of a dark green glaze on the surface. 23 mm thick. Fragment only. Context 17. 15th/16th century.

3. Dark orange-red colour changing to purple-red at the edge.

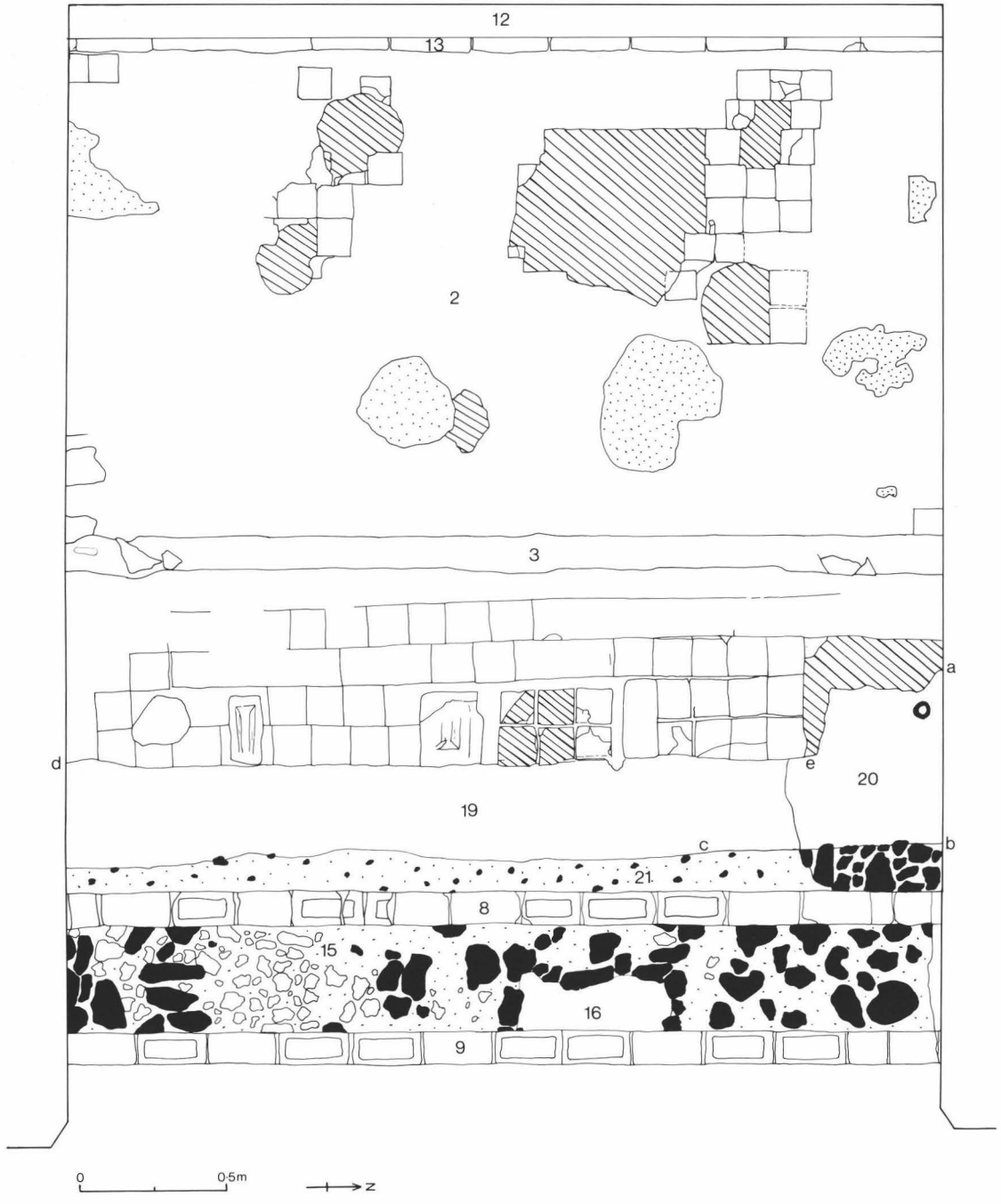

Fig. 1. Plan of floor in Pyecombe church tower.

Fine sandy fabric with small iron and occasional flint inclusions. Possible green glaze. Complete tile, 125 × 125 × 25 mm. Found loose on surface, probably from tiled floor (2) originally. Late medieval; 15th/16th century.

ENCAUSTIC FLOOR TILES

An encaustic floor tile was found by workmen during the removal of some pews in the north-west corner of the nave, prior to the installation of a new floor for the organ.

The floor tile (Fig. 2:1) shows a hound chasing a stag, with the animals moving diagonally across the tile from the top left to bottom right. The tile is 126 × 126 × 20 mm and weighs 607 g. It is made from a fine sandy fabric with small-sized black iron inclusions and the occasional small piece of chalk. The fabric is a reduced grey colour and is oxidized towards the edge of the tile where the colour is orange-red.

The stag and hound are in a white clay inlay, which varies from 1 mm to 2 mm in depth and the glaze shows as green on the upper surface and one edge, but red-brown on the other three edges. Where the glaze covers the white clay design it fired to a white colour. There is no sign of any stabbing on the back of the tile, however, there are traces of a white/grey mortar.

The tile was not well made; there are cavities in the tile fabric showing on the neck of the stag and body of the hound. The right foreleg of the stag has a deeper impression into which the glaze ran, and stained to a brown colour. The edge of the tile above the stag's antlers is slightly indented. Some of the white clay inlay came out before firing as the glaze overlies parts of the design where the clay is not present.

This design is also known from the excavations at Lewes Priory (Lyne forthcoming). In addition, an example from the Priory is held in the British Museum (Eames 1980, no. 1910). The stag and hound design varies slightly between the tiles, probably due to differing depths of impression and modification and repair of the stamp; or perhaps a number of similar stamps were available. All the tiles with this design share the same range of faults noted in the Pyecombe example. They also appear to have been made from the same fabric, whereas tiles with other designs from the Priory, held at the British Museum, are in a different fabric with few iron inclusions but large quantities of flint inclusions. There is a further, similar, tile from the Priory, but this shows the stag and hound facing the other way (Eames 1980, no. 1908); this too is in the flint-tempered fabric.

The Pyecombe 'stag and hound' tile is dated to the third quarter of the 13th century (1250–1275), and is the only example of its design to have been found outside Lewes (Lyne pers. comm.).

A further four decorated floor tiles located within a tiled area in the south-east corner of the sanctuary of Pyecombe church are described below, incorporating additional information provided by Malcolm Lyne (Fig. 3).

These four tiles are of particular interest in that they too come from the source which supplied the Cluniac Priory of St Pancras at Lewes with nearly all of its encaustic tile flooring during the third quarter of the 13th century. Of these four designs, only one has been published (Eames 1980) and another is known from Richard Lewis' unpublished excavations at the St Pancras Infirmary Chapel during the 1970s (Eames forthcoming). The other two designs are completely unrecorded.

No. 2 [125 × 126 mm] A dark grey glazed inlay, with the rest of the tile in a light orange/red to buff colour. This design is unrecorded, and is one quarter of a four-tile design with two concentric circles enclosing and partially cut by four fleur-de-lys motifs radiated from a small central circle. A further ?fleur-de-lys motif is depicted in that corner of each tile that is outside the central design. The fleur-de-lys was not only a royal symbol, but was also associated with the cult of the Virgin Mary.

Fig. 2. The encaustic floor tile, with the stag and hound design, found during the repair work at Pyecombe church.

No. 3 [124 × 125 mm] The design is in a white inlay, and the tile has an olive green glaze. This design is published from Lewes Priory (Eames 1980, no. 1972), and has two birds flanking a central tree of life arranged diagonally on the tile. There are no examples from Richard Lewis' dig at the Priory, but a number from the 1845 excavations survive in the British Museum collections. The design was clearly not used in the Infirmary Chapel floor, but was probably incorporated in flooring within the Great Monastic Church or Chapter House at the Priory.

No. 4 [124 × 122 mm] A four-tile design with a central flower enclosed within two concentric circles. This design has a white slip inlay with a red-brown glaze. A considerable number of tile fragments with this design came from the Infirmary Chapel. Well-preserved tiles from the Infirmary Chapel at Lewes show that the white inlay circles were punctuated by raised discs of

Fig. 3. The encaustic floor tiles located in the tiled floor in the sanctuary at Pyecombe church.

red-firing body clay and a petal from the central flower was present in the inner corner of each of the four tiles. The Pyecombe tile had its white slip design rather poorly applied and does not show these features, other than a blob where the end of the central flower petal should be.

No. 5 [120 × 125 mm] A dark green to brown glazed inlay, with the edges of the tile damaged. This design is also unpublished and is incomprehensible, unless it is part of a tile inscription incorporating the letter 'H'. It may, however, be that the tile was very badly finished, with part of the white slip inlay of the stamped design omitted.

DISCUSSION

Pyecombe church was granted to the Priory of St Pancras at Lewes by Adam de Poynings, and this grant was confirmed in the Charter of Ralph, Bishop of Lewes 1091–1125 (*SNQ* 1, 50), and the Lewes Priory Charter of Seffrid II, Bishop of Chichester 1180–1204 (*SNQ* 2, 253). This link between Lewes Priory and Pyecombe church may now be further evidenced by the occurrence at both locations of these encaustic floor tiles.

The similarity of design and fabric of the floor tiles does suggest that they were probably being produced at only one, or possibly two, kiln sites. Until the discovery of the tiles at Pyecombe, these designs were not known from any other source outside Lewes which would indicate that the kiln was located close to Lewes to reduce the transportation. At the time Elizabeth Eames prepared her encaustic tile corpus, none of the tile designs from this production source were known outside the priory itself. In recent years, however, examples have come to light at both Lewes Friary (M. Bennell pers. comm.) and Lewes Castle (Drewett 1992, figs 20 & 21). A possible source for these tiles is the kilns at Ringmer.

Although it is likely that the tiles found at Pyecombe and the Priory came from the same source, it is unclear whether they were supplied and laid at both Pyecombe church and the Priory at the same time. Perhaps the Priory had a surplus of tiles, some of which were then passed on to Pyecombe. The fact that two of the tiles found at Pyecombe were component tiles of larger designs does suggest that odd tiles were being supplied rather than complete designs. A further possibility is that Pyecombe received the tiles at a later date, perhaps when floors at the Priory were being repaired or replaced and the tiles were therefore no longer required by the Priory.

Pyecombe church may not have been the only church to have benefited in this way from its link with Lewes Priory. Poynings Church, some 2.5 km to the west of Pyecombe, which was also given to the Priory by Adam de Poynings, also has a

collection of tiles. The designs on the tiles at Poynings are also known from the Priory (Ponsonby *et al.* 1934), but differ from those found at Pyecombe, being smaller in size, with different designs, and probably date from the 14th century. Perhaps there are similar collections of tiles in other churches connected with Lewes Priory still waiting to be found?

Acknowledgements
I would like to thank Lawrence Gaston, Michael Fairbrother and Neil Griffin who helped with the work at Pyecombe Church. Malcolm Lyne commented on the encaustic tiles, and provided information regarding the Priory excavations. Beverley Nenk at the British Museum allowed me to inspect the tiles from Lewes held in the Medieval and Later Antiquities Department, and Christopher Whittick provided assistance with the documentary evidence, and commented on an early draft of this report. Finally I would like to thank Mr Ian Currie and Mrs Betty Eade who allowed us to carry out the work at Pyecombe church, and gave us their support throughout.

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A Middle Bronze Age pin from Broomhill Sands, Camber, East Sussex, and its context

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In 1993 Mr D. Murfet donated a pin to Hastings Museum [Accession no. HASMG: 993.90] (Fig. 1). He had found the pin at ebb tide close to the Danger Area of the Rifle Range on the Broomhill sands where the waves appeared to have gouged out large troughs 0.3–0.6 m deep through the beach sand and shingle after a night of stormy, rough weather. The pin (Fig. 2:A) lay point downwards at TQ 9902 1780 between the High and Low Mean Water marks. In the same troughs musket shot, modern rifle bullets and pieces of shrapnel were also found.

The Middle Bronze Age pin is of Continental type. There is no known record of any other British find. All distinctive features of the pin are alien to known British types. It belongs to the type termed in German, *Spindelkopfnadel*. The important

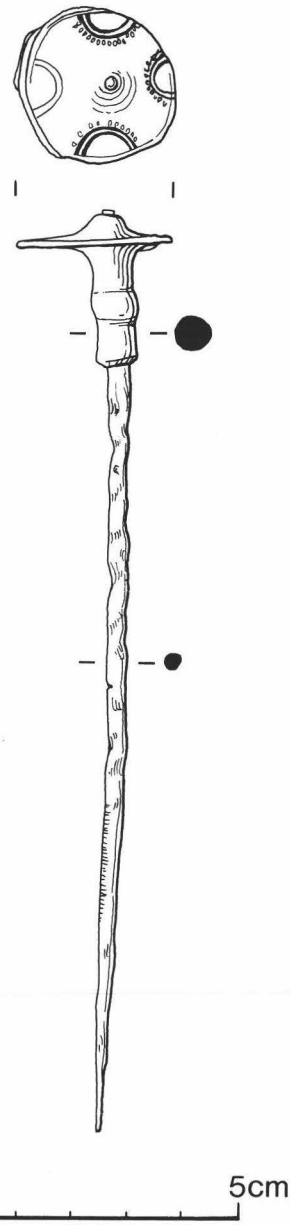

Fig. 1. Bronze pin from Broomhill Sands, Camber.

features are the two-part assembly of shaft and 'spindle' head, the ribbed collar on the underside of the head, and the arcuate decoration on the upper surface. These are all well-matched on Continental pins from central Europe to Poland, although, as yet, few parallels for all three features together have been found. The parallels are dated between late Tumulus Culture and early Urnfield, *c.* 1400–1100 BC. There is a similar series of disk-headed pins in Ireland, but they do not exhibit the specific features mentioned above (Needham 1995).

It is worth considering how the pin came to be at

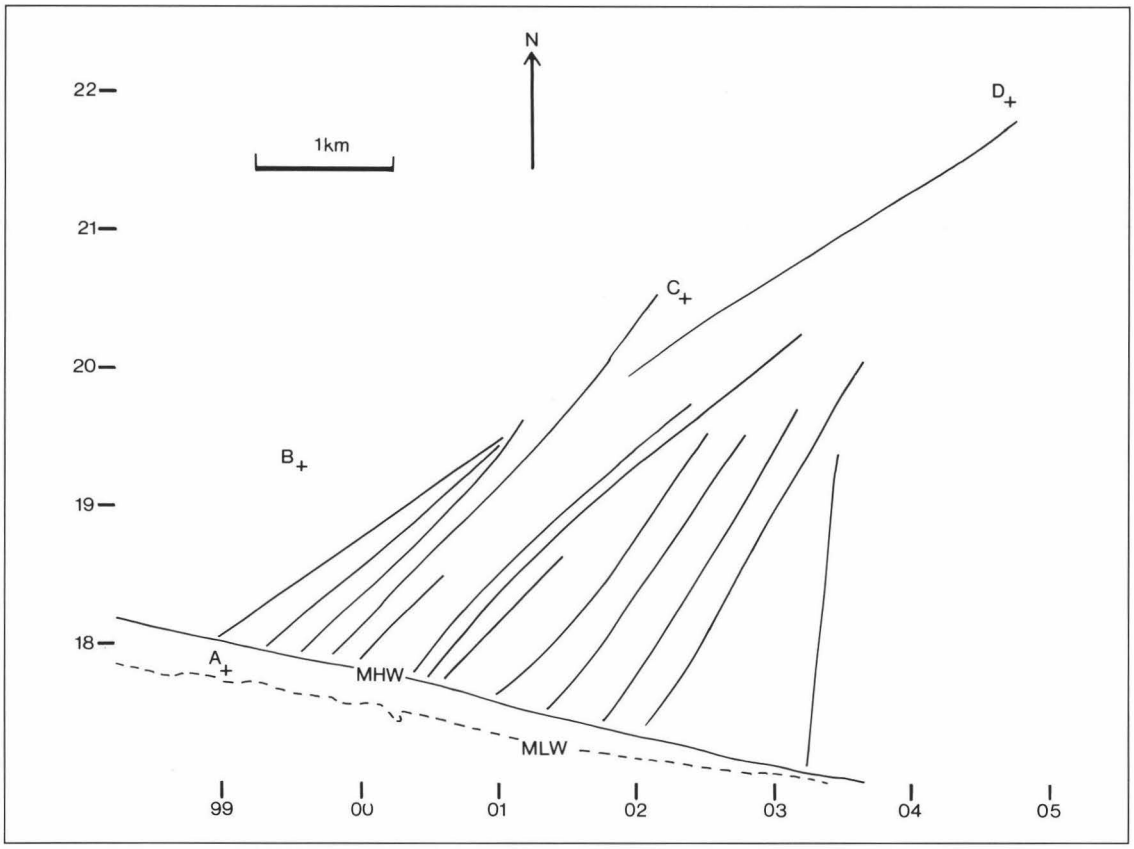

Fig. 2. Location of Bronze Age material in relationship to the historic coastline.

Broomhill Sands. The Romney Marsh area was formed primarily by wave action dominating from the south-west and bringing flint pebbles from the Sussex shoreline to form shingle spits and ridges across the bay (Eddison 1983). Sedimentation in the relatively calm water between the shingle spits which run north-east to south-west was a secondary factor in building up the land (Robinson 1988). It is possible, therefore, that the pin was washed along by the sea with shingle derived from erosion of the Sussex shoreline further west.

The movement of shingle has necessitated the construction of sea defences from about the late 13th century, and approximately half the present coastline of the Romney Marsh area is defended by sea walls. Since the 1950s these walls have been protected by shingle feeding for which the material is likely to have been brought from Nook Point and the area of the foreshore west of the Rother (Robinson 1988). The pin could have been transported in the shingle during beach recharge at Broomhill Sands.

However, despite some evidence of marine corrosion, the pin is in good condition (Needham 1995). It is not heavily abraded or broken as might have been expected had it been moved in shingle either slowly over a long period of time, or quickly in the bucket of a modern machine. The pin's condition suggests that it was originally deposited in the general area of Broomhill Sands and, therefore, that the sand and shingle bars forming this part of the coastline were in place by 1400–1100 BC.

Four other relevant finds have been made in the area. Five bronze low-flanged axes dated to *c.* 1800–1600 BC were found during gravel working at NGR TR 0466 2194 (Fig. 2:D). They lay at about 4 m O(rdnance) D(atum) in an area stratigraphically divided between deep deposits of shingle and clays overlaid in places by a thin layer of brown clay-loam (Needham 1988). In this report Needham discusses other Bronze Age finds in the context of the land-form during the Bronze Age.

A barbed-and-tanged arrowhead and three flint flakes were found at NGR 0229 2051 (Fig. 2:C) in 1991 during excavations by the Field Archaeology Unit of University College, London, at the Brett Gravel plant site south-west of Lydd. The flints were found on the top of a gravel ridge after topsoil stripping. The arrowhead belongs to Green's Sutton 'B' type and can be dated typologically to the second millenium BC (Green 1980)

Using a metal detector, Mr B. Waterhouse found a late Bronze Age faceted socketed axe at NGR TR 0681 2655 in the area of St Mary in the Marsh. It was found 70 mm below ground in the topsoil of a flat field that is used for turf production. The axe was examined by Mr K. Parfitt of Canterbury Archaeological Trust. He suggested that it was similar to Pearce's figure 19b with a date of 600–500 BC (Pearce 1984). The axe

was returned to the farmer, Mr Brian Frith, Warren Farm Cottage, Dymchurch Road.

At a point NGR TQ 995 193 (Fig. 2:B) at Tishy's Sewer, Broomhill, just north of the pin findspot, a sample of limus (Q2651) immediately above the flint cobble shingle on the floor of a shingle low at *c.* 0.8 m OD, was taken (Tooley & Switsur 1988). Calibration of the dates given (courtesy of Dr Mark Gardiner, South Eastern Archaeological Services) yielded a date of cal.BC 1749–1625 at one sigma (Stuiver & Reimer 1993). At the same place, a sample of limus (Q2652) immediately subjacent to the brackish water lagoonal clay of stratum 4, *c.* +0.9 OD, was taken (Tooley & Switsur 1988). Calibration of the dates given yielded a date of cal.BC 1328 at one sigma (Stuiver & Reimer 1993).

The pin dated at 1400–1100 BC by comparison with parallels is therefore considered to have been found in the vicinity in which it was originally deposited. The existence of the coastline at this date accords well with the dates of finds in the surrounding area.

Acknowledgements

I would like to thank M. Gardiner, D. Murfet,. S. Needham and B. Waterhouse for their assistance, and M. Gardiner and J. Russell for their drawings.

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Later prehistoric flintwork from Valley Dip, Seaford, East Sussex

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&
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INTRODUCTION

Between 1987 and 1990, a new housing development on the north-western outskirts of Seaford, East Sussex was being extended along the north-west slope of a reclaimed estuarine valley, between 'Grand Avenue' and 'Valley Dip', and eventually just beyond the latter (Fig. 1). During this time Ed and Biddy Jarzembowski, together with Peter and Joyce Austen, collected a large quantity of prehistoric flintwork, together with some fire-fractured flint and a few sherds of pottery. Although the flintwork was spread along the length of the valley side, it did appear to be centred on TQ481005. Visits to several diggings on the north-east side of the valley failed to yield flintwork, possibly because the previous phases of building work had

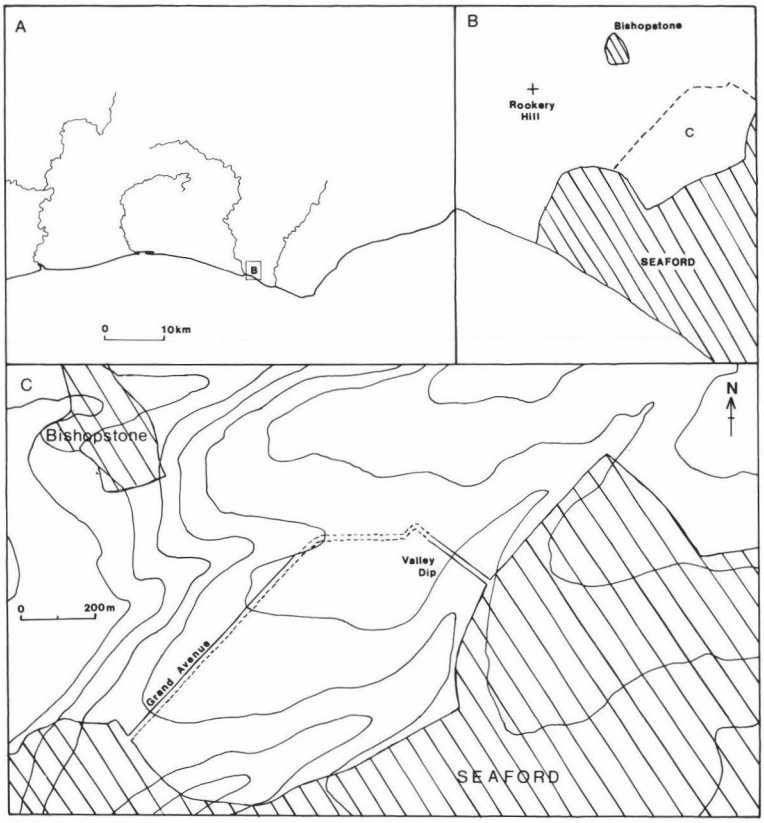

Fig. 1. Location map, showing the location of the area from which the flintwork was recovered at Valley Dip.

removed any archaeological layers.

The geology comprises an Upper Chalk valley side with evidence of solifluction and with outcrops of sandy Clay-with-flints, and the valley bottom shows a build-up of hillwash deposits resulting from erosion down the valley sides.

Only one possible feature was noted during the development. A concentration of fire-fractured flint, reddened iron-stone and fragments of charcoal covering an area of 1.0 × 0.4 metres at a depth of 0.18 metres. This may represent a hearth of unknown date.

The finds, field notes and archive, have been deposited at the Museum of Sussex Archaeology, Lewes and are discussed below.

THE FINDS

FLINT

During the fieldwork at Valley Dip, 984 pieces of worked flint were recovered, and are listed in Table 1.

Table 1. The flint.

Debitage	**Number**
Flakes	620
Blades	28
Bladelets	9
Axe-thinning flakes	10
Axe-sharpening flakes	2
Polished axe flakes	5
Shattered pieces	96
Sub total	*770*
Single-platform flake cores	19
Two-platform flake cores	20
Three-platform flake cores	5
Single-platform bladelet cores	3
Two-platform bladelet core	1
Core tablets	2
Crested blades	2
Core rejuvenation flakes	7
Subtotal	*59*
Total debitage	**829**
Implements	**Number**
End scrapers	69
Side scrapers	13
Hollow scrapers	7
Button scrapers	2
Combination tools	5
Piercers	8
Notched pieces	19
Knives	6
Bifacially retouched piece	1
Miscellaneous retouched pieces	6
Burins	2
Transverse arrowhead	1
Axe roughout	1
Picks	3
Fabricator	1
Hammerstones	11
Total implements	**155**
Total flintwork	**984**

The raw material

The flint found at Valley Dip is of three types. The first type is a grey, blue-grey to blue-black flint, with some of the grey pieces having a whitish-grey speckle. This type of flint, which makes up the largest proportion of the worked flint in this assemblage, is commonly found as nodules on Clay-with-flint outcrops on the South Downs, but could also have come from the colluvial deposits in the immediate area of Valley Dip. The second type of flint derives from water-rolled pebbles, possibly from either a riverine source, as suggested for the similar type (Type B) at Bishopstone (Bell 1977), or, more likely, from a coastal source. The third type corresponds to Bell's Type C from Bishopstone, and is a stained green-brown colour typical of the flint from the basal Tertiary pebble bed on the chalk, residual examples of which occur locally. Only a small number of pieces of worked flint were of this type.

The debitage

A large proportion of the flintwork found was debitage, comprising mainly hard hammer-struck flakes. Less than 1% of the flakes were soft hammer-struck, although all of the bladelets and 27% of the blades were produced with a soft hammer. Most of the flakes were short and squat, with large bulbs of percussion and butts. There was a high proportion of hinge fractures and miss-hits. A very high proportion of all of the flakes recovered has cortex present, with the shorter, stubbier flakes more likely to have cortex remaining on them. However, by contrast the blades and bladelets, and to a lesser extent the longer flakes, have little or no cortex present. Longer flakes are more likely to have been retouched (13% of the longer flakes were retouched, whereas only 8% of the shorter squat flakes had been retouched), and most of the piercer, notched and knife-type implements had been manufactured on longer flakes.

The small and squat size of the majority of the flakes may be a result of the raw material locally available. The nodules that were being collected may have been of a small size, so that only small squat flakes could be struck from them. It is also significant that the major implement type found in the assemblage is the end scraper, manufactured on small rounded flakes. Was best use being made of the available raw material, or was the raw material being selected because scrapers of this size and shape were required for specific tasks that were being carried out on the site?

Four of the cores were one- and two-platform bladelet cores and together with the two core tablets found, probably date to the Mesolithic period. One of the two-platform flake cores has its platforms at 90° to one another, and displays some evidence of platform preparation. This, together with the crested blades, is typical of earlier Neolithic period core reduction techniques. However, the remainder of the cores comprise one-, two- and three-platform flake cores, few of which have any sign of the platform having been prepared. A number of the single platform cores appear to have only had a small number of flakes removed from them before being discarded (Fig. 2:2). Some of the cores were subsequently used as hammerstones, with abrasion on one or more surfaces. There is a very high proportion of cores to flakes amongst the material recovered from Valley Dip.

Also found amongst the debitage was evidence for the production and use of axes in the Neolithic period. A number of axe-thinning flakes suggests that axes, and other core tools, were being manufactured or repaired here. The axe-sharpening

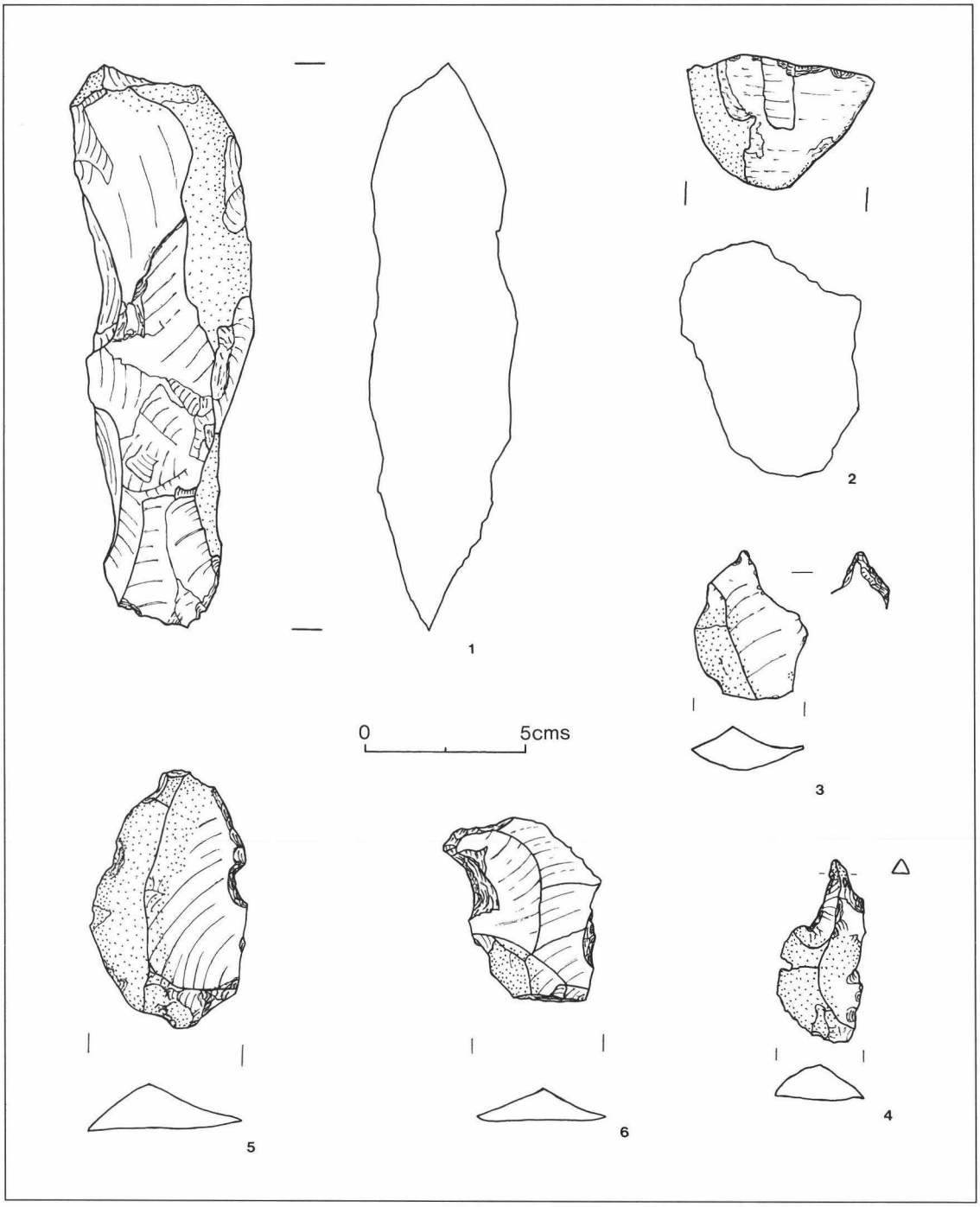

Fig. 2. The flintwork: 1) Hassocks adze; 2) core, 3–4) piercers, 5–6) notched pieces.

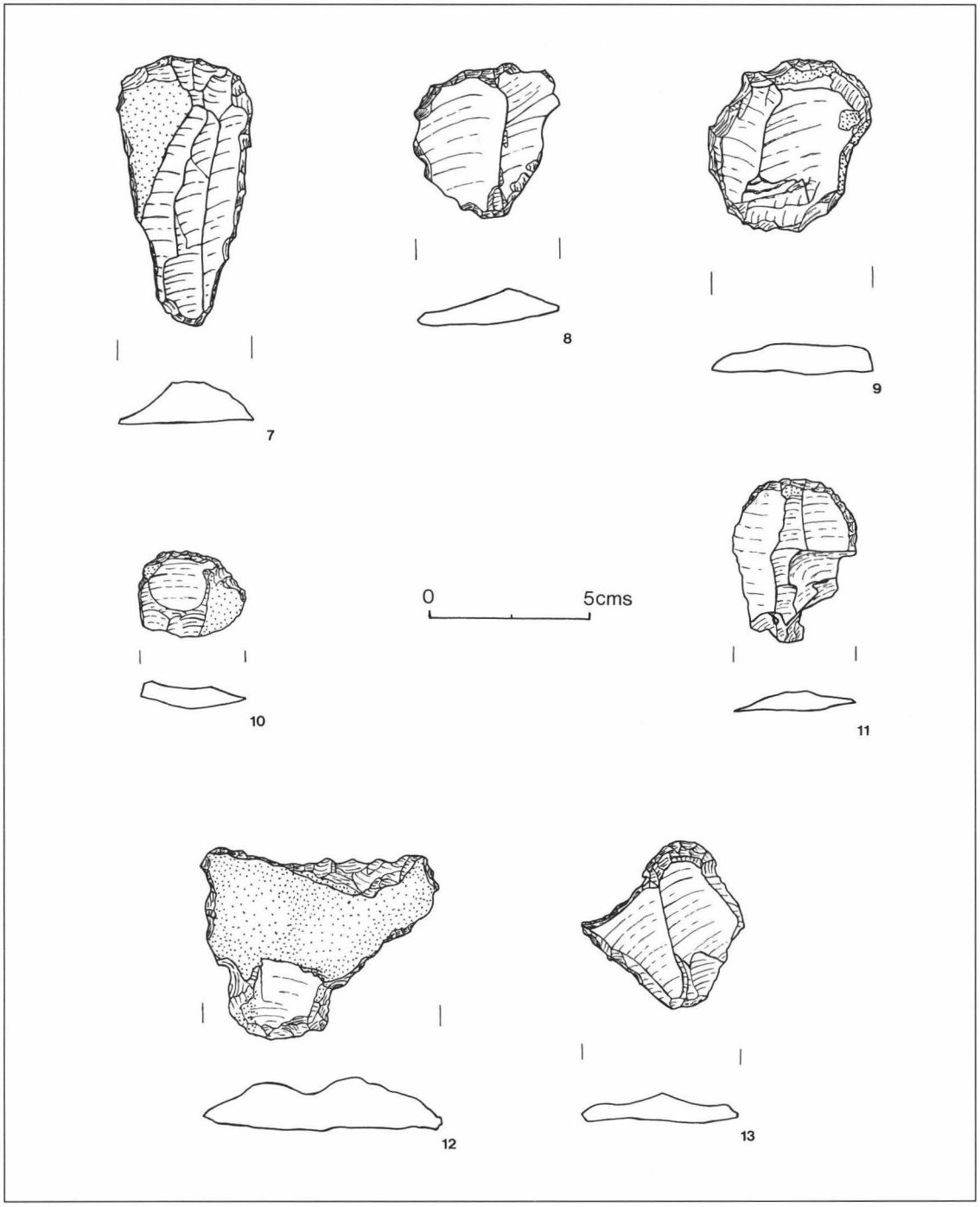

Fig. 3. The flintwork: 7–11) end scrapers; 12) hollow scraper; 13) combination tool.

flakes, and flakes from polished flint axes, also show that axes were being used, damaged and modified here during the Neolithic period.

The implements

Scrapers were the predominant type of implement found (Table 1) at Valley Dip, and of the scraper types, end scrapers were the most common. A few end scrapers were manufactured on blades and long flakes (Fig. 3:7), and may date to the earlier Neolithic period, but the majority were produced on the shorter rounded squat flakes (Fig. 3:8–11). A smaller number of side scrapers manufactured on longer flakes, and a few hollow scrapers (Fig. 3:12) were also found. Five combination tools, two scraper/piercers (Fig. 3:13) and three scraper/notched pieces, were recovered and are typical of this implement type introduced in the later Neolithic period. Most of the scrapers found have abrupt retouch. However, a small number do not appear to have any retouch, but are heavily abraded around the scraping edge. Some of the larger scrapers are worn and abraded along the side and appear to have been hafted.

Other implements found at Valley Dip include piercers, manufactured on both long and short flakes (Fig. 2:3–4), and notched pieces on long flakes and blades (Fig. 2:5–6). A small number of knives were found, together with two bifacially worked pieces; one a fragment from an invasively retouched knife (Fig. 4:15), and the other a fragment from a possible ovate or laurel leaf.

A single oblique type transverse arrowhead (Fig. 4:14) was found, and amongst the debitage a shattered piece of flint may have been intended as a blank for a barbed-and-tanged arrowhead, before it was miss-hit.

Amongst the core implements are three picks, two of which may be Mesolithic in date. One of these (Fig. 2:1) is a Hassocks adze, the other was smaller. A single axe roughout suggests some axe production in the Neolithic period may have taken place nearby.

In addition to the fire-fractured flint from the hearth feature, 95 pieces of fire-fractured flint weighing 3542 grams were collected at Valley Dip. From amongst the worked flint, three end scrapers, a flake and one shattered piece were also fire-fractured.

THE POTTERY

A small quantity of pottery sherds was recovered from Valley Dip, and are summarized in Table 2. The following fabrics were identified:

Roman

1. Soapy grog-tempered. East Sussex Ware.

Medieval

2. Oxidized sandy ware, with small irregular flint inclusions. Traces of a green glaze on some sherds.
3. Oxidized sandy ware, no visible inclusions.

Post-medieval

4. Stoneware.
5. Earthenware.

Table 2. The pottery.

Fabric	Number of sherds
1	3
2	8
3	4
4	1
5	2
Total	**18**

DISCUSSION

In the Mesolithic period the local flint resources were being exploited, as demonstrated by the bladelet cores, core tablets and bladelets found. There are also Mesolithic picks, which suggest that activities other than exploitation of the flint, were

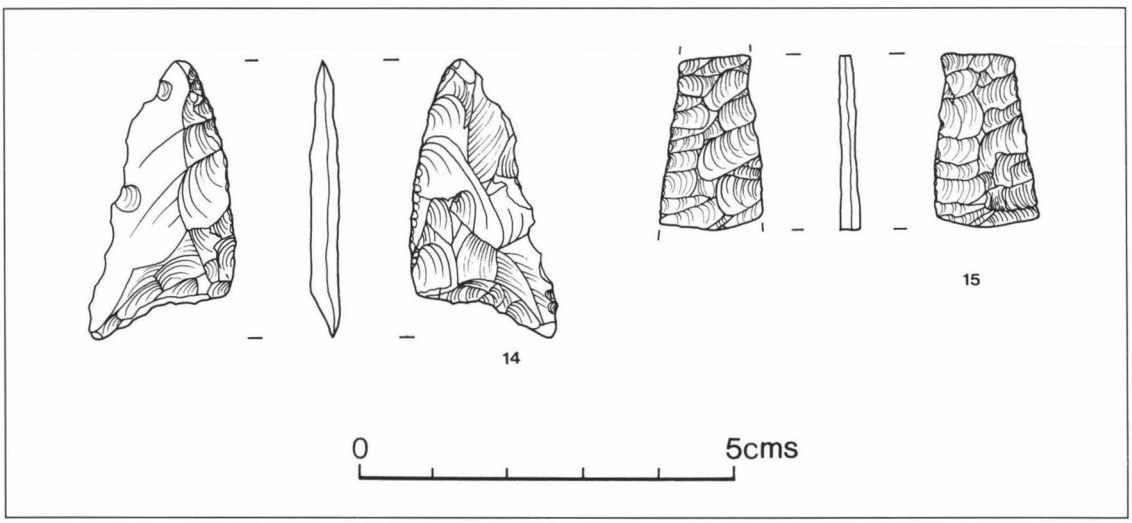

Fig. 4. The flintwork: 14) transverse arrowhead; 15) invasively-retouched knife fragment. (Drawn by Jane Russell.)

also taking place here. However, there is a distinct lack of any typical Mesolithic blade or flake implements, which might be expected to occur on an activity site, so rather than suggesting temporary or seasonal occupation perhaps the picks were also associated with the exploitation of the flint. Similar Mesolithic flint exploitation elsewhere on the South Downs has been suggested, such as at East and West Hills, Pyecombe (Butler 1988; 1993).

In the Early Neolithic period there is little evidence for extensive activity at Valley Dip. The single core and crested blades, typically Early Neolithic in date, would suggest occasional exploitation of the local flint. However, work on Rookery Hill, Bishopstone, about one kilometre to the west of Valley Dip (Fig. 1:B) suggested that an unenclosed earlier Neolithic settlement was located there (Bell 1977), although a radiocarbon date did indicate that the activity extended into the later Neolithic period.

The later Neolithic saw a dramatic change, away from what was probably seasonal exploitation of the flint in the earlier periods, to a much more intensive and continuous use of the downland. There is a vast increase in the quantity of debitage: the large number of cores, hammerstones and waste hard hammer-struck flakes shows that the local flint was then being exploited more vigorously, but with less care taken in the selection of raw material, than in the preceding periods. The number and range of implements found indicates that not only was the flint being collected and manufactured into implements here, but it was also being utilized in the immediate locality. The dominant implement types at nearby Rookery Hill were scrapers and serrated flakes, with the serrated flakes predominating in the Early Neolithic contexts. The range of implements found at Valley Dip, such as scrapers, notched pieces and piercers, but no serrated flakes, indicates that a different and possibly wider range of tasks were being carried out here in the later Neolithic period.

The valley is one of two bounding the promontory of Hawth Hill; both valleys have abandoned sea cliffs at their southern ends showing they were also inlets (Castleden 1982; pers. observ.). The flat ground fronting the sea cliffs is composed of Ouse muds representing floodplain and marine marginal environments (Jarzembowski 1988). A buried beach in the Bishopstone inlet was dated to the Iron Age (Bell & Jarzembowski 1990). If the Ouse mouth migrated west to east behind a bar, then it is reasonable to speculate that it did not round Hawth Hill during the earlier periods discussed here. The lower part of the valley would therefore have been open to the sea.

The range of flintwork found at Valley Dip does suggest that there was probably a later Neolithic settlement somewhere in the immediate vicinity. It is likely that the north-west slope of this estuarine valley, with its access to marine resources, may have provided an ideal location for such a settlement. In addition, a site located here would have been sheltered from prevailing westerly winds by the hill crest. It is also possible that the superficial deposits on the chalk could have provided other valuable resources such as freshwater, drainage, better soil and may even have supported woodland. All of which would have encouraged the establishment of a settlement here.

Acknowledgements
We would like to thank Peter and Joyce Austen for allowing us to report on the flintwork they collected, and also Biddy Jarzembowski who helped with the fieldwork. This is P.R.I.S. contribution No. 406 for Ed Jarzembowski.

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A Bronze Age enclosure near Ditchling Beacon, East Sussex

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During 1990 Paul Smith, then Assistant County Archaeologist for East Sussex, identified on an aerial photograph a possible enclosure and adjacent field boundaries to the west of Ditchling Beacon at TQ 3265 1280 (Fig. 1). A fieldwalking survey to identify the extent and date of the enclosure was arranged with the author.

The enclosure is on an outcrop of Clay-with-flints overlying the Upper Chalk and is situated on the south-facing slope of Ditchling Beacon overlooking a dry valley, Hogtrough Bottom. The enclosure shows as an oval crop mark orientated south-west–north-east and is approximately 130 metres long and 60 metres wide (Fig. 1C). There appears to be an entrance midway along its southern side, with a possible field boundary entering the enclosure from the south-east at the same place. Within the enclosure there are feint traces of possible hut circles. A probable field boundary runs from the south-west side of the enclosure and may be part of the field system visible in the fields to the west of the site. Traces of another field boundary ran north-east from the eastern end of the enclosure. The presence of these features is also indicated by changes in soil colour. Chalk rubble in the ploughsoil around the enclosure might indicate the former presence of chalk banks, now ploughed out.

The fieldwalking was carried out between November 1990 and January 1991. Transects were set at ten-metre intervals and divided into thirty-metre collection units. Only the collection units that produced more than the average number of artefacts were plotted to show the distribution of flintwork and fire-fractured flint. However, each implement and pottery sherd recovered is shown. (Fig. 2)

Flintwork was also recovered to the north of the enclosure, on the crest of the ridge running up to Ditchling Beacon, and centred on TQ329129.

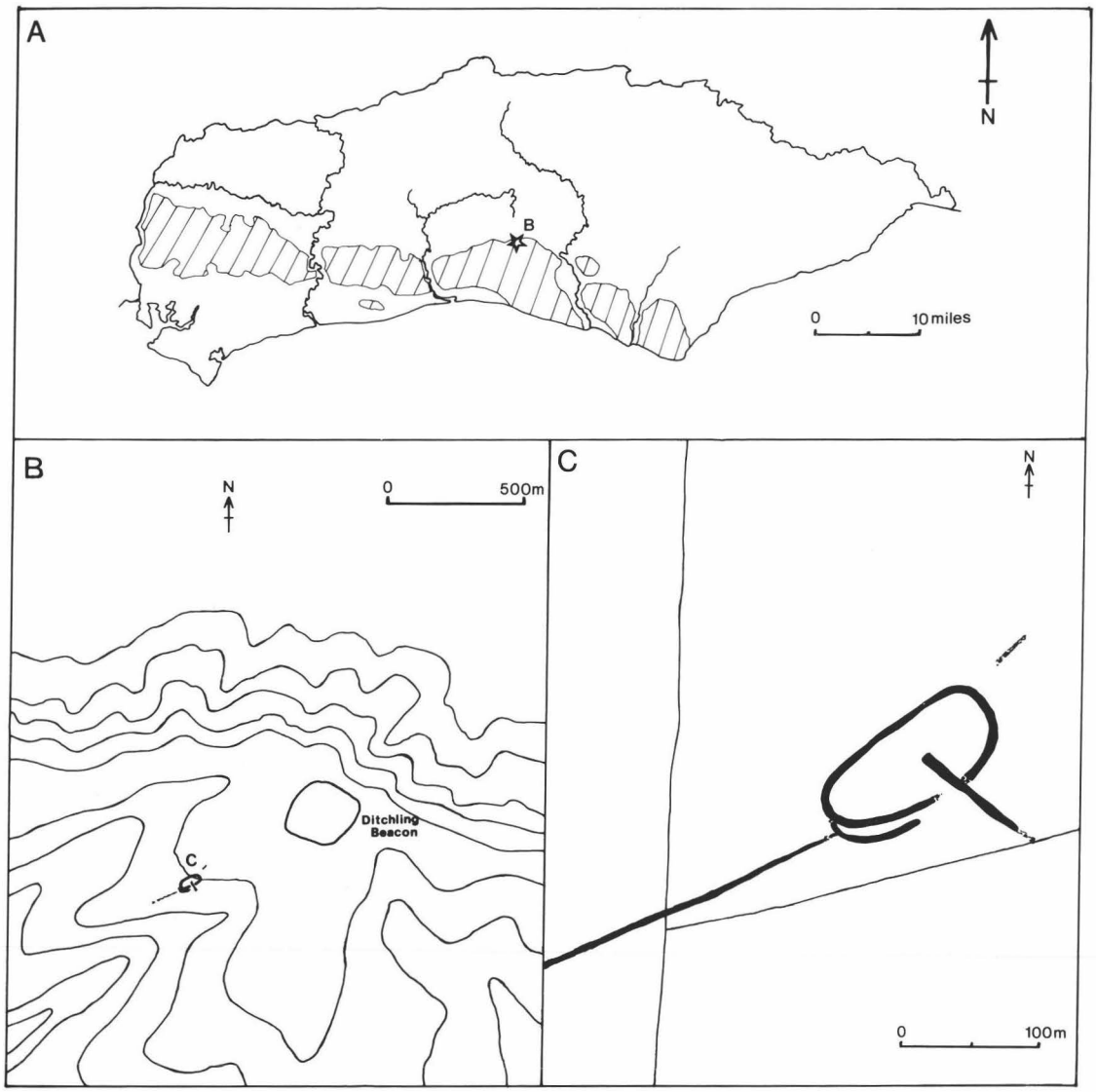

Fig. 1. Location of the enclosure near Ditchling Beacon.

THE FINDS

The fieldwalking recovered a large quantity of flintwork and a small number of badly eroded pottery sherds.

THE FLINT

The assemblage included a small quantity of Mesolithic and early Neolithic pieces, but the majority can be dated to the later Neolithic and Bronze Age.

The raw material

Two types of flint were used in the manufacture of most of the pieces:

a) Blue-grey/black flint with some patination and cortex present. Found as nodules in outcrops of Clay-with-flints along the Downs.

b) Light-grey/white flint, usually patinated and generally having some cortex present. Found in the chalk either through mining or where outcrops of flint have been exposed.

The later Mesolithic and early Neolithic assemblage

Debitage

The assemblage includes a quantity of soft hammer-struck blades and bladelets, together with a few soft hammer-struck flakes, manufactured from good quality flint of type a). These

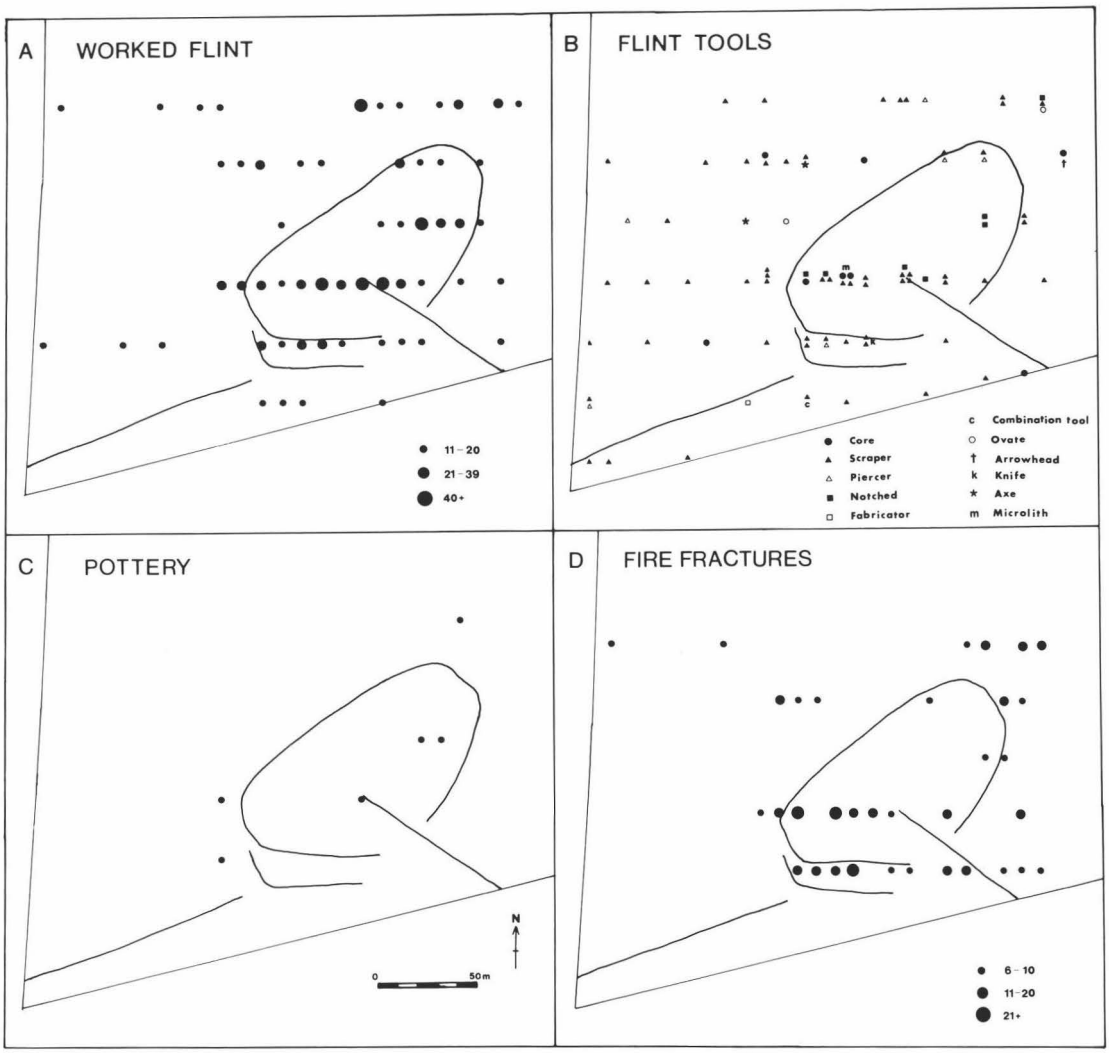

Fig. 2. Distribution of the finds from the fieldwalking.

display thin butts and minimal bulbs, and generally have scars at the proximal end resulting from the preparation of the core platform prior to removal. A small number of the blades have abrupt retouch, and some are truncated. In addition, there is a single burin spall and a crested blade, which can be dated to the Mesolithic and early Neolithic periods respectively. A possible early Neolithic core, with two prepared platforms at right angles to one another, is also present.

Implements

Four of the end scrapers found in the survey probably date to this phase. These include a small end scraper on a blade (Fig. 3:1), and another which appears to be a broken end scraper on a blade. A single notched blade (Fig. 3:2) was also found; the scars on the proximal end resulting from platform preparation show this to be Mesolithic/Early Neolithic in date. A single microlith, retouched partially along one edge, was recovered during the survey (Fig. 3:3). Microliths were replaced in the Early Neolithic period by leaf-shaped arrowheads, an example of which was also recovered (Fig. 3:4). A small pick (Fig. 3:5) and a fabricator (Fig. 3:6) found outside the survey area at TQ 329129, also belong to this earlier phase.

The later Neolithic and Bronze Age assemblage

Debitage

Hard hammer-struck flakes, manufactured on flint of both types and of any quality, predominate the assemblage. Most have some cortex present, which indicates that they have come from cores which have not been extensively worked. The hard hammer-struck flakes have wide butts and prominent bulbs, a large number also have hinge fractures. A small number of soft hammer-struck flakes, which tend to be smaller, are also

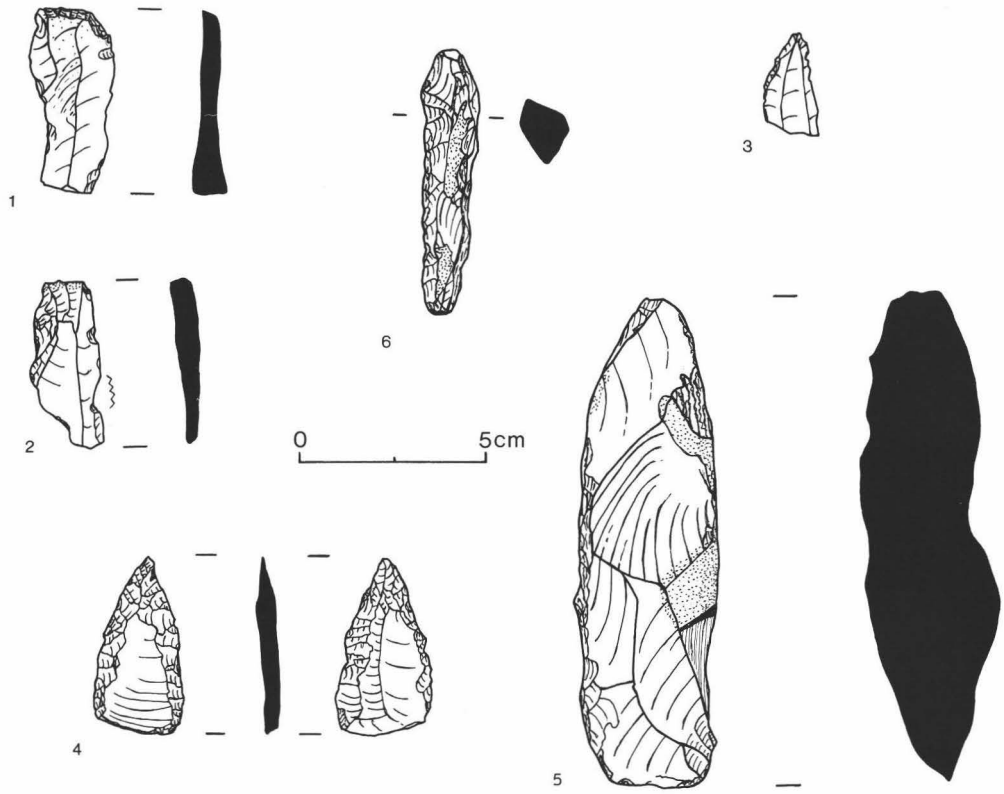

Fig. 3. Mesolithic and Early Neolithic flintwork: 1) end scraper; 2) notched blade; 3) microlith; 4) leaf-shaped arrowhead; 5) pick; 6) fabricator.

present, and probably result from the production of implements. The majority of the flakes have greater breadth than length, but longer flakes here are more likely to have been retouched. Approximately 4% of all flakes have been retouched (e.g. Fig. 4:7), with most of the retouch being abrupt or semi-abrupt. A large proportion of the debitage (14%) comprises shattered pieces/chips, again indicative of implement production and also usage. A small quantity (<1% of debitage) of axe-thinning flakes was also found (Table 1), and includes two large cortical blade-like initial axe-thinning flakes.

All of the cores are either single platform cores which have had a number of removals detached from a suitable unprepared platform before being discarded (Fig. 4:8), or two platform cores (Fig. 4:9) which were discarded when no further removals could be made.

Implements

Scrapers were the most common form of implement found in the survey, comprising 65% of all the implements recovered (Table 1). The most frequent type was the end scraper which made up 81% of the total. These varied from small end scrapers finely worked with abrupt or semi-abrupt retouch (Fig. 4:10–13) to end scrapers on large hard hammer-struck flakes (Fig. 4:14), some of which were abraded around the working edge rather than retouched (Fig. 4:15). One of the common forms of end scraper found was manufactured on very broad flakes, resulting in a wide scraping edge (Fig. 4:16). A small proportion of the larger end scrapers have abrasion on the sides of the flake, suggesting they may have been hafted (Fig. 4:17). In addition to the end scrapers, there were a few side scrapers (Fig. 5:18) and end/side scrapers (Fig. 5:19), together with a single hollow scraper (Fig. 5:20). A single scraper/piercer combination tool was also found.

The piercers (Table 1) were either manufactured on small flakes, or on very large flakes (Fig. 5:21 & 22); the difference in size may indicate different functions. A small number of notched flakes was found (Fig. 5:24), most had very abraded notches. A single backed knife (Fig. 5:23) was also recovered.

A polished axe fragment (Fig. 6:25) appears to have been reworked, possibly to facilitate hafting, or perhaps after breakage. Similar examples have been found at Bishopstone (Bell 1977) and Bullock Down (Drewett 1982). Another fragment from a polished axe may have been a resharpening flake. An axe roughout (Fig. 6:26) was recovered at NGR 329129, just outside the area surveyed; this may have been discarded because of a flaw in the flint. Two bifacially worked pieces (Fig. 6:27 & 28), one of which is additionally retouched along its edge, may be either ovates or some other form of chopping tool.

Discussion

The flintwork found in this assemblage is typical of that found on later Neolithic and Bronze Age sites. The large quantity of

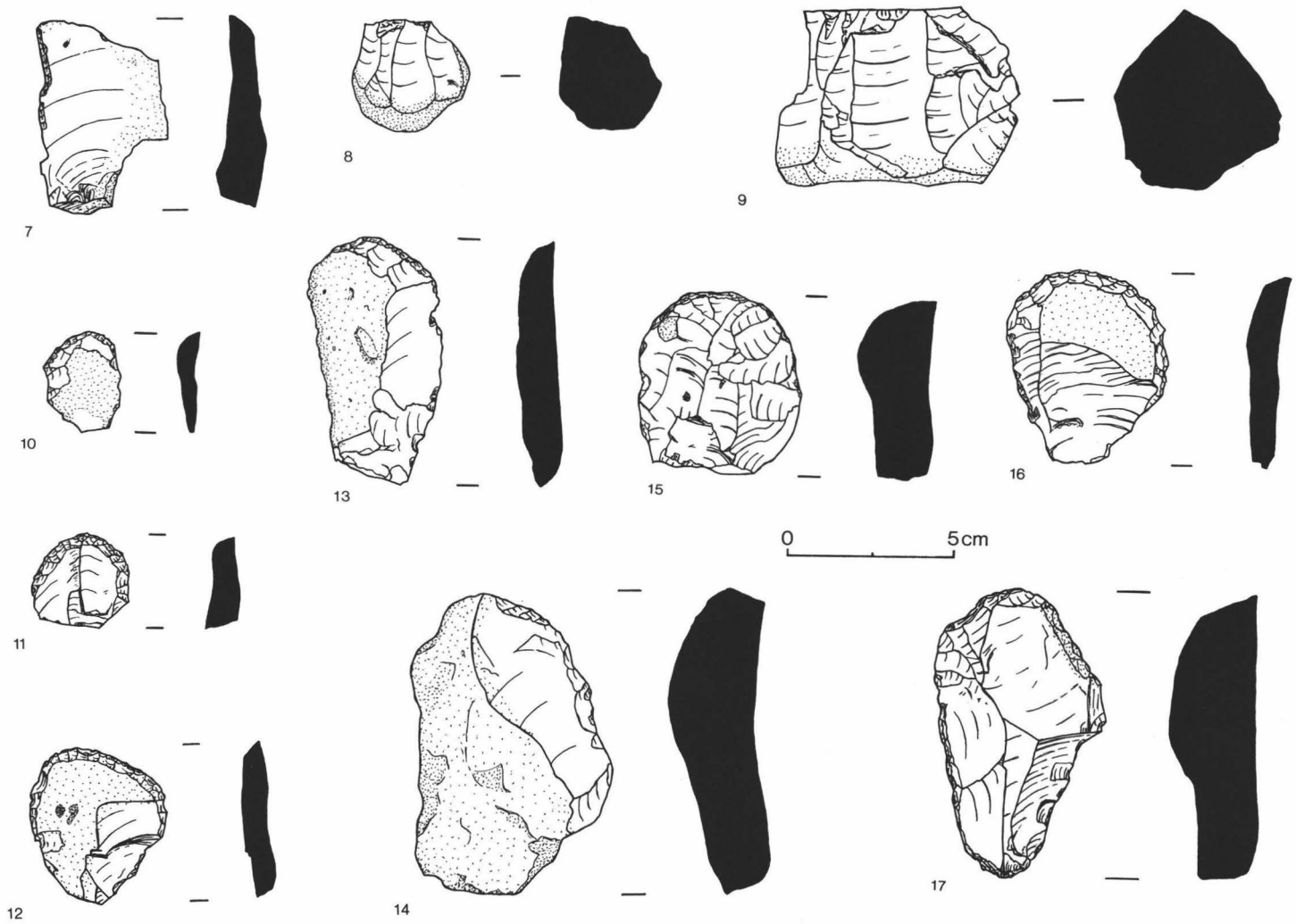

Fig. 4. Later Neolithic and Bronze Age flintwork: 7) retouched flake; 8–9) cores; 10–17) end scrapers.

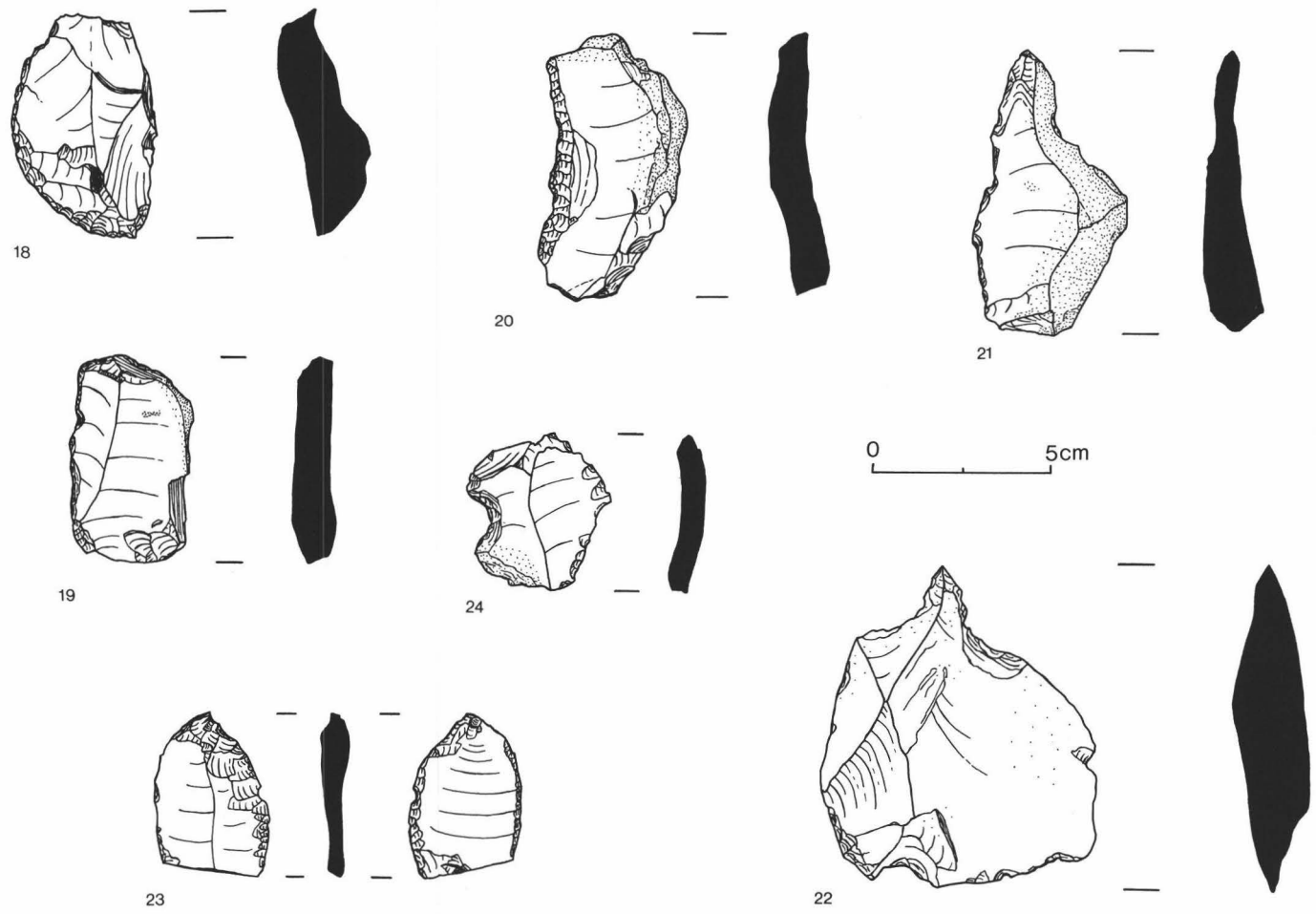

Fig. 5. Later Neolithic and Bronze Age flintwork: 18–20 scrapers; 21–2) piercers; 23) knife; 24) notched piece.

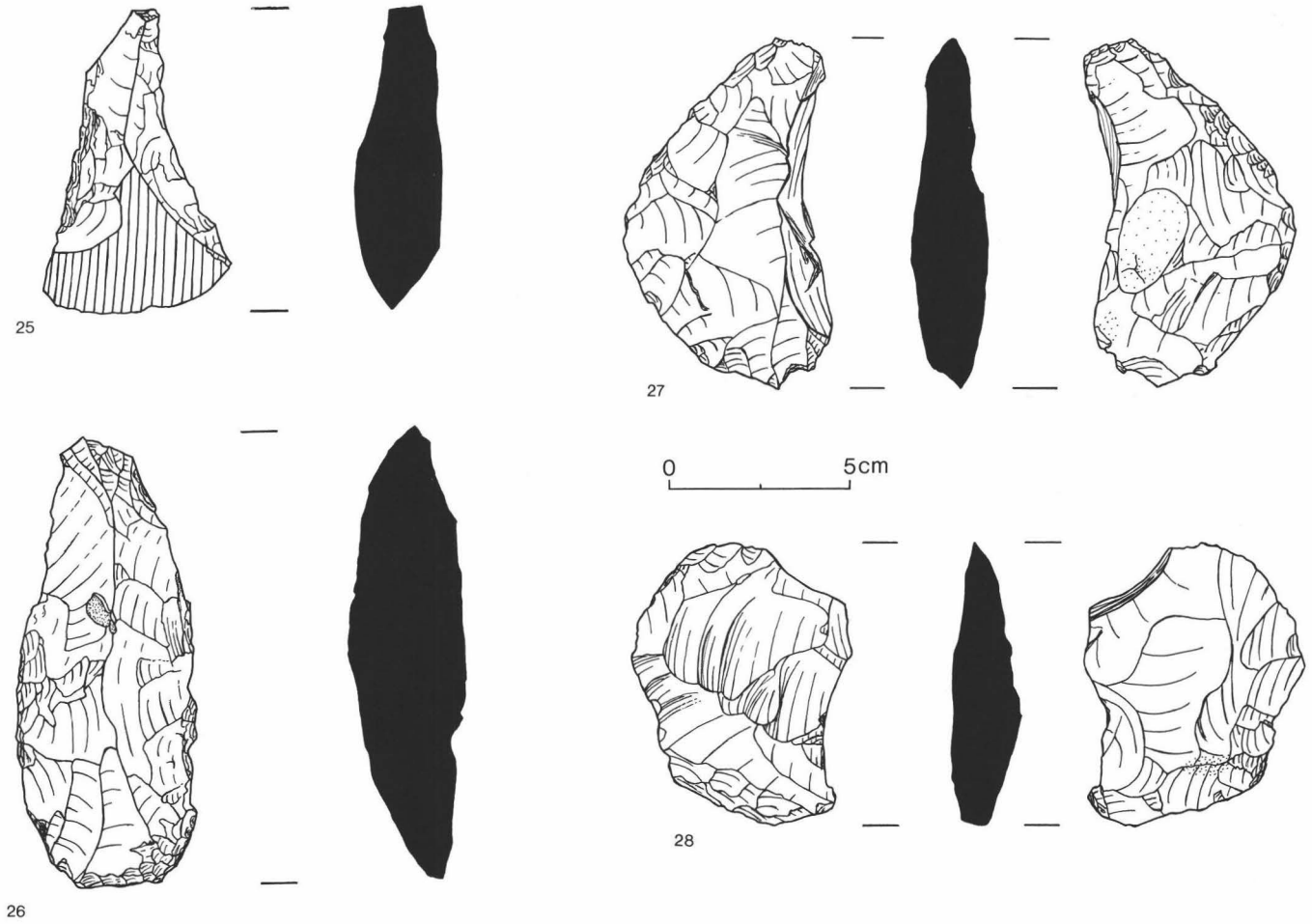

Fig. 6. Later Neolithic and Bronze Age flintwork: 25) polished axe fragment; 26) axe rough-out; 27–8 ovates.

Table 1. The flintwork.

Debitage (excluding cores)	
Flakes	1327
Blades/bladelets	27
Shattered pieces	221
Axe-thinning flakes	14
Burin spall	1
Crested blade	1
Core tablet	1
Core rejuvenation flake	1
Subtotal	*1593*
Cores	
Single platform flake cores	3
Two platform flake cores	5
Subtotal	*8*
Implements	
Leaf-shaped arrowhead	1
End scrapers	73
Side scrapers	4
End/side scrapers	5
Hollow scraper	1
Combination tool	1
Piercers	6
Knife	1
Notched flakes	8
Microlith	1
Ovate/chopping tool	2
Fabricators	2
Polished axe fragments	2
Axe rough-out	1
Picks	2
Misc. retouched pieces	10
Hammerstone	1
Subtotal	*121*
Total flintwork	**1722**
Fire-fractured flint	569

debitage suggests that there was large-scale working of flint taking place here. The ratio of cores to flakes/blades (1:167) does seem rather low, but this may be due either to a collection bias, the rough cores of this period not having been recognized, or to retention of the cores for further working elsewhere.

It is certain that some of the flint production was taking place in the later Neolithic: for example the axe production as evidenced by the rough-out and thinning flakes found. However, if the assemblage is compared with other Neolithic assemblages it is clear that there are differences. At Bishopstone the most common implements were serrated flakes (Bell 1977), and at Bullock Down there were roughly equal numbers of scrapers to knives/cutting flakes (Holgate 1988). At Ditchling Beacon, the predominance of scrapers and piercers amongst the implements, together with the crudeness of the majority of the flintwork, are more characteristic of a later Bronze Age lithic assemblage (Ford *et al.* 1984; Whittle *et al.* 1993).

THE POTTERY

Only six small badly eroded sherds of pottery were found during the survey. Such a small number is probably due to the destructive action of the plough, together with the acidic nature of the Clay-with-flints soil.

Fabric 1. Grog-tempered ware with frequent small to medium sized calcined flint inclusions. Holes from burnt-out organic material are visible. They have an oxidized exterior and reduced core. (2 sherds). Early Bronze Age.

Fabric 2. Grog-tempered ware with occasional small flint inclusions. Holes from burnt-out organic material. Generally oxidized exterior and reduced core. (4 sherds). Early Bronze Age.

DISCUSSION

The first evidence for human activity at Ditchling Beacon occurs in the later Mesolithic period when the Clay-with-flints was being exploited for flint by hunter-gatherer groups, probably on a seasonal basis. This activity is consistent with that in other Clay-with-flint outcrops on the South Downs such as West Hill, Pyecombe (Butler 1988; 1993) and Red Hill, Brighton (Butler & Holgate forthcoming). Similar exploitation continued into the earlier Neolithic period. The flint recovered from the ridge above the site contains a greater proportion of Mesolithic and earlier Neolithic pieces than that recovered from the lower slopes during the survey. This suggests that most of the activity in these periods was centred on the top of the ridge where good quality flint nodules could be extracted for the production of microliths and other implements. The top also provided a good vantage point overlooking the Weald and dry valleys of the South Downs.

It is likely that the area was exploited throughout the later Neolithic period as well, with possible axe production taking place. The broken polished axes, knife and scrapers suggest woodland clearance and other agricultural and food production activity. Although there may have been selective woodland clearance in the later Neolithic period, it is likely that large-scale clearance did not take place until the Early or Middle Bronze Age (Allen 1988). During the Bronze Age there was a substantial increase in activity, as indicated by the large amount of hard hammer-struck flintwork. The centre of activity moved off the ridge top to the southern side of the hill where an enclosure, probably associated with adjoining field systems, was located. Flint continues to be used as a major resource for the production of scrapers, piercers and notched implements. Although these implements are distributed across the whole slope, the greatest concentration occurs around the enclosure (Fig. 2:B) where downslope erosion has concentrated them at the lower end of it. Debitage is also centred on the enclosure (Fig. 2:A) which suggests that flaking was occurring in or adjacent to it. This distribution can also be seen with the fire-fractured flint (Fig. 2:D) and the pottery (Fig. 2:C), both of which occur almost exclusively in and around the enclosure.

This site appears to combine elements of both industrial and domestic activities in the same location (Schofield 1991). Flint was being worked inside the enclosure, with the debitage then being discarded, possibly in pits or an external ditch. It is unlikely that the flint debitage would have been left lying on the ground, especially if the inside of the enclosure was being used for habitation. Once produced, the implements were being utilized at the same location. The majority of the implements found give the impression of having been produced as and when required, with little skill and care other than that required to achieve a particular type of implement.

None of the implements appear to have been heavily abraded by use, and it would appear that having served their immediate purpose they were discarded. This suggests that flint implements had no real value and importance, probably because of the increase in availability of bronze tools.

There are a number of other Bronze Age sites in the area, with the Plumpton Plain settlement three kilometres to the east (Holleyman & Curwen 1935), and numerous round barrows nearby. On Western Brow, only 1.5 kilometres east of the Ditchling Beacon enclosure, was another oval enclosure (Toms 1927); this was similar in shape but much smaller, and again was situated on a south-facing slope. The field system west and south from the site (Holleyman 1935) is extensive. Although it is not certain whether it is connected with the site, one of the field boundaries appears to run right up to the enclosure (Fig. 1:C). It therefore appears that this new enclosure fits in with the existing settlement pattern for the middle to late Bronze Age on the South Downs, although only excavation can provide the final answer.

Acknowledgements
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The Offham brooch

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In June 1995 the Coroner for the Lewes district brought into Barbican House an item for identification. It had been found with the use of a metal detector near Coombe House Farm, Offham. As the object was mainly of gold, the laws of treasure trove applied and the Coroner wanted an expert opinion, so it was taken to the Department of Medieval and Later Antiquities at the British Museum.

The find was examined in their Research Laboratory and proved to be about 76% gold with a weight of 8.62 grams. It is set with six small garnets, fixed in a white plaster packing material. As can be seen from the illustration, the brooch is circular with a transversal pin. The circle is decorated with beading on the inner and outer edge, and there is lettering on the front and back.

John Cherry then examined the brooch which he thought was made in England in the second half of the 13th century. The main interest comes from the lettering. The front reads: 'IVA . MTI . N . UNO . ANI'. The back is inscribed: 'AMOR . IUNTUANU . NTUI'. Mr Cherry's view was that the engraver started off in Latin, which must have been an unfamiliar language to him, and became increasingly confused. Interestingly, the owner of the brooch was unlikely to have been fluent in Latin either, or presumably the text would have been reworked to achieve the desired result.

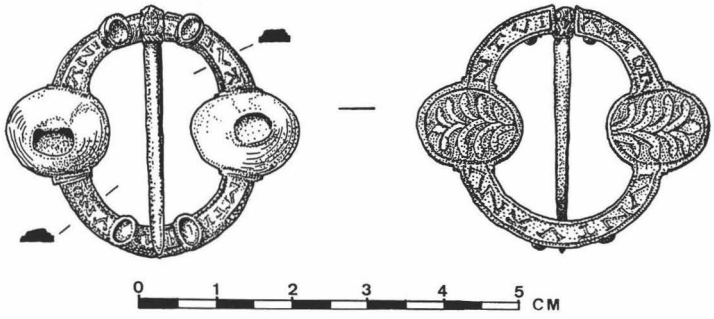

Fig. 1. Offham brooch.

The Offham brooch was not found in a context of relevant artefacts, but similar examples are known from many English sites. They can be seen in use in the sculptures of Wells Cathedral dating from 1235–40. The pictorial representations of these jewelled circular brooches suggest that they were worn usually at the throat, where the blunt pin passed through two prepared slits and fastened the opening of the undergarment. They could also be worn at the shoulder, and were a common feature of 12th- and 13th-century costume. They could be worn by either sex, though one comparable gold brooch, found at Writtle in Essex, was made for a lady in the 13th century, as it carries a legend which has been translated as 'I am a brooch to guard the breast, so that no ruffian may put his hand there.' A literary example is also to be found in Chaucer's *Canterbury Tales*. The Nun in the Prologue was described in the Petworth Manuscript version as having

. . . a broche of gold ful shene
On which ther was first writen a crowned A
And after amor vincit omnia.

Whether or not love conquered all of her, the motto has always been popular, and the Offham brooch may be a misinterpretation of this. Alternatively, the second word on the reverse may relate to the Latin *iunctare*, meaning 'to join'.

The function of brooches such as the Offham example is not in doubt, and it is also possible to work out their method of manufacture. A note in *Archaeologia* (XIV, 275) in 1800 described the finding in Norfolk of a mould for a brooch of this type. Plate XLVIII by James Basire for the Society of Antiquaries shows this block of hardened clay, with impressions for the pin and for both sides of an inscribed circular brooch. The writer speculated that the mould was for small silver brooches, possibly as early as the 12th century.

The Offham brooch was the subject of a Coroner's Inquest at the Brighton Magistrates' Court on 19 October 1995. The Inquest decided that it was not buried with an intent to repossess and the brooch was retured to the finder. At the time of writing, no further information is available as to its ultimate destination.

REFERENCE

Archaeologia **XIV**, 275. Illustration by Sandra Battley.

A very long quoit-headed pin and a decorated annular armring from the Newhaven area, East Sussex

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A quoit-headed pin and a decorated annular armring were found by Mr Peter Dutton in the autumn of 1995 in a field to the north of Newhaven. The objects were located using a metal-detector and were found together at an approximate depth of 200 mm below the surface of the ploughed field. According to

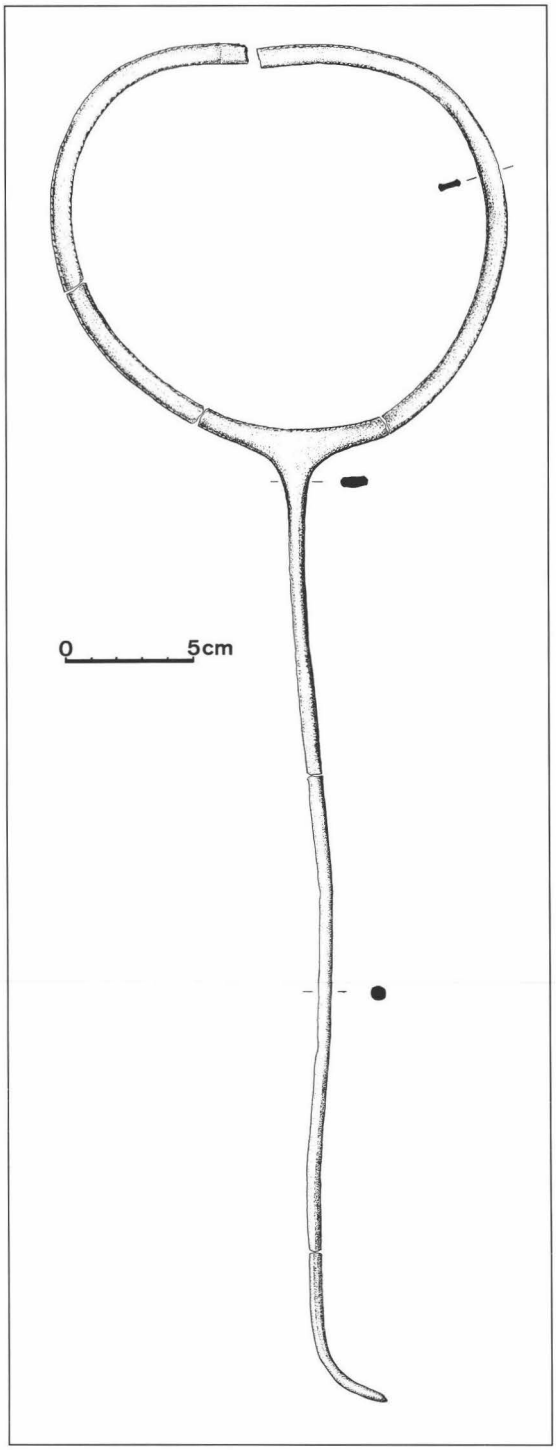

Fig. 1. A quoit-headed pin of the late Middle Bronze Age found near Newhaven.

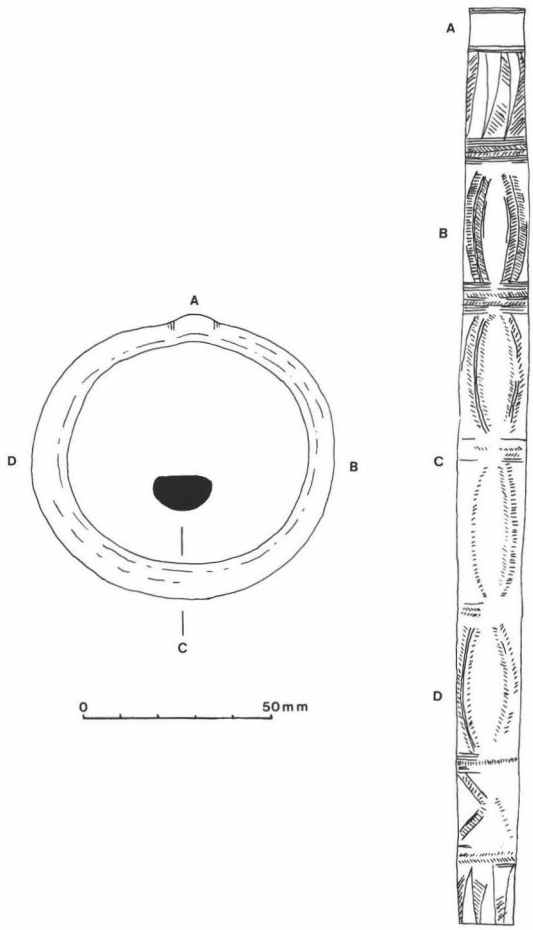

Fig. 2. A decorated late Middle Bronze Age annular armring found with the quoit-headed pin.

the finder the armring was found lying within the oval head of the pin, which itself lay in a horizontal position. Unfortunately, it has not been possible to ascertain the exact location of the find-spot. At the time of writing the finds were still in the possession of the finder.

The quoit-headed pin (Fig. 1) is complete but in six pieces. It is 555 mm long overall and made of copper alloy. The hoop is a distorted oval with maximum external measurements of 180 × 160 mm. The band of the hoop is flat with raised flanges giving it an 'H'-shaped appearance in section. There is 'nick' decoration around both sides of the raised flanges. The top of the shaft of the pin is flat with 'nick' decoration on the edges and then changes to a roughly round form *c.* 5 mm in diameter. This round section of the shaft is undecorated and the final 45 mm is curved to one side.

The armring (Fig. 2) is made of copper alloy. It is annular and 'D'-shaped in section. An uneven seam runs round the inside of the armring with tin-coloured bands visible at several points. The external diameter varies between 175–9 mm and the band is 13–17 mm wide. There is one raised plain segment (representing mock terminals) on the band as well as seven panels of incised and punched decoration. The panels are separated by incised vertical lines and lines of hatching in herring-bone fashion. The panels to either side of the plain segment are each divided into six arcs of which three are infilled with hatching. In one of these panels the hatched and unhatched arcs alternate and in the other there are two plain arcs next to each other. Four of the other panels are decorated with pairs of arcs of punched hatching, some of which are still enclosed within incised lines. The seventh panel has a triangle of punched hatching within incised lines. This occupies one half of the panel. In the other half faint punched hatching can be seen in what looks like an unsuccessful attempt at another triangle. The shorter length of the seventh panel possibly indicates a design error. The decoration shows considerable signs of wear.

The quoit-headed pin constitutes a pin type that is peculiarly insular in form, and has no continental analogues (Rowlands 1976, 86). Seventeen such pins were recorded (Lawson 1979a) from Middle Bronze Age hoards; their distribution is restricted to southern England below a line between the Thames and the Severn estuaries, apart from four find-spots forming an isolated group on either side of the Fens in Norfolk and Northamptonshire. These pins conventionally represent the first indigenous use and manufacture of bronze pins for dress fastening and adornment in this country. The example described above is the longest specimen yet found; (the previous longest quoit-headed pin measures some 435 mm and came from the Boughton Fen (Norfolk) hoard (Lawson 1979a, 122)). Five quoit-headed pins, including the Newhaven example, are now known from Sussex. They are all of the same type (with flat hoops, 'nick' decoration and rounded shafts). Three pins were found in the East Dean hoard, along with two Sussex loops (Anonymous 1936), while a single quoit-headed pin was found in a barrow at Hanley Cross, along with another pair of loops and a more elaborate type of pin (Curwen 1954, 202).

Eight decorated annular armrings from southern England were described by Rowlands (1976, 95). They are closely related to decorated penannular armrings, the difference between them almost certainly relating to differing techniques of manufacture rather than any formal or functional distinction (Rowlands 1971, 186). An analysis of the decorative motifs on both annular and penannular armrings indicates many common motifs (Rowlands 1971, 197). Significantly more annular examples are known now, including the five decorated armrings from a hoard near Chichester, the single example from excavations at the Lavant, Chichester (Kenny 1993), and the Newhaven example. (A very useful discussion of both penannular and annular decorated armrings has been published by Lawson (1979b) and Needham (1989); the latter author conflates both forms and defines them as the Liss type, after the penannular armrings found at Liss, in Hampshire.)

The majority of the armrings present a 'D' (or modified 'D') -shaped cross-section. The decoration on the Newhaven specimen, particularly the use of vertical lines to separate decorative panels and the deployment of mirrored arcs (or cable-lining: *see* Rowlands 1971, 197) can be paralleled on armrings from Liss (Hants.), Norton Fitzwarren (Somerset: Needham 1989) and the river Thames (possibly from Southwark?). The opposed 'dogtooth' ornament on the Liss ring looks like a relative of the hatched arcs (in reality just sinuous examples of hatched triangles) on the Newhaven

artefact. The penannular rings from these locations (with the exception of the Norton Fitzwarren annular pair) are slightly tapered towards the terminals; in the case of examples from the Thames and Liss these terminals are touching. In the Newhaven ring apparent 'false terminals' are marked by an undecorated raised hump. It is interesting to note that there are similar 'false terminals' on the armring from Hunstanton (Norfolk), giving this annular example the appearance of being penannular (Lawson 1979b, 50). The undecorated raised hump, and indeed the overall pattern of decoration on the Newhaven example, can be closely paralleled by an armring from Val-de-Reuil in Upper Normandy (Billard *et al.* 1993a, 44). The use of vertical lines to separate decorative panels, a common format on decorated armrings from both sides of the Channel, is used on all five rings from the hoard near Chichester; two of these possess very similar decoration, size and weight, and seem to be a pair (Fullwood pers. comm.). Decorated armrings have often been found in pairs, presumably one worn on each arm by the same individual.

The majority of specimens from this small group of decorated annular (and penannular) armrings, restricted to the southern counties, may have been manufactured in one or more centres of production in southern England; it is possible that a few examples are imports. There were clearly centres of production for such armrings just across the Channel in Brittany and in Upper Normandy (Briard 1965, 131; Billard 1993b, 84; Billard 1995, 180) from where such imports could have originated. Similar decorative motifs on both southern English and northern French examples illustrate that the manufacturers of such armrings, on both sides of the Channel, were acquainted with a common artistic tradition. They can, however, be regarded as belonging to a broader North European tradition which nevertheless embraced many regional schools of production (Lawson 1979b, 51; Needham 1989,3 6).

Dating for these two artefacts from the Newhaven area would place them towards the end of the Middle Bronze Age, with a conventional date falling in the 12th century BC (Lawson 1979b, 51, 64). The extreme length of the quoit-headed pin raises some interesting speculation on how it was actually worn; several pins of this type have a slightly bent point, which may have occurred as a result of use.

Acknowledgements
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'Soe farr from thee as east and west': William Penn's prosecution as a popish recusant in 1682

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Among some miscellaneous title deeds formerly deposited with the Sussex Archaeological Society, and transferred to the West Sussex Record Office by the East Sussex Record Office in July 1993, is hitherto unrecorded evidence of a prosecution of William Penn as a popish recusant. The document[1] is a writ, dated at East Grinstead on 20 March 1682, addressed in the King's name to the Sheriff of Sussex. It required William Penn of Worminghurst, to come to the next Assizes to answer concerning trespass and contempt against the form of the statute for the discovering and repression of Popish Recusants.

It is well known that penal legislation against Catholics enacted between 1559 and 1791, and particularly statutes punishing rejection of the rites of the established church, could occasionally entrap some Protestant nonconformists and especially Quakers. Writs of *praemunire facias*, first created in 1353 and strengthened under the anti-Catholic legislation of 1581[2], 1587[3] and 1593[4] under Queen Elizabeth, and more especially 1605[5] under King James I, required Catholic recusants who failed to attend the services of the established church to swear an oath of allegiance to the crown; and the statutes were invoked effectively against Quakers, because it was known that they would not swear an oath.[6] The penalties of *praemunire* included imprisonment for life at the monarch's pleasure, loss of the monarch's protection, fines of £20 per month, and confiscation of all goods and two-thirds of lands if the fine was not paid.

The writ against William Penn was the eighth of a series of 27, all dated 20 March 1682. Of the five writs that related to matters of religion, some were for recusancy, some for offences against the Act for Uniformity and Common Prayers and Administration of the Sacraments, and others for restraining nonconformists from settling within five miles of the capital. It seems reasonable to wonder why, when there was appropriate legislation at hand to deal with nonconformists, William Penn was not dealt with under it. And why, when a number of Quakers, including Penn himself, had already made representations to Parliament requesting toleration and affirming their loyalty to the crown, Penn, who was well-known to the authorities as a leading Quaker, was caught up in the anti-Catholic persecution which followed Titus Oates's announcement that he had discovered a Popish Plot to kill King Charles II.

Justices were instructed to administer an anti-papal oath, as prescribed by the 1605 Act, to all persons who absented themselves from their parish churches, and, as there was no provision for affirming in place of swearing the oath, Quakers were ensnared as well as Catholics. Penn had been aware of this threat to his co-religionists, and he and others petitioned the King on this very point. King Charles II had agreed that it was unreasonable that Quakers should be persecuted as recusants, but had referred Penn and his companions to Parliament for relief. As a result, Penn, George Whitehead and William Gibson were delegated by the Meeting for Sufferings to draw up a paper on Friends' suffering under the statute against recusants, and to present it to Parliament.[7]

Penn had faced charges of being a Papist earlier in his life, in spite of his *Seasonable Caveat against Popery* of 1670,[8] written as a rejoinder to the Franciscan Christopher Davenport's *An Explanation of the Roman Catholic Belief* first published in 1656 and later reprinted.[9] On 17 November 1677 Penn had complained to the Earl of Middlesex and Dorset of the activities of Sir Henry Goring of Highden and John Alfold of Offington, the Commissioners for recusants in Sussex, and how 'that of all Sussex, there can be found butt two Papists fitt for conviction, & by an ugly misfortune they happen to be both Quakers' [Penn and his wife Guilielma].[10]

John Gratton in a letter to Penn of 19 December 1678 had referred to an even more unlikely charge: 'they say thou art turned to bee a Jesuit and doth hide thy self or art fled thy Country; a thing soe farr from thee as East and West'.[11] Penn's name appeared on a Treasury Office List of Quakers that 'are prosecuted as Popish Recusants but in reality true Protestants' on 7 March 1679, which included 17 other Sussex Quakers living near Worminghurst, possibly members of the meeting held at his house.[12] A further irony was that Worminghurst, because of the nearby presence of the Shelley family, was well-known as a centre of Catholic recusancy.

Penn's views of Catholicism, though never entirely consistent, tended towards toleration, and at the time of the Popish Plot he was brave enough to argue that Catholics, as well as Quakers, should not be persecuted for matters of conscience. In a speech to a Committee of Parliament on 22 March 1678, he argued:

> for of a long time I have not only been supposed a Papist, but a Seminary, a Jesuit, an Emissary of Rome & in pay from the Pope, a man dedicating my endeavour to the Interest and advancement of that Party . . . Tis hard that we must bear the stripes of another Interest & be their proxy in punishment; but its worse that some men can please themselves, in such a sort of administration . . . I am far from thinking it fit that Papists should be whipt for their Conscience, because I declaim against the injustice of whipping Quakers for Papists, No. For though the hand pretended to be lifted up against them hath (I know not by what direction) litt heavily upon us, & we complain; yet we do not mean, that any should take a fresh aim against them, or that they must come in our roome for we must give the liberty we ask, & cannot be false to our Principle, though it were to relieve ourselves.[13]

In a second speech to the same committee he argued: 'we think ourselves an usefull people, we are sure we are a peaceful people; yet if we must still suffer, let us not suffer as Popish-Recusants, but as Protestant-Dissenters'.

The Papers of William Penn record that in October 1680 the Meeting for Sufferings determined to lobby at the second Whig Parliament, then beginning its term.[14] Twenty-two Friends, including William Penn, each attended three sessions per week; they drafted and presented papers to protest against the harassment of Quakers as Roman Catholic recusants. Penn was probably the principal author of *To the King Lords and Commons* [15] in which the Quakers asked for a statute to give them relief from being persecuted as both Quakers and Catholics. Penn also composed an elaborate petition and the House of Lords drafted an Act to distinguish Protestant dissenters from Catholic recusants. The House of Commons passed a resolution to relieve Protestants from persecution under the Penal Laws, but Parliament was prorogued before either measure could become law.[16] Nonetheless, Penn published at least four tracts — *England's Great Interest* of Spring 1679; *One Project for the Good of England* of 1679; *A Declaration or Test to Distinguish Protestant Dissenters from Papists, and Popish Recusants* of the same year, and *Reasons why the Oaths should not be made Part of the Test Protestant Dissenters* of 1680 — arguing for religious toleration.

Penn was among 20 Quakers indicted at the Spring Assizes at Horsham in 1681.[17] His case was referred to the Exchequer for enforcement but was dropped when he convinced the Lords of the Treasury that he was not a Catholic.[18] The Lords of the Treasury signed his release on 30 April 1681, 'being very well satisfied that said Penn is not or ever was a Popish Recusant'.[19] The Minutes of Meetings for Sufferings recorded that on 20 May 1681, 'William Penn brought here this day a Discharge from the Lords Commissioners of the Treasury for himselfe. Certifying he was no papist but a protestant & therefore ought to be discharg'd from a fine of 20li a month for a month's absence from Church which is to be entered in the Book of this Meetinge'.[20] And yet, in spite of all the evidence and the legal certificates proving that he was not a papist, only a year later, on 20 March 1682, William Penn received another summons for Popish recusancy.

It seems clear that the authorities found it easier to control Penn and his co-religionists by means of anti-Catholic legislation requiring the swearing of an oath, knowing that they would not take any oath administered, rather than by any legislation against dissenters. Unfortunately, no other record of the proceedings is known to have survived. The writ was endorsed: 'nothing by which he might be attached. Not found', and in view of his previous experiences of being summoned for popish recusancy, and the fact that he had sailed for America on 30 August 1681, it seems safe to assume that the proceedings against William Penn in March 1681/2 were not taken any further.

NOTES

1 West Sussex Record Office, Add. MS. 37,103 no. 8.
2 23 Eliz. c.1, *An Act to retain the Queen's Majesty's Subjects in their due Obedience.*
3 29 Eliz. c.6, *An Act for the the more speedy and due execution of a statute made in the 23rd. year of the Queen's Majesty's reign.*
4 35 Eliz. c.2, *An Act for the Better Discovery of Wicked and Seditious Persons Calling Themselves Catholics, but being Rebellious and Traitorous Subjects.*
5 3 James I. c.4, *An Act for the Better Discovering and Repressing of Popish Recusants.*
6 'our meetings are very large and quiet and friends generally well, yet great sufferings upon the 1.23.29.35 of Eliz: and the 1:3 of James and I see not but that Sufferings hasten upon us more and more'. William Penn to George Keith and other Scottish Friends, *c.* 1677, printed in Richard S. Dunn & Mary Maples Dunn, *The Papers of William Penn* **I** (1981), 375.
7 Dunn & Dunn, *The Papers Of William Penn* **I** (1981), 536.
8 William Penn, *A Seasonable Caveat against Popery, or a Pamphlet, Entitled, an Explanation of the Roman-Catholick Belief, Briefly examined* (1670).
9 See Revd John Berchmans Dockery, *Christopher Davenport: Friar and Diplomat*, (1960).
10 Lilly Library, Indiana University, USA, printed in Dunn & Dunn, *The Papers of William Penn* **I**, (1981), 516, 517.
11 Penn Papers, Historical Society of Pennsylvania, printed in Dunn & Dunn, *The Papers of William Penn* **I** (1981), 544, 545.
12 *Calendar of Treasury Books, 1676–1679* (1911), 1257.
13 'William Penn's 2 Speeches before a Committee in the Parliament House the 22nd. of the month called March 1678', printed in Dunn & Dunn, *The Papers of William Penn* **I** (1981), 534.
14 Dunn & Dunn, *The Papers of William Penn* **2** (1982), 50.
15 *To the King Lords and Commons in Parliament assembled. The Case of the People called Quakers stated in Relation to their Late and Present Sufferings, Especially Against Old Statutes made Against Popish Recusants* (1680).
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17 Public Record Office, Assize 35 (Home Circuit) Sussex Assizes 1681.
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19 *Calendar of Treasury Books, 1681–1685*, 131.
20 Minutes of Meetings of Sufferings, vol. 2, printed in Dunn & Dunn, *The Papers of William Penn* **2** (1982), 94.

A case of mistaken locality: John Bean of Clapham and his javelin men

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Clapham and Patching Cricket Club lay proud claim to a tradition of cricket in the two parishes dating back to the 18th century. The *Sussex Weekly Advertiser* of 22 July 1771 announced a match at Hurst made between Hurst and Patching and Portslade to be played on the following day.[1] H. F. and A. P. Squire in their *Pre-Victorian Sussex Cricket* record ten matches played at Clapham or by the Clapham Club between 1785 and 1791,[2] most of them featuring J. Bean, Bean's XI or Bean's Club. But there is no Mr Bean to be found in the recorded history of Clapham or Patching.

The *Sussex Weekly Advertiser* of 11 August 1788 reported that: 'the Cricket-Match played last Monday on our downs, the High-Sheriff, and ten of his Javelin men, against eleven gentlemen of this town, terminated in favour of the former. The first innings the losers got five notches [runs] a-head; the second gave many turns to the game, and ended two wickets in favour of the winners. It was an excellent match, and such as gave good satisfaction to the spectators. His Royal Highness the Prince of Wales honoured the above match with his presence'.[3] The High-Sheriff in 1788, whose team won the match, was one John Bean, and his javelin men the ordinary retinue of the sheriff who on ceremonial occasions carried spears or pikes and waited upon the judges at the assizes. No doubt it was the coupling of the high office of Mr Bean and the Prince's well-known love of the game that explained the Prince's presence on the Downs. A return match was played on Lewes Hill a week later on 11 August, but whether the Prince attended is not recorded.[4]

Mr Bean's team continued to play in the highest circles, as their next appearance was at Bourne Links on 6 August, when the teams were advertised as 'The Duke of York's XI versus Mr St Leger and Mr Bean's XI'.[5] By 1791 his team was invariably described as Bean's Club, and, in that year, seven matches are recorded. 'On Wednesday next the 29th. of this instant June, a match will be played in Herstmonceux Park, for one hundred guineas, John Bean Esq.'s Club of Clapham, against Mr. Henry Porter's Club of Hooe'.[6] The match proved to be a disappointment as it was left unfinished, and the food and drink ran out because of the size of the crowd. The *Sussex Weekly Advertiser* reported that:

> they began to play at eleven o'clock, and at half past seven finished one innings each, in favour of Mr Porter forty-six runs. For some reasons of the gentlemen, the game was not played out; to the great disappointment of, at least, three thousand people. The returned game will be played, on Friday next, at Clapham. The numerous company who attended to be spectators of the cricket-match, which commenced on Wednesday last, in Herstmonceux Park, have expressed much dissatisfaction at the game not being played out, and feel themselves not a little hurt by the landlord's inattention to the *quantum sufficit* of provender, drink, and booth-room, of which they assert, there were not enough for a twentieth part of those who were ready and willing to partake of it. The landlords of Alfriston, may possibly profit a little from this hint.[7]

Mr Bean's club easily won the return match at Alfriston on 8 July, as it 'terminated so much in favour of the former, the first day, that the latter [Mr Porter's Club] did not judge it prudent to renew it the next'.[8]

On 19 July a match was advertised 'in Brig Field, near Alfriston, between the Club of John Bean Esq., with one picked man, and the parish of Chiddingly with four picked men'.[9] The return on 27 July was 'played at Broad Oak in Chiddingly between the Club of John Bean, of Clapham, esq. (with Marchant and Tyral of Salehurst) against the parish of Chiddingly, (with Flint and Browne of Worth) and two others in the neighbourhood'.[10]

In August Mr Bean's Club went further afield. 'On Thursday last [18 August] was played, in a field belonging to Nicholas Gilbert, Esq., a match of cricket: the Club of John Bean, Esq. against the Gentlemen of Eastbourne, for five guineas a side, which, after a smart contest, ended in favour of the former'.[11] Later in the month, they played a three-day match for a hundred guineas against the Brighton Club at Prince's Ground, from 24 to 26 August,[12] which the Brighton Club won by almost 200 notches,[13] and a return match on the same ground in September. The return match was patronized by the Prince of Wales, who brought a select group of friends with him, and dined in his marquee on the ground. Once again Bean's team was defeated, this time by an innings and more than 30 notches.[14] After these humiliations in the final matches of the 1791 season, Mr. Bean's Club disappears from the records.

Two things seem clear from the accounts of these games. First, that John Bean was a man of substance: he was High-Sheriff of the county in 1788; he was able to support his own cricket team; and both the Prince of Wales and the Duke of York attended his cricket matches. Secondly, all his cricket matches were played in the eastern half of the county, in an area between Brighton and Eastbourne, and between Lewes and Herstmonceux. There was no trace of him in Clapham and Patching, and he seems to have played no part in the political life of the western half of the county. An entry in Mary Capper's Diary points to the solution. She recorded on 16 April 1782 that 'a visit from Mr. & Miss Bean [of Clapham House, Litlington] prevented our being drest to receive Mr. and Mrs. Sneyd'.[15]

John Bean was born at Jevington in 1755 the natural son of John Bean and Mary Bridgman, his housekeeper. He succeeded his father and grandfather as squire of the Clapham House estate in Litlington. His grandfather had purchased the estate in 1719 [16] and bequeathed it to his son, another John Bean, in 1750.[17] He, in his turn, left his real property to the cricketing John Bean in 1772.[18]

The records of Mr Bean's cricket club do not relate to Clapham near Worthing, but to Clapham House in Litlington at the other end of the county. Patching can still claim its earliest recorded match on 23 July 1771, but Clapham's earliest recorded match must now be put back to July 1812, when three Angmering houses played against a Patching, Clapham, Goring, Durrington and Angmering XI.[19]

NOTES

1 *Sussex Weekly Advertiser*, 22 July 1771.
2 H. F. & A. P. Squire, *Pre-Victorian Sussex Cricket* (1951), 16–17.
3 *Sussex Weekly Advertiser*, 11 August 1788.
4 *Sussex Weekly Advertiser*, 4 August 1788, quoted in H. T. Waghorn, *The Dawn of Cricket* (1906), 97.
5 *Sussex Weekly Advertiser*, 17 August 1789.
6 *Sussex Weekly Advertiser*, 27 June 1791.
7 *Sussex Weekly Advertiser*, 4 July 1791.
8 *Sussex Weekly Advertiser*, 11 July 1791.
9 *Sussex Weekly Advertiser*, 18 July 1791.
10 *Sussex Weekly Advertiser*, 25 July 1791.
11 *Sussex Weekly Advertiser*, 29 August 1791.
12 *Sussex Weekly Advertiser*, 22 August 1791.
13 *Sussex Weekly Advertiser*, 29 August 1791.
14 *Sussex Weekly Advertiser*, 12 September 1791, quoted in H. T. Waghorn, *The Dawn of Cricket*, 113.
15 V. Naish, 'Mary Capper's Diary', in *Sussex Notes and Queries* **XI(4)** (1946), 104.
16 E(ast) S(ussex) R(ecord) O(ffice), D 611. I am grateful to Philip Bye for pointing out these references to me.
17 E.S.R.O., SAS, C 513.
18 SAS, C 513.
19 *Sussex Weekly Advertiser*, 27 July 1812.

Thomas King's excavation at Greyfriars, Chichester, in 1835

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Historians have argued for many years about whether Greyfriars' Church, Chichester, ever possessed a nave. Francis Steer in his Chichester Paper on Greyfriars in 1955[1] listed seven reasons why he thought one had never been built. The Revd T. D. S. Bayley in an article in this journal in 1967[2] argued elegantly for the existence of a nave, but admitted that he could not produce any definite evidence. One piece of evidence that neither writer discussed was the excavation carried out on the Greyfriars site by the artist and antiquarian Thomas King in 1835.

The only contemporary report of this excavation appeared in the *Hampshire Telegraph* of 7 September 1835.[3] After discussing 'the opening of a very large Roman earthwork or tumulus . . . on which mound the keep of the castle was constructed, where the strong foundations under the turf are still to be seen', the report went on to describe the excavation of the Greyfriars' site. 'Only a part of the Priory Chapel now remains, which is converted into the Town Hall. Mr King has traced the foundations and has discovered the nave and transepts which complete the building in the form of a cross. On the removal of the rubbish that covered the south transept, several fragments of ancient grandeur were found, such as Samian pottery, painted glass, Norman tiles, with beautiful devices on them, several abbey tokens in thin brass, with several skeletons of the fraternity, they all had their arms crossed over the body, and on one who was probably the prior was found a chalice and patten of pewter'. The report added that the finds would be lodged in the Museum of the Chichester Literary and Philosophical Society.

There is no record of Thomas King depositing any of this material with the Museum of the Literary and Philosophical Society,[4] but the chalice and patten were exhibited by the

Society at the annual meeting of the Archaeological Institute of Great Britain and Ireland at Chichester in 1853.[5] All the finds seem to have disappeared with the dispersal of the Museum collection in the years after 1891.[6] When Thomas King's excavation was reported in *Gentleman's Magazine* in 1855,[7] the sentence about the nave and transepts was omitted.

NOTES

1 Francis W. Steer, *The Grey Friars in Chichester*, Chichester Papers **2** (1955), 2, 3.

2 Revd T. D. S. Bayley, 'Grey Friars' Church, Chichester: the problem of the nave', in *Sussex Archaeol. Collect.* **105** (1967), 70–75.

3 *The Hampshire Telegraph*, 7 September 1835.

4 Register of Contributions to the Museum of the Chichester Literary and Philosophical Society (West Sussex Record Office, Add. MS. 9459)

5 *Reports of the Transactions at the Annual Meeting of the Archaeological Institute of Great Britain and Ireland held at Chichester* (1853), 77.

6 Francis W. Steer, *The Chichester Literary and Philosophical Society and Mechanics Institute, 1831–1924*. Chichester Papers **29** (1962).

7 *The Gentleman's Magazine* (1855) **CXXV**(II), 418.

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Notes: Alphabetization is word-by-word. A reference preceded by M indicates a page of microfiche. A page reference in italics indicates an illustration. A page reference containing n indicates a note: e.g. 239n22 refers to note 22 on page 239.

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