

# Caves in South London

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SINCE the extension of Greater London in 1965 to include parts of Kent and Surrey many more odd antiquities have come within the publication range of *the London Archaeologist*. Formerly, when they were in N.W. Kent, districts like Chislehurst, Orpington, Bexley and Abbey Wood, which between them have several hundred caves, attracted little attention from London archaeologists and the areas of Greenwich, Eltham, Kidbrook, Woolwich and Plumstead, which in places are also heavily undermined, were often ignored, though for years they have been regarded as being part of London.

When one refers to 'caves' it is of course a reference to caves made by man and in the chalky districts mentioned above many have been dug to obtain chalk for building or agricultural purposes throughout the ages. The extensive cave system at Chislehurst is well known and open to the public, but the lesser known and equally large 19th century systems at Plumstead and Abbey Wood, though now in theory closed and sealed, are still accessible in places to *bona fide* officials. As recently as 1967 the group of caves under Federation Road, Abbey Wood, was re-surveyed and photographed by Rodney Legear, a caver/antiquary from Bexley. The 19th and early 20th century series of chalk caverns at Wickham St. and Welling have recently been the centre of a legal wrangle over planning permission for a new housing development, when it was thought that the risk of driving new foundations into unstable ground was too great. The exact whereabouts of the entrance or entrances to these particular chalk mines is now unknown but a report of 1908<sup>1</sup> describes a 100 ft. entrance shaft, and other statistics (number of underground and above-ground workers, etc.) are kept in the archives of H.M. Inspectors of Mines<sup>2</sup>. All the above mentioned cave systems are comparatively modern, except Chislehurst, which the guide book assures, was used and worked by the 'Ancient Britons, Druids and Romans' etc. but in all probability had its modest beginnings in the early medieval period. A Charter dated between 1250 and 1274, by which Andreas de Chislehurst<sup>3</sup> grants to the Bishop of Rochester eightpence annual rent 'out of the Marlera at the Swellinder Pette in the Ville of Chislehurst' indicates that the extraction of chalk for agricultural purposes was being carried out somewhere in the district. Later the land over the caves, certainly as early as the 17th century, was known as 'Well Wood' a

reference no doubt to the vertical shafts which at that particular period served as entrances and air vents to the caves below. In the 18th and early 19th century the caves were known locally as the 'Great Chalk Cavern'. In early Victorian times the Chislehurst cave complex was still being extended by the extraction of chalk for lime-burning and with the addition of one of two horizontal entrances driven into the hillside, chalk was removed on trollies and made ready for the five furnaces nearby. Mining seems to have ceased in about 1868 after several disastrous floods and roof falls. When one visits the caves as a tourist the apparent (but totally illusory) endlessness of tunnels and arches is occasionally relieved by a glimpse of an unusual vertical shaft to the surface and the unmistakable finer workmanship of a typical Kentish 'denehole' chamber, through which the later excavators have driven their adits. It is to these more ancient type of man-made caves, peculiar to Kent (and especially Bexley) and parts of Essex (especially Thurrock and Grays) that the writer wishes to draw the attention of the *L.A.* reader.

Such is the rate of destruction of the 130 or so known deneholes in the Bexley area, probably only about 20 entrance shafts now remain open and of these perhaps 6 are permanently accessible. Of course, after a particularly dry summer or wet winter many inadequately filled holes open up again as the dried plug of earth (which may have stayed undisturbed in the shaft for many years) is plummeted or washed to the base of the shaft and into the caverns below.

A short description of a typical six-chambered Kent or Essex denehole is as follows—(see Fig. 1). The denehole is entered by a vertical shaft some 3ft. in diameter which passes through the Thanet Sand and then into the chalk bed below. (The depth of the shaft is obviously governed by the quantity of Thanet Sand overlying the chalk; some shafts can be as shallow as 25ft., others, like the one discovered at Eltham in 1878 can be as deep as 140ft.) After the chalk is reached it is penetrated by the shaft for approximately 3ft. and then the working is extended to form large caverns, arranged three on each side of the shaft in a 'clover-leaf' or double trefoil design. Footholds are cut in the shaft at regular intervals to facilitate entry by 'straddle-walking' downwards. At the bottom of the shaft a large cone of debris which

1. Walter Johnson, *Folk Memory*, 1908.

2. Harry Pearman, *Chelsea Spelaeological Soc. Records*, 6

3. John Thorpe, *Registrum Roffensis*, 1769.

has formed over the years is reached, composed of sandy soil, rotting tree branches and if the denehole is anywhere near houses, a great deal of unwanted household refuse. Marks of rope chafing can often be seen at the base of the shaft at the point where the chambers begin.

The Kent and Essex deneholes, a number of which are now technically in London, have been of interest to archaeologists for many years but the late 19th and early 20th century was the period when most work was done on them—labour was comparatively cheap, money plentiful amongst gentlemen archaeologists and equipment for the descent, such as sheer-legs and winding gear, was easily obtainable. Very few archaeologists today can relish the prospect of (or physically accomplish) a 50ft. downward climb into a black pit without some trepidation, and the fact that there may be as much as 500 tons of hideously stratified debris waiting to be shifted by hand and dispersed can be daunting. However, a few people have tackled this task, including the writer. Unfortunately, most of the 19th century archaeologists created more problems than they solved and by the early 20th century archaeological thought on deneholes was divided into two camps. The first group believed them to be ‘Ancient British’ or Roman and based their beliefs on the well-known description by Pliny the Elder, of the early Britons’ use of marls and chalk for agricultural purposes<sup>4</sup>. “The chalk is sought from a deep place, the wells being frequently driven to 100ft., narrowed at the mouth, the vein spreading out within, as in mines”.

The second group went to the other extreme and pronounced them to be of late 18th and early 19th century date and not antiquities at all, their theory being based on the passage by John Bannister, of Horton Kirby, Kent, who writing in 1799, describes the method of chalk extraction, wages of chalk miners, rates of cartage, etc., in his book on agriculture<sup>5</sup>.

Regrettably, both parties were wrong, for the typical six-chambered Kentish denehole, at one time by far the most common type known, both in Kent and Essex, is certainly of medieval date. Undoubtedly, the Romano-British people in Kent did excavate chalk in some manner or other, possibly from the bell-pit type of which few, if any, examples exist in the county today.

F. C. J. Spurrell, the 19th century Kentish antiquary who investigated many deneholes, (often accompanied by W. M. Flinders Petrie) excavated three bell-pit holes which had been broken into by quarrying at Crayford<sup>6</sup> and he certainly believed them to be

of pre-Roman or Roman origin. The other school of thought also had a fragment of truth as a basis for their theory for in the 18th and 19th century the practice of sinking ‘chalk-wells’ was at its height in Kent. The chalk-well bears a certain superficial resemblance to the true denehole but long familiarity with both types of excavation enables one to tell fairly quickly into which category each type of chalk mining fits. Deneholes have narrow shafts with footholds, nearly always sunk through a layer of Thanet Sand and never much more than 3ft. in diameter; the later chalk-wells usually have shafts between 4ft. and 9ft. across, without footholds and often descending straight into the chalk bed where it practically outcrops on the surface. Deneholes usually have the typical trefoil pattern (or variations on that shape) with careful and often beautiful tooling, chalk-wells have haphazard mining techniques and a rough finish to the surfaces.

The earliest known written account which definitely describes correctly a denehole is that of William Lambarde, who in 1570 refers to them as ‘caves’ and gives such an accurate description of the deneholes ‘near Dartford Heath’ he could quite easily be describing the group situated at what was once Stankey Wood, just beside the Heath. He also adds ‘In the opinion of the inhabitants, these were in former times digged, as well for the use of the chalke towards buildings, as for to marle (or amend) their arable lands therewith’<sup>7</sup>.

William Camden, in his first edition of *Britannia*, published in 1610, described the deneholes near Tilbury and to complement his wording published a crude but explicit little drawing showing an unmistakable six-chambered type and also the evolved pillared type, of which one example only now survives in Bexley.

As has been mentioned previously, 19th century archaeologists excavated a number of deneholes and probably the most ambitious project was that undertaken by the Essex Field Club during the years 1884-87, on the large group of deneholes clustered together in a small area of woodland known as Hangman’s Wood, between Tilbury and Grays. The exact number of denehole shafts in this particular group is debatable. Holmes and Cole, who published the report<sup>8</sup> mention 51 shafts, five of which were open in 1887, and Miller Christy, who also worked on the dig and published his own account in 1895<sup>9</sup> states there were 72 known shafts in the wood which was a bare four acres in extent. F. C. J. Spurrell visited the dig whilst it was in progress and he, who was the accepted expert on deneholes, also states that there were about 70 shafts.

4. Pliny the Elder, *Nat. His.* I XVII, c. AD. 70.

5. John Bannister, *A Synopsis of Husbandry*, 1799.

6. F. C. J. Spurrell, *Arch. Journal*, 38, 39.

7. William Lambarde, *A Perambulation of Kent*, 1570.

8. Holmes and Cole, *Proceedings of the Essex Naturalist*, 1887.

9. Miller Christy, *The Reliquary*, 1895.

The Essex Field Club dig was highly ambitious as tunnels were driven underground from denehole to denehole, for so close together had the original excavators placed their chambers it needed little effort by the professional labourers to break through the intervening walls. In this way they connected some 13 deneholes, thus bypassing the need to unblock a filled shaft each time they wished to investigate another example. The end result of this dig was disappointing, very few finds were made and those were mostly of animal remains. Prior to that date the Hangman's Wood deneholes had been investigated in 1867 by a party of 'explorers' who descended the available open shafts and painstakingly sieved some of the filling in each hole<sup>10</sup>.

The Dartford Field Club excavated several deneholes, including one at the Stone Court quarry in 1908, one at Darenth Wood, near Dartford, in 1909, and one at Crockenhill, near Swanley in 1913. In 1918, three societies, including those of Dartford and Eltham collaborated on the excavation of one of the Mounts Wood, (also near Dartford) deneholes. In 1906-08, the Woolwich Antiquarian Society investigated three deneholes at Abbey Wood (S.E.2) even going to the extent of unblocking the partly filled shafts before attempting the underground digging, but even though they were, so to speak, 'virgin' deneholes, which had probably been sealed for many

10. *Building News*, Feb. 1867.

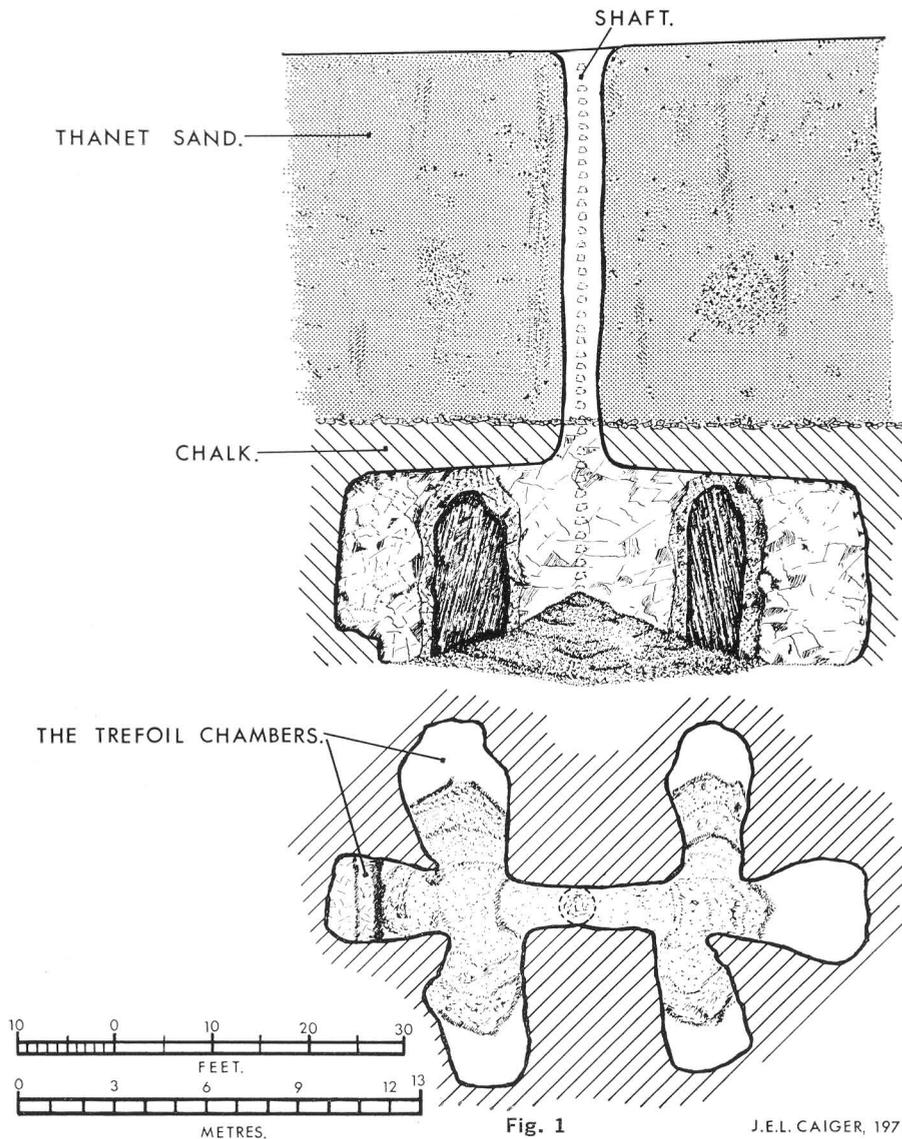


Fig. 1

J.E.L. CAIGER, 1971.

years, no definite dating material was found<sup>11</sup>.

During the years 1953-55 the writer and husband, J. E. L. Caiger, investigated another typical six-chambered denehole in Darenth Wood<sup>12</sup>. Due to its isolated position in deep woodland it was comparatively untouched by vandals and had the added advantage of a chamber which had collapsed funnel-wise up to the surface in antiquity, so making a secondary means of entry and a greatly improved air supply. The work was done (as far as it was possible) by using the accepted archaeological excavation techniques, but it was soon realised that this type of digging, i.e. endeavouring to interpret a section of stratified layers, was impossible. Regrettably, the filling in a denehole does not fall down the shaft in clear neat layers but piles up in an unpredictable arrangement of soil, sand, frost fractured chalk and rubbish thrown down by passers-by. For example, a large tree branch tossed down the shaft will invariably lodge up on one side, thus blocking half of the shaft to soil and filling. Subsequently, when the tree branch rots and falls away (and this could take up to a hundred years) later filling is projected into the empty space. This of course, creates a totally erroneous layer. Alternatively, a heavy object hurled down the shaft nearly always rolls down the inclined cone of debris and comes to rest at the far end of a chamber where the original floor may still be showing. One does not date a denehole by the finding of a Victorian perambulator wheel which happens to be resting on 'natural'.

Like all the previous denehole excavations the inconclusive results of this dig could not be used to date precisely the original denehole digging. A small quantity of medieval pot was found, dated between 1220-60, representing the remains of two or three vessels. It was discovered on the original floor level but a few feet away from the base of the shaft, at the entrance to one of the lateral chambers. Consequently, the results of the two seasons excavations remained unpublished for a number of years as it was realised that an entirely new and more scientific method of dating the six-chambered denehole had to be evolved. In 1960/61 this ambition was fulfilled. It had been noted as far back as the 1880's by Spurrell, that deneholes were often found in association with ancient earthworks and field banks, and in 1941, A. H. A. Hogg, in a paper on the earthworks in Joyden's Wood, Bexley<sup>13</sup>, showed that an earthwork of 13th century date made an obvious detour in order to avoid an open denehole shaft. The Darenth Wood denehole was also situated close beside an extensive bank and ditch enclosure, which by documentary evidence and archaeological excavation had proved

to be of early to mid 13th century date<sup>14</sup>.

It was assumed, therefore, that when the denehole was being dug by the original miners a great deal of chalk spillage would have occurred around the top of the shaft; if the nearby 13th century bank and ditch had been in existence and the ditch empty, chalk and flints, and hopefully other artifacts, would be found in the early ditch fill. Or alternatively, if little or no chalk was found in the ditch fill the denehole obviously pre-dated the earthwork.

Sections were cut, intercepting the bank and ditch and a large area beside the denehole shaft. As had been anticipated, a thick layer of shattered chalk was encountered all round the denehole mouth where hoisting and loading of the mined chalk had taken place. This chalk layer continued into the ditch, together with a great quantity of loose flints which had been tossed aside by the original miners. These flints were found to be resting on the primary silt of the ditch, showing that the earthwork was very new when the denehole was first sunk. A few fragments of medieval pottery and tile were also found in the lower ditch fill. These finds, together with the evidence obtained in the below surface dig in 1955 place the date of this particular denehole sometime between 1200 and 1260 AD.

As a result of this excavation, research and field-work on deneholes was slightly reorientated to cover their obvious connection with earthwork enclosures, field banks and deserted medieval villages and from 1962 until the death of J. E. L. Caiger in 1975, a number of interesting discoveries were made, including the finding of several hitherto unknown D.M.V.'s and a number of earthwork enclosures and medieval field systems, all with their associated deneholes. Most of these new sites found were surveyed and drawn and the results published year by year in various volumes of *Archaeologia Cantiana*. The writer is still engaged on researching into medieval Kentish farming methods, relevant documents relating to land transfers and tenures, and the peculiarities of the law of Gavelkind. It is quite remarkable how many small traces of earthworks still remain in urban areas, on golf courses, beside public rights of way, even in people's back gardens. A quick glance at an early O.S. map can often establish where there were nearby deneholes, for 19th century map makers marked them most carefully.

The large number of deneholes in Bexley were once situated in woodland and can be roughly divided into three groups: Cavey Springs (literally petrified in 1967 by a professional company specialising in the filling of old mines. A C.E.G.B. cooling plant is now built on the site)<sup>15</sup>. Stankey Wood (now

11. *Woolwich & District Antiquarian Soc. Annual Report*, 14. (1908).  
12. J. E. L. Caiger, *Archaeologia Cantiana* 66. (1953).

13. A. H. A. Hogg, *Archaeologia Cantiana* 54. (1941).  
14. J. E. L. Caiger, *Archaeologia Cantiana* 79. (1964).  
15. J. E. L. Caiger, *Archaeologia Cantiana* 82. (1967).

the Baldwyns Park housing estate) and Joydens Wood (part of this is also a housing estate). The known deneholes in these groups, some 130 in total, were almost all of the six-chambered design, though the Stankey Wood group contained several of the interesting evolved oval shape, whereby the miners, in order to obtain a maximum amount of chalk from each sinking, worked the original six chambers into one large cavern, the roof being held up by massive pillars of chalk. Cavey Springs deneholes appear to have been connected with the Manor of Bexley, those at Stankey Wood with the Manor of Baldwyns and Joydens Wood with the Manor of Ocholt<sup>16</sup>. Baldwyns and Ocholt were sub-manors of Lessness, with which the Abbey Wood deneholes had obvious connections.

The origin of the word 'denehole' is obscure. In Essex they are also known as 'Dane-holes' and the word was in use in the early 18th century. In a Charter of A.D. 956 'deoh holes' appears in connection with a 'cealc pyt' (chalk pit). The three experts in Old English (including the British Museum) to whom the present writer has submitted the relevant passage for translation have all returned a different version. These include one — 'deoh holes, left untranslated but could be a proper name' one one ren-

dered it 'deep holes' and the other 'clay or loam holes'. Another Charter, dated A.D. 958, mentions the word 'dene Pitte'. Either of these terms could refer to deneholes but proof of such an early use of the word cannot be based entirely on such scanty evidence, tempting though it might be.

Besides the previously mentioned districts deneholes, chalk-wells and caves have been recorded at Orpington, Charlton, Blackheath, Eltham and Kidbrooke. There must be many unsuspecting Londoners living in houses that are subject to ominous crackings and sinkings, for the housing authorities, especially in the 1920's and 30's had few scruples when allowing a housing estate to be built over land known to contain a honeycomb of caves. Today the situation is little better, though perhaps the by-laws governing the correct procedure for making the area safe are more strictly enforced. Regrettably, the shortage of land has permitted builders to use every inch for housing, thus ensuring the disappearance of an interesting archaeological oddity and laying up a store of future trouble for the unfortunate buyers.

16. P. J. Tester & J. E. L. Caiger, *Archaeologia Cantiana* 72 (1958).

## Excavations & Post — Excavation Work

**City**, by Museum of London. Department of Urban Archaeology. A series of long term excavations. Enquiries to Brian Hobley, Chief Urban Archaeologist, DUA, 71 Basinghall Street, E.C.2. (01-606 1933/4/5). For information on post-excavation work, contact Penny MacConnoran at this address.

**Brentford**, by West London Archaeological Field Group. Excavation and processing. Enquiries to Alison Laws, 71-72 Brentford High Street, Brentford, Middlesex. (01-560 3880).

**Fulham**, by Fulham Archaeological Rescue Group.  
(1) Fulham Palace, Bishops Avenue, S.W.6. Excavation work under the floor of the great hall and other rooms will reveal medieval foundations and cellars, known from 18th century plan and surveys. Enquiries to K. Whitehouse, 86 Clancarty Road, SW6 3AA (01-731 0338).

(2) Sandford Manor, Rewell Street (New Kings Road) S.W.6. Excavation work in grounds of 17th century house, traceable back to at least 14th century, hopefully will find medieval and earlier occupation. Enquiries to Excavation Director, C. E. Oliver, 18 Albany Court, Ashburnham Road, Ham Richmond, Surrey. (01-948 2633 or 661 1421) or K. Whitehouse.

**Hammersmith**, by Fulham Archaeological Rescue Group. All types of work and finds: prehistoric, Roman, medieval and later. Tuesdays and Thursdays, 7-10 p.m. and weekends after dusk, St Peter's Church Hall, Varna Road, S.W.6. Contact: K. Whitehouse, 86 Clancarty Road, S.W.6 3AA (01-731 0338).

**Inner London Boroughs**, by the Inner London Unit. Several rescue sites in various areas. Enquiries to Irene Schwab (01-242 6620).

**Kingston**, by Kingston-upon-Thames Archaeological Society. Rescue sites in the town centre. Enquiries to

Marion Smith, Kingston Museum, Fairfield Road, Kingston (01-546 5386).

**North-East Greater London**, by Passmore Edwards Museum. Enquiries to Pat Wilkinson, Passmore Edwards Museum, Romford Road, E.15. (01-534 4545).

**Putney**, by Wandsworth Historical Society. Two acre site at junction of Felsham Road and High Street lies on Roman and medieval settlements. Alternate weekends. Enquiries to Nicholas Farrant, 7 Coalecroft Road, S.W.15 (01-788 0015).

**Southwark**, by Southwark and Lambeth Archaeological Excavation Committee. Several sites from the Roman period onwards. Enquiries to Harvey Sheldon, S.L.A.E.C., Montague Chambers, Montague Close, S.E.1. (01-407 1989).

**Surrey**, by Surrey Archaeological Society. Enquiries to David Bird, Field Officer S.A.S., Castle Arch, Guildford, Surrey. (0483-32454).

**Vauxhall Pottery**, by Southwark and Lambeth Archaeological Society. Excavation at weekends only. Processing of excavated material continues three nights a week. All enquiries to S.L.A.S., c/o Cuming Museum, 155 Walworth Road, S.E.17. (01-703 3324).

### GENERAL EXCAVATIONS

*The Council for British Archaeology produces a monthly Calendar of Excavations from March to September, with an extra issue in November and a final issue in January summarising the main results of fieldwork. The Calendar gives details of extra-mural courses, summer schools, training excavations and sites where volunteers are needed. The annual subscription is £3.00 post-free, which should be made payable to C.B.A., 112 Kennington Road, S.E.11.*