

Analytical survey of earthworks on Gravelly Hill, Caterham and Bletchingley

Site	Gravelly Hill
Parish	Caterham and Bletchingley
District	Copthorne and Tandridge
County	Surrey
NGR	TQ 337536 (centre)
Survey date	2015-2018
Report author	Judie English PhD, MIfA, FSA

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Summary

A sketch survey of earthworks on Gravelly Hill, Caterham and Bletchingley, was undertaken by the late Peter Gray and Gwyneth Fookes showed evidence of multi-period activity; when Caterham School purchased the area they requested a full survey to assist in their land management. This has indicated the presence of at least two phases of field systems, one of which pre-dates emparkment, the generally well preserved pale of the medieval North Park, two lines of military defence works and both large and small scale gravel extraction.

Introduction

In 2014 land on Gravelly Hill was purchased by Caterham School and they expressed an interest in knowing the archaeological and historical background to their new land. The late Peter Gray had already noted the presence of earthworks within the area but access had previously been limited. As a result of the change of ownership members of the Surrey Archaeological Society undertook a measured survey of the land within the medieval park and a small area to its immediate north. The aim of this report is to make the results of that survey available, together with an assessment of the historical and archaeological background.

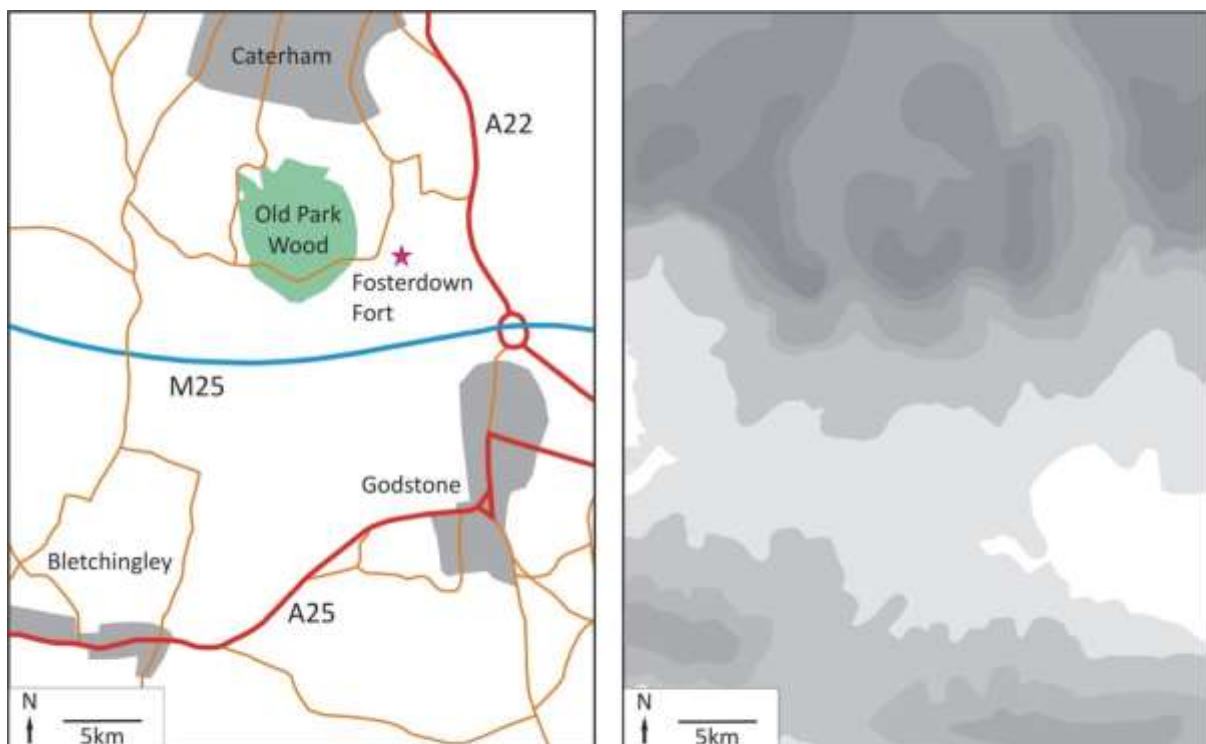


Figure 1 Location (left) and topography (right) of Old Park Wood (Gravelly Hill), Caterham. Contours are shown at 20m intervals with land below 100m OD remaining white

Topography, geology and present land-use

Gravelly Hill is a high point on the scarp edge of the North Downs and reaches 235m OD. The area surveyed comprised a north-facing spur known as Old Park Wood, part of a parallel spur to the east known as Upwood or Tupwood and the steep-sided valley between them which runs northwards towards Caterham (figure 1).

The North Downs at this point comprise strata of Holywell Nodular and New Pit Chalk overlying West Melbury Marl and Zig Zag Chalk Formations. A horseshoe-shaped superficial deposit of Blackheath Beds lies on the crest of the downs towards the southern edge of the area surveyed.

The area under study is covered by a mixture of older wood land to the west, Old Park Wood, and more recent woodland to the east with the bottom of the steep-sided valley in the centre having been cleared of vegetation. Left more or less untouched during a recent period of private ownership the woodland is now partly used for educational purposes by Caterham School and partly as an open leisure area by mainly local people.

Historical and archaeological background

Although no finds have been made on Gravelly Hill itself there is considerable evidence of an enduring prehistoric presence on the greensand to the south.

Large amounts of worked flint indicating a location of repeated activity during the Mesolithic period has been excavated at North Park Farm on the greensand south of the downs (Jones 2013), and recent developer funded excavation has revealed Mesolithic, Neolithic and Early Bronze Age flintwork, a Mid- / Late Bronze Age field system and a Mid- / Late Iron Age settlement which may have continued into the Romano-British period at Mercer's Farm, Nutfield (Coombe *et al* 2018, 223-224). Further excavation in advance of quarrying has identified a large number of probable Bronze Age burials and mortuary evidence from the Romano-British period, as well as Early Iron Age settlement and iron production and a probable late prehistoric field system at North Park Quarry, Bletchingley (*ibid*, 224-229; Marples & Poulton, 2019).

On the scarp edge of the downs, some 500m west of Gravelly Hill, War Coppice hillfort (Cardinal's Cap) is poorly dated (Hart 1933; Hope-Taylor 1950).

An area to the scarp of the North Downs and the land to its south appears to have comprised two large Late Saxon 'multiple estates', one encompassing what were to become Ham, Harrowsley, Burstow, Nutfield and Bletchingley, and the other Chivington, Horne, Tandridge and Godstone Blair 1980, fn 48).

Prior to the completion of Domesday Book in 1086 there were three manors in Bletchingley itself, held by Alfheah, Alwin and Alnoth from Edward the Confessor. By 1086 the single manor was in the hands of Richard of Tonbridge who had tenants Odmus, Lemei and Peter (Morris 1975, 19) – from the names it is clear that Anglo-Saxon land holders had been displaced in favour of Normans. Alnoth also held Chivington, prior to the Norman Conquest but this manor was rapidly subsumed into Richard of Tonbridge's holding and the settlement appears to have failed. Interestingly, in his reconstruction of the pre-Conquest manors from the endowments of Lewes Priory, John Blair places the area of Gravelly Hill now in Caterham in Chivington (Blair 1980, fig 7).

Excavations at North Park Quarry located trackways and a ditched field system associated with pottery dating c. 1050 – c.1200 suggesting 'rapid, well-organised and complex economic development (which) has not previously been demonstrated on the Greensand (of Surrey) (Marples & Poulton 2019, 186). But, this productive landscape of scattered farms was brought to a sudden and total end by deliberate levelling, probably during the creation of North Park.

Richard of Tonbridge was the ancestor of the Earls of Hertford and Gloucester who, as the de Clare family held Bletchingley by knight's service and a rent of 5/- (25p) called Park-Silver until the male line failed in 1314 (Malden 1912, 253-265). A park had been enclosed prior to 1233 when Roger de Clare was gifted by Henry III hinds and stags to stock his park (Calendar of Close Rolls, HMSO 1892-1963, March 1233 (204) and in 1262 an *inquisition post mortem* included the pasture within the two parks valued at 40s (£2) per annum, the pannage 50s (£2.50) and underwood and deadwood were also valued. In 1296 the value of the pannage

had increased to 60s (£3) and by 1403 they were known as North and South Parks (*ibid*). Records of trespass, of deer stealing and of appointments of keepers of the park are occasionally found.

Bletchingley came into the hands of the de Stafford family who held it until the attainder and execution of Henry 2nd Duke of Buckingham in 1483. The manor was forfeit to the king but was returned to the family until Edward 3rd Duke of Buckingham was also attainted and executed in 1521. The manor was then granted by Henry VIII to Sir Nicholas Carew and his wife Elizabeth but after his execution the manor was again forfeited and eventually, in 1540, given to Anne of Cleves for life, being described as 'of two leagues'.

Both parks were maintained through this period; in 1523 £4 11s (£4.55) was rendered by Ambrose Skelton and John Scott, keepers of the North and South Parks. In 1540 Sir Thomas Cawarden became keeper of the parks and master of the hunt of deer (*ibid*).

The North or Little Park (SHHER 1227) occupied the northern portion of Bletchingley Manor, primarily in Bletchingley parish but including a small part of Caterham parish (Lambert 1921). Old Park Wood was once known as Abbotts Wood while Ten Acre Shaw was Cassocks Wood probably because the church in Caterham was given to the monastery of Waltham Holy Cross in the early 13th century and later the Abbot of Waltham became Lord of the manors of Caterham and Tupwood. In 1253 the abbot and canons received a grant of free warren in their demesne lands of Caterham (Malden 1912, 265-270).

North Park, now called Hackstall, is shown on maps by John Norden (published 1594), John Speed (1610) and Johan Blaeu (1648) but not in that of John Senex (1729). In 1677 the manor was acquired by Sir Richard Clayton and John Morris, a transaction witnessed by John Evelyn who recorded the event in his diary when 'I sealed the deedes of sale of the manor of Blechinglee to Sir Robert Clayton for payment of Lord Peterborough's debts, accordingly to the trust of the Act of Parliament' (Malden 1912).

In 1680 Clayton, by then the sole owner, had ordered that the bounds of the manor be recorded and these had been reported at a manorial court. Unfortunately the original

document has disappeared but a transcription was made in 1800 (SHC ref: K61/7/1-2) so the boundary can still be traced. The homagers to the same Court presented that 'the demesne did heretofore consist of two parks, Little and Great, now called the North and South Park, but are and have been for many years disparked and laid into several farms'. The North Park contained 1,135a 22p (549ha) and the South 1681a 28p 680ha) (Malden 1912, 253-265). In 1761 an estate map (SHC ref: K/61/3/2) was drawn up for the Clayton family (figure 2).

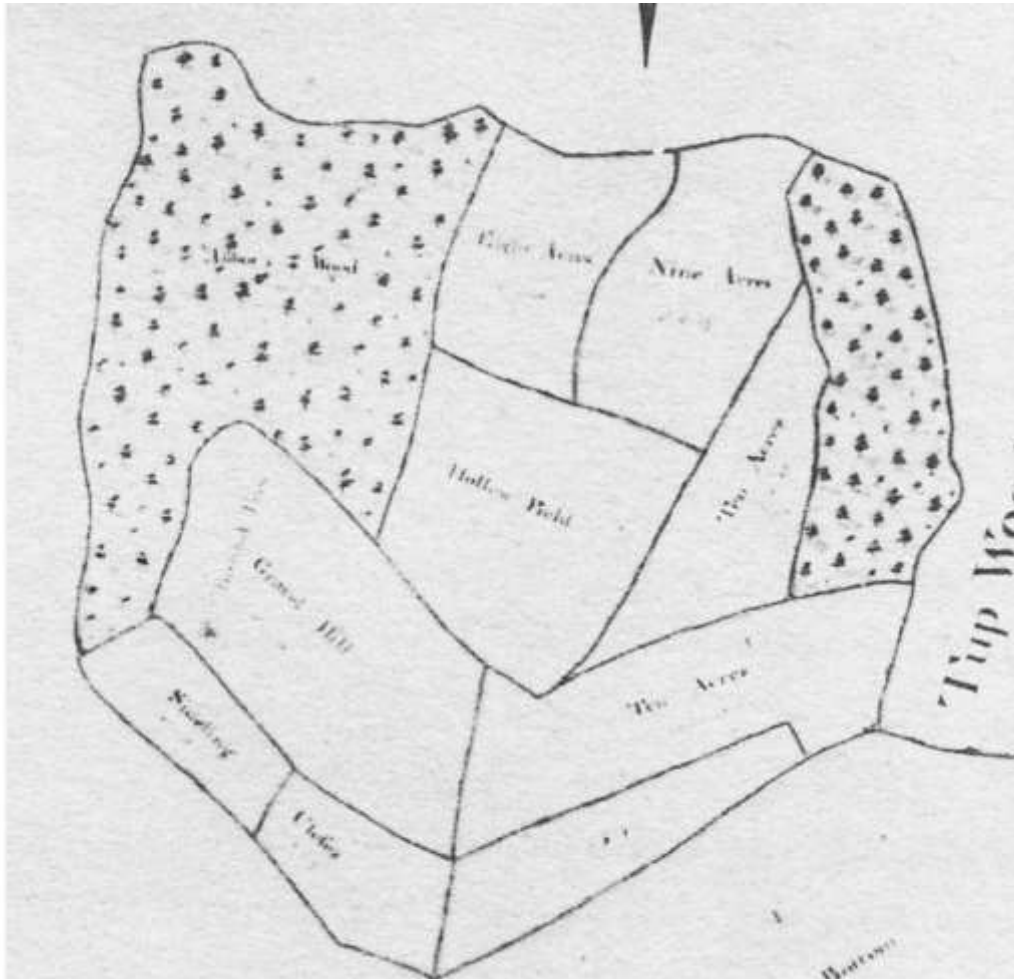


Figure 2 Extract from an estate map of 1761 drawn for the Clayton family (SHC ref: K/61/3/2)

The map published by John Rocque in 1768 confirms the arable use of most of the area of Gravelly Hill with only two areas of woodland shown. Given the inaccuracy of the map it is not possible to identify these with certainty but they were probably Abbots Wood and Tupwood (figure 3).

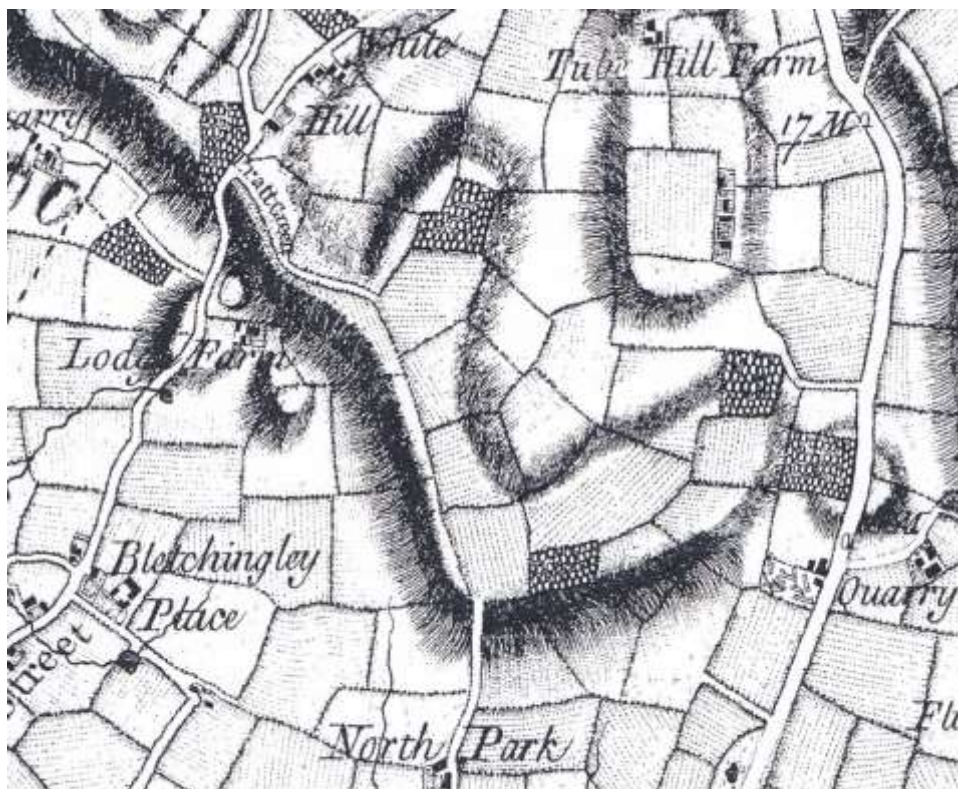


Figure 3 Extract from map published by John Rocque in 1768 showing Old Park Wood and the surrounding area

Gravelly Hill as depicted on the Tithe Maps for Caterham and Bletchingley parishes are shown in figure 4. The Tithe Awards give the following ownership, occupation, field names and use for parcels of land in the area as:

Caterham Tithe Award (1838/40) (SHC 863/1/19-20)

Parcel No.	Owner	Occupier	Parcel Name	Use	Holding
326	William Clayton	Charles Webb	Old Park	Wood	North Park
327	"	"	Hog Trough Field	Arable	"
328	"	"	Ten Acres	Arable	"
329	"	"	Ten Acres Shaw	Wood	"
330	"	"	Side Hill Field	Arable	"
331	"	"	Gravelly Hill	Arable	"

Bletchingley Tithe Award (1841/3) (SHC 863/1/7-8)

Parcel No.	Owner	Occupier	Parcel Name	Use	Holding
236	William Clayton	Charles Webb	Long Meadow Wood	Wood	North Park
237	"	"	Chalk Pit		"
238	"	"	Chalk Pit Field	Arable	"
239	"	"	7 Acres	Arable	"
240	"	"	Little Gravelly Hill	Arable	"

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242	"	"	8 Acres side of hill	Arable	"
243	"	"	Coudeck Field	Arable	"
244	"	"	Little Field near lane	Pasture	"

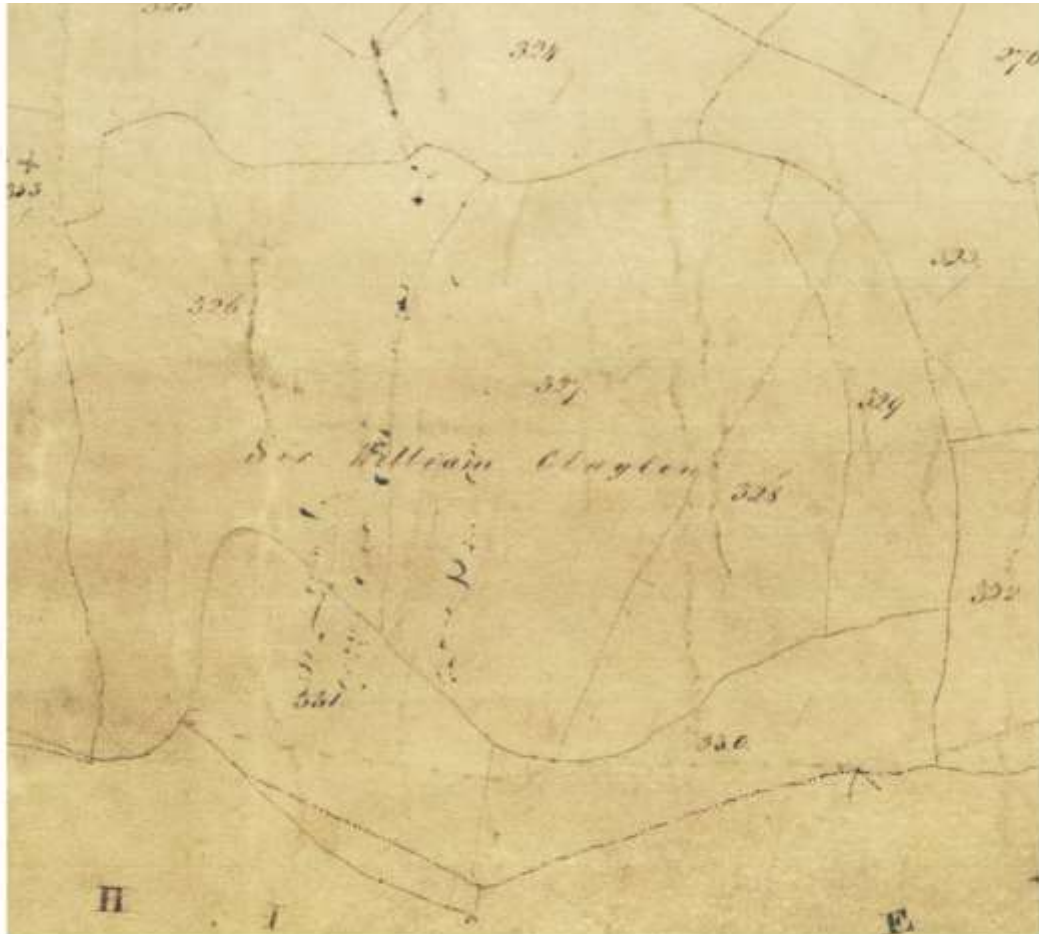
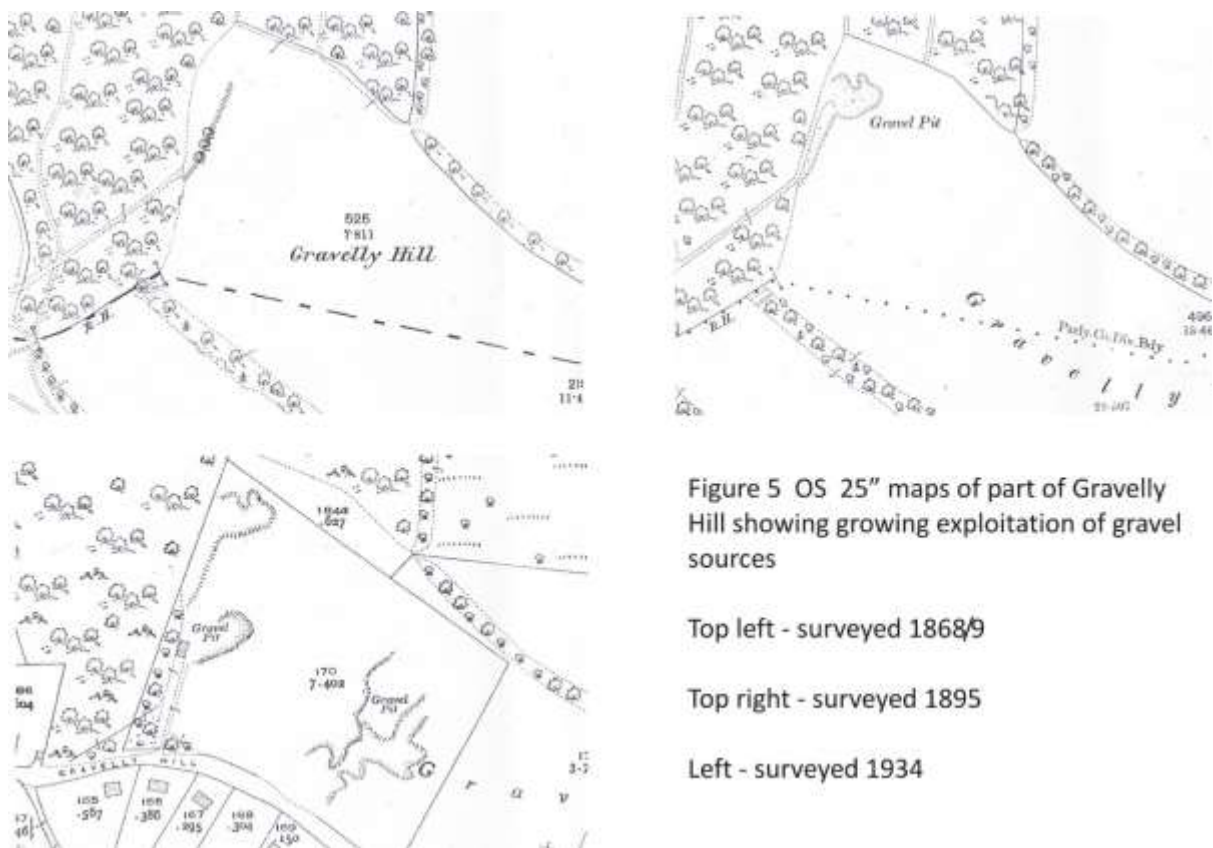


Figure 4 Gravelly Hill from the Tithe Maps for Caterham (SHC 863/1/19) dated 1838/40 and Bletchingley (SHC 863/1/7) dated 1843

All the land was under arable use except Old Park Wood and Ten Acre Shaw, not surprising since the mid-19th century saw an arable maximum which lasted until repeal of the Corn Laws in 1846 and large scale importation of grain by steam ship, particularly from Canada. Although a chalk pit is shown there is no evidence of exploitation of gravel sources at this time.

The OS 25" map surveyed in 1868/9 shows that by that date no major gravel quarries had been dug but by 1895 the exploitation had started. The same quarry is depicted in the map surveyed in 1910 but by 1935 the area being quarried had expanded considerably (figure 5).



In 1921 Uvedale Lambert produced a parish history of Bletchingley which included a map of the North Park which appears to be an annotated version of the OS 25" sheet XXVII SW published in 1910. This shows the approximate position of the park pale and the place-names Abbot's and Cassock Wood (figure 6).

During the 20th century these woods were owned by the same family from 1922 to 2013 who adopted a low key management policy after the Second World War. Until then the central

Harris Valley area was open farmland (figure 7). The rest of the area appear to have been woodland for many centuries.

These woods were the subject of a walkover survey in 1992 (Gray & Fookes, 1992) when a number of earthworks were recorded which were interpreted as the possible remains of a park pale to the north (SHHER 2613) (figure 8).

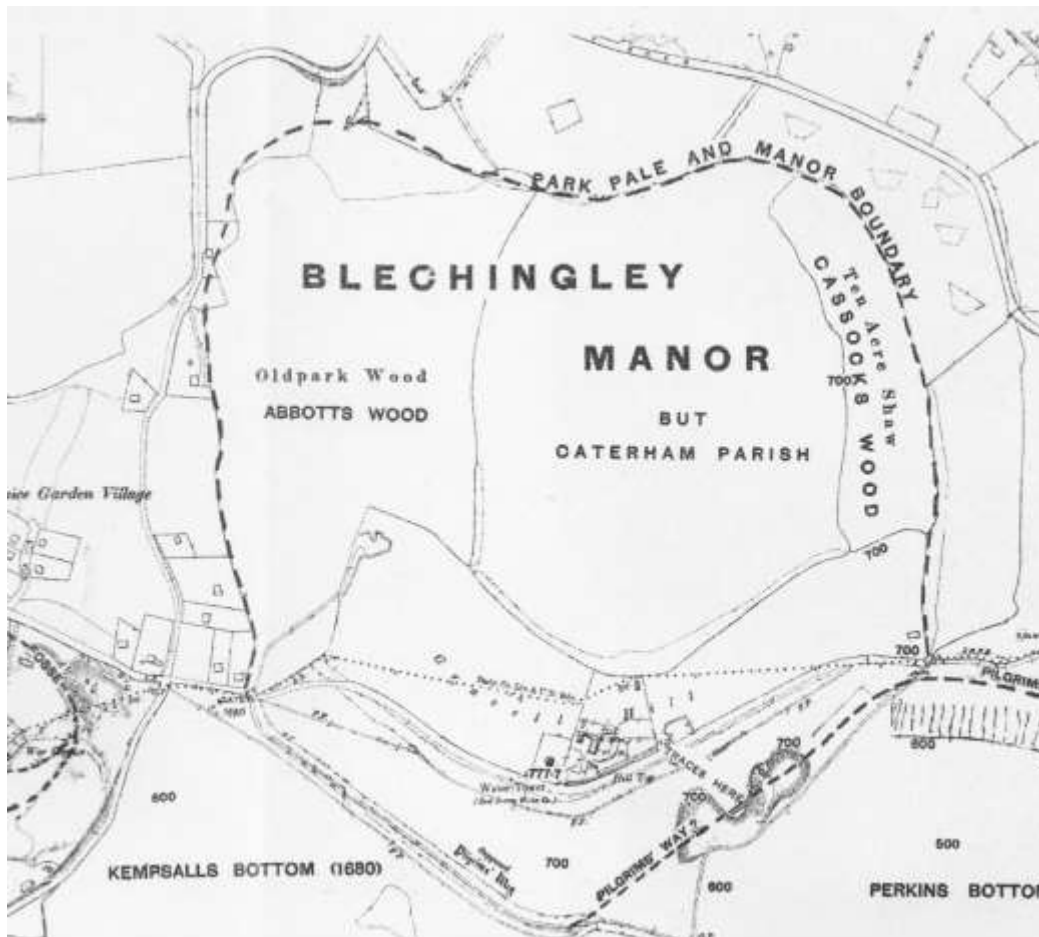


Figure 6 Part of North Park from Lambert 1921 based on OS 25" map of 1910

Contouring the hilltop is another earthwork (SHHER 16190) which, while much disturbed, has banks of significant size. Another series of earthworks cross the area and have the appearance of WW1 practice trenches (SHER 16192). Soon after this Gwyneth Foulkes returned and completed a sketch survey of one of the two lines of military earthworks (figure 9).



Figure 7 Aerial photograph of Gravelly Hill taken in 1945 (GoogleEarth)

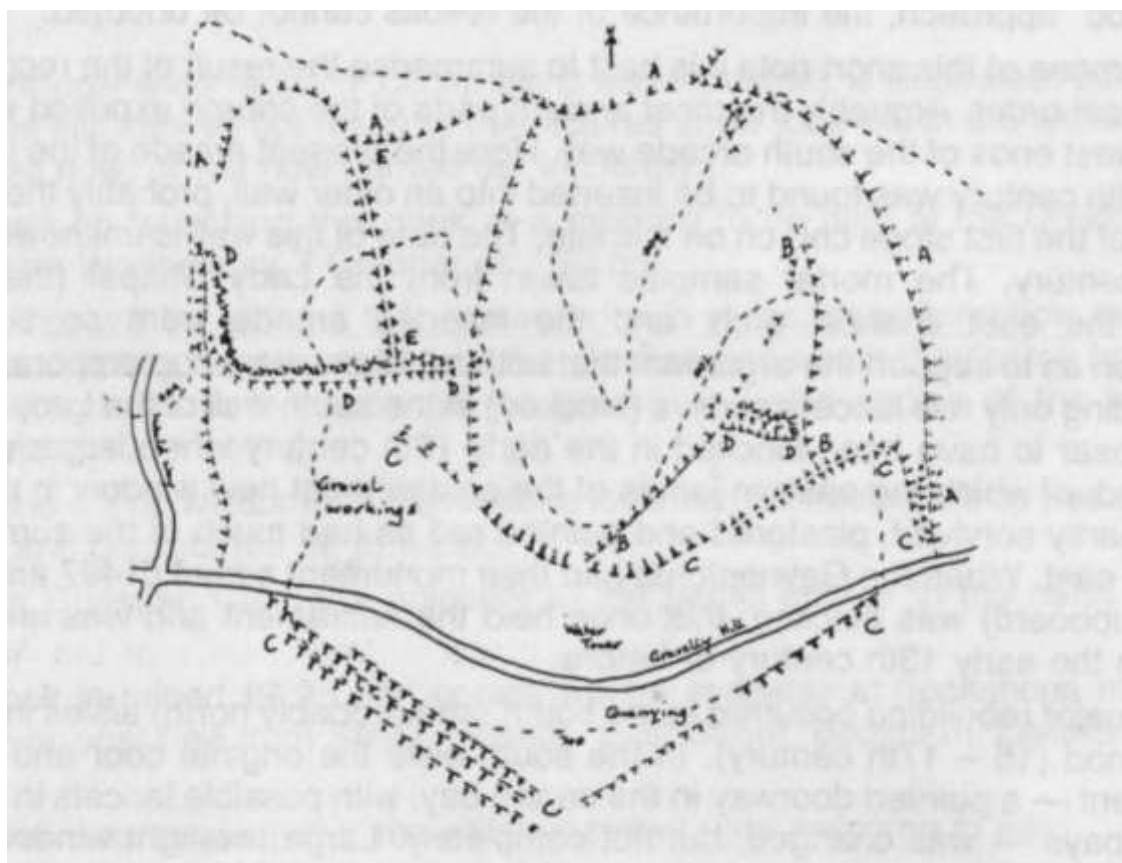


Figure 8 Sketch map earthworks in Gravelly Hill from Gray and Fookes 1992

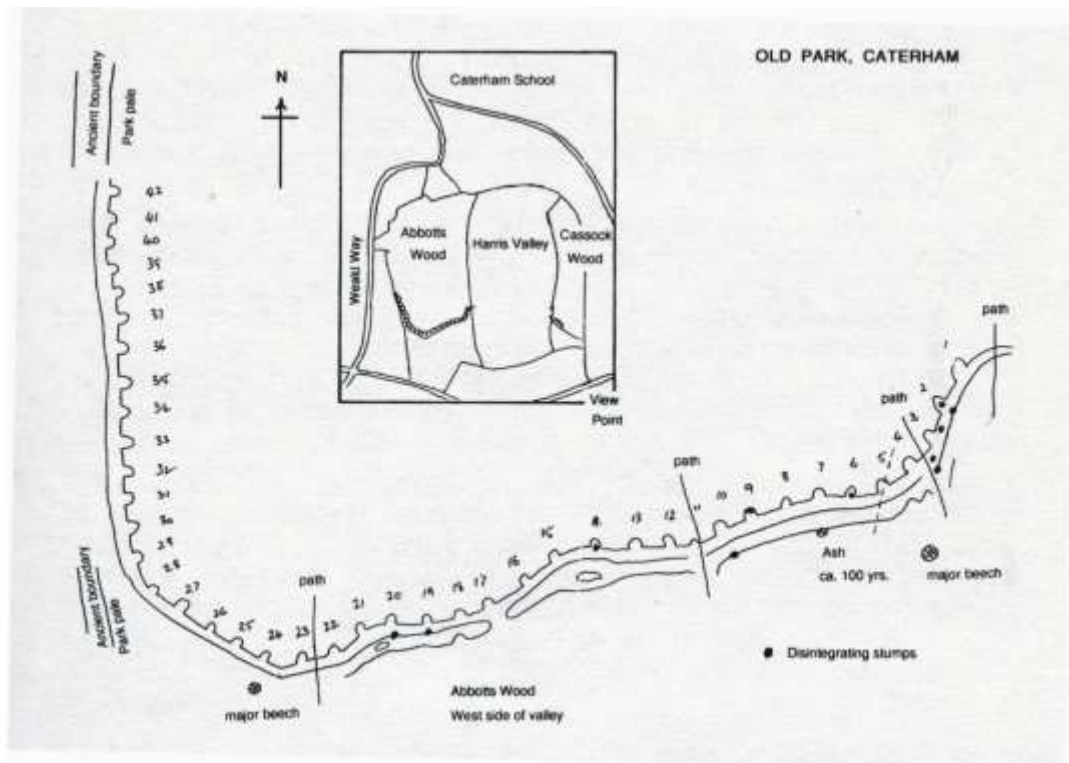


Figure 9 Sketch map by Gwyneth Fookes of the military earthworks in Old Park Wood

The survey

METHODOLOGY

The Level 3 analytical survey was undertaken using an amended version of the tape and offset methodology (Bowden 1999, 62-63). Points on the boundary fence were used as 'fixed points' and baselines created between these points; offset tapes were then set by compass perpendicular to these baselines. In addition to earthworks the positions of some numbered, mature beech trees was recorded together with any other apparently deliberately planted vegetation.

RESULTS AND INTERPRETATION

The earthworks in Gravelly Wood can be divided into four types: field systems, park pale, quarries and military trench systems and slit trenches and will be described in that order. The results of this survey are shown in figure 10 and an annotated version as figure 11.

FIELD SYSTEMS

At least two phases of field systems can be seen within the area surveyed, one of which appears to predate the park pale. This earlier system comprises a series of contour lynchets

(a) visible within Old Park Wood, on the slopes to its east and on the eastern side of the central valley. At one point (b) one of these field boundaries can be seen to be cut by the complex of earthworks marking the park boundary. The regularity of these earthworks as they run parallel around the topography could indicate that they originate from changes in the local geology but such close natural terracing has not been observed elsewhere on the North (or, indeed, the South) Downs and this explanation seems unlikely. The survival is too poor to fully describe the morphology and from the available evidence it is not possible to do more than suggest a possible date. It may represent a Medieval system pre-dating emparkment or be a relic from an earlier period protected from destruction by ploughing during the 13th – early 14th century arable maximum.

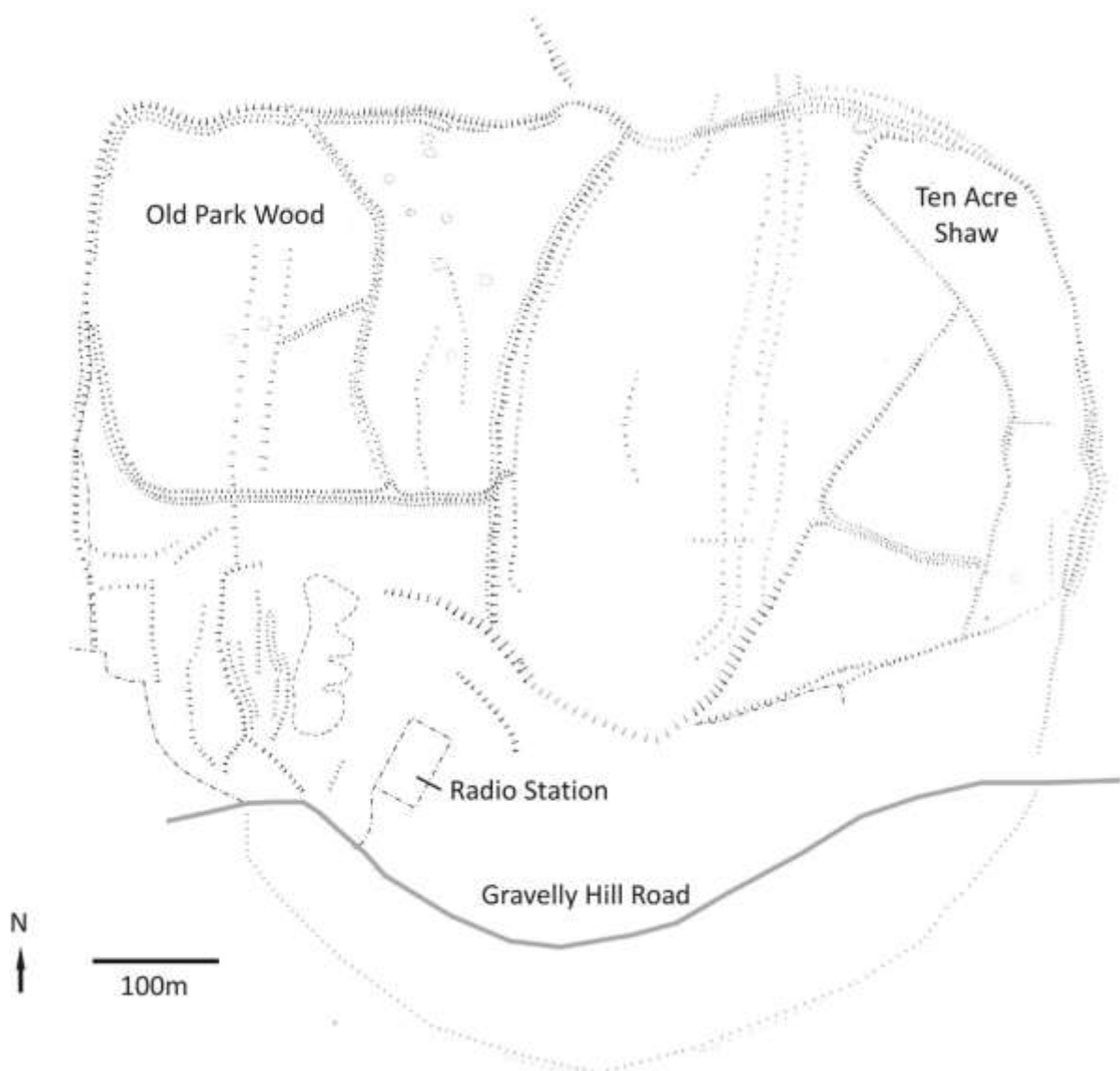


Figure 10 Analytical survey of earthworks on Gravelly Hill, Caterham and Bletchingley, Surrey

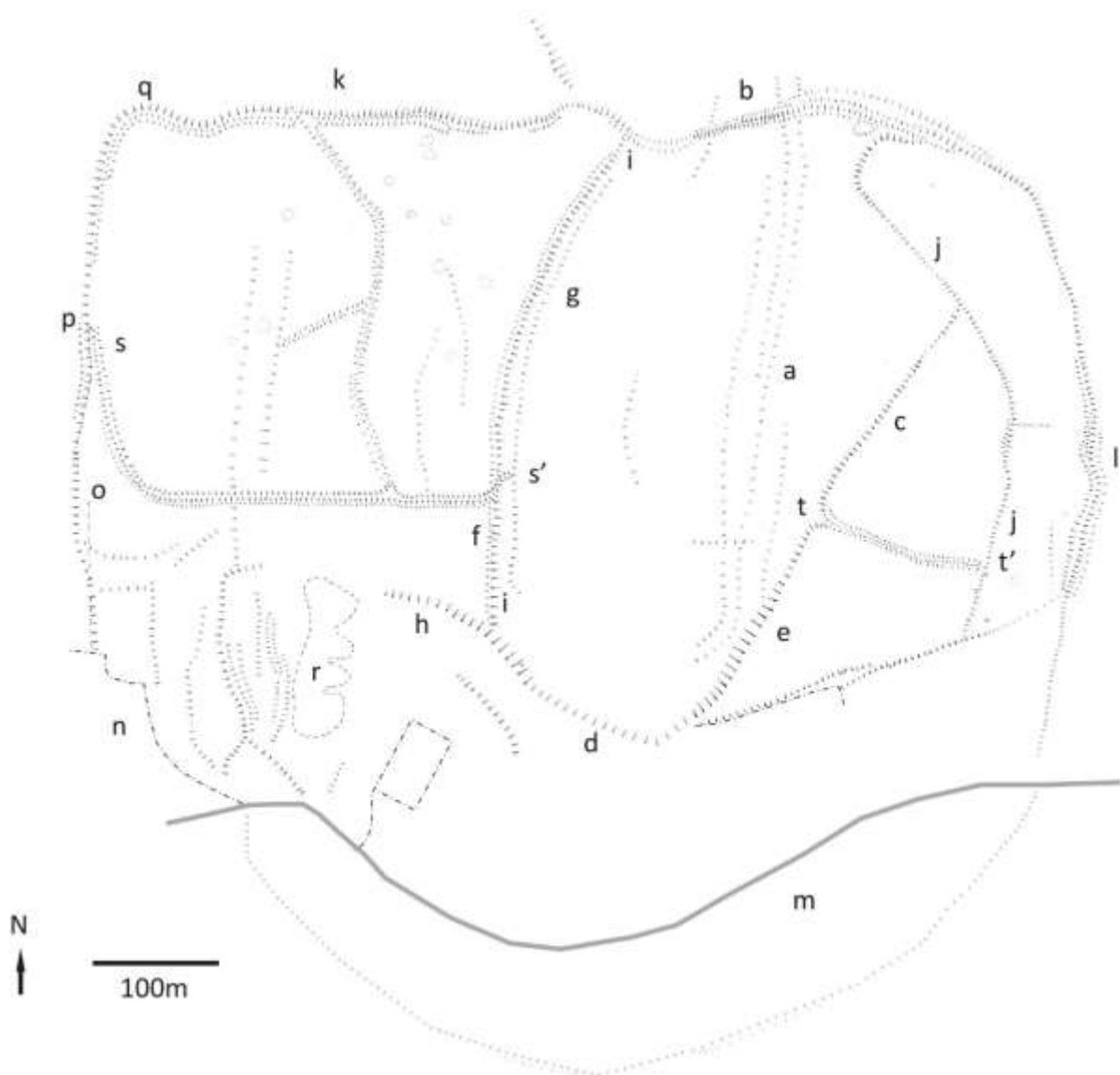


Figure 11 Annotated analytical survey of earthworks in Old Park Wood

There does appear to be some suggestion of farmed land within the North Park; in 1323 John le Ventour died having held a house with 92 acres (37ha) arable land. The Ventour family appear to have held Little Pickle, where excavation has uncovered a series of houses dating from the 13th to the 16th centuries (Poulton 1998) – the earliest form of the name is Venator, probably indicating the profession of its owner as master of the hunt for one, or more likely, both parks (Saaler 1998a). Certainly some use was made of the land other than as a deer park – in the 15th century documentary evidence exists for the presence of a tile kiln (Saaler 1998b) and a tile kiln of approximately that date was recorded during a watching brief close to Little Pickle (Dyer 1998).

However, the presence of Late Prehistoric and Romano-British activity on the greensand to the south-west of Gravelly Hill (Coombe *et al* 2018, 223-229), the probable prehistoric field system on White Down, Chaldon, some 1.5km west of Gravelly Hill (SHHER 1237; English, in prep) and the better known system on Farthing Down 5km to the north-west (Hope-Taylor 1949) might suggest the possibility of an earlier date for the system noted here.



Figure 12 Lynchet marking the western boundary of Ten Acres (north)

Other, often major, lynchets mark the boundaries of fields most of which are shown on the estate map of 1761 (figures 2) and the Tithe Maps for Caterham and Bletchingley parishes (figure 4). Particularly pronounced are the western boundary of Ten Acres (north) (c; figure 12), the southern (d), eastern (e) and western (f) boundaries of Hollow Field, the western boundary of Eight Acres (g) and the northern boundary of Gravel Hill (h; figure 12). Of these (f) and (g) also form the eastern boundary of Old Park Wood (or Abbot's Wood) and bound the western side of a terraced ride (i). The construction of this ride may have resulted in enhancement of the bounding lynchet; it is clear that this boundary is cut by the northern limit of Gravel Hill (h) and that the northern portion of this field is an encroachment into Old

Park Wood. Some of the remaining large lynchets are all on steep slopes and result from arable use of the central valley, probably during the post-Medieval period.



Figure 13 Large lynchet marking the northern boundary of Gravel Hill (showing damage due to cycle use)

The western boundary of Ten Acre Shaw (also known as Cassock's Wood) (j) is less pronounced, although still considerable. Shown as woodland I 1761 (figure 2) and the 1840s (figure 4) this woodland may well date back to the Medieval deer park.

The southern boundary of Gravel Hill and Ten Acres (south) has been largely obliterated by Gravelly Hill Road. The line of the road is shown as a shaw on the Bletchingley Tithe Map of 1843 and by 1868/9 (OS 25" sheet Surrey XXVII) the portion to the south-east of Gravelly Hill had been developed to provide access to a large chalk quarry and lime kiln and a small, dead-ended track is shown in the eastern portion of the shaw bounding Gravelly Hill. The same layout south of Gravelly Hill survived on the 1895 map (OS 25" sheet Surrey XXVII SW), although a road on the present line further west had been extended to serve the gravel quarry in Old Park Wood. By 1910 the water tower had been constructed and the road completed

to follow the present line. South of the road the extent of the properties is marked by a large lynchet with a public right of way to its immediate south. The properties occupy the fields shown on the Tithe Map and Award for Bletchingley as Chalk Pit Field and Eight Acres Side of Hill whilst the woodland on the lynchet was known as Long Meadow Wood. The western portion of the track is depicted on the OS 25" map surveyed in 1868/9 (sheet XXVII SW) when it was considered part of the (now discredited) Pilgrims' Way, but the full length to rejoin Gravelly Hill Road is not shown before 1934, by which time the chalk pit and limekiln had presumably ceased operation.

The field names, Eight Acres, Nine Acres, Ten Acres (x2) and Hollow Field are of a form which suggest a post-Medieval date and the comment in the survey of 1680 (1800 transcript SHC ref: K61/7/1-2) that Bletchingley North and South Parks 'have been for many years disparted and laid into several farms' would support that suggestion. These fields were under arable use at the time of the Tithe Assessments (figure 4) and some of the boundaries can be seen in the aerial photograph of 1945 (figure 7) but they presumably lapsed into pasture with the arable decline after about the middle of the 19th century when cheaper shipping and rail costs allowed imports of grain from America and Russia to undercut the home produced product and saw Britain's reliance on imported wheat rise from 2% in the 1830s to 65% in 1886 (Ensor 1936, 116).

PARK PALE

It is likely that the park pale was constructed as a bank with an internal ditch, to discourage the deer from escaping, and in places this form of earthwork has been retained. Originally the bank would have been topped by a palisade. The northern leg (k; figure 14) is largely of this form as is part of the eastern leg (l) but much of the latter has been reduced to a single, albeit substantial, lynchet.

In places the ditch of the eastern boundary is so large that it is likely to have been re-cut, possibly on several occasions. The line of the bank has been emphasised by planting beech trees, probably in the 19th century, probably because of its continuing relevance as a property boundary.



Figure 14 Northern leg of park pale



Figure 15 Western leg of park pale

The boundary was been partially ablated immediately north of, and crossing, Gravelly Hill Road and by 1935 the area between the road and the track marked as the 'Pilgrim's Way – supposed route' had been partially developed for housing (m) (OS 25" sheet Surrey XXVII SW). However, the line of the pale would presumably have turned east to follow the line of the Caterham / Bletchingley parish boundary before turning south along the Bletchingley / Godstone boundary.

The pale is again lost as it re-crosses Gravelly Hill Road on the western boundary of the park, and the line is unclear where it traverses a partially enclosed and heavily vegetated area to the immediate north (n). When Weald Way was developed between 1895 and 1910 the route was placed to the west of Old Park Wood such that the great majority of the holdings were set out with their eastern limit at the boundary of North Park. The line emerges firstly as a lynchet and then as a large ditch marking the boundaries, and occasionally enclosed within the property gardens (o; figure 15). Further north the line is joined by that of the main military earthwork (see below) and the park ditch (p) may have been re-used as part of the trench system.

Towards the northern western corner of the park one holding can be seen to impinge on the boundary (figure 16) but the pale can still be seen as a bank crossing the garden and drive of the house now built on the land. The integrity of the pale has also been compromised by an extension to the original holding on War Coppice Road (number 186 on the 1934 OS 25" map; figure 17). The park boundary has been reduced to a lynchet with occasional remnants of back to the earthwork until it reaches the north-west corner of the park where it resumes the morphology of a bank with an internal ditch (q).

It is remarkable that the pale of the northern portion of the medieval North Park, Bletchingley is traceable for the great majority of its circuit around Gravelly Hill and in most places survives as an appreciable earthwork. There would presumably have been entrances, hatches, possibly with lodges, around the entire circuit but the loci of these structures do not appear to have survived, even as place-names.

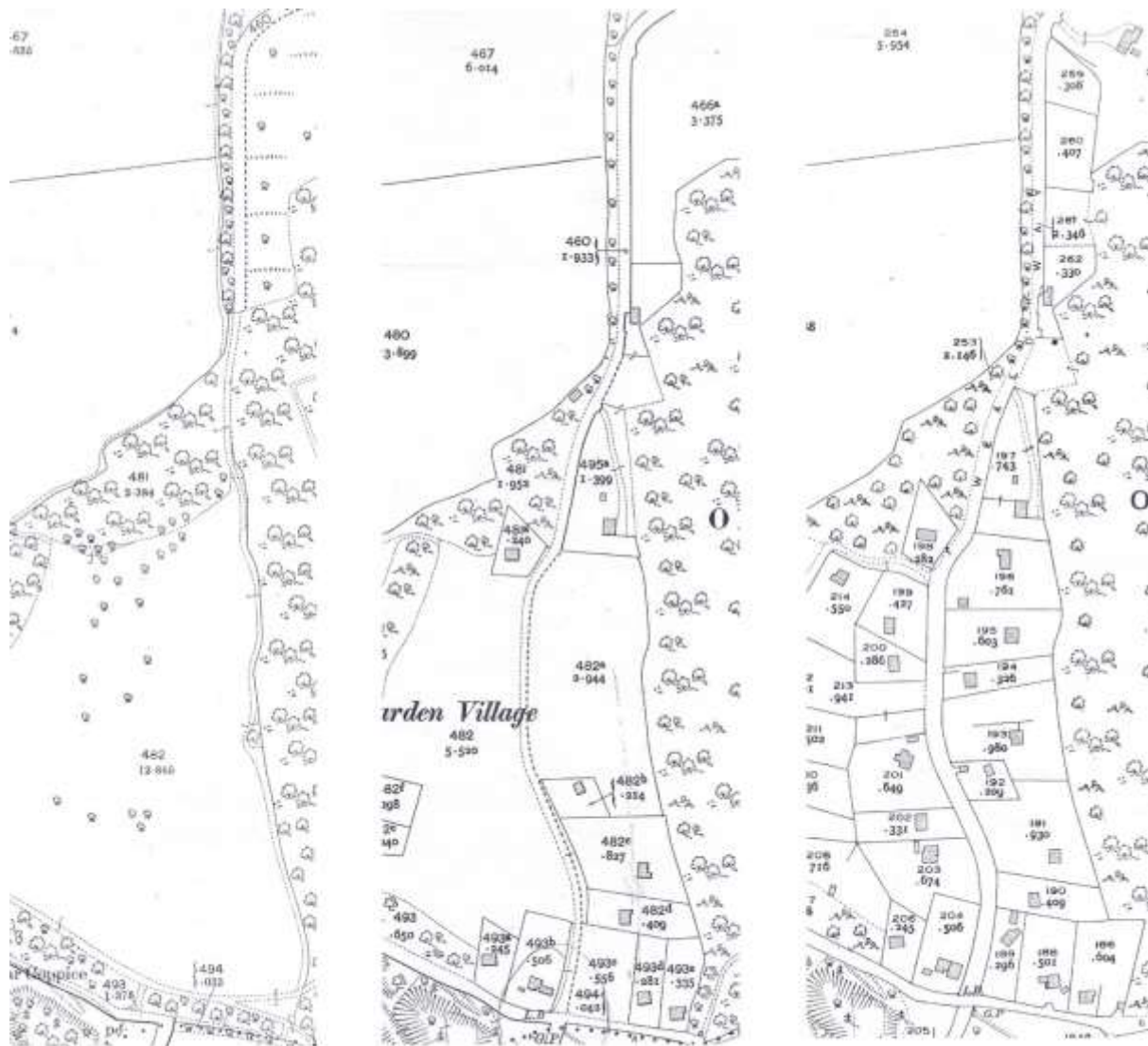


Figure 16 Development of Weald Way on OS 25" maps of 1895 (left), 1910 (centre) and 1934 (right)

DECORATIVE PLANTING AND POST-PARK RECREATIONAL USE

The date at which Bletchingley North Park was disparked is uncertain but had clearly happened some time before 1680 (SHC K61/7/1-2) and by that time much of the central valley on Gravelly Hill appears to have been farmland; it was still largely clear of vegetation in 1945 (figure 7) and now being maintained clear of trees (figure 17). However there is no evidence that either Ten Acre Shaw or Old Park Wood were ever clear felled although the present general lack of mature trees suggests intermittent felling of some areas possibly either for the timber or for use of the area as wood pasture. However, Sir Richard Clayton, the owner in the late 17th century, was regarded by John Evelyn as a man of some sophistication, despite his humble beginnings, who described him as 'this prince of citizens, there never having been

any who, for the great stateliness of his palace, prodigious feasting and magnificence, exceeded him. He was a discreet magistrate and, tho' envied, I think without much cause' (Malden 1912). The manor remained within the Clayton family until 1788 but ownership of North Park Farm by a William Clayton at the time of the Tithe Assessment suggests that the family retained some portion of the estate. The 18th century was the period of great landscape gardens designed by, among others, Lancelot Brown (1716-1783) and Humphrey Repton (1752-1818), and owners of significant landholdings followed this trend with carriageways created and, particularly during the 19th century, planting with exotic trees, often newly discovered imports.

The evidence from Old Park Wood is certainly not of major expenditure, but the broad track running down its eastern side would have provided a vista down and across the valley from a shaded walk or drive. The western edge of this track has been planted by beech trees and many more occur on boundaries of the fields shown on the 1761 map (figure 2). These trees are now reaching the end of their lives (figure 18) and many have fallen in recent years; given that their lifespan is in the order of 150-200 years this would suggest a planting in the early - mid-19th century.

QUARRIES

There is extensive evidence of quarrying throughout the area under study but most of the quarries are small and probably result from localised digging for flint or gravel. In the southern portion of Gravelly Hill, however, much larger quarries (r) indicate extraction of gravel on a considerable scale; this can be dated to the late 19th and early 20th centuries (see above). What is of interest is that the quarrying is limited to a small area despite geological evidence (British Geological Survey Open Geoscience at www.bgs.ac.uk), backed up by observation of gravel to the north in the bank of the military earthwork and to the east where it is exposed in the large lynchets. Figure 19 shows a modern exposure of the gravel deposits. There are a number of very slight depressions in the area immediately around the larger quarries which probably result from prospecting for further gravel deposits worth exploitation. There are also a large number of small quarries which must have been opened when only a small amount of gravel was required or possibly where the depth of gravel present did not warrant commercial operation.



Figure 17 Top - central (Harris) valley looking south; bottom - central valley looking north from the top of the slope at the head of the valley



Figure 18 One of the large beech trees planted 150-200 years ago and now reaching the end of their lives

MILITARY EARTHWORKS

The military earthworks surveyed comprise two lengths of trench system and a number of slit trenches. One trench system, starts at the top of the western side of the central valley and travels west-south-west for some 250m until close to the western boundary of Old Park Wood when it turns north for a further 150m (s – s’). As such it follows the southern and western edges of the high ground of Gravelly Hill. The second trench system runs from the top of the eastern side of the Harris valley eastwards to end close to the boundary of Ten Acre Shaw (t – t’).

Both the trenches were surveyed at an original scale of 1:200 in order to provide greater detail and are shown in figures 20 and 21. They are of similar type and also resemble those found on Reigate Hill (Newell forthcoming), comprising a bank with a ditch on one side and traverses protruding from the other.



Figure 19 Gravel exposed during modern works

The longer system in Old Park Wood has a complex of earthworks at its eastern end which appear to be a type of redoubt (u) and about half way along its east / west leg a ditch with a bank to its east runs northwards between this military earthwork and the park pale (v). None of the available maps indicate that this feature might be field boundary and it was presumably intended to provide a safe approach to the defensive earthwork. The trench system to the west of Ten Acre Shaw appears to be unfinished since the eastern end lacks traverses but it is otherwise very similar and probably of the same date.

Fosterdown Fort to the south-west of Gravelly Hill was one of 15 mobilisation centres, part of a plan drawn up in 1888 to form a ring of London Defence Positions. Rapid innovations in warship construction by France and Russia in the early 1880s had left the British Navy at a perceived disadvantage, and in addition there were some doubts about German intentions. Thus the 116km (72 mile) entrenched stop line supported by artillery batteries and redoubts was constructed to militate against the invasion risk. Forts like Fosterdown and Reigate Hill went out of use in 1906 when it was felt that the supremacy of the Navy had been restored.

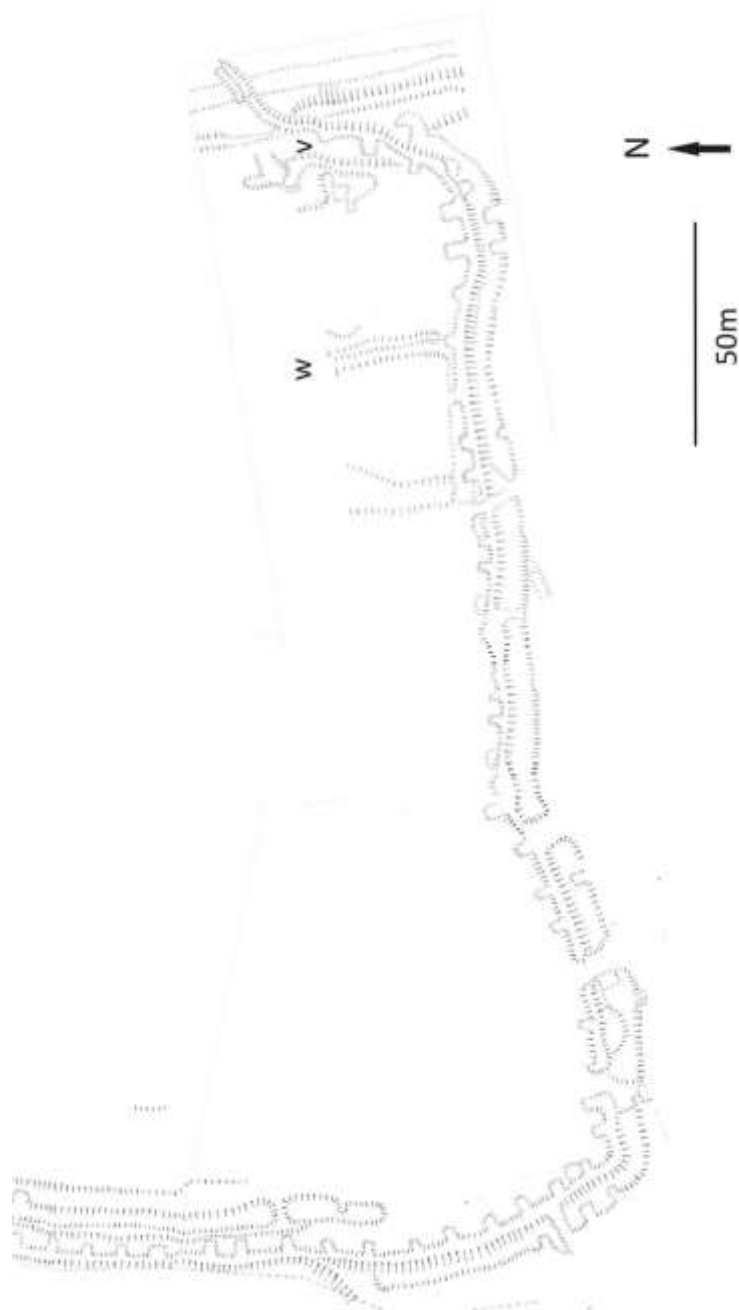


Figure 20 Analytical survey of military earthworks in Old Park Wood

Development of explosive shells, in use in Germany by 1902 and America by 1906 (Brown 1998, 151-163) encouraged the use of deep but narrow trenches to reduce the target area and damage by shrapnel. The same style of defence was used from the late 19th century until post WW1.

However, although several peri-London defensive rings involved trench systems the form of the trenches in Old Park Wood and Ten Acre Shaw are more likely to date to the First World War. Early World War I trenches were simple. They lacked traverses, and according to pre-war doctrine were to be packed with men fighting shoulder to shoulder – men open to injury

from shrapnel from shell explosions in or close to the trenches or to enfilade, bullets fired along the trench if a portion was overcome. This doctrine led to heavy casualties from artillery fire.

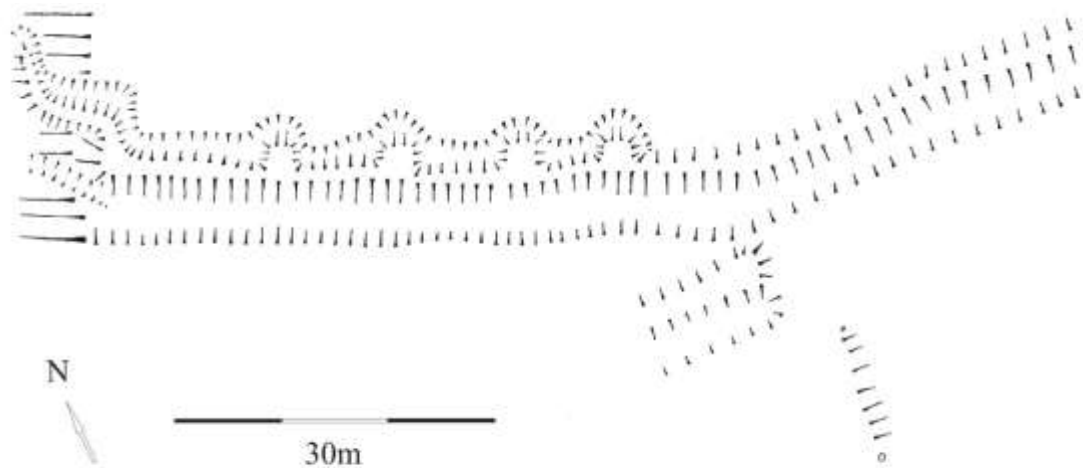


Figure 21 Analytical survey of the military earthwork west of Ten Acre Shaw



Figure 22 One of the traverses on the military earthwork in Old Park Wood

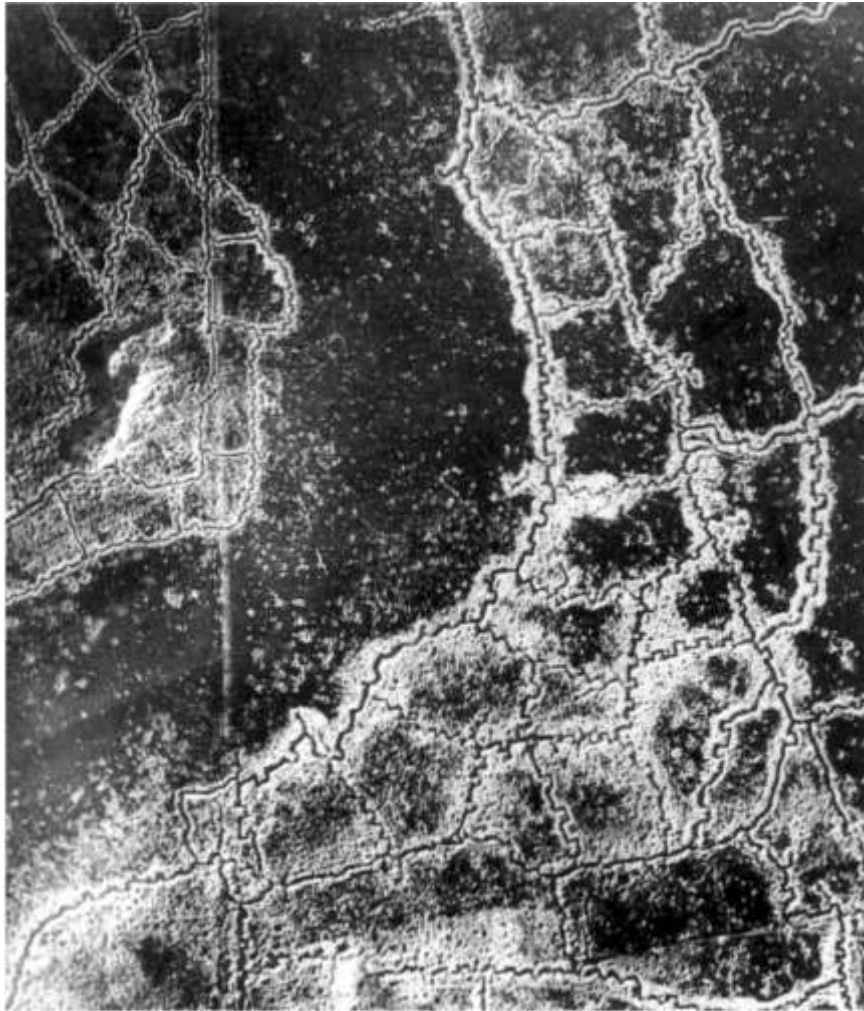


Figure 23 Aerial view of opposing trench lines between Loos and Hulluch, July 1917. German trenches at the right, British at the top-left (from Wikipedia)

Later in the war this design evolved to have the combat trenches broken into distinct fire bays connected by traverses and additional protection was afforded by the addition of banks at the front (the parapet) and the rear (the parados) (figures 23 and 24). The trenches reported here have traverses about every 10m and a parapet though not a parados. The ditch in front of the parapet may simply be the quarry from which soil was extracted for the banks or it may have been intended to slow any assault on the trench system. It is not certain whether or not the trenches in Old Park Wood and Ten Acre Shaw were ever dug to the required depth for them to be used by men standing.

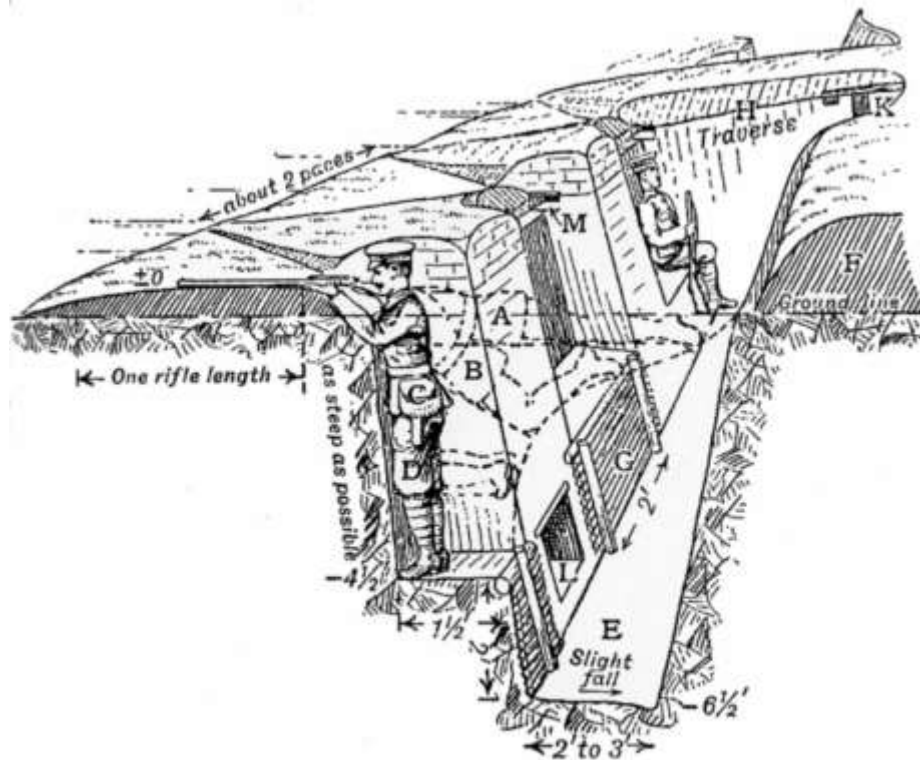


Figure 24 Instruction diagram for constructing a reveted fire-trench with bays and traverses (from Solano 1914)

Research by Gwyneth Fookes has produced a strong suggestion of who built the trench systems surveyed, and when. She found the following quotation (Moore & Sayers 2009)

'On 20th September 1915 The Volunteers 1st V B The Queen's (Royal West Surrey Regt) was allotted by the London District Command to construct a portion of the Outer London Defences at Willey Farm, Caterham and Aldercombe. This was completed on 16th December 1917 and had taken a total of 90,000 hours.

Later, in August and September 1916, a standing camp was built at Aldercombe with 'tents, blankets, tables, forms and cooking utensils being provided free of cost from Government stores and provision of food and water from the battalion. Work was carried out on the defences during the day for a period of 10 to 12 hours' (Fookes 2005). Aldercombe Farm lay close to Weald Way and the western end of the trench in Old Park Wood and it seems likely that this passage refers to the construction of the trench system surveyed. It is not certain whether or not the trenches were dug to the required depth but it seems most likely that

they were but have since been infilled, possibly for safety reasons. The location of the system in Old Park Wood would have enabled concentrated fire on men tired and perhaps not in formation who breasted the scarp of the North Downs, but the tactical intention of the trenches in Ten Acre Shaw seems more of a puzzle.

The Outer London Defences in part resurrected the London Defence Positions scheme of the late 19th century. North of the Thames the line was continued to the river Lea at Broxbourne and to the south it linked with the Chatham defences and continued westwards just beyond Reigate Fort (Hamilton Baillie 2003).

In addition to the trench systems surveyed a number of slit trenches were located, particularly in the flat area of ground above the main gravel quarries in the south-western part of Old Park Wood. There is nothing diagnostic about their form and they could date to either of the World Wars or even have originated in cadet force activities more recently.

PLACE-NAMES AND ADMINISTRATIVE BOUNDARIES

Certain place-names which occur on or close to Gravelly Hill throw some light on landscape organisation, probably in the Late Saxon period (figure 25).

One Old English place-name element relating to boundaries is *hār* meaning grey, but when combined with *stān*, grey or lichen-covered stone it came to be used as 'a technical term for such a stone used as a boundary mark' (Ekwall 1947, 207). This name occurs at Harestone Farm, Caterham first mentioned at the late date of 1605 (Gover *et al* 1934, 313); Harestone Farm has long since vanished but the location is shown on the OS 25" map surveyed in 1868/9 (sheet Surrey XXVII) as TQ 3334 5450 – the road close-by, Harestone Valley Road, is a continuity of Weald Way, the road to the west of Old Park Wood.

A second place-name, Harris, is less well known but is also considered to possibly indicate an administrative boundary. It can be found as the occasional name of the central valley running northwards from Gravelly Hill, Harris Valley. The present parish boundary between Caterham and Bletchingley passes east / west over Gravelly Hill close to the head of the central valley. It does not appear to have been marked on the ground which, whilst in general terms

relatively unusual, can happen in relatively remote areas used for intercommoning stock which were not formally divided until land pressure necessitated formal division. Thought to be a characteristic of the 13th century (Blair 1991, 70), enclosure of land to form North Park may well have occurred before thought had been given to marking the boundary on the ground.

Administrative boundaries running more or less north / south also occur in the area –the only one which has survived to the present day is that between the parishes of Chaldon and Caterham (also between Wallington and Tandridge Hundreds) which is probably too far west to be a likely candidate. Other boundaries which may have given rise to these names are more difficult to locate with any great certainty. One is the boundary between Bletchingley and Chivington if the latter estate did indeed stretch north over the scarp edge of the downs (Blair 1980, fig 7; -- 1991, fig 11G). A further and intriguing possibility is that the names relate to the boundary of a putative Mid-Saxon episcopal estate based on Croydon which may have formed a border lathe within Kent (Blair 1991, 17-18, fig 4).

It is also worth noting that the name Marden, applied to an area east of Gravelly Hill, derives from *myrige denu*, the pleasant valley, rather than which *mearc denu*, a boundary valley (Gover *et al* 1934, 318).

Finally mention should be made of a particularly long north / south trackway passing the western boundary of the Gravelly Hill section of Bletchingley North Park. As a route linking settlements on the greensand south of the North Downs with their downland grazing and with sometimes detached grazing areas in the Low Weald and thought to date to the Late Saxon / Medieval periods this is far from unusual but a longer timeframe has been suggested for this example. The track can be traced south from Caterham village as Harestone Valley Road and Weald Way. After crossing Gravelly Hill Road it plunges down the scarp slope of the downs as a public right of way about 500m east of War Coppice becoming a green lane and eventually continuing as Church Lane, Bletchingley. From there it can be traced south as Outwood Lane, Brown's Hill and Cogman's Lane, through the Low Weald. It has been suggested (Marples & Poulton 2019, 179-182) that this track may date as far back as the Bronze Age since it appears to have acted as a boundary between an intensively used zone

revealed by excavation at North Park Farm and a relatively blank area on the other side. That transhumant grazing of the Low Weald of Sussex was undertaken in the Late Bronze / Early Iron Age has also been suggested by a study of cross-ridge dykes (Lea *et al* 2018). Further research is needed before the longevity of this practise can be assumed but the socio-economic aspects of such linkages between ecozones adds to our appreciation of the complexity of late prehistoric farming.

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Bibliography

Blair, J 1980 The Surrey endowments of Lewes Priory before 1200, *SyAC* **72**, 97-126

Blair, J 1991 *Early Medieval Surrey: landholding, church and settlement*, Guildford: Alan Sutton Publishing and Surrey Archaeological Society

Bowden, M 1999 *Unravelling the Landscape: an inquisitive approach to archaeology*, Stroud: Tempus

Brown, GI 1998 *The Big Bang: a History of Explosives*, Sutton Publishing,

Coombe, P, Egginton, A, Grew, F, Randall, N & Truckle, N 2018 Archaeology in Surrey 2016, *SyAC* **101**, 213-248.

Dyer, S 1998 The tile kiln and associated features, in Poulton 1998 52-55

Ekwall, E 1947 *The concise Oxford dictionary of English place-names*, Oxford: Clarendon Press

Ensor, RCK 1936 *England 1870-1914*, The Oxford history of England, Oxford: Clarendon Press

Analytical survey of Gravelly Hill, Caterham and Bletchingley

Fookes, G 2005 World War I volunteers *Bourne Society Bulletin* **202**

Gover, JEB, Mawer, A & Stenton, FM 1934 *The place-names of Surrey*, Cambridge: Cambridge University Press for English Place-name Society vol **11** (1982 edition utilised)

Gray, PJ & Fookes, G 1992 Earthworks at Gravelly Hill, Caterham *SyABull* **268**

Hamilton Baillie, JRE 2003 *Fort* **31**, 6-40

Hart, E 1933 The Pilgrim's Way from Shere to Titsey as traced by Public Records and remains, *SyAC* **41**, 1-33

Hope-Taylor, B 1949 Celtic agriculture in Surrey, *SyAC* **50**, 47-72

Hope-Taylor, B 1950 The excavation of a *motte* at Abinger in Surrey, *Archaeol J* **107** (1952), 15-43

Jones, P 2013 *A Mesolithic persistent place at North Park Farm, Bletchingley, Surrey*, Woking: SpoilHeap Publications, Monograph **8**

Lambert, U 1921 *Bletchingley: A Parish History* London: Mitchell, Hughes and Clarke

Lea, D, English, J & Tapper, D 2018 The Cross Dykes Project. Interim report I: The River Cuckmere to Eastbourne, *SxAC* **156**, 1-12

Malden, HE (ed) 1912 *A history of the county of Surrey*, **4**, *British History Online* <http://www.british-history.ac.uk/vch/surrey/vol4/> [accessed 5 September 2018]

Marples, N & Poulton, R 2019 *Prehistoric and early medieval landscapes at North Park Farm, Bletchingley, Surrey*, Woking: SpoilHeap Publications Monograph **21**

Analytical survey of Gravelly Hill, Caterham and Bletchingley

Moore, HCK & Sayers, WCB, 2009 *Croydon and the Great War: The Official History of the War Work of the Borough and Its Citizens from 1914 to 1919; Together With the Croydon Roll of Honour*, Uckfield: Naval and Military Press

Morris, J 1975 *Domesday Book – Surrey*, Chichester: Phillimore

Poulton, R 1998 *The Lost Manor of Hexstalls, Little Pickle, Bletchingley*, Woking: Surrey County Archaeological Unit

Marples, N, & Poulton, R, 2019 *Prehistoric and early medieval landscapes at North Park Farm, Bletchingley, Surrey*, SpoilHeap Publications Monogr, **21**

Saaler, M 1998 Venars and Hextalls: the historical evidence 1307-1573, in Poulton, R 1998, 3-9

Saaler, M 1998 Historical evidence for a fifteenth century tile kiln in the North Park, Bletchingley, in Poulton, R 1998 9-12

Solano, EJ 1914 *Field entrenchments: spadework for riflemen*