A Middle to Late Saxon Cemetery at Seaton Road, Harringworth

by

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SUMMARY

Excavation on land to the west of Seaton Road, Harringworth found settlement related features dating from the Saxon to the late medieval periods. The principal discovery was some 30 burials, which formed part of a substantial cemetery radiocarbon dated to the middle to late Saxon period. The cemetery had fallen into disuse before the 12th century when some burials were disturbed by four pits containing quantities of metalworking slag. To the east of the burials there were occupation features including pits dating from the late Saxon period and a possible late medieval/early postmedieval quarry.

INTRODUCTION

An archaeological excavation was carried out by Northamptonshire Archaeology on land to the west of Seaton Road, Harringworth, Northamptonshire, prior to the refurbishment of former farm buildings into offices and an associated sewage system by the Bulwick Estate (Fig 1; NGR SP 9162 9737). The site lies within Harringworth village on a gently sloping valley side, just above the flood plain near the River Welland, and on Upper Lias Clay (BGS 1978).

The planning application for this development had been passed by East Northamptonshire District Council without requirements for archaeological work, but human remains were discovered by the developers during the excavation of a test pit to gauge the level of the water table for the sewage outlet for the offices (Fig 1). Northamptonshire Heritage was informed and after meetings with the owners and contractors it was decided to proceed with the excavation of the test pit under archaeological supervision as well as to expose any archaeological remains in the area of the proposed reed bed soak away.

The archaeological excavation was an ad hoc process with a number of short episodes of work spread over three months between February and April 2000. Each stage of activity was decided in consultation between the owners, contractors and Northamptonshire Heritage. In the event most of the features were not excavated as the development programme was changed to affect the archaeology as little as possible (Atkins 2001).

ACKNOWLEDGEMENTS

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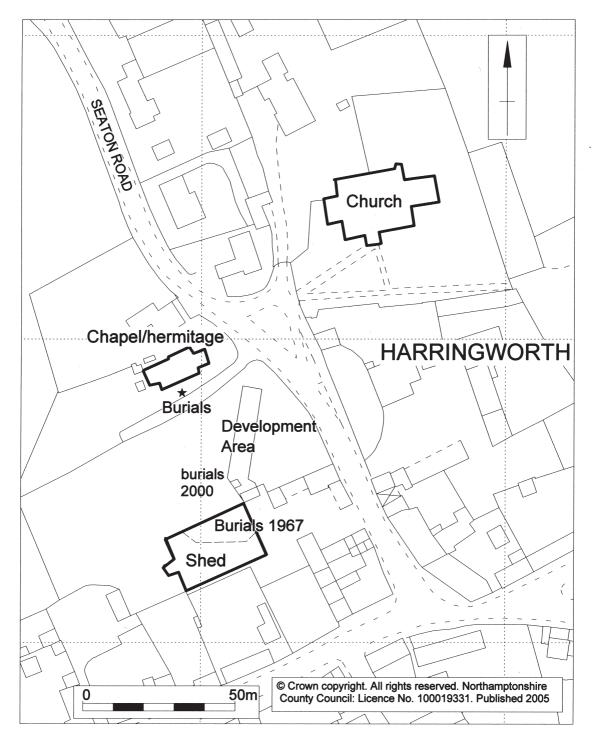


Fig 1 Site location, showing development area

HISTORICAL BACKGROUND

In the Saxon period, Harringworth was part of the Middle Angles territory absorbed by Mercia in the first half of the 7th century. In 653AD the inhabitants were converted from Paganism to Christianity under their ealdorman or prince Peada, son of Penda of Mercia (Foard 1985, 192). The first documentary evidence for Harringworth is in the Domesday Survey (1086) which records that in the reign of Edward the Confessor, Turvil had held it freely.

The Domesday Survey lists Harringworth as part of the Corby Hundred calling it Haringeworde. It records that the Countess Judith held 5 hides in Harringworth and there was arable land for 16 ploughs. In lordship there were 3 ploughs; 6 male slaves, 1 female. 26 villagers, 8 smallholders and 6 Freemen had 10 ploughs. A mill was valued at 5s; there were a meadow, 5 furlongs in length and 2 furlongs wide; woodland 8 furlongs long and 1 league and 3 furlongs wide.

Harringworth seems to have been a large village at this time. It is interesting to compare it in terms of number of people and worth per year with the other 16 settlements in the Corby hundred recorded in the Domesday Survey. Harringworth's population of 47 registered people was the same amount as Brigstock, though much more numerous than the other settlements which had between 3 and 26 people. In terms of value per year it was equal third with Corby at £10, compared with Brigstock and Gretton valued at £20 per year.

Since only the heads of household were only recorded in the Domesday Survey historians have argued that the total should be multiplied by 4 or 5 times to get true population figures. Hence the 47 people recorded would give a likely population of between 188 and 235 people in Harringworth in 1086. Despite its relatively large size it should be pointed out that Harringworth by the time of the Domesday book seems to have been in the lowest level of settlement and administration (Pettit 1968).

Harringworth continued for a few hundred years to be relatively large and wealthy. It not only had a large church, which was one of the four largest in the area in the 13th century, but it also was prosperous enough to have a dependent hamlet develop at Shotley less than a kilometre to the east (RCHME 1984, 80). The earliest date recorded for Shotley is 1430 but is presumably far older (RCHME 1975, 50). A possible sign of Harringworth's early importance is the number of religious buildings it had in the medieval period. Bridges, in his County History, records three separate foundations (Bridges 1791, 316-320): The Parish church of St. John the Baptist, the Chapel of All Saints and the Manor chapel of All Saints

The present St. John's church, to the east of Seaton Road may contain elements of a former Norman layout. The Royal Commission survey records, "the position of entrance doors in the aisles at a point more or less central along the length of the nave suggests that these churches (Harringworth, Lutton and Polebrook) once had a Norman doublesquare nave with an entrance at the west end of the side wall." (RCHME 1984, lxxxi).

The Chapel and/or hermitage dedicated to All Saints (Fig 1) is located to the west of Seaton Road. A 13th century chancel arch forms the earliest surviving structure, which was part of a two cell unit (RCHME 1984, 83-4). It is described in a 14th century medieval document held in Northamptonshire Record Office (NRO FH 142). The document records that William La Zouche, lord of the manor, in 1305 founded a chantry for two priests, who should daily celebrate divine service in the chapel of All Saints at Harringworth. William endowed the chapel with revenue from one messuage, an oven, 40 acres of arable land, six acres of meadow and four of pasture. By 1719 it had stopped being used as a chapel and, according to Bridges, it had been converted into three or four poor houses, which were called chapel houses (Bridges 1791, 320).

The manor chapel of All Saints was situated within the courtyard of the manor according to Leland to the east of St. John's church (cf. Bridges 1791, 320). The chapel was sold off with the manor in the early 17th century and by Bridges's time it was ruinous. It has subsequently disappeared.

Harringworth, despite its relatively large size at the end of the 11th century, never expanded in the late medieval period. The decline in population during the post-medieval period can be seen in modern Harringworth by the earthworks of former medieval closes to the south of the present village and down lanes to the west of Seaton road near the present excavation. These have been partly mapped by the Royal Commission (RCHME 1975, fig 60). In the early 18th century Bridges recorded that the village had only about a hundred houses (Bridges 1791, 315). Since this time there have been few new houses built. The maps of the village dated 1619, 1732 and 1905 all show that the excavation area had not been built on.

PREVIOUSLY UNREPORTED ARCHAEOLOGICAL EVIDENCE

A number of archaeological finds, not reported to the Northamptonshire Sites and Monuments Record, have been made in Harringworth adjacent to the development area during local construction.

Development for a new barn in 1967 just to the south of the present development area resulted in human bone being found (Fig 1). It appears that several burials were lifted in the development and reburied in St. John's Church, Harringworth. In the register of burials for the parish of Harringworth dated 25th July 1967 it records, "Certain unidentified male bones discovered during building excavations for Mr Conant's barn in field No.246. Stamford Museum dated them about 1250AD and suggested they might be from a monastic burial ground."(NRO 156p/10). Unfortunately, the discovery does not appear to have been otherwise recorded and only a few local residents still remembered the event. According to them, the burials were located in the north-east corner of the shed (Fig 1). Some of these burials were apparently unusual, for example some burial pits contained several heads only. Burials removed for reburial in St. John's Church were those within the foundation walls for the barn.

Some 20m north of the development lay the remains of a former chapel and/or hermitage of All Saints (Fig 1). Its present owners have mentioned finding human remains while gardening in front of their house.

METHODOLOGY

The test pit to gauge the water level for the proposed development was hand excavated onto natural subsoil. Afterwards, the area of the proposed reed bed, 37m long by 6m wide, was stripped onto archaeological levels under archaeological supervision by a JCB-type machine fitted with a toothless ditching bucket (Fig 2). The excavated area was 0.5m deep to the south shallowing to 0.3m deep to the north. A basic plan of the exposed features was recorded after hand cleaning. The area around the exposed burials in the southern part of trench showed that the cemetery was extensive, while to the north

there were other archaeological features, including possible buildings and pits.

The height of the water table in the test pit was such that further development could be undertaken without a reed bed. However, before the soak away was backfilled, limited further recording and sample excavation was undertaken to try and recover a general impression of the archaeology.

THE ARCHAEOLOGICAL EVIDENCE

THE ANGLO-SAXON CEMETERY

The burials were identified at the interface of the topsoil and subsoil, some 0.45m below the modern ground surface. At this level no grave cuts could be seen, partly because the mechanical excavation was curtailed when the tops of the highest burials, usually the skulls, were exposed.

Some 18 burials were found at this level but many others, slightly lower down, were not disturbed. The observed burials were aligned east to west in three rows spanning a width of 8m, and extended 17m north-south (Fig 2: SK's 5-7, 9, 17, 18, 20, 22, 33-36, 44 and 49-53). During cleaning a single pottery sherd dated to the 10th century AD was found next to burial (SK5).

Six burials were excavated within the test pit, which measured 3m by 3m (Fig 3). These consisted of three burials (SK18, 21 and 26), 0.7m apart, with a second row immediately above them. The upper graves (SK19, 20 and 22) were filled with redeposited yellow natural sand with ironstone pieces. Burial (SK18) was disturbed by the later burial above it (SK19) while the other interments were simply placed above the earlier graves. All six skeletons were supine and extended, with the hands over the pelvis. None had any associated grave goods and no pottery was found in the graves. From the position of the bodies, especially the open jaws, they seemed to have been buried in coffins, though no nails were found.

Three postholes (Fig 3, 23-25) were cut by the top layer of burials (SK20 and 22) but their relationship to the earlier row is uncertain. While the purpose of these features is equivocal it is possible that they could represent mortuary structures. The postholes were sub-circular measuring between 0.3m and 0.36m in diameter and between 0.12m and 0.3m deep. They cut natural yellow sands and were filled with grey brown loamy sand with very occasional

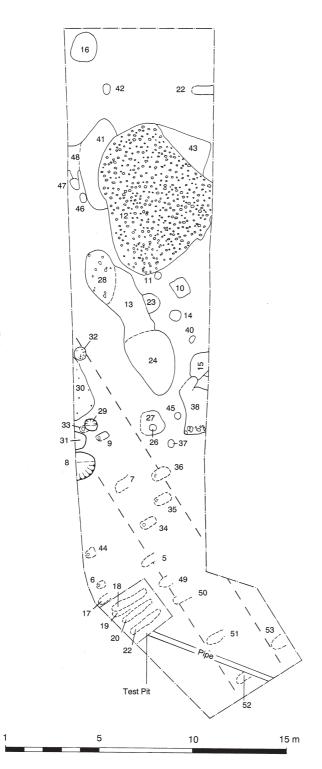


Fig 2 The stripped development area, showing all recorded features

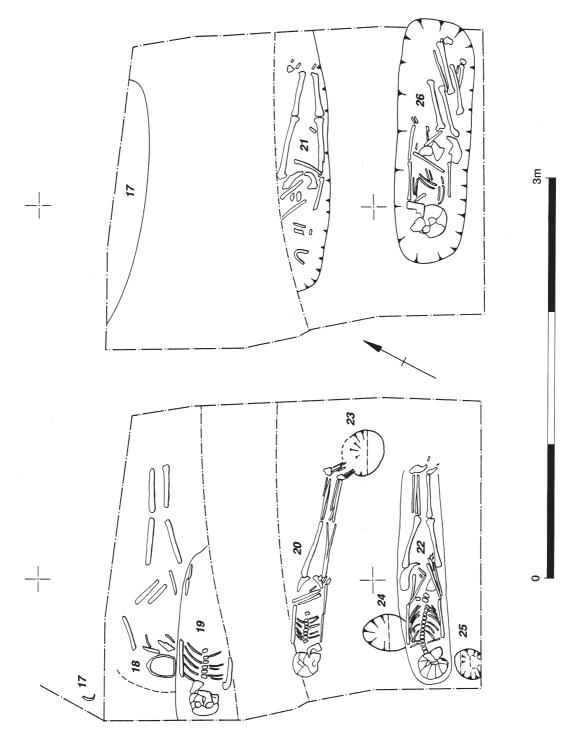


Fig 3 The fully excavated test pit, showing successive inhumation burials

charcoal fleck. No dating evidence was recovered from the fills.

THE LATE SAXON AND MEDIEVAL SETTLEMENT

The edges of features such as pits were not fully revealed due to the limited amount of overburden removed by the mechanical excavator and so in places only general outlines could be recorded (Fig 2). It is suggested that there were three broad zones of activity to the north of the burials. These comprised an area of pits containing iron-working slag, a possible building to the east and a mixture of pits and postholes to the north.

Four pits, which contained iron slag, were found within a five-metre area (8, 27, 29 and 30). Two pits were partially excavated (29 and 8). Pit (29) was sub-circular, 0.6m in diameter and 0.4m deep, and was filled with dark yellowi brown loam. Pit (8) was sub-circular, 1.5m long, more than 1m wide and 0.6m deep. Its fill contained large amounts of iron slag as well as frequent pieces of charcoal, with burning at the base of the feature. The quantity of slag suggests that there was a furnace nearby. Several animal bones, as well as pottery sherds dated up to 1150-1225, shows that it was also used as a rubbish pit.

The relationship between these pits and the burials was defined by the northernmost exposed burial (33), which had been disturbed by pit (29).

To the east of the pits a layer of clay (38), measuring 4m by 5m, and associated postholes (26, 37, 40 and 45), may have been part of the timber building, but the features were not excavated and it only lay partly within the excavated area.

In the northern half of the trench there were eleven pits (10, 12, 13, 15, 23, 24, 27, 28, 41, 43 and 48) some of which were dated by pottery, recovered during machining and cleaning, from the late 9th/ early 10th century to the 15th century. One pit (15) contained a near complete late Stamford ware jar (Fig 4). Pit (28), also contained a single sherd of late Saxon pottery from its fill. The only other pit (24) with dating evidence had a single sherd of 14th century pottery from its fill.

A large pit (12) was probably the remnants of a quarry. It was sub-rectangular, 8m by 5m, and contained a grey brown loam with frequent limestone fragments up to 0.2m in length. Pottery, as well as roof tile fragments, recovered from the surface suggested a date of 1450-1500. Other features of uncertain purpose include a length of undated slot (22), which was 0.5m wide and was filled with grey brown loam clay. Of the scatter of postholes in different parts of the trench (11, 42, 46 and 47); only (11) could be dated by a single sherd of 15th century pottery.

THE SAXON AND MEDIEVAL POTTERY by Paul Blinkhorn

The pottery assemblage comprised 29 sherds with a total weight of 1163g. The minimum number of vessels (MNV), by measurement of rimsherd length, was 1.47. Most of the pottery is typical of sites in the region, although an unusual, near complete early Stamford ware jar was noted (Fig 4).

The pottery was quantified using the chronology and coding system of the Northamptonshire County Ceramic Type-Series (CTS). The pottery types which occurred at this site were as follows:

F205: Stamford ware, AD850-1250. 14 sherds, 916g, MNV = 1.40.

F207: Cotswolds-type Oolitic ware. AD975-1150. 1 sherd, 6g, MNV = 0.

F200: *T1(2) St. Neots Ware, AD1000-1200.* 2 sherds, 23g, MNV = 0.07.

F330: *Shelly Coarseware, AD1100-1400.* 2 sherds, 17g, MNV = 0. F319: *Lyveden/Stanion 'A' ware, AD1150-1400.* 2 sherds, 11g, MNV = 0.

F320: Lyveden/Stanion 'B' ware, AD1225-1400. 4 sherds, 111g, MNV = 0.

F365: Late Medieval Reduced ware, AD1400-?1500. 1 sherd, 11g, MNV = 0.

F401: Late Medieval Oxidized ware, ?AD1450-?1500. 1 sherd, 16g, MNV = 0.

F403: Midland Purple ware, AD1450-1600. 2 sherds, 54g, MNV = 0.

The range of fabric types present suggest two separate phases of activity, one during the later 9th or earlier 10th century, the other from the later 12th to the 15th century. The Stamford ware is all unglazed, and appears to date from the earlier part of the industry's life-span, as glazing did not become common until the 11th century, and was extremely rare during the later 9th and 10th centuries. The near complete jar (Fig 4) is a typical early product, in a pink sandy fabric with sparse, large ironstone inclusions, and having a hand-smoothed, slightly sagging base–pad (cf Kilmurry 1980, 31-9).

The few rimsherds present are all from jars, and the assemblage is too small to allow meaningful analysis, although the date of the late Saxon pottery is highly significant. Relatively few pottery groups of later 9th or early 10th century date have been excavated in the county in recent years, with the only comparable groups being from north Raunds (Blinkhorn forthcoming a), West Cotton (Blinkhorn forthcoming b) and Warmington (Blinkhorn, forthcoming c). More recently, a site at Ketton in Rutland (Blinkhorn forthcoming d) has produced a large assemblage of a similar date. The Harringworth group, although small, has a general character which is typical of those in the contemporary hinterland of Stamford, favouring the products of the eponymous production centre rather than St. Neots ware, which tends to be predominant at sites to the south and west.

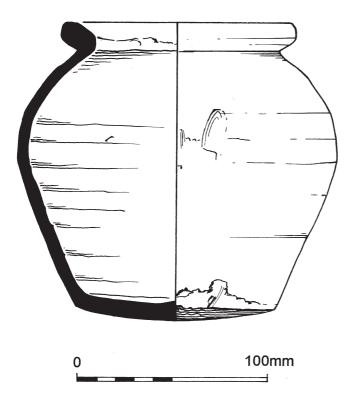


Fig 4 Medieval pottery, a complete Stamford ware jar

Illustrated pottery (Fig 4)

Stamford ware (F205), near-complete jar, pink sandy fabric with a grey core. Sparse ironstone inclusions up to 2mm, most less than 1mm. Context 16, Pit 15.

OTHER FINDS by Tora Hylton

A small group of finds span the prehistoric to post-medieval periods. The majority were retrieved from medieval pits and are of little intrinsic interest.

Two worked flints from the subsoil include a flake and a discoidal scraper (Andy Chapman pers comm). The remaining objects include five fragments of roof tile, including one piece of glazed medieval roof tile manufactured at the kilns at Lyvden/Stanion (12), together with four iron nails (10 and 12), a knife blade (12) and fragments of post-medieval building material (10 and 27).

Metalworking debris was recovered from four pits (8, 27, 29 and 30). The majority of the material came from pit (8) and includes slags derived from both smelting and secondary smithing (G McDonnell pers comm.).

HUMAN BONE

by Trevor Anderson and J Andrews

The six inhumations from the test pit were examined. The best

preserved skeleton (SK22) is practically complete and three other individuals are represented by damaged crania and incomplete long bones (SK18, 20, 26). Two burials (SK19 and 21) had been cut by initial machining in the test pit. Burial (SK19) was represented by a damaged skull; shoulders; fragmented upper arm bones and a badly eroded left femoral shaft. Burial (SK21) was missing most of the skull; rib cage; spine and left shoulder and left humerus. The available bone material is rather eroded and not well preserved. All the skeletons, except (SK22), were classed as largely fragmented.

Table 1: The human burials

Burial	Sex	Age at death	Stature (m)
SK18	Male	35-45	-
SK19	Male	30-45	-
SK20	Male	45-55	1.676
SK21	Male	40-50	1.701
SK22	Female	30-40	1.590
SK26	Female	25-30	1.653

All the skeletons had reached adulthood, four were male and two were female. One individual, a male (SK26) was considered to be a young adult and two males (SK20 and 21) were classed as mature. However, in each case, there was a discrepancy between the lack of dental attrition and the advanced degree of suture closure. The eroded nature of the outer surface of the crania may be, in part, responsible for the apparent premature closure of the cranial sutures. It is also possible that factors including a soft diet and painful dental disease had reduced the degree of attrition. Stature, based on complete long bone length (Trotter & Gleser 1958), could be calculated for two males and two females.

NON-METRIC VARIATION

The only rather rare anatomical variant, mandibular tori, occurs in an adult male (SK19). Tori refer to bony nodular swellings which may be located on the palatal, or rarely the buccal aspect, of the maxilla; the mid-line of the palate or the lingual aspect of the mandible (Hauser & de Stefano 1989, 174-85). Several authors have suggested a high genetic component for mandibular tori (Drennan 1937, Sellevold 1980 and Suzuki & Saki 1960).

In our small sample, the post-cranial variants fall within the bounds of normality. Only two skeletons (SK22 and 26), both female, could be studied for humeral septal aperture and (SK26) displayed the trait. This is a variant, which is known to be more common in females (Anderson 1987). Squatting facets were noted in the one skeleton (SK26) which was sufficiently well preserved to record the variant.

PALAEOPATHOLOGY

The most frequent pathological condition was osteoarthritis. The spine was the site of predilection, with three individuals (SK19, 20 and 26), including the young adult, presenting with vertebral osteo-arthritis. In two cases, the degeneration was most marked, involving the cervical (SK19) and the lumbar vertebra (SK20). A mature male (SK20) presented with multiple joint involvement. As well as the spinal degeneration, there was involvement of the temporo-mandibular joint and the left wrist. The latter, involving the distal radio-ulnar articulation presented with marked porosity and eburnation.

The only other evidence of pathology involved the right lower leg of (SK18) and the left eye socket of (SK26). The former presented with a slight localised swelling on the medial aspect of the upper mid-shaft. This may represent localised trauma. However, the surface of the tibia is badly eroded *post-mortem* and, consequently, the interpretation is not diagnostic.

The slight porosity in the eye socket of the young adult female is indicative of cribra orbitalia. The sieve-like appearance of the socket in advanced cases may occur as a result of iron deficiency (Hengen 1971, Moseley 1966 and Stuart-Macadam 1989). Also, vitamin C (Holck 1987) and folic acid shortages, drinking goat's milk, have been considered influential. However, it must be stressed that other factors apart from diet can lead to iron shortage (Von Endt & Orner 1982 and Walker 1986); perhaps the most frequent is parasitic infestation (Hengen 1971 and Kent 1987).

ORAL HEALTH

The standard of oral health was not particularly high. Males presented with higher *ante-mortem* tooth loss; caries; calculus; abscess formation and more advanced periodontal disease than females. This is probably related to the longer life expectancy of males, rather than any sexual difference in diet. The lack of attrition in all adults may, in part, be related to the poor quality of oral health rather than simply an extremely soft diet.

Half the sample displayed *ante-mortem* tooth loss, with three males (SK18, 20 and 21) and no females involved. Burials (SK20 and 21) had lost a total of ten teeth during life and (SK 18) a single tooth.

Only a single carious lesion was noted. It involved the mesial surface of a lower left second mandibular molar in a mature male (SK21). Two-thirds of the sample displayed some evidence of calculus, with half the males and all the females involved. Based on individual teeth, 35.1% (n40) were involved with males more frequently involved: 40.7% (n22), than females: 30.0% (n18). A larger sample would be required to test the significance of the marked discrepancy between maxillary (13.7%) and mandibular (52.4%) tooth involvement.

There were three teeth with abscesses from two males (SK19) and (SK20). The overall level of periodontal disease was rather poor. Almost a fifth of septa were classed as grade 5 and some 45% were classed as grade 4. There is evidence that male periodontal disease was more severe than female, with 80.4% of male septa falling into grade 4 or 5; whereas the female figure was 42.8%. Also, maxillary periodontal disease was more marked than mandibular, with the two severest grades of disease involving 87.5% of maxillary interdental septa, as opposed to just less than half of mandibular septa. Excluding impacted third molars, only one individual, the young adult female (SK26) displayed any evidence of malocclusion. Her lower incisors were crowded and overlapped each other, a condition known as imbrication. The other female (SK22), presented with mesio-angular impaction of a lower left third molar.

Half the sample, two males (SK18 and 21) and a female (SK22) displayed congenital absence of a third molar. The latter also presented with a peg-shaped hypoplastic third molar. Based on erupted tooth positions, a third of "wisdom teeth" were congenitally absent.

RADIOCARBON DATING

Bone samples from two burials (SK22) and (SK26), with burial (SK22) directly overlying (SK26), were submitted to Beta Analytic for standard radiometric analysis. As a result of the unexpected early dates for these samples, a further bone sample from burial (SK26) was analysed at the University of Waikato. In addition, a further five samples have been analysed by the AMS technique in Japan by arrangement with Mark Hudson. The dates have been calibrated using INTCAL 98.

ANIMAL BONE by Karen Deighton

Animal bone from ten contexts were examined to determine species present, general condition of bone and the presence of evidence for butchery. Preservation was moderate to good rendering only 19% of the bone unidentifiable. Fragmentation was fairly low, although a number of fresh breaks were apparent. Little weathering was seen with surfaces well enough preserved for the identification of evidence for butchery. Only 5% of the bone showed signs of canid gnawing, perhaps suggesting exposure on the ground surface for only a short period of time.

The assemblage is too small for detailed analysis but the

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Sample Data	Measured Radiocarbon Age BP	13C/12C Ratio	Conventional Radiocarbon Age BP	Cal AD 95% confidence
Beta-144075 (Burial SK26)	1490 +/- 70	-20.5 0/00	1560 +/- 70	365 - 640
Terra b102304a39 (Burial SK26)	1457 +/- 40	-24.6		530 - 670
Waikato-10917 (Burial SK26)		-22.9/-0.2	1164+/- 45	770 - 990
Terra-b102302a37 (Burial SK21)	1327 +/- 43	-24.5		640 - 780
Beta-144074 (Burial SK22)	1400 +/- 50	-19.9 0/00	1480 +/- 50	445 - 655
Terra-b102303a38 (Burial SK22)	1287 +/- 43	-23.8		650 - 870
Terra-b100902a39 (Burial SK20)	1296 +/- 40	-23.7		650 - 860
Terra-b100902a38 (Burial SK19)	1258 +/- 41	-24.0		670 - 890

species composition suggests the usual domesticates: cow (Bos), Pig (Sus) and Sheep/Goat (Ovicaprid) along with some deer and rabbit. Two contexts had a higher number of bone fragments due to context 11 containing only the remains of a neonate pig, while remains of a neonate calf account for 62 (87%) of the bones in context 12. If the neonate partial skeletons are discounted the assemblage appears to be dominated by cow followed by pig.

Only 4% of the bones exhibited signs of butchery. The possible dominance of bones from the hindquarters is suggested, these would have been the most productive in terms of meat and along with the relatively low number of head and foot bones suggest consumption waste rather than butchery waste. None of the neonate remains exhibit signs of butchery, which could suggest carcass disposal without utilisation. The rabbit could be intrusive and therefore relatively modern. The presence of deer suggests the exploitation of wild resources and the presence of local woodland.

DISCUSSION

THE ANGLO SAXON CEMETERY

The excavation revealed an extensive and wellplanned inhumation cemetery seemingly in the Christian tradition with burials aligned east-west, 0.7m apart, in rows approximately 3m apart. The test pit showed that in one area at least interments overlay one another. They were unfurnished, but probably in coffins, and shared a common posture with hands placed over the pelvis. It is possible that three postholes found adjacent one of the lower burials (SK 26) may have formed part of a mortuary structure. This is similar to burial 271 found at Great Houghton, Northampton that was radiocarbon dated to AD 635 to 785, 95% probability, and the surrounding postholes were interpreted as forming a mausoleum (Chapman 2000-1, 18).

Though there are wide discrepancies between separate radiocarbon dates for the same burials (Table 3), there is a general consensus indicating that the cemetery is likely to have been in use through the middle to late Saxon period. The earlier burials in the test pit are likely to date from around the mid-7th into the 8th centuries while the later burials are of 8th to mid-9th century date. Unfortunately, the wide scatter of radiocarbon dates has not helped in pinning down the dates of cemetery usage more precisely than this.

At least the earlier use of the Harringworth cemetery seems to be contemporary with the 7th century cemetery at Great Houghton, Northampton,

Top Layer	SK19	SK20	SK22
(late 7th to mid 9th	Cal AD 670 to 890	cal AD 650 to 860	cal AD 650 to 870
century)			cal AD 445 to 655
Lower Layer	SK18	SK21	SK26
(mid 7th to		cal AD 640 to 780	cal AD 770 to 890
Late 8th century)			cal AD 530 to 670
• /			cal AD 365 to 640

Table 3: Radiocarbon dating for burials within the test pit

which also had burials aligned east-west though only loosely in rows (Chapman 2000-1). These burial grounds would be early Christian in origin and this would tie in with the documentary evidence stating that the whole middle Anglia region was converted to Christianity in 653. It may be significant that a pagan Saxon inhumation burial ground a few miles from Harringworth at Wakerley has been dated as finishing in the 7th century. The burials at Wakerley were accompanied by grave goods and the interments were seemingly not planned as they were in ad hoc positions. Eighty five burials dating to the 6th century were recorded in one location (Adams and Jackson 1988/9) and a further ten burials dating to the 7th century were found 200m to the north-east (Jackson and Ambrose 1978).

The Harringworth cemetery was certainly out of use by the 12th century, when a number of pits disturbed some burials. Domestic occupation from the late Saxon period was found between the cemetery and the present church of St. John's on the other side of Seaton Road. No burials were found in this area. This implies that the cemetery is unlikely to belong to this church. It is possible that the cemetery was linked to a predecessor of the nearby former chapel of All Saints, where medieval remains dating to the 13th century partly survive. Without further excavation the possible link between this cemetery and the chapel cannot be proved.

The size of the Harringworth cemetery is not certain. The present excavation seems to have found its eastern limits. The southern and south-west boundaries of this cemetery were found adjacent to the site in 1967 when a barn was constructed, though these burials were not archaeologically recorded (see above). At a minimum, given the 1967 and 2000 discoveries, the cemetery seems to have extended at least 25m by 25m. Within this area, given the density of burials uncovered during the 2000 excavations, there would be eight rows of 77 bodies two deep, which would give a total of 1232 burials. If the burials found at the former All

Saints Chapel were part of the same cemetery then the number of inhumations would be about 2500. The size of the cemetery suggests that there was a considerable local population in this period and that the burials were two deep implies burial over a long period of time.

The Domesday Survey (1086) shows that Harringworth was well established in the late Saxon period and had the equal largest population (estimated at between 188 and 235 people in 1086) for a settlement in the Corby hundred. As each generation reproduces approximately every 30 years, a burial ground of 2500 in Harringworth for a cemetery lasting 200 or 300 years is certainly possible. A similar though much smaller late Saxon settlement has been excavated at Raunds, Furnells in east Northamptonshire. Excavation uncovered an inhumation cemetery, consisting of only up to 400 burials, which were placed in rows around a church built in the late 10th century (Boddington 1996).

LATE SAXON AND MEDIEVAL OCCUPATION

Two late Saxon pits were found to the north-east of the cemetery implying that there was domestic activity in this area during the later 9th or earlier 10th century. The extent of the activity is unknown as some of the undated features could be contemporary. Later occupation of the area comprised features from the later 12th to the 15th century. Four 12th-century iron working pits contained smelting and smithing slag. Domestic remains included a possible timber building with clay floor. The final phase of activity was a substantial guarry pit of late 15th century date, perhaps suggesting that this part of Harringworth was then largely unoccupied. The excavation area suggests that Harringworth declined rapidly in size in the medieval period and post-medieval maps of the village from the early 17th century show that there were then large areas within the village centre which had fallen out of use.

BIBLIOGRAPHY

- Adams, B., and Jackson, D., 1988/9. The Anglo-Saxon Cemetery at Wakerley, Northamptonshire. Excavations by Mr D Jackson, 1968-9, Northamptonshire Archaeology 22, 69-183.
- Anderson, T., 1987. Post-Cranial Non-Metric Variation: The Examination of a Neglected Subject, M.A. Thesis Sheffield University, Sheffield.
- Atkins, R, 2001 Archaeological excavations on land off Seaton Road, Harringworth, Northamptonshire, February –April 2000, Northamptonshire Archaeology Report
- British Geological Survey. 1978. *Geological Maps of England* and Wales. Solid and Drift Edition Sheet 157.
- Blinkhorn, P. W., forthcoming a .The Saxon and medieval pottery, in M Audouy, *Raunds, the origin and growth of a* midland village, 450-1500: Excavations at North Raunds, Northamptonshire, Oxbow books.
- Blinkhorn, P. W., forthcoming b. The Saxon and medieval pottery in A Chapman *West Cotton, Raunds: a study of medieval settlement dynamics,* Oxbow books.
- Blinkhorn, P. W., forthcoming c. The Post-Roman Pottery, in I Meadows, Excavations at Warmington, Northants, Northamptonshire Archaeology.
- Blinkhorn, P. W., forthcoming d. The Post-Roman Pottery, in I Meadows, Excavations at Ketton, Cambridgeshire.
- Boddington, A., 1996. Raunds Furnells: The Anglo-Saxon church and churchyard, English Heritage Archaeological Reports, 7.
- Bridges, J., 1791. The History and Antiquities of Northamptonshire.
- Chapman, A., 2000-1. Excavation of an Iron Age settlement and a Middle Saxon cemetery at Great Houghton, Northampton, 1996, Northamptonshire Archaeology, 29, 1-43.
- Drennan, M. H., 1937. The torus mandibularis in the Bushman, Journal of Anatomy, 72, 66-70.
- Foard, G., 1985. The administrative Organization of Northamptonshire in the Saxon Period, Anglo-Saxon Studies in Archaeology and History, 185-222.
- Gover, J. E. B., Maver, A., and Stenton, F. M., 1933. *The Placenames of Northamptonshire*, Cambridge University Press.
- Hauser, G., & de Stefano, G. F., 1989. Epigenetic variants of the Human Skull, E. Shweizerbart'sche Verlagsbuchhandlung, Stuttgart.
- Hengen, P., 1971. Cribra orbitalia: pathogenesis and probable etiology, *Homo*, 22, 557-76.

- Holck, P., 1987. Scurvy a palaeopathological riddle, in V Capecchi & E Rabino Massa (eds) Proceedings of the 5th European Meeting of the Paleopathological Association, 1984 (Paleopathology Association), Siena, 163-71.
- Jackson, D. A., and Ambrose, T. M., 1978. Excavations at Wakerley, Northamptonshire 1972-5 *Britannia*, 9, 115-242.
- Kent, S., 1987. The influence of sedentism and aggregation on porotic hyperostosis and anaemia: a case study, *Man*, 21, 605-36.
- Kilmurry, K., 1980. The Pottery Industry of Stamford, Lincs. c AD850-1250, British Archaeol Rep British Ser, 84.
- Moseley, J. E., 1966. Radiographic studies in hematologic bone disease: Implications for paleopathology, in S Jarcho (ed) *Human Paleopathology*, Yale University Press, New Haven, 121-30.
- Pettit, P. A. J., 1968. The Royal Forests of Northants, Northamptonshire Record Society, 23.
- Register of Burials in the Parish of Harringworth in the County of Northampton, Northampton Record Office, 156/10.
- RCHME. 1975. An Inventory of the Historic Monuments in the County of Northampton Volume 1 Archaeological Sites in North-East Northamptonshire, Royal Commission on Historical Monuments (England), HMSO.
- RCHME. 1984. An inventory of architectural monuments in North Northamptonshire, Royal Commission on Historical Monuments (England), HMSO.
- Sellevold, B. J., 1980. Mandibular torus morphology, American Journal of Physical Anthropology, 53, 569-72.
- Stuart-Macadam, P., 1989. Porotic hyperostosis: relationship between orbital and vault lesions, *American Journal of Physical Anthropology*, 80, 187-93.
- Suzuki, M., & Saki, T., 1960. A familial study of torus palatines, American Journal of Physical Anthropology, 18, 263-71.
- Trotter, M., & Gleser, G. C., 1958. A re-evaluation of estimation of stature based on measurements of stature taken during life and long bones after death, *American Journal of Physical Anthropology*, 16, 79-123.
- Von Endt, D. W., & Ortner, D. J., 1982. Amino acid analysis of bone form and possible case of prehistoric iron deficiency anemia from the American south west, *American Journal of Physical Anthropology*, 59, 377-85.
- Walker, P. L., 1986. Porotic hyperostosis in a marine dependent Californian Indian population, *American Journal of Physical Anthropology*, 69, 345-54.