SOME FIELDWORK IN DERBYSHIRE BY TRENT & PEAK ARCHAEOLOGICAL UNIT IN 2000–2001

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INTRODUCTION

During 2000 and 2001, Trent & Peak Archaeological Unit (hereinafter T&PAU) undertook fieldwork of one sort or another at numerous locations within Derbyshire. These reports outline the results of a selection of that work, employing the format of equivalent reports in previous volumes of *DAJ*, notably in adopting the division between 'definitive' and 'interim' accounts specified in *DAJ* 118, 148. Definitive reports are most easily identifiable through the inclusion of information upon the whereabouts of the related fuller report and archive (often in the Sites & Monuments Record maintained by Derbyshire County Council in Matlock, hereinafter SMR, sometimes also that of the Peak District National Park Authority, hereinafter PDNPA), while similar information will be provided in the further report that it is intended to publish eventually for each of the sites given only interim treatment here. The twenty reports are arranged in alphabetical order of location, each beginning with a site-name and National Grid Reference together with the name(s) of the individuals responsible for the related report.

REPORTS

1. **ASHBOURNE, WYASTON ROAD, TINKER'S INN** (SK 180448)

K. Challis and A. Butler

A geophysical survey, covering 1.6ha, has been undertaken in advance of the construction of buildings for the Ashbourne & District Animal Welfare Society, because the site lies immediately north of a Scheduled Ancient Monument, 'Tinker's Inn Bowl Barrow, North' (13326). The intention of the survey was to determine whether archaeological features or deposits, perhaps including evidence for funerary/ritual activities and/or settlement associated with the barrow, existed within the area due for development. Readings were taken at 0.5m centres on 1.0m traverses, using a Geoscan Research FM18 fluxgate gradiometer, and the results were processed with Geoscan Geoplot 2 software to produce greyscale and trace plots. This revealed a broad area of scattered bi-polar anomalies, confined to the central part of the area, which was wetter than the remainder, with different vegetation. The anomalies were intense (in the range ± 100nT), and were probably caused largely by ferrous material in the topsoil, though some may also indicate

thermo-remnant features. A linear anomaly trending south-west/north-east, and probably attributable to a buried pipeline (as apparently confirmed by a marker-post at the field-boundary), became unclear in the central area, where it merged with the scattered anomalies. Areas to west and east of the central area, as well as that alongside the barrow, were quiet magnetically, lacking anomalies that might indicate archaeological or other features. It is understood that parts of the site have recently been used for dumping spoil from road-construction, and this might explain both the observed superficial variation in the condition of the site and the geophysical variability.

A full report on the survey has been deposited with the SMR.

2. ASTON-UPON-TRENT, ARGOSY WASHOLME (SK 431291)

D. Garton, L. Elliott and C.R. Salisbury

Tree-ring dating could not provide a date for the logboat reported in *DAJ* 121, 196–200, so two radiocarbon dates have been provided by English Heritage (EH). They are from the outer rings of the oak log and date to 3117 ± 35 and 3113 ± 34 BP (OxA-9536/7). Since the two samples are from the same object, and the results are not statistically different (T' = 0.0; v = 1; T'(5%) = 3.8 — Ward and Wilson 1978), they can be combined to give a weighted mean of 3115 ± 24 BP, with a calibrated range of 1440–1310 cal BC at 2ó (Stuiver *et al.* 1998; analysis by P. Marshall of EH, using Oxcal v3.5 — Bronk Ramsey 1995). This provides a close *terminus post quem* for the logboat, suggesting that it could have been contemporary with the nearby structure of brushwood and logs, interpreted as part of a causeway across the Trent floodplain (*DAJ* 121, 199).

Surprisingly, few of the 135 logboats from Great Britain and Ireland that have been dated by either radiocarbon or dendrochronology are prehistoric, with only fourteen shown to be of similar age to, or older than, that from Argosy Washolme (Lanting 1997/8, 630, tables 1 and 2). This example from the River Trent is therefore a national rarity. Conservation of the boat is to be completed in 2003, when it will be placed on display in Derby Museum.

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3. AULT HUCKNALL, St JOHN THE BAPTIST CHURCH (SK 467652) *L. Elliott*

Prior to the construction of a new path, an archaeological evaluation was conducted against the south-west buttress of the 15th-century south porch, comprising a 2.5x1.5m trench, 0.85m deep (Pl. 1). Basic stratigraphy comprised topsoil above subsoil, disturbed by burials and construction of the porch. Artefacts from the subsoil ranged from medieval to modern, including pottery, slag, lead roof flashing, clay pipe, bottle glass, ceramic roof-tile, mortar, plaster, several nails and a single copper lace-tag. At the base

Plate 1: Ault Hucknall church: exposed foundation of south-west buttress looking west, showing disarticulated bone beneath and outline of degraded coffin to right. Scale 1m. *Photograph by L. Elliott.*

of the trench, three features possessing slightly darker fills and apparently orientated west-east, were identified as grave cuts. One contained the black outline of a wooden coffin, none were excavated further. Packed below and partly around the buttress foundation were a large number of disarticulated bones, including four skulls and several long bones. These probably originated from medieval graves disturbed during construction of the 15th-century porch and subsequently redeposited in the porch foundation-trench. The excavation revealed deposits around the porch buttress comprising recently disturbed material, while *in situ* burials lay below the level of the trench, beyond the destructive impact of the proposed path.

A full report has been deposited with the SMR. Thanks are due to R. Holt, D. Knight, H. Jones, R. Firman and J. Cunnington (of John Cunnington Architects) for assistance on the project.

4. **BAKEWELL, ALL SAINTS CHURCH** (SK 215684) *L. Elliott*

In March 2000, a watching-brief was conducted on the laying of mains gas and water supply pipes from North Church Street to the south transept. The presence of a church is first mentioned by charter in AD 949 (Hart 1975, 105), while a large Anglo-Saxon cross shaft of early 9th century date (Kendrick 1937, 164) sits close to the north wall of the south transept. The existing church fabric includes 12th–15th century elements (Pevsner and Williamson 1978, 71), while 19th-century rebuilding revealed a large quantity of Anglo-Saxon and Norman worked stone in the walls of both transepts, the foundations

of the tower piers, Vernon Chapel and north transept (Plumptre 1847, 44), which led to Bakewell's identification as the possible centre of an Anglo-Saxon school of sculpture (Cramp 1977, 219).

The modern groundwork comprised *c.*98m of pipe trench, *c.*0.5m wide, excavated up to a depth of 0.9m, running east from the south transept past the cross shaft, around the chancel to the north transept and boiler room, then northwards to North Church Street, running close to the 19th-century discoveries. During connection of the pipe trench to the south transept, a combination of drilling through the wall and the presence of voids under the existing floor prevented any need for internal excavation. Externally, within the pipe trench a basic stratigraphy of topsoil and a disturbed subsoil or grave-earth was supplemented by more localised spreads of redeposited material, two brick burial shafts and a number of modern soakaways and drains. The grave-earth formed the basal layer of all but one stretch of the trench, while at no point was any undisturbed natural exposed. Within the grave-earth was an abundance of disarticulated human bone, and artefacts of 17th–19th century date, including pottery, nails, coffin studs, shroud pins, clay pipe, lead waste and roof flashing, but only a single sherd of medieval pottery. Above the grave-earth were several localised layers of apparently redeposited material, including crushed stone and mortar probably associated with the 19th-century rebuilding, which in areas built up the surrounding ground level by at least 0.9m. Amongst a crushed stone layer exposed adjacent to the south transept were a few small fragments of worked stone from the medieval church fabric, apparently re-used as hardcore below the south doorway rebuilt in the 1840s. The absence of medieval remains contrasts with the abundant discoveries made during the 19th century. This suggests the limited depth and route of the pipe trench, in conjunction with the presence of the redeposited material, restricted the destructive impact of the groundwork upon the archaeological deposits present around the church.

A full report has been deposited with the SMR. Thanks are due to R. Holt, M. Parnham, D. Knight and G.B. Roper (of Smith & Roper) for assistance on the project.

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5. **BARROW-UPON-TRENT, FLEAK CLOSE** (SK 34352782)

D. Knight and G. Richards

Excavations were conducted in April and May 2000 of the southernmost extension of a pit-alignment excavated in 1998 and 1999 (*DAJ* 121, 201) and of an adjacent cropmark site, both located on the Trent Floodplain Terrace west of Barrow-upon-Trent. This work was funded by Lafarge Aggregates Ltd as part of a Scheme of Treatment for an extension of Swarkestone Quarry. Six large and approximately circular pits were revealed

after machine-stripping and cleaning, of which three were excavated. None yielded associated artefacts, but the southernmost feature, on the very edge of the gravel terrace, was sealed by alluvium. A watching-brief during quarrying of the floodplain, immediately north of this pit, showed that the pit-alignment had not continued beyond the edge of the gravel terrace. Excavations of cropmark features *c.*30m to the east of the pit-alignment revealed a scatter of pits and postholes, some yielding handmade Iron Age sherds which cannot be closely dated. The site had been severely truncated by medieval ridge-and-furrow, but is interpreted as an unenclosed settlement reminiscent of the earliest occupation phase identified during excavations of the subrectangular ditched enclosure in 1998 only *c.*50m to the north-west (*DAJ* 121, 201).

6. **BOLSOVER CASTLE** (SK 471707) *R. Sheppard*

During the final stage of a major programme of improvements at Bolsover Castle between 1998–2000, a watching-brief was carried out on machine trenching for new services across the grounds, from the site entrance in the south to the Little Castle at the northern extreme of the Castle. In addition to this, the floor area in the west half of the 17th-century Riding School Range was cleaned, trowelled and test-pitted prior to the laying of a new concrete slab, followed by a partial rebuild and adaptation of the building for new visitor facilities and interpretation. The latter was carried out in conjunction with Addyman & Kay, in their independent archaeological analysis of the standing structure of the Riding School Range for English Heritage (not reported here).

Services trenches covering a distance of nearly 500m provided an opportunity to study a cross-section of the underlying soils to a depth of about 1m. These showed a fairly consistent sequence from north to south, of topsoil, subsoil, a mixture of broken limestone with clay, and then bedrock. The latter was rarely exposed at less than 1m in depth. The varying amount of the overlying stone and clay mix could not be explained by natural processes alone. Large-scale landscaping in the 17th century, perhaps involving the movement of debris from the dismantled former medieval castle walls and from any intermediate quarrying for limestone, may have been partly responsible.

Along the eastern edge of the Great Court, a concentration of more obvious building rubble mixed with soil may have been material dumped at the break of slope during the early 17th-century construction of the present Castle and before the boundary wall was built. Other evidence for infilling, perhaps beginning in the late 18th century, was found around the Cistern House, where steps had once descended to low-level doorways into the building and through the adjacent boundary wall. Nearby, the stone footings of a small late Victorian greenhouse were located, along with a small ancillary brick cell housing a fumigator.

Other finds in the Great Court included four Christian burials found close to the entrance to the Fountain Garden and not far from where fifteen others were found in 1977. Human burials have also been uncovered in the Outer Court and individual bones found redeposited within the Forge area of the Riding School Range and the Fountain Garden (the former medieval Inner Bailey). The Castle grounds were evidently used as an extramural graveyard at some point after the demise of the early castle and before the construction of the new one. The presence of human remains within the Castle and reputedly in other parts of the town has yet to be explained.

Plate 2: Bolsover Castle: rough limestone footings of possible medieval structure uncovered in side of service-trench within the Great Court. Scale 1m. *Photograph by R. Sheppard.*

The rubble footings of a structure, possibly that of a medieval fortification such as a tower, were found close to the east side of the Great Court (Pl. 2). Elsewhere, in three separate locations at or within sight of entrances, rough platform surfaces (two with steps) formed from a hard conglomerate of mortar and stone/brick rubble were found. One possible explanation may be that they were standing for cannon for the besieged and defending Royalist garrison during the Civil War. A small ?lead-smelting hearth, with a content that included human bone from a nearby burial, may also date from that period.

In the so-called Forge area of the Riding School Range, after the removal of a 20th-century hard-standing made up of re-used paving slabs, a series of soil deposits was found, including a plaster spread and a deposit of soils mixed with building rubble; the nature and depth of this material confirmed earlier findings of significant infilling of the ground-floor area. Test-pits beside the outer walls of the Range revealed deep foundations, all suggestive of the building having been positioned over a depression, perhaps a large quarry or early castle ditch. No archaeological evidence was found for the Range having once extended further eastwards despite some structural evidence suggesting otherwise.

A long plinth for a manger found running inside of the south wall of the Forge, coupled with the wall having been unlit originally, confirmed its intended use as a stables, although no evidence for stalls or stable flooring was found. In the 18th century, ground-floor windows were inserted in the south wall and fireplaces added when the stables were

transformed into a suite of domestic offices. Subsequent use of the floor area as a workshop and store had removed evidence for contemporary flooring or partitions.

A copy of a full report, written for English Heritage, has been deposited with the SMR. Thanks are due to A. Ward for help in the field, and to staff of Wildgoose Construction for co-operation during the works.

7. **BRIERLEY GREEN to OVERHILL ROAD pipeline** (SK 021845–025826)

G. Kinsley

In March-May 2000, an archaeological watching-brief was undertaken on behalf of Severn Trent Water during the construction of a new pipeline from Chapel-en-le-Frith to Hayfield. Only selected parts of the route were subject to archaeological monitoring — principally that between Brierley Green (SK 025826) and Overhill Road (SK 021845), with a second short stretch at Leaden Knowl (SK 035823) — in response to locations of archaeological potential identified in a desk-top assessment: a platform possibly attractive to medieval or earlier settlement; a stream bed possibly containing environmental data; a nearby sough; possible earlier phases of the farm at Cloughhead; a shelf in the valley side, a type of feature attractive to settlement through most archaeological periods.

In the event, no archaeological features were seen at any point, though a collection of pottery of the 17th–20th centuries was found in the southern part of the route between Laneside Farm and Brierley Green. No finds were made in the northern part of the route or at Leaden Knowl, and this difference from the southern part probably reflects the improvement of land on the lower valley side in the Post-Medieval period, in contrast to the upland part, known as 'Beard Moor' in the 17th century, which remained as unimproved pasture.

A full report has been deposited with the SMR. Thanks are due to P. Caldwell for assistance with the fieldwork.

8. **CALLOW, HALL FARM** (SK 268518)

K. Challis

At the margin of the present village of Callow, a site has been evaluated in advance of the construction of a new house. The site is situated on a moderately sloping, south-facing hillside, at approximately 100m north-east of the farmhouse of Callow Hall Farm, a Grade II* listed building, comprising a 13th-century undercroft beneath a house of the 17th–19th centuries, standing within a rectangular moat that is protected as a Scheduled Ancient Monument (23303). Earthworks relating to a shrunken area of the village have long been known to lie adjacent to the north and west sides of the farm, while topographical survey has now recorded both a substantial hollow-way (said to have been disturbed by a later drain) to the north and east of the excavations described below and a number of roughly levelled platforms to their north. These features were unaffected by the present development, allowing excavation to be restricted to three trial-trenches (01–03, each 10x2m) dispersed within the site designated for the new building. Each trench was stripped of *c.*0.25m of topsoil by machine, with all lower deposits being excavated by hand; but none revealed deposits of any significant age. Trench 01, lying at the northern, upslope, edge of the site, produced single sherds of Post-Medieval (Midland

Yellow) and medieval (green-glazed) wares, both from topsoil; but no other datable artefacts were recovered.

A full report has been deposited with the SMR. Thanks are due to P. Caldwell for assistance with the excavations.

9. **CHATSWORTH PARK** (SK 259699–255700) *G. Guilbert*

Subsequent to that of 1998 (reported in *DAJ* 121, 209–12), two phases of fieldwork have been conducted in this Grade I listed park. Throughout, the archaeological ethos has been to put conservation ahead of convenience and/or investigation, by contriving not only to restrict ground-disturbance to a minimum commensurate with the requirements of the engineering-work (i.e. replacement of a plastic sewage-pipe installed in the 1970s and meandering through archaeologically sensitive areas of the Park) but also, wherever possible, to direct that disturbance towards points where deposits of archaeological significance seem least likely to occur. The work of 1998, including fourteen small trial-holes and one area of resistivity-survey, was intended largely to track the existing sewer. In describing the results achieved then, it was anticipated that further reconnoitring of one stretch of the route, apparently coinciding with a 'shrunken' area of the village of Edensor, would be necessary before final decisions could be taken as to a preferred course for excavating a trench to accommodate the proposed new pipe (*DAJ* 121, 212).

In the event, that second phase of the work, undertaken in July 1999 (but omitted from our compilation of reports in *DAJ* 121), was accomplished through three excavations (each just 0.5m wide by 2.5–4.0m long, and numbered 15–17 in archive, in order of opening and in sequence from 01–14 of 1998), placed at intervals along the northern side of the track that now leads to Park House (SK 25306994), with the single purpose of pinpointing the route of the existing pipe. At the same time, three other small cuttings were opened in order to test ground sloping up from the western and eastern limits of the floodplain of the River Derwent. These were a response to the engineers' partial revision of their initial plan (which had involved installation of the new pipe in an open-cut trench running the full length of the route), introducing the idea of using 'directional drilling' to pass for some 350m beneath the plain, for it was recognized that this might eventually entail full archaeological investigation of two 20m^2 areas. Two of these supplementary excavations (18 and 20, each 1m^2, and set out centrally to those larger areas) were intended specifically for archaeological evaluation. The third (19, measuring 0.5x4.0m) sought solely to determine the thickness of cover over, and hence the maximum depth of, the Derwent Valley Aqueduct (Robinson 1993, appendix 3), because the drilling was to cross under it. Since the line of the aqueduct is evident in this part of the Park as a slight earthwork running roughly north/south between the river and Chatsworth House, excavation 19 could be positioned accurately and was largely contained within previously disturbed ground. The proposal for directional drilling had the great merit of avoiding damage to all archaeological deposits on the floodplain, though land beyond its margins was still to suffer an open-cut trench, which it was agreed would require prior archaeological excavation in certain stretches, coupled with a watching-brief over excavation by non-archaeological contractors in others.

As it transpired, the estimated financial cost of the proposed drilling was prohibitive, and an alternative solution was ultimately adopted, taking advantage of current optical

technology to facilitate insertion of a liner within the existing pipe along the full *c.* 1250m length that it was eventually considered necessary to replace at this stage, extending from the gardens of Chatsworth House at the east to an arbitrary point within the Park (SK 2553970075 — at a stop-valve on the existing pipe, nearly 1700m short of the destination that was originally intended — i.e. at 2505671573, *cf. DAJ* 121, 209). This proved to be a conservation-minded approach, for it meant that fresh ground-disturbance could be limited to a series of small holes (21–35), as required for access to break into the existing pipe — 'pipe-bursting' — at intervals that could be up to 200m but were not fixed, allowing their exact locations to be chosen primarily by reference to the nature of the terrain, though partly determined by bends in the route of the pipe. Consequently, most, but not all, of these access-holes could be positioned to miss known or suspected archaeological features, and their highly localized destructive impact could be mitigated by excavation finished well in advance of the work of the other contractors. This third phase of archaeological work was implemented during January–June 2001 (completion had been intended far sooner, but work was interrupted for several months when the Park was closed due to a national outbreak of foot-and-mouth disease). In many cases, a 2x2m excavation gave adequate access for the purposes of the engineers; but in those few where the precise position of the pipe could not be predicted beforehand, or where some unanticipated obstacle caused a particular hole to be extended, it became essential to open rather larger areas (one as much as $12m^2$). Each excavation was conducted archaeologically to the point where all artificial deposits had been recorded before it was passed on to others, invariably with the intention that the only enlargement of any hole should be downwards, to reveal the pipe within its 1970s trench. Numerous cuttings across that trench have shown it to be up to 1.4m wide, so that, even in the few of 21–35 where anything of apparent archaeological value came to light, destruction of adjacent deposits in 2001 was always minimal, and normally negligible. As explained below, just two (22 and 29) of the 2001 excavations exposed solid structural remains, and it was possible for working-practices to be modified in both instances so as to ensure that those remains could be left virtually intact at the time of backfilling. Hence, it never became necessary to undertake the selective, larger-scale archaeological excavations that had previously seemed in prospect.

In contrast to the trial-holes of 1998, all six of 1999 and all fifteen of 2001 were excavated archaeologically, each being dug entirely by hand (those of 1999 under the direct supervision of GG; most of the fifteen of 2001 supervised by G. Richards, with intermittent involvement of GG). There is no need to distinguish between the work of 1999 and 2001 in penning an outline of the archaeological results, which are best summarized in relation to four distinct topographical tracts encountered by the pipe *en route* through the grassland of the Park. At the north-west, to the north of Park House, the route crosses undulating ground, rising to over 160m above Ordnance Datum (though no higher than 128m along the pipe-route), and this is notable for the low earthworks of a medieval/Post-Medieval field-system and contemporary or later rabbit-warren (*DAJ* 121, 209). From the southern foot of that elevated land, at around 113m OD, the route follows a *c.* 280m length of what seems likely to be the former axial street of the village, running east-south-east from Park House, and much of it marked approximately by the present metalling of the track to Park House; this is flanked along its northern side by a scatter of platforms terraced into the hillside, understood once to

have served as emplacements for buildings sited similarly to Park House but which, unlike the latter, were removed in the course of Post-Medieval landscaping (surprisingly, no adequate record of these platforms seems ever to have been made). Thence eastwards, the route drops to the broad, flat, alluvial plain, averaging 107m OD hereabouts, which has been shown by a combination of the 1998 fieldwork and certain documentary sources (*DAJ* 121, 210–11) to harbour significant archaeological features, especially west of the Derwent. Finally, beyond the relatively narrow portion of the floodplain that here lies to the east of the river, the route passes obliquely through an expanse of ground that slopes gently up towards the present perimeter of the gardens surrounding Chatsworth House (at about 112m OD), and it is here that the surface is believed to have been built up with some thickness of dumped materials at some point in the 18th century, lending this tract considerable archaeological potential (*DAJ* 121, 210).

The four excavations of 2001 in the north-western, elevated, tract (30–32 and 34) matched the six trial-holes opened there in 1998 (06–11), in so far as they not only lay between all of the evident earthworks but also succeeded in revealing nothing but natural deposits below a humic topsoil, itself doubtless an old ploughsoil. Consequently, they command no further attention here, except to remark that, in addition to pieces of Post-Medieval pottery in topsoil, 30 (centred at SK 2530369964) yielded a sherd from the base of what was probably an unglazed medieval pot (identification confirmed by P. Beswick), found embedded by several centimetres into an apparently natural, clayey subsoil. It is noteworthy that this potsherd appears to be the sole medieval artefact to emerge from the fieldwork of 1998–2001, for, given the number of excavations, albeit all small, within or close to the area reckoned to relate to the shrunken village, this does little to encourage any notion that this eastern end of Edensor has medieval origins (*cf. DAJ* 121, 211).

The eight excavations of 1999 and 2001 in the immediate vicinity of the 'village-street' and adjacent platforms (15–18, 27–29 and 35) were generally no more informative regarding the nature of activities there than was the single trial-hole opened close by in 1998 (05). Most produced an assortment of Post-Medieval artefacts, including fragments of pottery (the most numerous category), roof-tile, clay-pipe, vessel-glass, bottle-glass, and window-glass, as well as odd items of iron, bronze and lead; but none of this material came from secure or comprehensible contexts, making it unnecessary to relate additional details. Three unearthed portions of intelligible features, none of which can be dated. In 29, immediately west of Park House (SK 2527669938), a fragment of dry-sandstone wall, *c.*2.0m long and with up to seven courses of partially-dressed blocks in its surviving 0.65m height, runs north-west/south-east, aligning upon the southern boundary of the Park House curtilage and, less obviously, upon the probable line of the former street; this wall was found to have been roughly broken away at each end by disturbances connected with a nearby sewage-pump housed in a concrete chamber. In 16, less than 90m south-east of Park House (SK 2536969863), the top of a vaulted, mortared-sandstone culvert, still running with water, was uncovered at little depth below the surface of the modern track, with which it appears to be aligned approximately. In 28, just 12m from 16 (SK 2538169861), two successive levels of compacted sandstone-rubble could have been deposited as either indoor or outdoor surfaces, though the latter may seem more in keeping with the position of 28 at the foot of an artificial ramp leading up to one of the recessed platforms (but it is not impossible that these surfaces were laid down relatively recently).

The four excavations of 2001 situated on the floodplain (24–26 and 33) exposed similar alluvial clays to those seen in the three trial-holes made there in 1998 (02–04). Unlike 03, which hit a patch of apparent road-metal (*DAJ* 121, 210–11), all those of 2001 were completed without encountering deposits of apparent archaeological significance, so that they produced no stratified artefacts, only sherds of Post-Medieval pottery and glass from topsoil, more plentiful in that lying east of the river (33) than in the three to its west.

As many as four of the excavations of 1999 and 2001 (19 and 21–23) may have fallen within the area to the east of the Derwent that is thought to have been raised by 18th-century landscape-architects, but only one of these has provided any extra insight into the character of deposits buried at that time, adding to the small portions of 'wall' and 'sandstone paving' recorded there in 1998 (at *c.*28m apart, in 01 and 14 respectively — *DAJ* 121, 210). Thus, in 22 (SK 2587469784), clasping the west end of trial-hole 14 (which measured 6.6x0.6m, with the sewer-pipe passing through its west end), part of a structure comprising edge-set blocks and slabs of sandstone was revealed, extending beyond the 2x2m limits of 22 in all directions. These setts, aligned south-west/north-east, are packed tightly together, with smaller stones wedged into the interstices. Individual setts measure up to 0.55m in length, and some could be seen in the sides of later disturbances to penetrate as much as 0.35m. Like the paving in 14 (within 5m east of the setts in 22) and the wall in 01 (*c.*21m west of 22), these setts could well belong to the 'Kitchen Gardens' known to have occupied this area in the mid-18th century, and the reasonably level upper surface they present could once have served as a hardstanding, maybe metalling an open area within the gardens. At any rate, the general lack of wear on that surface suggests that it did not form a road or path, at least not one that had been much used (contrast the 'edge-set slabs' in 03, west of the Derwent — *DAJ* 121, 210–11). The setts seem likely to have been laid as a separate entity from, though perhaps somehow related to, the paving, because the latter was shown in 1998 to lie flat, appearing to extend only a short distance into the east end of 14 (and being, of course, of unknown extent in all other directions). It is unclear whether a deposit of ashy soil lying over and between the setts, and itself covered by *c.*0.8m of overburden, derives from activities that occurred on the spot or comprised the first tip of the debris that is presumed to mark the 18th-century change from garden to park. On the one hand, the section drawn in 1998 shows this ashy deposit spreading fully 2.6m east from the pipe-trench, apparently with fairly-level top at much the same depth as the setts, and this might be taken to suggest not only that it had formed where found but also that the setts may have come closer to the paving than has been recorded (see next paragraph). On the other hand, in 22, patches of similar material were also interleaved with the loamy overlying deposits, containing pieces of cinder, coal, charcoal, fire-reddened clay, brick, tile, lead-came, window-glass, bottle-glass (including several complete necks), red clay roof-tile, and pottery. Among these potsherds, P. Beswick has recognized slipware that may have been manufactured as early as the late-17th century, a glazed rim that could be as much as a century earlier again, and, more significantly, sizeable fragments from earthenware bowls that are probably attributable to the first half of the 18th century and which, in some cases, may have been plant-pots — if so, this pottery would seem to offer a fitting reflection of the change of land-use suggested on other grounds. Together with the

compatible sherd of stoneware from a similar context in 14 (*DAJ* 121, 210), these are the most usefully stratified artefacts recovered from any of the excavations of 1998–2001.

It is sobering to observe that a portion of the substantial construction of sizeable setts glimpsed in 22 must have been removed in 1998, though there was no inkling of this in either section of trial-hole 14. It can only be surmised that several setts were prised out by the archaeologically unskilled labourers who did the digging then, leaving both sections devoid at that level of anything but the ashy soil that had permeated between the setts. If one were needed, this surely provides a stark reminder of the frailty of records compiled by archaeologists under the sort of unsuitable circumstances that must often be endured in undertaking such a watching-brief or salvage-recording (and, in truth, this can hardly be considered appropriate for so historic a setting as Chatsworth Park). It is no surprise that some of the setts had also been moved in creating the pipe-trench in the 1970s. Those found *in situ* in 2001 were left undisturbed by T&PAU (hopefully also by other contractors who worked in 22 afterwards), lest others should wish to explore this substantial buried surface more extensively in the future.

Another of the excavations to the east of the river (20, at SK 2592769850) yielded a few Post-Medieval items, including fragments of pottery, brick, clay-pipe, and iron nails, all coming from either topsoil or the upper zone of a clayey subsoil, perhaps colluvium or head, that is presumed to have been cut by a slight linear terrace seen superficially to run north/south along the contour each way from 20 (the terrace is of uncertain purpose, but is rumoured by Chatsworth staff to have been made for 20th-century events). Although, at 1x1m, 20 was too small for certainty, it does appear probable that this spot lies above and to the east of the 18th-century heightening of land.

Finally, given that the thirty-five locations where digging occurred in 1998–2001 were widely scattered through the central part of the Park, it is of interest to note that excavation 20 produced the single indication of prehistoric activity, in the shape of a flint blade adjudged, by D. Garton, more likely to be Mesolithic or Early Neolithic than any later.

In reviewing the three phases of fieldwork, it may be concluded that there has been some measure of success in effecting renewal of the sewage-pipe in a cost-effective venture involving the limited ground-disturbance that is patently in the best interests of conservation within, and hence the archaeological potential of, Chatsworth Park. Most of the small holes that had to be opened, either for preliminary investigations or for the eventual pipe-bursting operation, avoided known features of the historic landscape, whereas other options considered in the early stages could not have achieved this to anything like the same degree and, anyway, would have been more expensive. The approach eventually adopted here could equally well be applied, with equally beneficial results for archaeological conservation, in many another scheme for the replacement of defective pipelines of one sort or another, at least where these are confined to rural locations. Indeed, for some time, some ecologist/planners have been urging implementation of 'the principle of minimum disturbance' (Burden 1979 — I owe this reference to D. Garton), and there is surely much scope for archaeologists to take a similarly stringent attitude wherever practicable (*cf.* restoration of water-pipe at Borough Hill, Walton-upon-Trent, reported below).

In combination with that in *DAJ* 121, the present summary constitutes our final account of this Chatsworth project. Those seeking greater detail of any of the

excavations, including the exact location of each within the Park, should consult the archive-report (compiled in three illustrated volumes, covering the 1998, 1999 and 2001 phases of the fieldwork), copies of which have been lodged with both the SMR and PDNPA. All this work was undertaken at the request and expense of Severn Trent Water, who, in conjunction with Haswell Consulting Engineers, were responsible for renewal of the sewer — T&PAU are indebted to both of those organizations for the close collaboration necessary to produce, on balance, a desirable outcome. Thanks are also due to personnel of other contractors, McNicholas Construction Services Ltd and Insituform Technologies Ltd, involved in the fieldwork (most of whom were more than helpful), as well as to those colleagues at T&PAU (M. Anderson, P. Caldwell, K. Challis, D. Garton, L. Hunt, M. Hurford, G. Richards and N. Stillman) whose labours contributed in various ways, and to P. Beswick, who kindly examined the stratified potsherds.

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10. **CROWDECOTE MILL** (SK 100652) *M. Atha and D. Knight*

Investigations on behalf of Severn Trent Water at the site of a proposed sewage treatment works adjacent to a ruined watermill complex beside the River Dove at Crowdecote comprised an excavation within the area of the new development and a photographic and EDM survey of the mill complex. Historical research showed that the mill was first mentioned in Duchy of Lancaster accounts for 1434–5 and was still in use at Enclosure in 1800.

A multi-phase crushed limestone trackway was revealed during excavations immediately south-east of the mill house. Two distinct phases of metalling were revealed: an upper surface of predominantly clast-supported crushed limestone and a basal layer of limestone bedrock infilled and levelled using clay-bonded crushed limestone. Post-Medieval pottery was recovered from the surface of the upper trackway, but the lower surface yielded no finds. The trackway may have led to the mill or to a sheepwash which is known to have been located next to the mill on the tail leat.

Many original components of the watermill complex may still be observed, albeit partially obscured by dense vegetation. The main surviving component is a mill house with particularly fine west and south elevations, constructed in rough-hewn limestone with gritstone quoins and lintels. A wonderfully preserved wheel-pit boasts a fine gritstone spindle-seating and a range of slots and grooves linked to sluice and waterwheel operation. A nearby drying oven was similarly constructed in limestone and gritstone. It is possible that part of the drying floor, fragments of which were uncovered during excavation of the trackway, may survive beneath the collapsed superstructure. Well preserved head and tail leats incorporate several *in situ* water-management features.

The mill complex is unusual in layout because, rather than employing the nearby Dove, it harnessed the power of a substantial spring rising some distance to the north. This obviated the need for a dam and necessitated a breast-wheel arrangement whereby the water flow struck the wheel just below its centreline, thus imparting a backward

rotation. This is an unusual arrangement for an upland mill and, coupled with the completeness of the complex, indicates that Crowdecote watermill is a rare and valuable example of its type worthy of preservation.

11. **DERBY ARBORETUM** (SK 355351) *P. Beswick and R. Sheppard*

In 1840, on land given by Joseph Strutt to the city of Derby, J.C. Loudon, the Scottish landscape gardener, designed the first park in Britain to be specifically created for, and owned by, the public. On open ground south of the town centre, Loudon created a linear park with straight and curving gravel pathways, some running between flower gardens, but most separated and hidden from each other by long undulating grassy banks (Fig. 1A). Over a thousand labelled species were on show (Loudon 1840), and perhaps because the park attracted great crowds from Derby and beyond the grounds were extended in 1845/6 and again in 1854 (Fig. 1B). Entrance lodges and pavilions provided shelter and sustenance. By the late 19th century, most of the original plants and trees had been killed by pollution, and in more recent years the Arboretum has become rundown and in places vandalised. Nevertheless, its Grade II* listing marks it as a site of national importance. Following a proposal to restore the Arboretum, T&PAU was commissioned by Landscape Design Associates to provide an archaeological appraisal of the site and its buildings. This entailed a walkover study, a brief building survey and recommendations for archaeological investigation.

The SMR records no archaeological finds from the Arboretum area. Deeds of land purchased by Strutt between 1796–1822 mention various farm buildings, cottages, hedges, ditches and mounds then existing. One for 1801 mentions 'the old ditch', which may have been a parish boundary between Litchurch and St. Peter's, Derby. What the mounds were is unknown. Strutt had a 'summer rural retreat' here and planted trees, but most of the area was still hay meadow when work on the Arboretum started. At that time, Loudon made no mention of existing mounds, ditches or banks/baulks. Later deeds of extension towards Rose Hill in 1845/6 mention Upper and Lower Gallows Close, suggesting a former site of execution.

A walkover survey of the existing Arboretum found that most of Loudon's instructions appear to have been followed. The path layout was not implemented exactly as intended though, with some paths being moved and the perimeter paths being made less curvaceous than shown on the original conveyance plan. Some sections in the flower garden were later removed. Tarmac now covers the original gravel topping and the drainage tiles that ran down the centre of the paths. The banks were to be constructed to a height of 7–10 feet but today they are generally lower (Pl. 3). The reason for this is unclear — whether the instruction was not followed, soil settlement having occurred, or because of subsequent raising of the paths. The erection later of a bandstand and an air-raid shelter caused damage to some parts of the layout. The nature of the Arboretum's boundary varied around the site, with brick boundary walls and railings only being present adjacent to the two original entrance lodges. Sections of surviving railings are later and may post-date 1882, when the City Council took over responsibility for the Arboretum, following criticism in local newspapers about the state of the place. A large iron-framed conservatory, inspired by the Crystal Palace prototype, was also pulled down at this time.

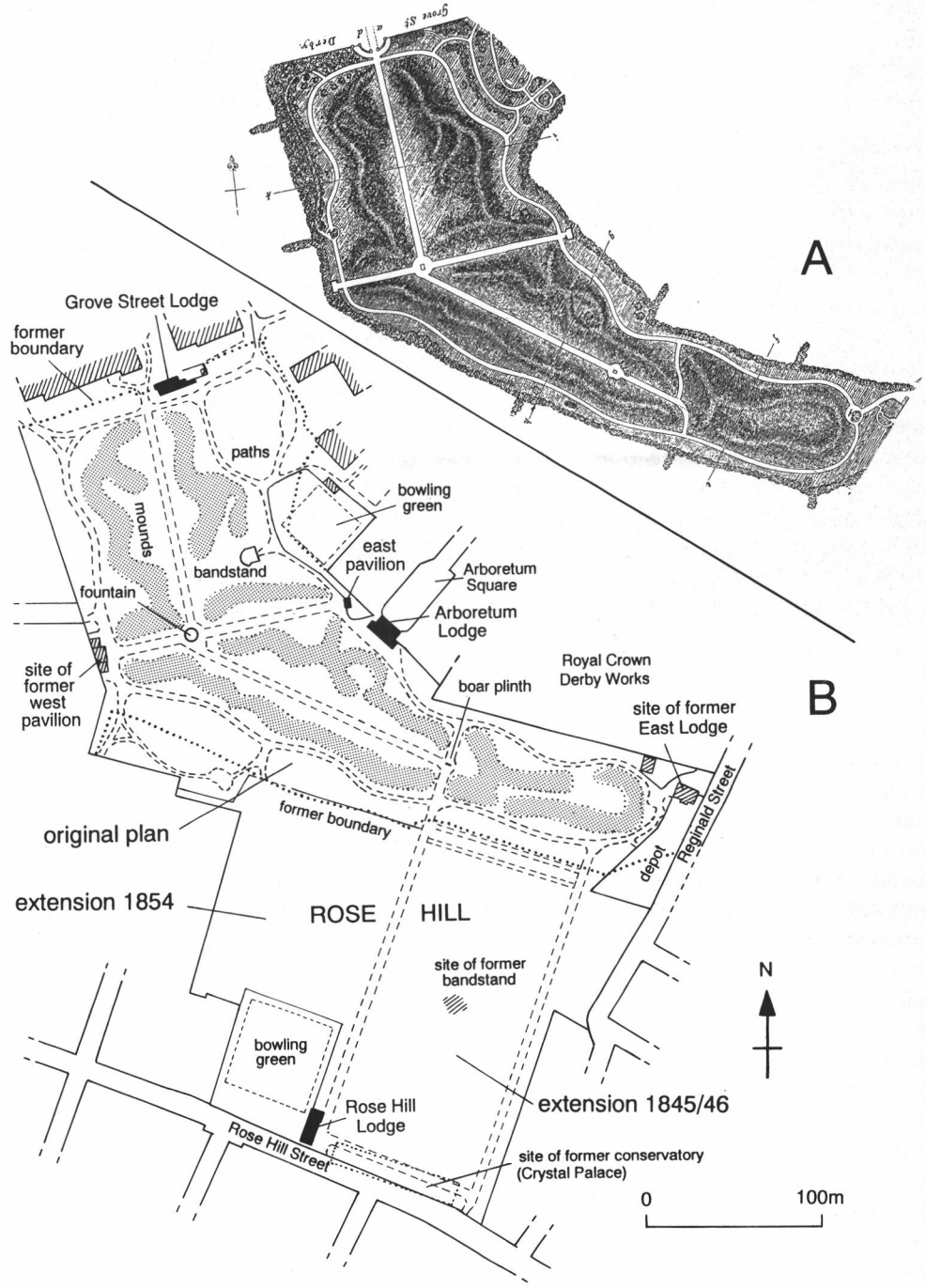

Fig. 1: Derby Arboretum: A — plan from Loudon 1840, fig. 4; B — plan in 2000, showing the Arboretum, its buildings, and the extensions at Rose Hill. Scale of B is 1:4000. *Drawn by R. Sheppard.*

Plate 3: Derby Arboretum: viewed from the Grove Street Lodge in 2000. *Photograph by P. Beswick.*

Of the attendant buildings, the Grove Street Lodge on the west side of the Arboretum was described in 1840 as the Main Entrance to the site; another at the south-east was taken down in 1960. These buildings were designed by London architect E.B. Lamb, in Jacobean and Elizabethan revivalist styles respectively. The Grove Street Lodge had several entrances to allow visitor access to a ticket office, a heated rest-room and for the curator's office and upstairs lodgings. A single-storey extension may have housed a kitchen and teashop. Probably in the late 1860s, the building was extended, bays built and decorative slatework applied to the roof. Lamb used a similar revivalist design at the larger Rose Hill Lodge, built when the Arboretum was extended to the south in 1845/6. This had a tall open hall for public shelter, which, in the 1880s, was adapted for use as a public reading room. Finally, Lamb was responsible for two small 'James I style' pavilions, one at either end of the east-west cross-path; only the east one now remains.

Another entrance lodge was designed by Henry Duesbury and built in 1852 on the east side of the park at the head of Arboretum Square. This was surmounted by a clock-tower with a life-size statue of Strutt facing the Square. From its classical 'Italianate' frontage, two passages led through the first range to an arcaded conservatory range to the rear, which probably had a plate-glass ceiling similar to one Duesbury included in his Newark Corn Exchange of 1848. In the 1970s, the lodge was a 'building at risk' and, in 1994, after its rotten upper part had been removed, the building was sympathetically restored. However, the interior's modern usage bears little resemblance to the original design and the conservatory arcade remains unglazed with brick infill. When built, this lodge became

the principal entrance to the Arboretum and it still acts as a distinctive herald to what was once a valued and highly attractive public amenity.

Since the T&PAU appraisal was submitted to Landscape Design Associates in 2000 (for inclusion in their report on restoration proposals), Derby City Council has started a programme of changes at the Arboretum. This follows English Heritage approval of the proposals and the obtaining of a sizeable grant from the Heritage Lottery Fund towards the total cost of £5.6m. In 2003, many of the mature, diseased or dangerous trees were removed and replaced by species more in keeping with the original collection. The entrance lodges are to be refurbished (one to act as an education centre), and the missing west pavilion is to be restored. Other features are to be reinstated, such as the Florentine Boar, a distinctive earthenware statue on a plinth that was originally donated by Strutt and became badly damaged by a Luftwaffe bomb in 1941. A further stage of archaeological investigation is intended to trace parts of the original boundaries of the park and the levels of paths, and to establish the original forms of the mounds.

Reference

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12. **ECKINGTON, SS PETER & PAUL CHURCH** (SK432798)

L. Elliott and D. Gilbert

A record was made prior to and during the removal of 19th-century brick blocking from the north aisle archway to the tower, and the first floor doorway to the tower's spiral staircase. A watching-brief was also conducted on a pipe-trench running from the north side boiler room, south through the churchyard to Church Street. This revealed a basic stratigraphy of natural sandstone, grave-earth and topsoil. An abundance of disarticulated remains was present within the grave-earth, but only one articulated burial was identified cut into the sandstone at a depth of *c.*1m. A number of 18th and early 19th-century gravestones was exposed lying flat below the existing turf of the churchyard.

A full report has been deposited with the SMR. Thanks are due to R. Sheppard, L. Hunt and J. Cunnington (of John Cunnington Architects) for assistance on the project.

13. **HARTHILL MOOR, WATTSCLIFF QUARRY** (SK 22236212) *H. Jones*

An extension to an Ashover gritstone quarry at Wattscliff, near Robin Hood's Stride, Harthill, was agreed by PDNPA with a condition that an appropriate scheme of archaeological investigation be undertaken. The extension covers an area on the east side of the existing quarry, measuring *c.*40x150m. Following an archaeological appraisal in 1998 (*DAJ* 121, 215), Block Stone Ltd commissioned a survey and excavation of the first area to be destroyed, and this was completed in August 2000.

Fieldwork focused on the recording and investigation of a group of fourteen pits/hollows, limited to the more northerly 50m of the quarry extension, and the character of an irregular narrow ridge on the north-eastern edge of the quarry area. The latter was tested by a machine cutting *c.*2m wide, which confirmed its natural origin as a rising shelf of bedrock, with its surface irregularity perhaps enhanced by small-scale stone-workings. Each of the hollows was cleared of superficial vegetation, then a photographic record

and an EDM plan made, with profiles recorded across five of them. The hollows presented a limited range of forms, predominantly sub-circular and oval, along with crescent-shaped depressions open on the downslope side, with dimensions from 6.5x4.5m to 3.1x2.9m, and maximum depth of *c.*1.0m. Within four of the hollows where profiles were recorded, there were stones with comparatively fresh faces and sharp arrises, consistent with deliberate breakage.

One hollow was selected for partial excavation. In the north-eastern upslope quadrant, the stiff pale reddy-brown sandy clay subsoil had been removed to a depth of *c.*0.6–0.7m, to the base of a large gritstone boulder which had been split to leave a fresh overhanging face with a sharply-defined arris. The edge of the hollow adjacent to the boulder had been roughly revetted with piled stone. The downslope edge of the hollow was less well defined, with a tumble of large gritstones, including some angular blocks with quite fresh edges, suggestive of deliberate breakage. Within the floor of the hollow, the edges of a deeper pit containing angular stone was partly excavated; it had probably resulted from the removal of a large boulder. No evidence of tool marks was observed; hence it would appear that stone-working was limited to the splitting of the larger gritstone boulders. No artefacts were found.

These results confirm stone-extraction as the most likely explanation for the hollows, though they remain undated. Such small-scale quarrying has been linked to the increased demand for stone for walls of the 18th and 19th centuries. However, at Wattscliff, gritstones present within the revetting and backfill of the hollow appear ideally suited for walling, but these were not removed. It would appear that the quarrying was for the larger boulders and by splitting off parts of larger slabs. The millstone grit (of which the Ashover grit is one series) was the subject of substantial commercial exploitation in the Post-Medieval period, as millstones, grinding and crushing stones (Harris 1971, 81; Radley 1964; Willies and Parker 1999). The suitability of the deeper bedrock at Wattscliff is undisputed; Harris reports that grindstones from the modern quarry were exported to Ghana and America (Harris 1971, 85). However, the scale and character of evidence from the 2000 investigation is inconsistent with the documented Post-Medieval and recent production that focused on the accessible exposures at the edges (e.g. Baslow, Froggatt, Millstone and Stanage). A variety of alternative end-products for the Wattscliff stone can be speculated, including walling, gate-posts, door-jambs, lintels, window-frames, mullions and troughs, as millstone grit has a good reputation as a building material (*ibid.*, 85–6).

Copies of a full report have been lodged with the PDNPA and the SMR. Thanks are due to the directors of Block Stone Ltd, J. Gregory-Drake, for commissioning the work, and B. Bailey, for helpful assistance on site; also to P. Caldwell, R. Holt and M. Hurford, for assistance in the fieldwork.

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14. **KEDLESTON HALL, SMITHY RANGE** (SK 312403) *R. Sheppard*

Although in part rebuilt after being hit by a stray German bomb, the derelict 'Dog Houses and Smith Shop' built by Samuel Wyatt, Clerk of the Works, next to his stables at Kedleston Hall is to be restored by the National Trust. Before a preliminary detailed photographic record could be made, and the floor area cleaned and planned, over 2m of accumulated soil had to be manually removed from part of what is now more generally referred to as the 'Smithy Range'.

The structure runs north to south, measures about 24x5.7m, and is brick-built in Flemish and Flemish garden bond with an off-centre three-bay ornamental section topped with a dressed pediment and cornice; this part had a hipped roof, now lost. This section of frontage is the same width as the cobbled drive down which it looks, with the stables to one side and a series of dung-houses on the other. The latter extend back into made-up ground behind a ha-ha wall, and three of the walls of the Smithy Range abut the same material to their full height.

A report to accompany the detailed recording had the benefit of Wyatt's original drawings and building accounts from 1767–9, giving descriptions of each part of the structure. At the south end was a roofed-over 'Lodging Room for Dogs' and 'Boiling House', beyond which was the open 'Dog Kennel Yard'. Although these rooms are lost, their wall positions are still evident in the brick and stone flooring. A springer on a surviving door pier shows that the doorways had round arches matching those on the facing arcade of the 'Shed to Dog Kennel Yard' at the north end of the yard (the first bay

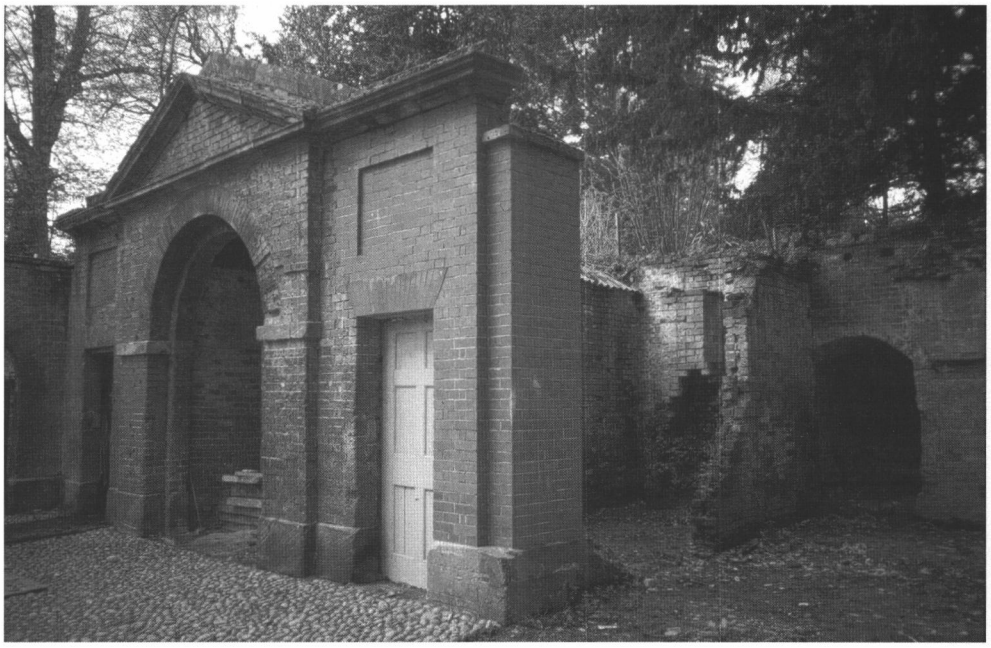

Plate 4: Kedleston Hall: pedimented front of Smithy Range, with some brickwork in foreground replaced following bomb-damage in 1940s. *Photograph by R. Sheppard.*

of the three-bay section). A low brick wall with narrow openings was later placed under the arcade, enabling the hounds to be checked and counted as they entered or left.

The pedimented bay marks the beginning of the blacksmith's working area (Pl. 4). Horses were taken under its large round-headed arch into the narrow unlit 'Stall to Shoe the Horses in'. Wooden blocks for tethering bars are still evident in the side walls. A door in the north wall gave access to the 'Blacksmith's Shop', which was in the main covered by a pavilion roof, probably with a high open centre above the original forge, its position now marked only by variations in the brick flooring. A rounded recess set into the rear bank may have acted as a fuel store. A wide arched opening marking the north end of the three-bay hipped-roof section was subsequently infilled with bricks and a small forge built in the third bay. As most of the blacksmith's area was destroyed in the 1940s, it is no longer easy to determine how it originally worked or when it had been abandoned. The damage extended across what had been an open yard outside the smithy to the south-west corner of the first of the dung-houses. This deep vaulted chamber had an internal area of 3.6x6.9m, with several walled compartments for its contents and three ventilation openings in the roof. With the other dung-houses now used as garages and stores, this probably remains the least altered example.

A fuller report, together with the photographic and drawn record, has been deposited with the National Trust. Thanks are due to J. Banks and M. Newman of the National Trust for their assistance, and to D. Gilbert for help in the field.

15. **MATLOCK, St GILES CHURCH** (SK 301598) *L. Elliott*

A watching-brief was conducted during the installation of external floodlighting. Of the present church, only the 15th-century tower pre-dates the rebuilding of the nave and chancel in the 19th century. The groundwork comprised excavation at four points around the church, to a maximum depth of 0.45m, to facilitate the drilling of four holes for cabling, through the external wall foundation. Internally, excavation was avoided by drilling above the floor level. No structural remains or deposits relating to earlier phases of church activity were found, although a small number of nails, lead waste, and fragmentary pins came from contractor's spoil on the south side of the south aisle.

A full report has been deposited with the SMR. Thanks are due to D. Gilbert, M. Parnham and G.B. Roper (of Smith & Roper) for their assistance on the project.

16. **MUGGINTON, ALL SAINTS CHURCH** (SK 285430) *L. Elliott and D. Gilbert*

In 2001, recording commenced on the existing roof structure of the chancel, nave and south aisle prior to and during a major scheme of refurbishment. A church is first recorded at Mugginton in the Domesday Book of 1086. The existing church comprises a chancel, nave, west tower, south aisle, south porch and south chancel chapel. The earliest surviving fabric is a small round-headed single-splayed window in the west wall of the nave of possible 11th-century date. More substantial fabric of the 15th–16th centuries includes the south chapel, the chancel extension and replacement windows in the nave, south aisle and south chapel. The church roof falls within the general corpus of Late Medieval simple beam roofs, typical within Derbyshire (Pevsner and Williamson 1978, 31, 285–6). The existing roof incorporates nineteen beams, mostly cambered, divided into fifteen bays. Although seemingly encompassed under one low-pitched roofline, four

separate structural elements are present, comprising the nave, south aisle, chapel and chancel, with the latter divided into a further four phases of construction. The sequence of this construction is not certain, due in part to the failure of precise dating by dendrochronology.

Much of the chancel roof has suffered from Post-Medieval replacement or addition, leaving only two possible original beams in the west bay (bay 4), related to extension of the chancel during the Late Medieval period. The nave and south aisle roof appeared similar due to the use of chamfered, cambered beams with decorative bosses of the Perpendicular style. These were joined under the same roofline by the use of a second row of rafters running from the ridge-beam of the south aisle to the wall-plate of the nave. Enough differences exist between the two to suggest they were constructed by different carpenters, although the intervening time between their construction and incorporation under the same roofline remains unclear. The south chapel roof showed a greater degree of ornamentation, while assembly marks suggested prefabrication. The 1688 date on the central beam could indicate the date of the south chapel roof. This may be supported by the mouldings used and the presence on the under-surface of the armorial boss of the Pole and Newdigate families, only united in marriage after 1624.

Excavation of a drainage trench on the north side of the church revealed the presence of a possible early foundation beneath the nave wall, while the tower foundation was found to abut that of the north-west buttress of the nave, suggesting this part of the wall to be earlier in date. Further discoveries include three brick burial shafts of the 18th–19th centuries.

A full report has been deposited with the SMR. Thanks are due to L. Hunt, M. Hurford, G. Murray, A. Arnold (of Nottingham University Tree-Ring Dating Laboratory) and R. Fernie (of Fernie Design) for assistance on the project.

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17. **STANTON LEES** (SK 255630) *G. Kinsley*

In February 2000, test-pitting and a resistivity-survey were undertaken in the vicinity of Stanton Lees in advance of a proposed sewerage scheme by Severn Trent Water. The proposed scheme lay adjacent to the east side of Stanton Moor, an area of outstanding archaeological importance. In 1999, a watching-brief was conducted over the opening of geotechnical test-pits, with no certain archaeological features identified.

A resistivity survey of sample areas along the route produced anomalies, but these were mainly related to features visible on the surface, and the method was not considered useful for further prospecting here.

The archaeological test-pits were at approximately 50m intervals. Finds from these were all medieval or later. Analysis of their vertical distribution by date suggested that the soil-profile, comprising 0.10–0.15m of topsoil overlying silty clay and, in some places below that, decaying sandstone, has long remained undisturbed by ploughing, and has possibly never been ploughed. No localised concentrations of artefacts were recorded, and their horizontal distribution suggests a gradual expansion of the manuring of pasture from the medieval period onwards, starting at the south end of the route and proceeding

up the slope towards Stanton Lees. This correlates with historical documentation, indicating clearances from *c.*1250 or before.

The route crosses at least three streams, or soughs, artificially-modified at an unknown date. No other man-made features were discovered during the test-pitting, but remains of, for example, field systems, settlement-areas or even localised concentrations of finds could have escaped detection between the pits.

Thanks are due to M. Hurford and A. Ward for assistance with the fieldwork.

18. **TISSINGTON HALL, STABLES** (SK 175523) *R. Sheppard*

Disused for half a century, the stable-block adjacent to Tissington Hall has recently been converted into a preparatory school by its owner, Sir Richard Fitzherbert. The building is a two-storey range built principally from limestone blocks with Millstone Grit dressings, brick internal walls, timber partitions and with stone roofing slates. The southernmost bay, the former coach-house, has gables facing east and west. The main part, the stables, has a north gable end and an east-facing frontage featuring a pediment with a turret clock. This frontage also has classical-style doorcases and large circular windows (*oculi*) at ground-floor level, whilst above is a row of low mullioned windows remaining from an earlier phase. The west frontage has similar upper windows and below them three blocked doorways with distinctive doorheads in Tudor-Jacobean style; these, and the largely original roof structure suggest a construction date somewhere in the first half of the 17th century. A major remodelling of the main frontage and the internal arrangement of the building in the 18th century may have coincided with the installation by Derby clockmaker John Whitehurst of the turret clock in 1738 (Maxwell Craven *pers. comm.*). Prior to the recent alterations, T&PAU carried out an historic building appraisal, surveyed the paved and cobbled stable floor, compiled a photographic archive of the building, and then monitored the removal of the floor and some trenching alongside the building's foundations, both carried out by other contractors.

Internally, the 18th-century stabling faced the west wall and was divided into three parts by brick partition walls. One part was for three working horses, another for six riding horses, and a central bay for two horses in foal or in convalescence (Fig. 2). Stairs at one end led to an upper corridor off which were six first-floor rooms used to house harness and foodstuffs, to accommodate staff, and to access the clock and attic. The 17th-century arrangements were different. In the west elevation there is stonework blocking of three former ground-floor windows, their size comparable to the surviving mullion windows on the floor above (Pl. 5). The east elevation has re-set stonework around the circular ground-floor windows, indicative of their insertion through what was probably a previously unlit stable wall at ground-floor level. With horses generally stabled with any light sources behind them, the west-facing 18th-century stabling was evidently a reversal of the earlier arrangement.

The stable floor consisted of stone cobbles, paving slabs and some brick patching, and a drainage channel ran along the central axis through all three bays. Several small test-pits found no evidence of a former floor, although any earlier floor may have consisted of hardened earth, probably at a higher level as the thresholds of the former east doorways are nearly 1m higher than those of the later entries in the opposite wall. A

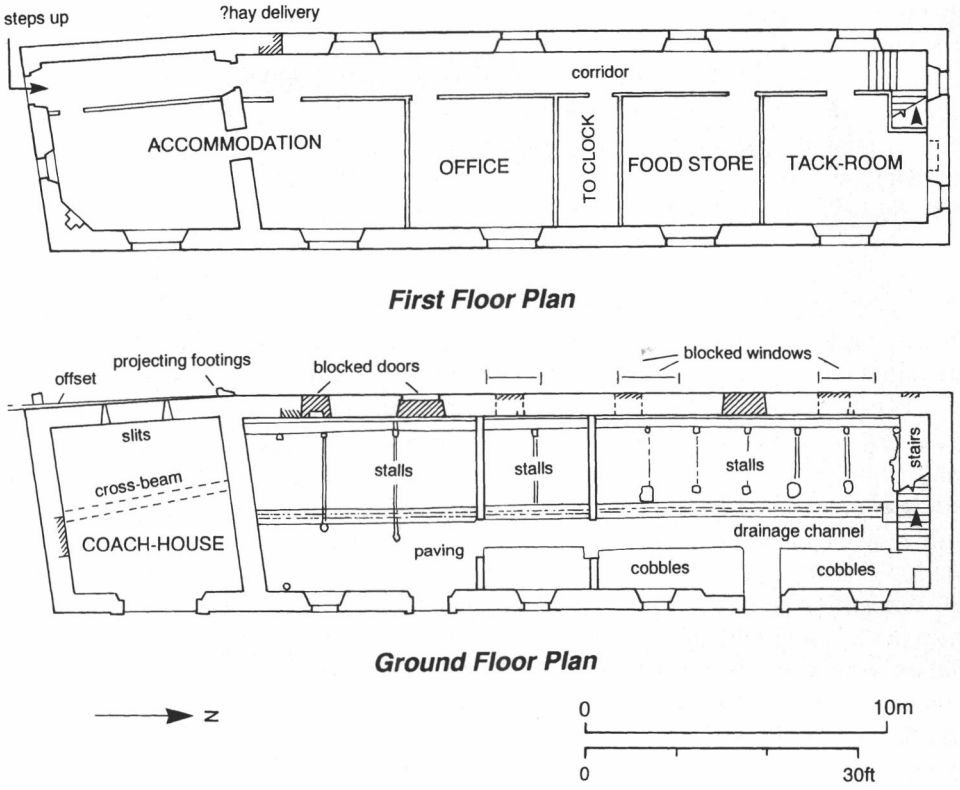

Fig. 2: Tissington Hall: ground-floor and first-floor plans. Scale 1:250. *Drawn by R. Sheppard.*

higher floor level and entry ramps may have been required to compensate for the differential ground levels to either side of the stable-block.

Both the timberwork and brickwork infill within the seating of the beams supporting the upper floor dates the first-floor room to the 18th century. Any earlier floor may have been used as a hay-loft, although existing plasterwork obscured any evidence for earlier beams and the position of any upper floor. The existing mullion windows and some straight joints suggestive of a former hay-delivery entry indicate a not dissimilar level to that of the later floor. Upper floors had a tendency to rot when any damp hay being stored reacted to heat rising from the horses below (Wade-Martins 1991, 174). All the timber, lath and plaster partitions and two fireplaces, one at either end, appear to be 18th century in date or later.

The irregular plan of the coach-house, its slight misalignment to the stable and an irregular junction of stonework between the two sections indicate that one had been added to the other. The quality of the thick north wall between the two sections bears more resemblance to the other walls of the coach-house, and observed differences in the nature of the respective foundations suggest the latter pre-dated the stable. Although the timberwork appears to be similar throughout the roof-space, small crescent-shaped carpenters' marks are found only in the coach-house part (observed by R. Howard); any relative dating differences might show up during any future dendrochronological dating

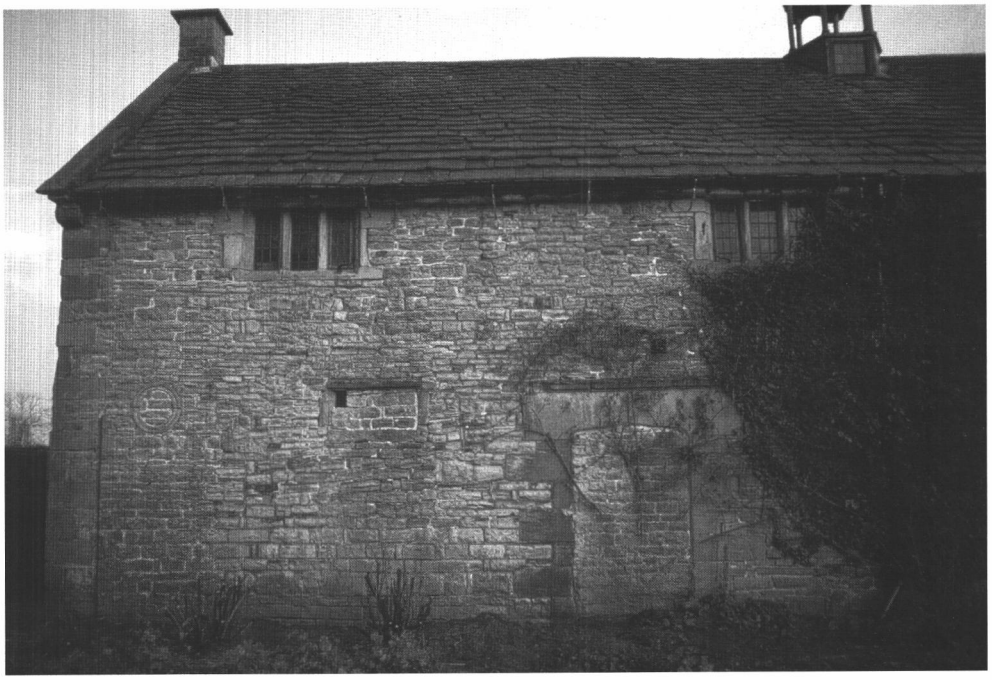

Plate 5: Tissington Hall: north end of west elevation of stables, with stonework infilling former window at centre of ground-floor (and later window at higher level), blocked *oculus* to left, and blocked 17th-century doorway to right. *Photograph by R. Sheppard.*

of the full roof structure. The coach-house may have started as a granary over a cart-shed or other farm building. A substantial cross-beam was used to support heavy weight on the upper floor, and the space below had low, irregular and battered stonework, small ventilation slits and at least one window.

After the major remodelling in the 18th century, other minor changes occurred in the 19th century, including the installation of new stalls and feeder troughs in about 1870. The stables were probably used until a new Arts and Crafts stable was constructed nearby in the Edwardian period. During World War II, the building was utilised as a store for papers and items from Derby Museum. The building has remained largely redundant since then, although maintained in good order, and has now been successfully converted under the guidance of Latham Architects, who supplied plans and elevation drawings to assist the survey.

A full report, written for the owner, has been deposited with the SMR. Thanks are due to M. Craven for his thoughts about the building, to R. Howard for commenting on the roof, to D. Gilbert for help in the field, and to staff of C.R. Crane & Son Ltd for co-operation on site.

Reference

Wade-Martins, S. (1991) *Historic Farm Buildings*. London.

19. **WALTON-UPON-TRENT, BOROUGH HILL** (SK 210175)

G. Guilbert and D. Garton

A series of earthworks on Borough Hill, regarded by some as the remains of a prehistoric 'hillfort' (see pp. 242–3 in this volume), led to the designation of much of this site as a Scheduled, or National, Monument (29916) in 1998, thus affording it statutory protection against unwarranted disturbance. Accordingly, Scheduled Monument Consent was required (and was duly obtained by Mr D.L. Preece, who consequently funded the fieldwork described here) for the reinstatement of a water-supply to houses situated alongside farm-buildings within the bounds of the archaeological monument. Although those buildings lie outside the protected area (but inside the ostensible hillfort nevertheless), the buried supply-pipe crosses grassland covering its northern *c.*200m. A method of working that seemed liable to inflict minimal damage upon the monument was adopted, involving the opening of a series of small holes to gain access to blocked or damaged points on the existing metal pipe, in order that it might be broken open for a plastic replacement to be passed through it (*cf.* Chatsworth Park, reported above). At each of three locations, the procedure employed, in December 2001, may be summarized as follows: topsoil was removed mechanically, using a toothless bucket, from the smallest possible area that seemed commensurate with uncovering the deteriorated portion of the metal pipe; the surface thus revealed was cleaned manually, so as both to define the position of the trench opened previously for installation of the metal pipe and to search for features of potential archaeological interest in the adjoining ground (for each hole lay within the supposed hillfort, where the possible occurrence of postholes, pits, etc had to be anticipated); mechanical excavation was then resumed, continuing to the depth of the metal pipe (0.6–0.7m), confining all disturbance to the area already opened, and with archaeological scrutiny maintained constantly; following further manual cleaning, the most representative side-section was recorded in outline; and, finally, the exact extent and location of each hole was recorded by EDM prior to backfilling. It will occasion no surprise that little intelligible archaeological information was recovered from any of these very restricted holes, but, given the scheduled status of the site, it is appropriate to relate some brief details.

In *c.*6.2m^2 opened at SK 2104617472 (southern asterisk on the plan on p. 244 of this volume — hereinafter 'the plan'), close to the curtilage of a modern dwelling, it proved possible to restrict digging almost exclusively to ground that had recently been disturbed into the Mercia Mudstone bedrock. In *c.*1.9m^2 at SK 2106017502, set back from the crest of a sizeable cross-ridge bank (the largest earthwork on the hill, marked by a single line of hachures, A, on the plan), on flattish ground near the margin of low ridge-and-furrow earthworks, a clean sandy clay of 0.15–0.20m thickness (probably part of a ridge rather than the tail of the bank) was seen to overlie a darker deposit of similar texture, not bottomed but exceeding 0.35m in thickness, laden with comminuted charcoal, and containing small and scattered fragments of red brick/tile and reddish-brown sandstone, occasional lumps of slag, and a few decaying animal bones; this stratigraphy surely bespeaks an archaeological potential in this part of the site, though such a glimpse can allow no inference regarding the means of deposition of the dark deposit. In *c.*2.7m^2 at SK 2107017523 (northern asterisk on the plan), about halfway down the north-facing scarp of the cross-bank, it appeared that the top of weathered Mercia Mudstone lay just

0.15m below the ground-surface. Two other holes, each of 2–3m^2 (at SK 2103617462 and 2108717582 — squares on the plan), had been opened earlier in 2001, as part of the same operation; but these were not subject to archaeological supervision at that time (even though the northern, but curiously not the southern, of these locations does lie within the scheduled area) and, by December, they had become too poached for useful recording.

Copies of a fuller report upon this fieldwork (including EDM-plots, simple drawings of sections, and a selection of photographs) have been deposited with both the SMR and English Heritage.

20. **WALTON-UPON-TRENT, St LAURENCE CHURCH** (SK 216182) *L. Elliott*

A watching-brief was conducted during the installation of a water pipe through the churchyard. Pre-conquest evidence for Walton-upon-Trent comprises 10th-century charters, while an Anglo-Saxon date has been argued for certain elements of the church fabric (Wardle 1994). The groundwork comprised *c.*78m of pipe trench, *c.*0.45m wide, running from the north vestry, past the west tower, and along the south path to the lychgate at the south-east corner of the churchyard, at depths up to 1.55m. No structural remains were encountered, while a sequence of three layers predominated: a basal layer of natural sand, a subsoil or grave-earth of dark brown loamy sand, and topsoil. A possibly redeposited layer of mid-brown sand of early date was exposed adjacent to the tower below the grave-earth, although a lack of finds prevented any firm conclusions. The grave-earth was present through most of the trench, in places up to 1.2m thick, although severely truncated below the path and towards the lychgate. At least ten articulated skeletons were identified, generally below 0.5m in depth, along with an abundance of disarticulated remains. Artefacts from prehistoric to Post-Medieval in date were recovered from the grave-earth, including flint, heat-affected pebbles, handmade pottery (potentially Iron Age or early Anglo-Saxon in date), medieval pottery and glazed floor tile, lead waste and lead window came. Objects of medieval and Post-Medieval date associated with burial included lace tags, shroud pins, coffin nails, coffin studs and a single plain coffin grip.

A full report has been deposited with the SMR. Thanks are due to H. Jones, D. Gilbert, M. Parnham, V. Nailor (medieval pottery) and D. Knight, as well as H. Billings and R. Smith (of Smith & Roper), for assistance on the project.

Reference

Wardle, C. (1994) Evidence for the Anglo-Saxon date of the church of St. Laurence, Walton-on-Trent. *DAJ* 114: 10–13.

The Society gratefully acknowledges the financial support of various sponsors of Trent & Peak Archaeological Unit in the publication of this paper.