

Fig. 1 — Site location map and plan of the castle

# EXCAVATIONS AT BEESTON CASTLE 1975-1977

by P. R. Hough, B.A.

Excavations on behalf of the Department of the Environment have taken place at Beeston Castle (N.G.R. SJ 537593) to expose the causeway wall to the inner ward and to investigate the filling in of the inner ditch. Several phases of collapse and repair of the wall during medieval times have been identified. Civil War deposits have produced a small but useful group of pottery and clay pipes.

Beeston Castle is situated on a sandstone crag at the northern end of the Peckforton Hills, some twelve miles south east of Chester. It is in an excellent strategic position, providing distant views across the surrounding countryside in almost every direction, and has exceptional natural defences. To complete the defence of the hill the medieval castle incorporated an inner and an outer curtain wall, each with a deep rock cut ditch. The castle forms an imposing focus in the landscape, placed precipitously some 90m above the immediate countryside, a total of 140m above sea level (fig. 1).

## *Geology and Environment*

The lower part of the crag consists of sandstones of the Upper Bunter series which form a steep talus capped by the harder Keuper Sandstones, whose dip to the east south east is evident in the slope of the hill. These Keuper Sandstones are sharply defined on all sides, especially on the west and north, where they are marked by cliffs. Separating the Bunter and Keuper Sandstones is an irregular friable stratum, whose exposure in the inner ditch has led to rapid erosion, to undercutting, and occasionally to large scale rock falls.

Much of the northern and western slopes of the crag are now covered in mixed woodland, whilst the south and east facing slopes have a thin covering of turf or bracken. Where the soil is exposed in pathways and on the edge of outcrops it shows a considerable degree of leaching and loss of crumb structure, features common to many acidic heathland situations today.

No natural source of water is available on the hill, although two wells are known to have been dug. One in the inner ward is reputed to be at least 105m deep whilst another in the outer ward is of unknown depth.

## *Description of the Castle*

Beeston is an enclosure type of castle with no keep or great tower as a central focus of defence, but two defensive circuits enclosing an inner and an outer bailey

(fig. 2). The outer curtain wall, built across the southern and south eastern approaches, skirts around the edges of the Keuper Sandstone, whilst the inner curtain wall cuts off the north western corner of the hill top.

The outer curtain incorporated at least nine projecting semi circular towers, of which two were at the gateway, and a further single square tower which abutted on the southern gatehouse. A tenth rounded tower is depicted on an engraving of Beeston Castle in the Salesbury Collection in the library of University College, Cardiff, and several post medieval descriptions of the castle suggest that the outer curtain wall extended up to the south western corner of the inner defences (e.g., Cooke, 1830, 189).

The inner curtain which, to the north and west, is perched on the natural precipice, and to the south and east on the lip of the massive rock cut ditch, has five semi circular projecting towers. The gatehouse was formed of twin towers bound together at the front and rear of the entrance passage and incorporated residential accommodation in its upper storey. It is one of the earliest castles to employ this type of gatehouse (Brown, 1976, 99), although there is no actual reference to the gatehouse as an original feature of the castle. Bolingbroke Castle in Lincolnshire, first referred to in *Calendar of Close Rolls*, 1231-34, pp. 169-70, has a similar gatehouse and polygonal inner ward, has no keep, and is also associated with the activities of Ranulph III (d. 1232), Earl of Chester (Thompson, 1966). The entrance at Beeston was originally approached by a wooden bridge, later by a stone causeway which once supported a retractable wooden bridge, and, more recently, by a modern concrete bridge which nearly restores the original level of access.

### *History of the Castle*

The *Annales Cestrienses* and Ranulph Higden's *Polychronicon* record Ranulph III, sixth Earl of Chester, as the builder of Beeston Castle in the 1220s. When Ranulph died in 1232 he was succeeded by his nephew John le Scot who died without male issue in 1237. Henry III annexed Cheshire and the castle came into Crown hands. It figured in the Barons' War of 1264-65 when it was garrisoned by Simon de Montfort and later retaken by the Lord Edward. Before 1433 repairs to the castle are recorded in the Cheshire Chamberlains' Accounts. Thereafter until the Civil War there appears to have been no expenditure on the castle except in wages to custodians, and in the reign of Henry VIII Leland bemoaned its ruinous state (Camden, 1772, 484).

During the years from its foundation to its annexation by the Crown no records survive of the castle, so that little is known for certain of its original form. It is not until the entries of 1303-04 in the Chamberlain's Accounts describe in some detail alterations to the existing structure, that we can be certain of any of its earlier features. These accounts (Stewart-Brown, 1910) are directly relevant to the excavations of 1975-77 and are discussed below. Several other major building programmes were undertaken at Beeston Castle, notably in 1358-60. Thereafter the repair of defects recorded *inter alia castra* suggests that Beeston was maintained

but not substantially altered. In the reign of Elizabeth I, the castle was sold to the Beestons, and later, in 1627-28, a will of Sir Hugh Beeston, proved at Chester, refers to 'two poore kynsmen' living in Beeston Castle.

In 1643 Beeston Castle, which was in a ruinous state, was taken over and garrisoned by Parliamentary forces who held it until the end of the year when it is recorded that nine Royalists got into the castle 'by a byeway' and forced the garrison of sixty to surrender. The Royalists surrendered in 1646, after several weeks of siege. Two months later warrants were issued for the 'pullinge downe, and vtter defacinge of Beeston Castle'. According to Malbon: 'Onelie the Gatehouse in the lower warde, and parte of some Towers in the heigher warde, weire lefte standinge, which scythens are pulled downe and utterlie defaced' (Hall, 1889, 206). Since then the castle has remained unoccupied, and has until recent years continued to decay. Ditches have silted up, masonry has been submerged by weeds and new tracks have been worn by countless visitors.

Beeston Castle passed into the guardianship of the Ministry of Works, now the Department of the Environment, in 1959. A programme of consolidation of the remains and of research into the castle's history has been undertaken. Much work has yet to be done.

### *Introduction to the Excavations*

Beeston Castle is a medieval monument of outstanding interest to historians, archaeologists and the public. In order to further this interest excavation began in July 1975 in the ditch of the inner ward. Clearance of areas on each side of the stone causeway wall was necessary for the construction of the bridge which would provide safe access to the heart of the castle. Furthermore, this was an appropriate time to expose and examine the construction of the causeway, which had fallen into a precarious state, and to investigate the filling in of the ditch which was well advanced.

Three seasons' excavations were undertaken, a total of fourteen weeks. All but a small section of the causeway was exposed, and two trenches flanking the causeway and the infilled drawbridge gap were excavated to bedrock. It was impossible to excavate safely to bedrock to the east because of the precarious nature of the causeway wall. A small trench to the south of the causeway on the edge of the ditch on the site of the proposed bridge foundation was also excavated.

The present causeway is a stone wall some 4.5m across, although it bulges on its eastern side to give a width of up to 4.8m. Its length from the southern ditch edge is 10m. Before excavation it stood to a maximum of 4.5m above the ditch fill on the western side, whilst to the east little of the wall was exposed because of a collapse of part of its face and the subsequent build up of humus and vegetation. The top of the causeway was roughly level, a precarious path having been constructed of concrete laid on sand along its length on the eastern side. Along the western side, rubble of the original backing to the western face was exposed to a height of about 0.5m above the path. The path led across the filled in drawbridge

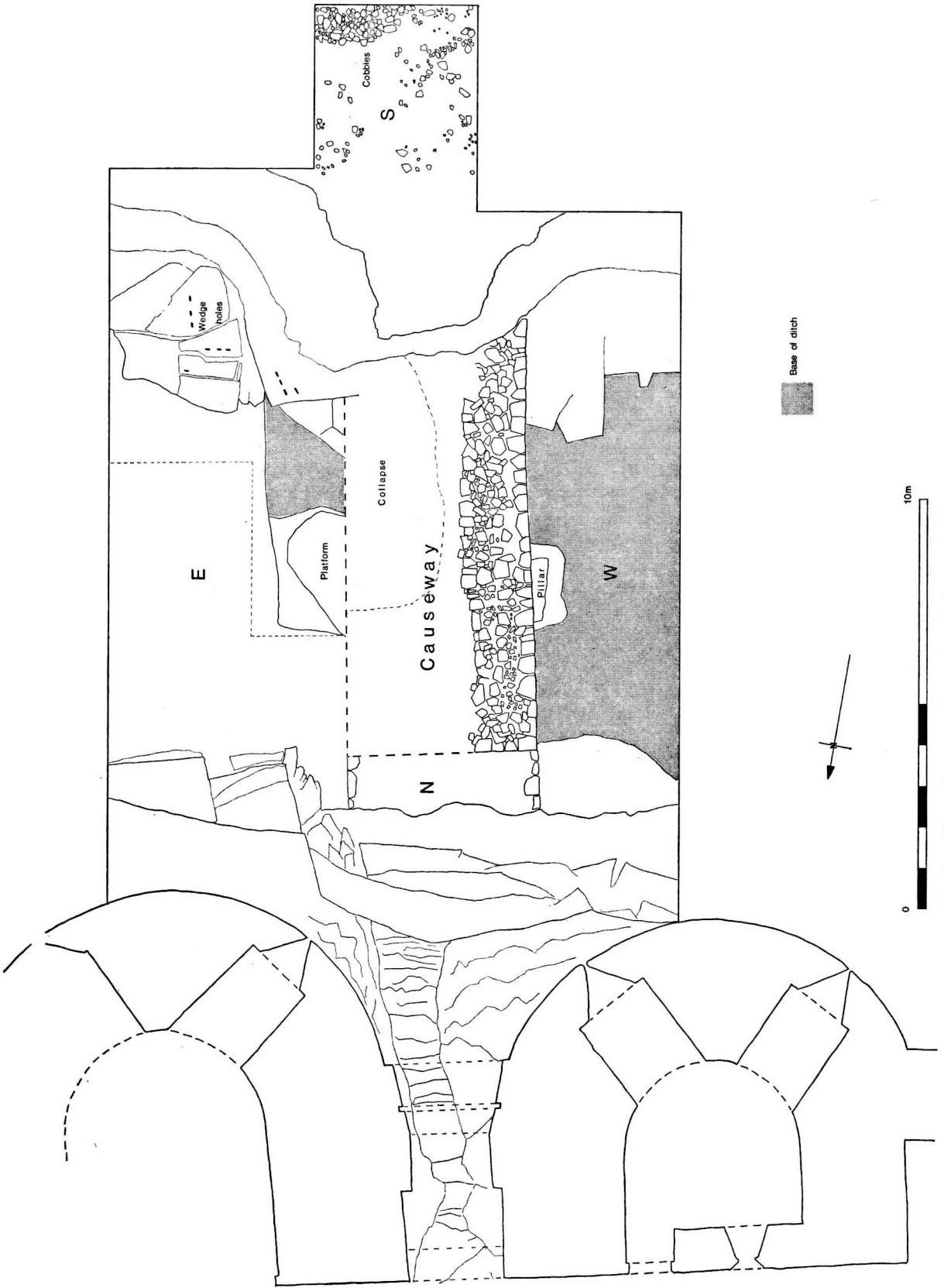


Fig. 2 — Plan of excavated area in relation to the inner gate towers

gap and up a flight of roughly cut sandstone steps to the gateway whose natural floor level had been cut away to make access from the much slighted causeway easier.

The irregular rock cut ditch varies in width from about 10m to over 15m. Along much of its length the rock sides are nearly vertical although to each side of the causeway, erosion had obscured the southern rock face and left a more gentle grassed over slope. 15m to the east of the causeway the side of the ditch had been cut away to provide access to the present ditch level. Dramatic overhangs and cavities resulting from rock falls from the exposed sides of the ditch emphasise the friable nature of the lower sandstone which contains many faults. Such falls help to account for the level of the ditch fill before excavation, but several other processes have also been in operation. A series of demolitions of, and repairs to the castle, combined with the more gradual processes of erosion and development of soil horizons, have resulted in a ditch surface in places 4m above the original rock cut bottom. To the west of the causeway most of the later ditch fill has been derived from the inner ward. Immediately to the east of the causeway, ditch filling has resulted from extensive erosion of the southern side of the ditch, from a collapse of the eastern face of the causeway and from material dumped in the drawbridge gap.

#### *Historical Evidence*

The only reference to specify work carried out on the entrance to the inner ward is contained in the Cheshire Chamberlain's Account of 1303-04. The original Latin document, Public Record Office, Ref. S.C. 6/771/4, is in good condition. At least twenty four masons and an unspecified number of carpenters were at work on the towers of the inner ward and the 'dungeon' or gatehouse. The masons were adapting the latter for a drawbridge, whilst the carpenters were constructing the drawbridge itself and the scaffolding to take the place of the bridge which, presumably of timber, had already collapsed or been dismantled. The masons were also constructing a stone wall or ramp which would support the lowered drawbridge.

A smith was also employed on the site making tools for the masonry work, great and large hinges, hooks, and great locks and keys for the great gate of the inner bail. A forge was also made for him in the castle.

#### *The Excavations*

The archaeological excavations carried out between 1975 and 1977 have provided information about the means of access to the inner ward and how this changed from medieval to modern times. They have, for the first time in probably 600 years, revealed the original rock cut bottom of the ditch and have shown in some detail how the ditch reached its present state. The four trenches in the excavation were designated N, W, E, and S, respectively North, West, East and South of the causeway (fig. 2).

The original cutting of the ditch involved systematic quarrying of thousands of tons of sandstone using such simple tools as wedges, chisels and hammers. Bands of diagonal chisel marks, still apparent low down on the northern side of the ditch (fig. 2), indicate that where the rock was suitable, care and effort was taken to excavate the sandstone in regular blocks for use in constructing the castle. Another technique used in the hardest strata was to chisel two or three small slots in a line and detach a block of sandstone by hammering chisels into each of the slots. This technique did not always result in clean breaks. Several sets of such wedge holes survive in the rock (fig. 2), some where the rock had fractured unevenly, some where quarrying had stopped at that stage. Much of the rock which was extracted from the ditch must have been in the form of irregular blocks and sandstone brash, and was probably used as wall core material, or crushed and mixed with lime to make mortar. This was certainly the case with the causeway wall, but since the wall was built later, the brash core must have been derived from a second cutting of the ditch or from some other source. To the west of the causeway several very large irregular rocks, resting directly on a rock cut ledge, had been detached but left because they were not worth the effort involved in raising them.

There proved to be no way of telling the exact shape of the original cutting of the ditch. To the west of the causeway the northern side of the ditch was approximately vertical, whilst on the southern side a ledge had been cut into the top leaving a step nearly 4m down to the bottom of the ditch, which was flat but sloped down to the north east (fig. 2). Rising from the centre of the ditch, and projecting approximately 0.5m from the causeway wall, was a roughly wedge shaped pillar of natural sandstone, left standing at the original cutting of the ditch (figs. 2 and 3). It was badly cracked and weathered and it is possible that it originally stood higher than its present 4m. To the east of the causeway the northern side of the ditch was vertical down to a narrow step approximately 1.5m above the bottom of the ditch. The northern face of the ditch had been underpinned with masonry on the line of a fault of softer sandstone as a precaution against the whole side giving way under the weight of the projecting gate tower directly above (fig. 3). The southern side of the ditch was considerably eroded, for here the hard rock gave way to bands of sand and fragmented sandstone. The upper surface of the natural rock was of a harder spongy sandstone here, but had been progressively undermined and had fallen in large irregular blocks onto a silted up ledge of much harder sandstone approximately 4m below the lip of the ditch. This ledge formed a step at least 2m above the bottom of the ditch. It was upon this ledge that a number of wedge holes were discovered (fig. 2).

On the eastern side of the causeway the bottom of the ditch could only partly be uncovered. However, sufficient was revealed to indicate that it was not flat. Approximately 1.5m from the causeway along the line of the north south fault, the natural surface had been cut down steeply, and projecting about 1m out from the causeway was a low platform of upstanding rock, approximately 2m wide



Plate I — Causeway from the west





Plate II — Causeway from the east

(fig. 2). The respective levels on each side of the causeway suggested that the ditch bottom sloped slightly to the east (fig. 4).

The causeway itself projected from a slight spur of rock which had been emphasised by the erosion of the ditch sides to the north and south. It consisted of an outer skin of roughly coursed ashlar sandstone blocks (fig. 3), bonded with a gritty white mortar, which, in places, particularly on the eastern side and the lower quarter of the western, was spread untidily over the joints, obscuring the outline of the stones. Where the wall had been exposed above the ditch fill, the mortar had weathered back to leave the sandstones clearly defined. The coursing on the western face suggests a single phase of construction apart from a small insertion in the top centre of the wall. However, the coursing was irregular enough to indicate more than one repair of the wall. The coursing was considerably disturbed at the top of the pillar. What appeared to be more irregular coursing in the lower southern quarter was the result of very untidy mortaring (fig. 3). The short section of the core of the causeway which could be examined safely, showed that the outer skin was backed by partly mortared blocks, roughly keyed into the tapered ends of the facing stones. The main bulk of the core consisted of loose sandstone brash and small stones (fig. 4).

On the western side the causeway was founded on the base of the ditch. On the northern side it rested on the lowest of a series of rock cut steps. Four courses of sandstone rested on this step, the uppermost forming the base of the drawbridge gap. On the eastern side the lowest course rested in part on a layer of loose rubble (E105) which had accumulated on the recently cleaned base of the ditch. Over this rubble a possible soil horizon (E103/104) had developed which ran under the causeway wall. On top of the soil, but apparently not running under the wall, was a patchy layer of mortar. Further to the north the causeway rested on the natural sandstone platform, upon which were further traces of mortar. Beyond this it was not possible to reach the foundation level without risking the collapse of the causeway.

The eastern side of the causeway was generally in a very poor state of repair. A massive collapse of the wall face had resulted in core material spilling out into the ditch and had left little of the face visible. That which survived bulged ominously under the weight of loose rubble behind it. At least one other earlier collapse had occurred, for the face showed very obvious signs of repair down to the base of the wall above the rubble deposit (E105). The repair had been makeshift, with no attempt at coursing, and very little at bonding the repair into the surviving wall. However, the repair survived long enough for a further metre of deposit to accumulate. Much of this deposit was clean sandy brash and rubble (E99/100) derived from the erosion of the southern side of the ditch. It contained lenses of darker organic soil, the result of erosional undercutting of the turf soil on the edge of the ditch. Such erosion would have been rapid in its early stages, slowing down as the eroded material reached a more stable angle of rest. The erosion occurred after the wall had collapsed and been repaired. This might suggest

that the southern side of the ditch was cut back some time after the initial ditch cutting. The same may be true of the western side of the causeway. Unfortunately, there is little other evidence to support this. In the upper level of the brash, part of the deposit described above, a more stony layer (E81/108), perhaps derived from some building activity, was deposited. It was succeeded by a more humic layer (E55/58), probably a soil horizon accumulating slowly over a period of years. There then followed the last major collapse of the eastern face of the causeway. The resulting deposit contained massive facing stones as well as tons of core material (E24 and E17). The deposit was left where it fell and no subsequent repairs to the causeway could be detected (fig. 4).

To the west of the causeway the filling of the ditch was initially a more gradual process. No major repairs are evident in the western face of the wall (fig. 3), and the ditch fill suggested that little of the rubble in it was derived from the causeway (fig. 4). There was no way of relating the lower layers to the west and east of the causeway, because the drawbridge gap contained only post medieval levels.

The lowest layers in trench W were banked up in the northern and southern corners of the ditch. They consisted of mainly silty lenses of sand, sandstone brash, and darker soils containing small quantities of medieval pottery. The rock on this side of the causeway is hard, and little primary silting would have been expected. Possibly these layers had been truncated by a partial recutting of the ditch fill. However, the deposits may have resulted from the initial dumping of domestic rubbish from the inner ward combined with the out wash layers from the newly cut sandstone sides. Overlying the tail of these deposits, and evenly covering the exposed bottom of the ditch to a depth of about 0.2m, was a dark silty layer (W55).

Covering W55 and all the other primary deposits was a deep layer of dark brown silty soil (W53). It contained sandstone rubble including some very large undressed sandstone blocks and some smaller dressed stones. It was banked up at an angle of about forty five degrees against the northern side of the ditch to a depth of about 1m at the centre of the ditch, and appeared to be an homogeneous layer, although the possible presence of temporary soil horizons cannot be ruled out. It produced a relatively large quantity of animal bones including part of the remains of at least two horses (*see* Appendix V). A tip line within it contained an accumulation of small mammal bones, and unbroken land snails, suggesting a temporary stabilisation of the surface, perhaps over a period of a few years or less. The silty nature of the deposit in general suggests accumulation over a long period.

To the south of the causeway (figs. 2 and 3) the natural rock sloped away steeply, although the slope was modified by an accumulation of deposits. These had helped access to the causeway by means of a trackway running across the slope along the southern edge of the ditch. The deposits consisted of a very black humic layer (S6) directly overlying natural rock, over which was a deep leached out soil horizon (S5). A low mound of iron slag and charcoal mixed with dark brown soil (S4) rested on the soil horizon (S5), and spread eastwards beyond the area excavated. This has been identified as debris from iron smithing on the

site (see Appendix IV). It was sealed by a shallow undeveloped soil (S2), which contained a number of very small abraded sherds of medieval pottery. Impressed into this soil was a very disturbed layer of irregular but compact cobbles (S3). They extended south out of the excavated area, and similar cobbles were exposed in the side of the hollow trackway some 10m to the east. The present turf soil (S1) and bracken partly covered the cobbles, but the modern trackway had worn deeply into all but the lowest levels.

### *The Post Medieval Deposits*

The earliest of these deposits were identified by the presence of clay pipe fragments and sherds of distinctive post medieval pottery vessels (see Appendix I and *Cheshire Archaeological Bulletin*, no. 5, 1977, pp. 14-18).

The sandstone brash layer N11/W24 which overlay W53, contained a number of clay pipe fragments. This was the lowest layer which could be positively traced in all of the three ditch trenches, although in both trenches N and E it overlay layers which could be equated with W53. The sandstone brash indicated the working, or possible quarrying of sandstone, and in the drawbridge gap the brash was associated with a layer of mortar and sand. In trench W its greatest concentration was in the south; elsewhere in trench W it had been disturbed by a recutting of the ditch fill. At this same level, a very rough dry stone wall had been constructed at right angles to the causeway. Banked behind it was rubble and soil derived from a recutting of the ditch fill in front of the wall. The effect had been to deepen the ditch and stabilise the remaining fill at an increased slope against the northern side. The stabilisation apparently resulted in the temporary growth of vegetation, for a dark silty humic layer (W16/N9) had accumulated over the sandstone brash and the banked up ditch fill.

Overlying this undeveloped soil horizon was a massive deposit of sandstone rubble and mortar, which, in the drawbridge gap, was over 1.5m deep (W3/N4/E50, fig. 3). It contained undressed and ashlar blocks of sandstone including several large curved coping stones. Seemingly this rubble was deliberately thrown into the drawbridge gap, from where it had spilled out into the ditch on each side of the causeway, and to the east it probably rested against the talus of the collapsed causeway wall. The quantity of ashlar blocks and the curved coping stones suggested strongly that the deposit had resulted from the slighting of the tops of the gate towers. Within the drawbridge gap, rainwater had washed sand and mortar into the lower levels of the rubble, leaving the middle of the deposit largely free from sand and mortar. Brown sand and more humic soil had percolated into the upper layers, to the extent that, where the deposit ran into the ditch, the matrix of the deposit merged with the overlying layers (fig 3).

This demolition deposit, the soil horizon and the sandstone brash, produced a greater concentration of finds than any of the underlying or later layers. The similarity of these finds was immediately obvious. Notably, these three layers produced a total of eleven musket balls, many fragments of coloured window

glass (*see* Appendix III), and each produced a number of clay pipe fragments, none of which had stem bores smaller than  $\frac{7}{64}$  in. More significantly, each layer produced sherds of a limited group of pottery vessels, some of which may be paralleled in similar seventeenth century contexts. Later layers produced sherds of these vessels and clay pipes of a similar wide bore, but few musket balls or fragments of window glass.

Subsequent layers in the ditch suggest a gradual build up of deposits through natural erosion and soil development. At a late stage in the history of the castle, a rough pathway made of large flat irregular slabs of sandstone, was constructed across the filled in drawbridge gap. This was made at the present level of the top of the causeway so that the steep rock cut steps through the passage way into the inner ward could be reached. At a similar late date an iron railing was set up along the top of the causeway and between the towers, the remains of which were discovered in the disturbed topsoil to the east of the causeway. The finds from the later layers were numerous, but none but a glazed jug of eighteenth or nineteenth century suggested anything but brief visits to the castle (*see* Appendix I).

### *Interpretation*

Despite examination of the earliest deposits in the ditch, much of the structural history of this part of the castle must remain uncertain. It has proved impossible to correlate the deposits encountered in excavation with the structural alterations deduced from the Cheshire Chamberlain's Accounts of 1303-04. These accounts refer to the replacement of a wooden bridge by a drawbridge, and the construction of a stone wall 34 feet (10.5m) high, 7 feet (2m) thick, and 20 feet (6.7m) long. No direct evidence of the early wooden bridge survives, although it is most likely that the stone pillar visible in the western face of the causeway formed part of an intermediate support for a timber bridge. The remains of a corresponding pillar may be present in the low rock platform on the other side of the causeway (fig. 2). The bridge would thus have been supported on two trestles rising from transverse sole plates, one resting on these pillars, the other on one of the ledges on the northern side of the ditch. Longitudinal stability may have been provided by additional north to south bracing (for parallels *see* Rigold, 1974). If the ditch sides and gateway stood as now, the spans of the three sections of the bridge would have been from south to north 6m, 7m, and 5m.

The stone wall and drawbridge which replaced this timber bridge were major additions to the defence of the castle. If well constructed, this arrangement would have been far more stable than the earlier wooden bridge. No evidence survives in the gatehouse for the drawbridge mechanism, and, in fact, the much reduced causeway wall which stands in the ditch today, cannot be positively identified as the one documented in 1303-04. The dimensions of the two cannot be reconciled:

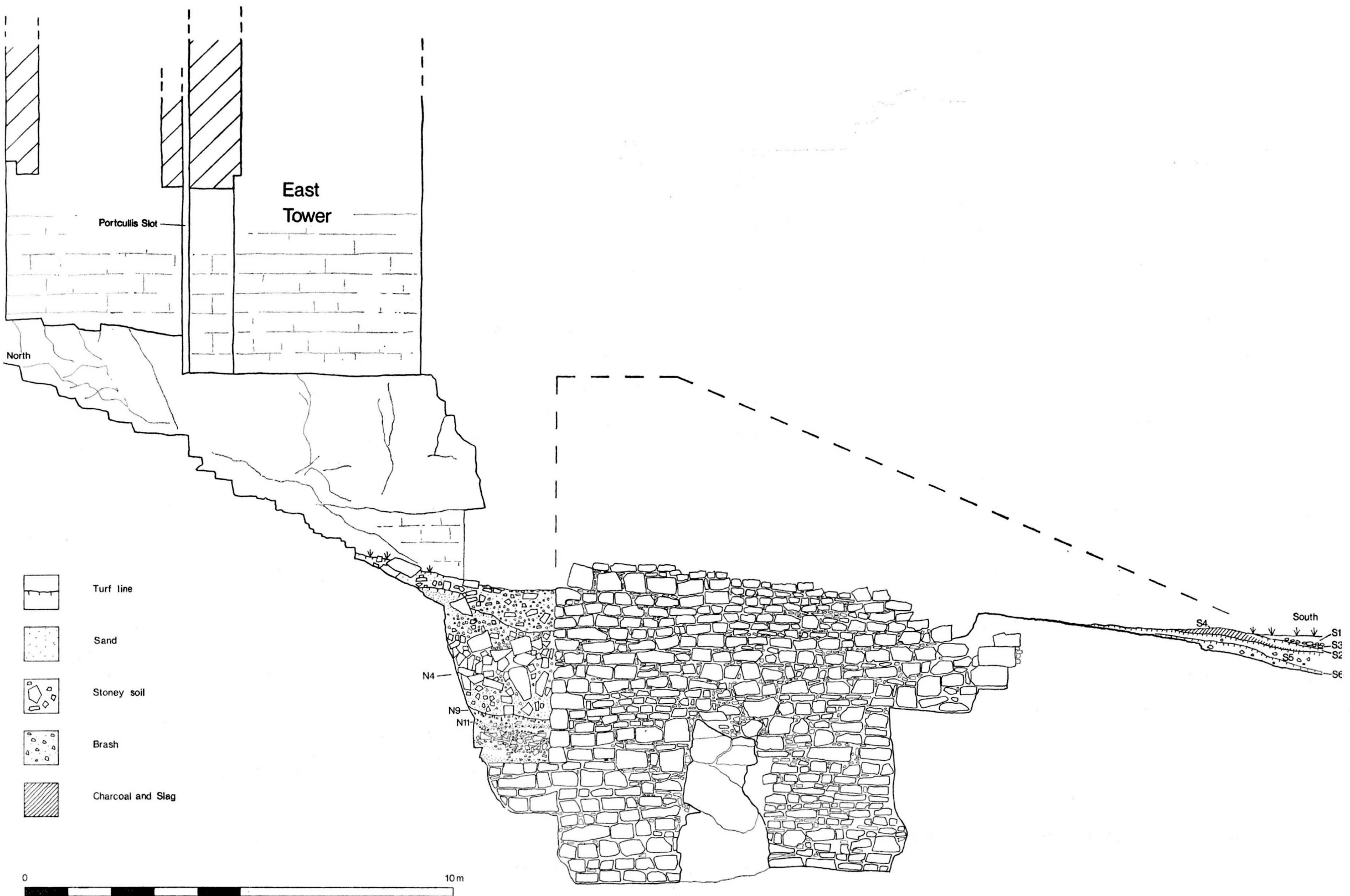


Fig. 3 — Western elevation of causeway wall, drawbridge gap and gatehouse, with suggested profile of original causeway

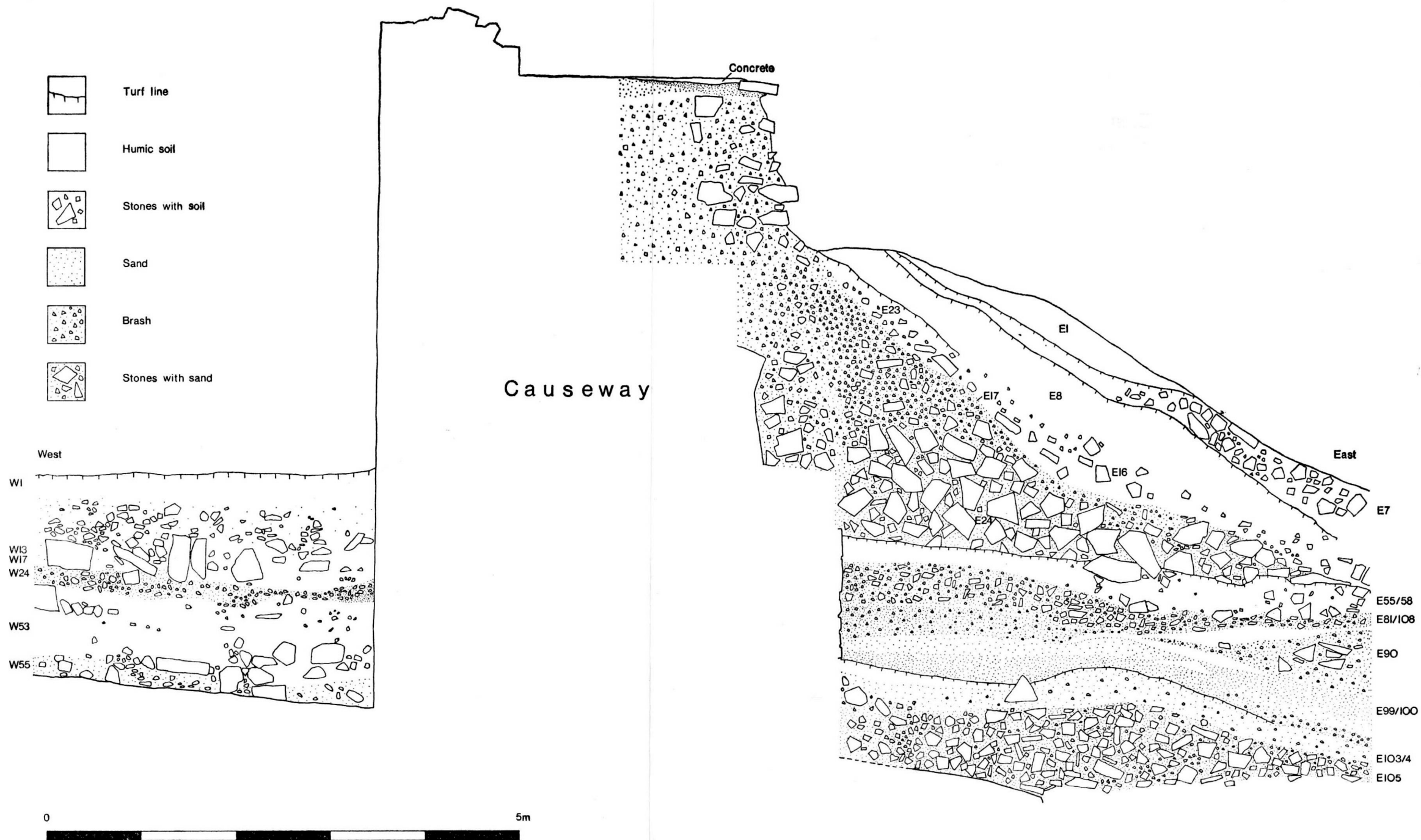


Fig. 4 — Composite section across causeway and ditch fill

<i>Chamberlain's Account</i>	<i>Existing Causeway (Projected)</i>
Height 10.5m (34 feet)	12.5m maximum, ditch bottom to threshold 9.5m drawbridge bottom to threshold
Width 2m (7 feet)	4.7m
Length 6.1m (20 feet)	10.2m maximum 9.2m minimum

Scribal error seems out of the question since it would require major errors in each of the three measurements. The possibility of a smaller early causeway wall poses several other problems. With a 6.1m causeway wall the drawbridge would need to be 11m long, given the present dimensions of the ditch; with a wall 10.5m high, the top would be nearly 2m below the gateway. A smaller early ditch would help explain these discrepancies but would make interpretation of the rock pillar difficult. No evidence emerged from the excavation for either a smaller causeway or a smaller ditch. An attempt has been made in fig. 3 to show the original height of the causeway, and to indicate its minimum angle of slope by assuming that access to it was by means of the cobbled surface (S3) located in trench S. The reconstruction does not preclude the possibility of a series of steps along the top of the causeway, nor a curved upper surface, nor a steeper angle.

The stratification in trench E was very complex, but basically consisted of a series of layers resulting from the collapse and repair of the causeway wall, layers of naturally eroded material and soil accumulating during the periods when the ditch fill was stable. Overlying all these were layers relating to the Civil War occupation and demolition. There appeared to have been two major collapses of the causeway's eastern face, both probably resulting from the initial decision to found the wall on an unstable rubble base. There was no evidence to indicate exactly when these collapses occurred, although the small quantity of medieval pottery and the documentary evidence may indicate that the first collapse and repair occurred before 1433, after which no major building repairs were recorded. The second collapse must have occurred before 1643, because it was sealed by the Civil War occupation and demolition levels. In both cases the causeway wall had fallen eastwards leaving the ditch on the western side free of rubble. The ditch fill accumulated here more gradually, the bulk of the pre Civil War deposit probably being the result of domestic rubbish dumped from the inner ward as well as naturally eroded material. Although it is tempting to see the dump of smithing debris in trench S as the result of work undertaken in 1303-04, it is probable that smithing took place on the site at each of the major building phases.

The Civil War period of occupation has left a distinct horizon in the ditch fill. It begins with a phase of stone quarrying or cutting resulting in the layer of sandstone brash, and continues with the recutting and banking up of ditch fill on the western side of the causeway. Presumably at this stage means of access was provided, probably by planks reaching from the collapsed causeway, across the draw-



bridge gap to the steps leading to the gateway. A massive stone in the drawbridge gap at this level may be from cutting these steps, as may the sandstone brash. A shortlived soil or humic layer, perhaps resulting from occupation rubbish, accumulated over the brash, and was sealed by rubble resulting from the 'vtter defacing' of the castle in 1646.

### *Conclusion*

The excavations around the causeway in the inner ward ditch have increased our understanding of the history of this area of the castle. They have provided clear evidence of the difficulties encountered by medieval planners and builders in establishing a safe means of access across the massive ditch. The Civil War horizon has been identified and useful groups of pottery and clay pipes collected from these closely dated contexts. Finally, the excavations have revealed the full depth of the medieval ditch and exposed the causeway after centuries of obscurity.

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The site records, pottery and clay pipes from these excavations will be stored at Beeston Castle. Bone and metalwork is at present stored at Fortress House, Inspectorate of Ancient Monuments, 23 Savile Row, London. All this material can be consulted on application to this address.

## APPENDIX I

### THE POTTERY

by P. R. Hough

*(Drawings by J. Daly)*

The following account deals only with post medieval pottery from the excavations and in particular with that from the stratified Civil War deposits. It was considered impractical and inappropriate to present a full report on the pottery because of the small quantity of stratified sherds, notably from the medieval levels. Furthermore, because of the much larger quantity of both medieval and Civil War pottery which had been recovered in the course of recent excavations in the inner ward (as yet unpublished), it was considered essential to treat the pottery from the inner ward and the ditch as an entity. As such, these collections will ultimately provide an important contribution to the study of medieval and post medieval pottery in Cheshire and elsewhere.

Although a full report is at present out of the question, it was decided, as an interim measure, to describe and illustrate the Civil War pottery from the ditch, since this in itself provides a small but significant dated group. The dating of this group to the period 1643-46 is based on the correlation of the stratigraphy already described, with events described in contemporary documents. This dating may be subject to error in several respects. It is possible that the contemporary references are invalid or not applicable; certainly they do not refer specifically to occupation of the inner ward or its gatehouse, or to rubble being thrown into the inner ditch during the 'vtter defacing' of 1646. It is possible that some unchronicled events gave rise to the Civil War deposits in the ditch and drawbridge gap. However, the deposits represent a demolition on a grand scale. It can be placed in the seventeenth century on the basis of the evidence provided by the clay pipes. The musket balls suggest military action. The pottery appears to form

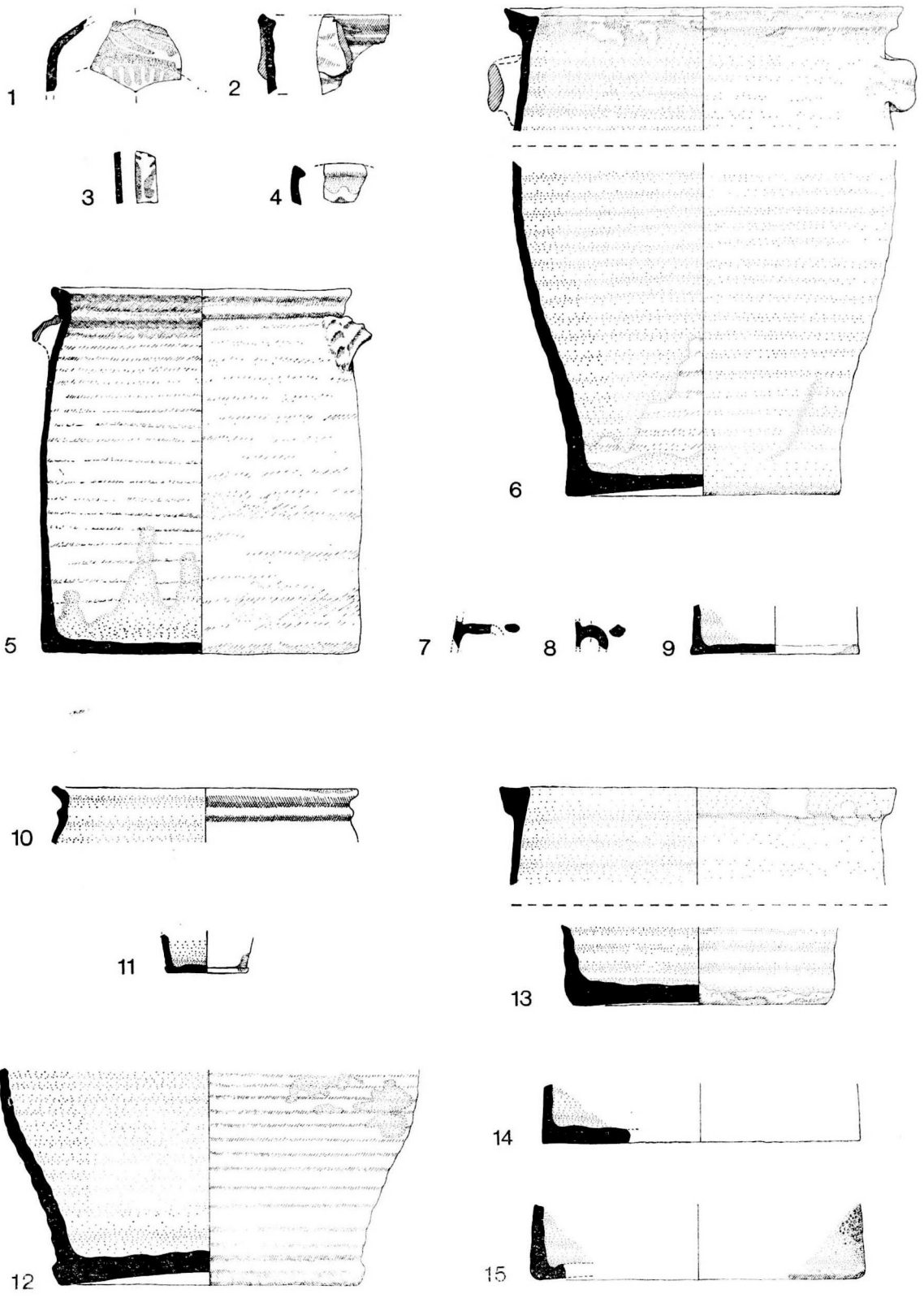


Fig. 1 — Post medieval pottery.  
 Nos. 1-9 Civil War occupation; Nos. 10-15 Civil War demolition ( $\times \frac{1}{4}$ )

a group distinct in many respects from that stratigraphically earlier or later. Above all, the interpretation fits the available evidence and can be paralleled at other sites, for example at Montgomery Castle where a similar massive demolition deposit seals a group of pottery vessels dated to the Civil War period (personal communication with J. Knight, Inspector of Ancient Monuments).

Four main stratigraphical divisions of the group have been designated:

- (i) Civil War occupation layers, including layers thought to be associated with the refurbishing of the defences of the castle (fig. 1, nos. 1-9).
- (ii) Civil War demolition layers (fig. 1, nos. 10-15).
- (iii) Upper Civil War demolition layers. These include layers which may have been disturbed (fig. 2, nos. 16-19).
- (iv) Post Civil War levels. These include pottery from later layers, and sherds which are unstratified, but from these layers only pottery of a similar type to the main Civil War group has been illustrated or described (fig. 2, nos. 20-33).

The following types of vessel were identified (figs. 1 and 2):

'Butter' or 'bread pot' (fig. 1, nos. 2, 5, 10, 14, 15; fig. 2, nos. 16, 18, 21, 25, 26, 31, 32)

Two nearly complete vessels exemplify this type (nos. 5 and 16). These were of a very hard, highly fired fabric, with an internal iron glaze and two applied handles.

Five vessels were identified by their rim form only. Five other vessels were identified by base sherds. The vessels were approximately cylindrical with slight incurving towards the neck. The rim was well formed, was slightly everted and in each example was bevelled inwards. The handles (three examples) were in the form of thin strips applied horizontally just below the rim, by thumbing the strip into the body. A purple slip had certainly been applied in eight cases and probably in the others. The glaze was applied internally to the base (six examples), and the pots fired inverted, so that the glaze ran up the sides. In the two more complete examples residual glaze from other vessels in the kiln had run onto the base during firing. In one case (no. 21) the glaze probably covered the whole of the internal surface. The glaze was a metallic black colour in six cases, and in one example, pock marked and blistered (no. 15). In two other cases (nos. 14 and 18), the glaze had a greenish brown tone. The vessels had thin walls in proportion to size but generally had thick bases. The fabric was brownish red to purple in colour, very hard and dense having almost the appearance of stone ware, although each example had minute air pockets scattered at random throughout the body.

Almost identical vessels, but of a chocolate brown, even harder fabric were found in the Civil War deposits at Montgomery Castle (personal communication with J. Knight), and a very similar vessel was found in a group of wasters from the Hill Top site at Burslem (Weatherill, 1971, Plate 1c).

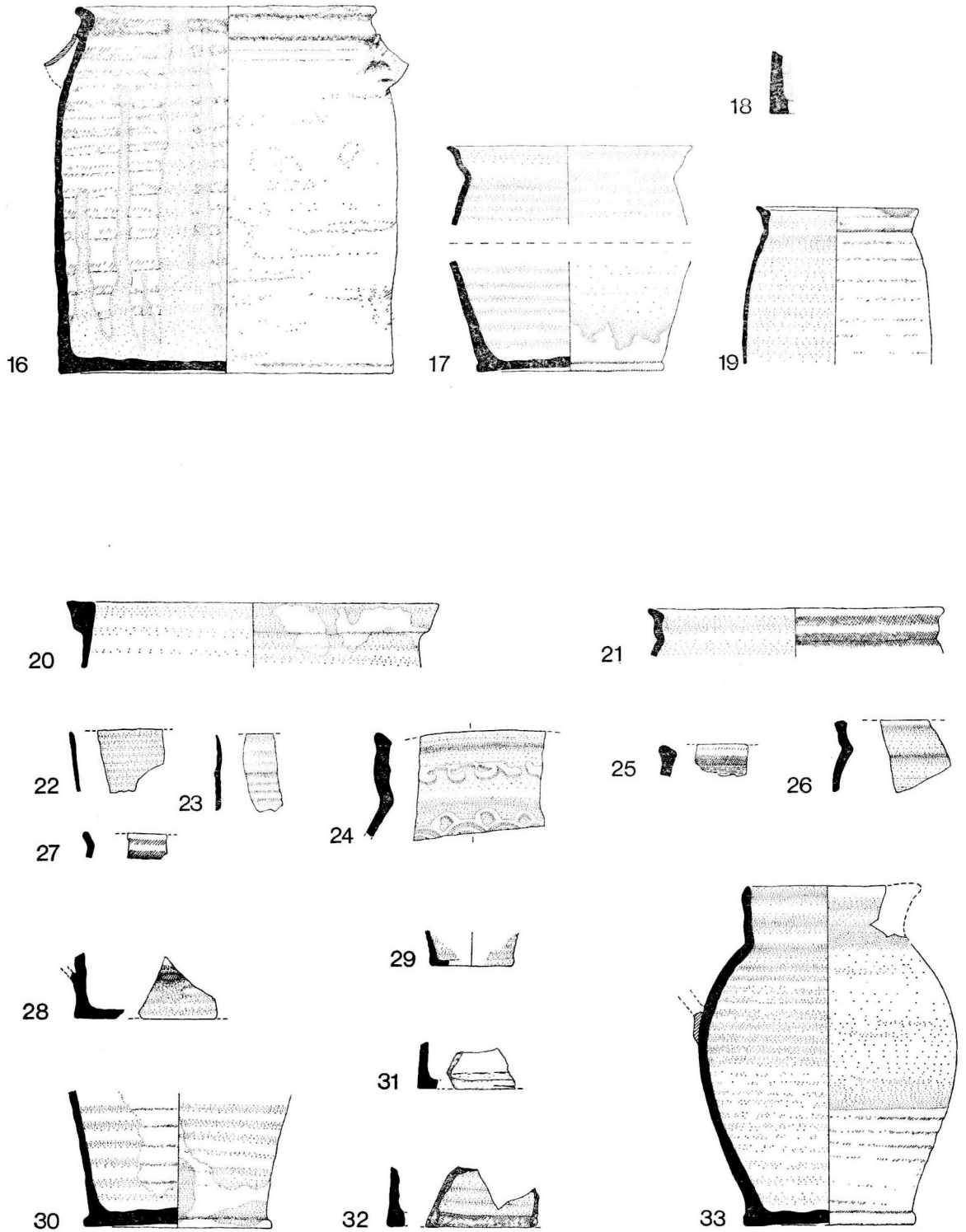


Fig. 2 — Post medieval pottery.  
 Nos. 16-19 Upper Civil War demolition; Nos. 20-33 Post Civil War ( $\times \frac{1}{4}$ )

*Two Handed Storage Vessel* (fig. 1, nos. 6, 12 and 13; fig. 2, no. 20)

Four vessels were identified. Two were almost complete (nos. 6 and 13). One was identified by a single rim sherd (no. 20), and another by large fragments of its base (no. 12).

The form was similar to the 'bread pot', but had a distinctive angular rim and a more curved profile giving a base about two thirds of the diameter of the rim. The handles, evident in one example only (no. 6), were thick and crudely applied. An iron glaze unevenly covered both internal and external surfaces. The fabric in three cases was light red brown with some lighter streaked impurities. These three vessels were crudely finished with fragments of clay adhering to the body beneath the glaze, and in two examples, the fabric was very brittle, resulting in many very small sherds and some flaking. The fourth example (no. 20) had a grey to purple very hard fabric with some fine linear air pockets.

*Small Jar* (fig. 2, nos. 17 and 27)

Two examples were identified by their rim form and fine all over iron glaze. One of these was represented by a single rim sherd (no. 27). The more complete vessel had a rounded profile and an everted rim. The glaze had been evenly applied but had a slightly mottled appearance. The purple to brown fabric was highly fired and very hard and pure.

*Other Small Jars*

Fig. 1, no. 9: a base sherd similar in form and fabric to the 'butter' or 'bread pots' but smaller. It had an internal brownish glaze on the base over a purple slip and was of a fine orange to grey dense fabric.

Fig. 2, no. 19: a rim sherd similar in form and fabric to the 'butter' or 'bread pots', but smaller. It was finely finished with a thin walled body, an internal purple slip and a patchy brownish glaze. It was of a fine hard orange fabric.

Fig. 2, no. 30: a base sherd of a heavier form with an overall external glaze and internal glazing on the base and part of the sides. The glaze was thick and opaque with yellow speckling and the fabric fine and orange to brown.

*Small Finely Glazed Vessels*

Fig. 1, no. 7: a handle sherd of a small glossy iron glazed vessel of a well fired dense orange to brown fabric.

Fig. 1, no. 8: a handle sherd of an identical fabric and glaze to no. 7. When complete, the handle would have been large enough only to be grasped by the thumb and forefinger or suspended by the little finger and it may be the upper portion of no. 7.

Fig. 1, no. 11: two base sherds of a small jar or cup of a dense highly fired orange to purple fabric with an internal and partial external black iron glaze which was dense with slight yellow speckling. A purple slip had been applied to the

outer surface including the base. The centre of the base inside was slightly raised over a circular area of 2.5cm diameter. The suggestion of a handle stub was visible 1.5cm above the base.

Fig. 2, no. 22: a rim sherd of a fine straight sided cup. The purple fabric was dense and well fired, the all over glaze thin and evenly applied.

Fig. 2, no. 23: a rim sherd of a straight sided cup with a slight carination 2cm from the rim and three fairly pronounced ribs below this. The thin all over glaze was evenly applied and had a brownish purple colour with some yellow speckling and was generally brighter on the outer surface. It was of an orange to brown well fired fabric.

Fig. 2, no. 28: a base sherd of a larger vessel with a handle stub situated 1.5cm up the body which was thicker than the other fine glazed vessels. It had an internal and external iron glaze which was dense and glossy and nearly 1mm thick on the base inside. Slight ribbing had resulted in the glaze appearing to be banded on the outside.

Fig. 2, no. 29: two base sherds of a small jar or cup of a fine orange to brown fabric with a rich brown glaze which had an oily finish. The outer surface was slightly ribbed, creating alternate bands of dark and light brown glaze. The glaze ran down to, but did not cover the base.

#### *Slipware Vessels* (fig. 1, nos. 1, 3 and 4; fig. 2, no. 24)

A surprisingly small number of slipware sherds were recovered from the excavation: seven in all, representing three vessels. It is considered that none is from the Buckley kilns in Clwyd (personal communication with P. J. Davey), and it is likely that all came from Staffordshire. The illustrated examples are as follows:

Fig. 1, no. 1: three sherds of a dish or platter with an internal brown to orange glaze over a thin orange slip and a pronounced yellow slip trailed design. The buff to pink fabric had occasional small white inclusions.

Fig. 1, no. 3: a sherd of an identical fabric, slip and glaze as fig. 1, no. 1. This was probably from the same vessel.

Fig. 1, no. 4: two rim sherds of a dish or platter (?) with an internal brown glaze over a pale orange all over slip and a yellow slip trailed design. The buff to pink fabric had occasional small white inclusions.

Fig. 2, no. 24: A rim sherd of a carinated dish or platter with an internal toffee coloured glaze over an orange to brown slip and a thickly applied, light coloured, trailed slip decoration, which created an embossed effect. The very light orange fabric was dense and well fired.

#### *An Iron Glazed Jug* (fig. 2, no. 33)

On stratigraphical grounds this vessel was probably of post Civil War date.

A jug with a rounded body profile and an upright neck. Details of the spout which was probably not pronounced, and the handle, which sprang from the

shoulder of the vessel, were missing. The fine glaze was glossy and thickly applied internally and externally, although it stopped approximately 80mm short of the base on the outside. The light brown to orange fabric was highly fired with occasional streaky impurities.

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#### APPENDIX II

##### CLAY TOBACCO PIPES

by P. J. Davey, M.A.

This has been published in *Cheshire Archaeological Bulletin*, no. 5, 1977, edited by P. J. Davey and S. R. Williams, pp. 14-18.

#### APPENDIX III

##### METAL FINDS

(*Illustrations by Margaret Tremayne*)

240 iron, nineteen lead and nine copper alloy objects were found in the course of the excavation. Of the iron objects about two hundred were nails of sizes varying from about 180mm down to about 20mm; thirteen of the lead objects were musket balls, several showing signs of having been fired. Eleven of these were from the Civil War levels. Five of the copper alloy objects were spent cartridges, the remainder being two bronze rings, a brass button and a small perforated bronze strip.

##### *Illustrated objects*

1 Crudely made lead spoon. It appears to have been made from a sheet of lead roughly cut to shape, leaving an elliptical section for the handle which was folded over and hammered into a rectangular cross section. Context: top of Civil War demolition.

2 Window lead including a small piece of green opaque glass fitting into one corner. The glass is nearly 2mm. thick. The lead is H sectioned and machine made, with marks of the mill teeth in the web. The quarry would have been approximately 50 by 50 by 70mm., forming a right angled isosceles triangle. The adjacent piece of glass would have been approximately 50mm. square. Context: top of Civil War demolition.



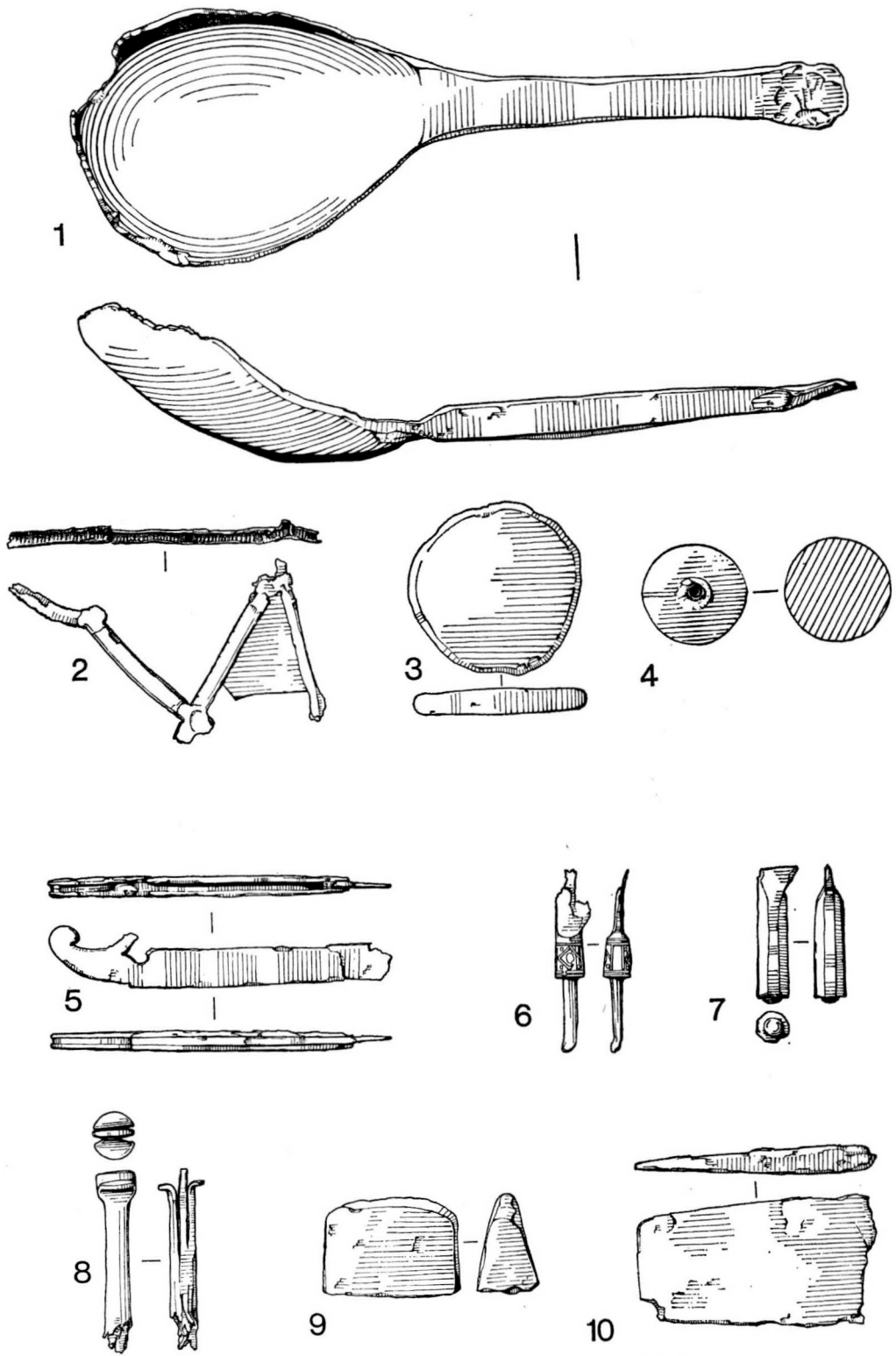


Fig. 1 — Nos. 1-4 Lead ( $\times 1$ ); Nos. 5-10 Iron ( $\times \frac{1}{2}$ )

- 3 Crude lead disc, 31mm in diameter and 3-4mm thick. Context: Civil War occupation level.
- 4 Lead musket ball, 18mm in diameter, weighing 39g. It has a prominent casting sprue and mould line, and has not been fired. Context: top of Civil War demolition.
- 5 An iron folding penknife or razor. The original length of the blade was approximately 65mm. It has a pewter insert in the decorated handle end, possibly to improve its balance in the hand. Context: Civil War occupation level.
- 6 Part of an iron knife with a silver inlay. Originally it would have had a bone handle. Context: Civil War occupation level.
- 7 Part of an iron knife handle with an octagonal cross section. Context: top of Civil War demolition.
- 8 Unidentifiable iron object formed from three strips, the outer two bent over at one end. The other end has been torn off. Present length 63mm. Context: Civil War occupation.
- 9 Thin iron wedge. Context: upper causeway collapse.
- 10 Iron wedge or broken hammer-head. Context: earlier medieval levels.

## APPENDIX IV

### EVIDENCE FOR SMITHING ON THE SITE

by Justine Bayley

Small quantities of slag were present in the excavation throughout all but the primary layers in the ditch. However, two marked concentrations were observed, one in trench E, layer E53, the other in trench S, layer S4. The slag in layer E53 was dispersed and formed a small proportion of the layer as a whole. The slag in layer S4 formed a large proportion, approximately fifty per cent of the total layer, whilst charcoal formed a further ten per cent, soil making up the rest. It may be suggested, therefore, that the slag in layer S4 indeed layer S4 itself, formed an original dump of smithing debris with a hearth nearby, whilst that in layer E53 had been disturbed at least once before final deposition.

Both deposits represented debris from iron smithing. There was no evidence for smelting. Trench E layers produced only smithing slag, fuel ash slag and vitrified clay. Trench S layers produced these classes of material and also hearth lining, burnt daub, coal, and scraps of metallic iron. The metallic iron, deeply corroded, may be the remains of objects or may be offcuts and trimmings from a fashioning process.

Approximately half the smithing slag from both deposits is in the form of hearth bottoms, plano convex cakes of slag of about 10cm diameter which collected at the bottom of a small pit with a fire in it. Some of the slag has casts of wood preserved in it, suggesting that the fuel was normally wood or charcoal. The few pieces of coal may not therefore be associated with the metal working. A few pieces of slag has the appearance of geodes: a gas bubble had formed inside the mass of slag which had then cooled slowly from its molten state, developing laminar dark grey crystals in the void.

Fuel ash slag, vitrified clay and hearth lining can all be considered together. The first two classes of material are formed when fuel ash and clay, in varying proportions, are mixed and raised to a high temperature so that they flux each other, forming these vitreous products. Hearth lining is a clay rich lining to a pit used as a hearth which has therefore been strongly heated in contact with fuel ash on one side only. This produces a vitreous surface layer which grades into high fired clay and then a burnt daub like material across its section.

## APPENDIX V

### THE ANIMAL BONES

by A. Locker

A total of 1,582 bones was recovered, excluding the bird, fish and small mammal bones. Each bone was encoded onto computer forms (Jones, 1974), and measurements were taken wherever possible.

The following species were present: ox (*Bos* sp), horse (*Equus* sp), sheep (*Ovis* sp), pig (*Sus* sp), fallow deer (*Dama dama*), roe deer (*Capreolus capreolus*), dog (*Canis* sp), cat (*Felis* sp), rabbit (*Oryctolagus cuniculus*), and hare (*Lepus* sp).

As sixty six per cent of the total number of bones were not specifically identifiable, any calculations of species predominance or joint selection would be invalid. Ox appears to be the most numerous species, but this may be significant with such a small quantity of bone.

Butchery marks were seen on a substantial number of the domestic animals. Chop marks were common on long bones and vertebrae. Knife cuts were less frequent. The high degree of fragmentation is probably partially a result of butchery as well as of natural causes. Apart from horse, dog and cat, all these species probably represent food debris. The number of horse bones was biased because the majority of the skeletons of two individuals were present in the western trench (mainly W53).

Incomplete epiphyseal fusion and deciduous dentition regularly occurred, especially in cattle, indicating the presence of immature animals. Pathological changes were observed on the proximal ends of a pair of horse humeri, and the

head of a scapula, which articulated with one of the humeri (W53). This was interpreted as osteomyelitis by J. A. Longstaffe of the Royal Veterinary College, University of London. Externally this appeared as gross boney lesions, and eburnation over the joint surface. This was probably caused by a puncture wound to the shoulder, which resulted in septic arthritis, severely immobilising the joints. Ten fish bones were found, but these were unidentifiable.

#### *Small Mammals etc. from the Pre Civil War Layers*

Species present were: bats (Chiroptera), wood or field mouse (*Apodemus* sp), shrew? (*Sorex* sp), common shrew (*Sorex araneus*), field vole (*Microtus agrestis*), bank vole (*Clethrionomys glareolus*), rat (*Rattus* sp), house mouse? (*Mus musculus*). A large number of frog (*Rana* sp) bones were also present. There were a large number of small mammal long bones, but these were not easily identifiable.

#### *The Bird Bones*

The identifications and comments were made by D. Bramwell.

The following species were present: goose, domestic (*Anser anser*), partridge (*Perdix perdix*), domestic fowl (*Gallus gallus*), turkey (*Meleagris gallopavo*), woodcock (*Scolopax rusticola*), dove, rock or domestic (*Columba livia*), carrion crow (*Corvus corone*), jackdaw (*Corvus monedula*), starling (*Sturnus vulgaris*), wheatear? (*Oenanthe oenanthe*).

The mammal bones from this excavation are very similar to those recovered from the excavations within the gate towers, as yet, unpublished suggesting that no specific areas within the castle were chosen for the disposal of food debris. In general, the quantity of bones recovered from all three categories was too small to justify the presentation of a more detailed analysis.

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