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EXCAVATION AND SURVEY AT CARDIGAN CASTLE

Introduction

In the summer of 1984 the Dyfed Archaeological Trust carried out a survey and small-scale trial excavations at Cardigan Castle. The object of the work was to establish the extent and nature of the archaeological deposits within the castle and to answer some specific questions concerning the lines and courses of walls not apparent from surface evidence. Though some of the results, due to the scale of the work involved, were inconclusive they are published because of the importance of the site and as a guide to any future work.

The town of Cardigan is situated on a rocky promontory on the northern bank of the River Teifi 4 km. from the sea. The defensive circuits of the town and castle exploit the local topography, incorporating low shale cliffs and bluffs within their walls. The castle dominates the lowest bridging point of the Teifi, so controlling the coastal land route and commanding the important routeway up the Teifi Valley into mid-Wales. In the mid-thirteenth century Cardigan, jointly with Carmarthen, became the centre of Royal power in south Wales and consequently developed into an important administrative, military and commercial centre.

Cardigan is one of the few stone castles in Wales to have received no attention from archaeologists and little interest from historians and architectural historians either in the last century or more recently in the current renewed interest in castles and castle development. The reason for this is quite straightforward: Castle Green, the house built within the castle yard has been a private residence since it was built and the grounds landscaped in the early nineteenth century, and the residents have valued their privacy and are unwilling to allow visitors into the castle gardens. The present programme of study was prompted and encouraged by the formation of the Cardigan Castle Committee in 1983 which was established to study, assess the potential of, and ensure a safe future for the castle. The excavation was carried out with the kind permission of Miss B. Wood, the current owner and occupier of the castle.

The method of excavations employed was a series of 1 m. wide trenches which were in many cases only excavated to obtain the depth of mediaeval deposits below ground surface. Prior to excavation and survey several working days were required to cut down and clear the dense undergrowth that had grown up owing to the neglect of the gardens in recent years.

History

For the first 150 years of its life Cardigan Castle, situated between the Anglo-Normans to the south and the independent Welsh to the north, was constantly changing hands and undergoing rebuilding. After 1240 the English gained possession of the castle and did not relinquish their hold on it apart from, perhaps, a short period during the Glyndŵr uprising. This historical summary of Cardigan Castle is taken from printed sources, references to original documents being outside the range of study.

The history of Cardigan Castle begins in 1093 when Roger of Montgomery swept into Ceredigion and erected a fortress at a site known as Din Geraint.¹ According to Meyrick,² this castle was immediately dismantled when Cadwgan ap Bleddyn and Gruffydd ap Cynan attacked and drove the Norman settlers from this part of Wales. However, by 1110 the Normans were again in control of Ceredigion and Gilbert Fitz Richard, Earl of Clare, built a castle 'near the mouth of the Teifi at the spot known as Din Geraint where Earl Roger had formerly placed a Castle'.³ In 1136, a great battle was won by the Welsh to the north of Cardigan at Crug Mawr (probably at a hill now called Banc-y-Warren—3 km. from the town), the victors swept on and burnt the town but the castle did not yield.⁴ In 1137, Owain Gwynedd with an army and 15 Danish ships unsuccessfully attacked the castle; the Danes contented themselves by sacking St. Dogmael's Abbey.⁵

It has been suggested⁶ that Din Geraint is identifiable with the earthwork at Old Castle Farm, approximately 1 km. downstream from Cardigan town. The earthwork at Old Castle Farm consists of a plateau, 70m. by 25 m., on the inside of a meander of the River Teifi defended by length of bank and ditch across the meander neck. The defences make use of a natural scarp slope. An annex, 40 m. by 20 m., situated outside the entrance to the main defended area, is enclosed by an insubstantial bank. The area enclosed by the defences at Old Castle Farm is identical to that of Cardigan Castle, and the size of the annex is comparable to that of the yard to the north of the north tower, possibly originally a secondary bailey of the castle. However, there is no independent evidence for the equating of Din Geraint with the earthwork at Old Castle Farm; the early castle could just as well be sited under the present castle's remains. Wherever the first castle was positioned it was probably located on its present site by 1136 when the town of Cardigan was first recorded.

During the Anarchy of Stephen and Matilda, 1135-1154, the Earl of Chester's sister was imprisoned in Cardigan Castle until Miles of Gloucester, Lord of Brecknock, rescued her.⁷ It is not clear if he stormed the

castle or negotiated her release. In 1145, the Welsh, under the command of Hywel ab Owain and his brother Cynan, ravaged the town of Cardigan, but the castle remained uncaptured.⁸ However, the castle fell to Rhys ap Gruffydd in 1164,⁹ and in 1171 he is recorded as rebuilding it in stone and mortar.¹⁰ Five years later Rhys held what is considered the first eisteddfod in Cardigan, possibly in his new castle.¹¹ In 1196 William de Braose burnt part of the town but failed to take the castle.¹²

In 1198, Maelgwyn ap Rhys, after the death of his father Rhys ap Gruffydd, handed his brother over to the Normans to ensure he took possession of the castle.¹³ Two years later King John conferred Ceredigion upon Maelgwyn as long as he resigned Cardigan Castle to the English Crown. The Welsh chroniclers state 'Maelgwyn ap Rhys sold to the Saxons the lock and stay of all Wales, the castle of Cardigan, for a small worthless price'.¹⁴ This deal demonstrates the importance the English Crown was beginning to attach to Cardigan. By the mid-thirteenth century the castle was a strong, safe fortress and a centre for English royal power in south Wales.

In 1204-5 repairs were in progress on the castle.¹⁵ In 1208 Robert Fitz Richard of Haverfordwest was entrusted with the castle; in 1210 it was confiscated and given to Falkes of Breunte, who in 1214 was ordered to deliver it to William Marshal, Earl of Pembroke.¹⁶ However, Llywelyn ap Iorwerth swept through south Wales, taking Cardigan Castle on the 26th December 1215.¹⁷ The castle was given to Rhys Ieuanc and Owain his brother in 1216. In the general pacification of Wales of 1218, Llywelyn ap Iorwerth did homage to Henry III and in return was entrusted with the castle to maintain at his own cost until Henry came of age.¹⁸ Hostilities broke out again in 1223 and William Marshal the younger took the Castle by force from Llywelyn.¹⁹ The king, realising the importance of the castle, dispossessed the Earl Marshal in 1226 and entrusted it to his own officers.²⁰ The bridge and the castle were repaired at the King's expense in 1227-8.²¹ In 1229 Marshal was invested with the lordships of Carmarthen and Cardigan which were erected into a marcher holding.²² However, in 1231 the Welsh under Llywelyn ap Iorwerth regained the castle after besieging it for two or three days using siege engines.²³ With the death of Llywelyn ap Iorwerth in 1240 the land of Ceredigion fell once more into dispute and Gilbert Marshal, Earl of Pembroke, sent his brother Walter to capture and rebuild the castle.²⁴ King²⁵ ascribes much of the visible remains of the castle to Walter Marshal. From this date, 1240, the castle ceased to appear in the Welsh chronicles as it remained secure in English hands. The Marshals, as Earls of Pembroke, were the

most powerful individuals in south Wales and were responsible for the rebuilding and refortification of many castles, in particular Pembroke, where the present remains owe much to William Marshal, the elder, and his sons.

In 1241 Gilbert Marshal was killed in a tournament, enabling King Henry to resume possession of the castle.²⁷ In 1245 damages amounting to 300 marks claimed by the citizens of Cardigan against Welsh raiders were donated to the fortification of the town and castle.²⁸ In 1250 custody of the castle was granted to Robert Waleran by the King and over £400 was assigned for the building of a new keep and surrounding the town with a stone wall.²⁹ (It is thought possible that the tower incorporated into Castle Green House is the remains of this keep). In 1252 we hear of food being purchased in Ireland for the King's workmen in Cardigan,³⁰ and in 1261 £284 was allocated to Robert Waleran to build the keep up to the second storey.³¹ By 1275 a survey of the castle estimated that £66. 13. 4d. was needed for repairs to the great tower and other buildings.³²

In 1279 King Edward made Cardigan the centre for a new shire and it became, with Carmarthen, a seat of Royal power in the new Principality of Wales. The maintenance of the castle became the responsibility of the justiciars of south Wales, but the amount of money spent on it was small and it fell into disrepair.³³ In 1321 a tower was hurriedly completed in fear of a baron's revolt,³⁴ and by 1343 it was reported to be the most dilapidated of all the Royal castles of Wales; the great watch tower and curtain walls had badly decayed and all the domestic buildings were in ruins. The sum of £814 needed spending on it.³⁵ The state of the Castle was such a concern to the burgesses of Cardigan in 1385 that they petitioned the King, pleading with him to spend money on its repair.³⁶

With the castle falling into disrepair throughout the fourteenth century it is surprising that, during the Glyndŵr uprising, it was not captured until the summer of 1405, two years after all the castles to the north up to Caernarfon had fallen.³⁷ After Glyndŵr £129. 6. 6d. was spent upon a new hall and chamber for the constables, and a new tower.³⁸ In 1610 John Speed described the castle and town of Cardigan: 'The walls take advantage of the rising rocks, and circulate the town even round about. The castle is higher built upon a rocke, both spacious and faire, had not stormes impaired her beauty, and time left her carcase a very anatomie'.³⁹

The history of the castle as a fortress was not yet over. Cardigan became embroiled in the Civil Wars which raged throughout England and Wales from 1642-8. In June 1644 Colonel Charles Gerard took the castle for the

Royalist cause.⁴⁰ In December of the same year General Rowland Laugharne, for Cromwell, approached Cardigan. The royalists had set guns upon a half-moon erected within the castle yard.⁴¹ By bombarding the castle with a demi-culverin⁴² for three days a breach was created and the castle taken.⁴³ In May 1645 Colonel Gerard defeated the Parliamentarians at Newcastle Emlyn, causing the garrison of Cardigan to flee after first setting fire to the castle buildings.⁴⁴

The subsequent history of the castle is uncertain until 1810 when Mr. John Bowen was in process of erecting a house and landscaping the grounds, incorporating the north tower in the rear of the building. The side of the castle facing the river is described thus: 'the wall between the two Towers being lowered and the Green sloped down so as to form a hanging Garden'.⁴⁵ By the mid-nineteenth century a terrace of cottages and houses had been built up against the castle wall on the north-west side; these were demolished in the 1920s. It was probably at this time that the set of false crenellations was added to the castle's walls. The final chapter in the military history of the site was the construction of a pill-box in the castle, guarding the bridge over the Teifi, during the Second World War.

Topography and Remains

In spite of the dilapidated condition of the curtain wall and the steel buttresses, the appearance of Cardigan Castle from the south is substantial and impressive. However, on the northern side the line of curtain wall is impossible to trace on the surface, a tower incorporated into the rear of Castle Green House being the only extant mediaeval masonry. Inside the castle's perimeter the present ground surface is almost flat, falling away slightly on the east side, and some 9-10 m. higher than the external ground levels on the south side and 5-6 m. higher on the north-west side. Only to the north is the external ground surface of a comparable level to that within the castle. Immediately inside the curtain wall on the south side the ground surface is slightly ramped, providing a walkway around the walls offering panoramic views over the river. A World War II pill-box commanding the bridge below it was built on this ramp. The whole of the internal area was landscaped when Castle Green House was constructed. A series of drives, walkways and gardens have obliterated any internal mediaeval features of the castle. To the north of Castle Green House a block of ground slopes gently down from west to east and is bounded on the north by a steep drop into the gardens of St. Mary Street.

The site of the castle gate is not known. It is likely however, that the present entrance to the castle grounds is situated on the site of the

mediaeval gate. The entrance to the grounds is flanked by buildings; to the south a nineteenth century structure, now a fish and chip shop, and to the north a small cottage whose thickness of walls suggest mediaeval stonework may be incorporated within it. In the nineteenth century a series of buildings were constructed against the outside of the walls from the entrance to the circular tower on the south side but, as mentioned earlier, they were demolished in the 1920s.

Immediately to the south-west of the fish and chip shop a bulge in the wall was noticed during the summer of 1984 (Fig. X.9) and on the night of 16th December 1984, a 10m. length approximately, of this wall collapsed, revealing this section to be of post-mediaeval date. The rest of the curtain wall up to where it turns abruptly east, the south-west corner of the castle, is all post-mediaeval in date, although not all of one build. This piecemeal post-mediaeval rebuilding of the wall along the south-western side almost certainly follows the original course of the castle's curtain wall. The reason for rebuilding was collapse due to pressure from inside the castle caused by the difference in height, the inside being up to 10 m. higher. For most of its circuit the curtain wall is founded upon shale bedrock, which is visible at the base of the wall at certain points, and is presumed to revet a low shale cliff.

It is not certain if the south-west corner (south bastion, Fig. X. 9) of the castle contains any mediaeval masonry as it is obscured by massive steel buttresses, poor quality cement pointing and rendering, and vegetation rooted in the wall. It is a likely site for a tower or bastion, for not only is it a corner of the castle but the town wall probably met the castle at or around this point. The construction of the corner is similar to known portions of mediaeval masonry further round the circuit, and its shape is remarkably similar to the north-east bastion—also situated at a point where the town wall is thought to meet the castle. The poor state of preservation of the wall-face from the south-west corner to the south-east circular tower rules out any assignment of date. However, the existence of secondary corners and buttresses indicate it is not all contemporary, and lengths of it are probably post-mediaeval. The wall on the southern side of the castle is on average 10 m. high measured from the modern road surface. In mediaeval times the base of the tower and walls either side of it would probably have been washed by the river.

The circular south-east tower is of solid construction, approximately 6 m. in diameter and in a good state of repair (it was repointed by Department of Environment (Wales) masons in the early 1970s). Below, the twentieth century crenellations are another set of post-mediaeval blocked

CARDIGAN CASTLE, site plan

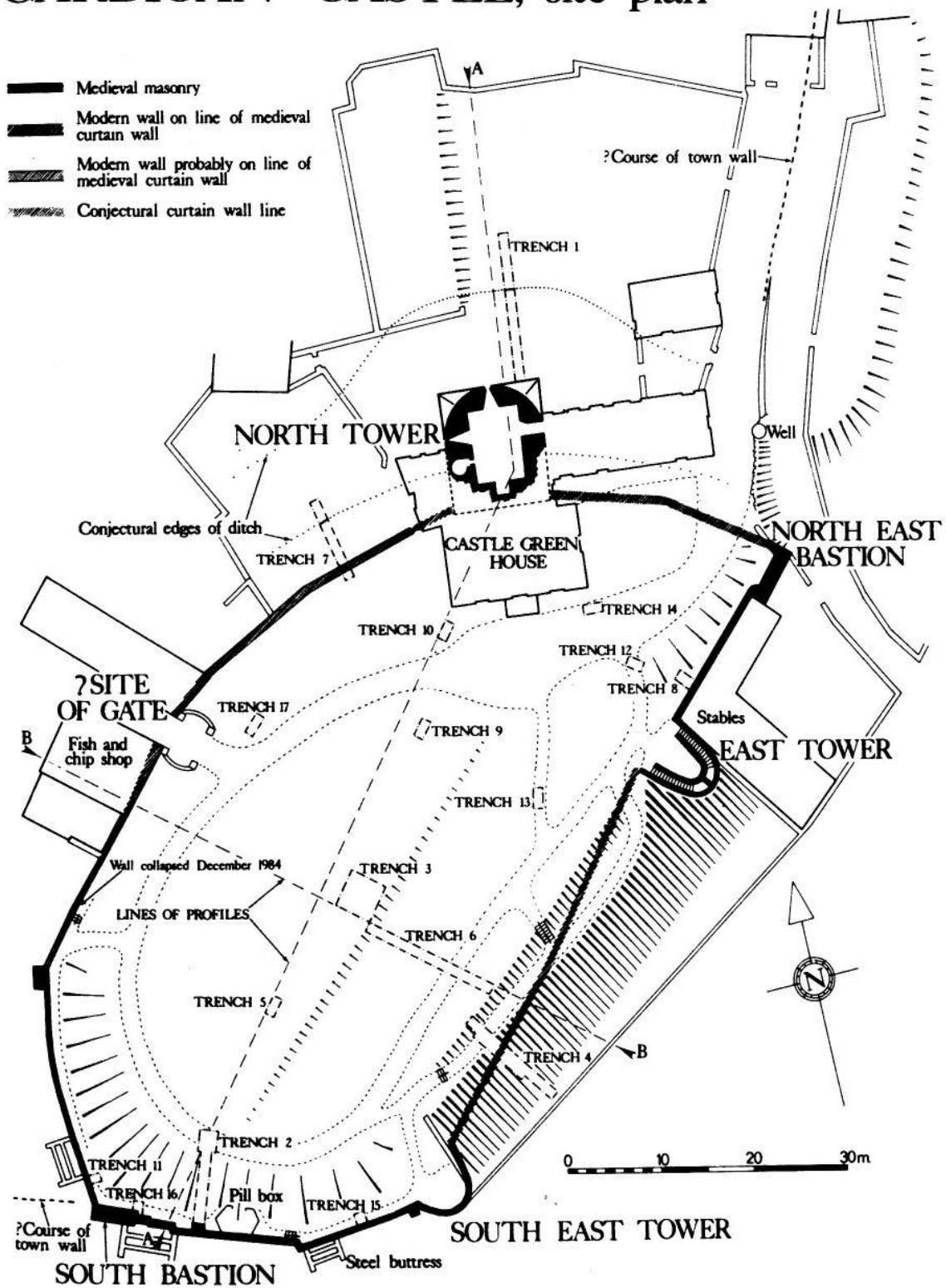


Fig. X. 9.
Site Plan.

crenellations. Between this tower and the east tower the curtain wall has been completely demolished and its place taken by a steep overgrown slope. A 2 m. high stone wall revets the slope alongside the roadway. This slope is part of the hanging gardens recorded as being under construction in 1810, and has engulfed the lower portions of the east and south-east towers.

The east tower is half an ellipse in plan, almost 7m. across its short axis protruding 8 m. out from the curtain wall. It is basically of solid construction but contains two flights of stairs descending, from the present ground surface within the castle, to separate garderobes. A topographical print of 1741 shows angle-spur buttresses at the base of this tower⁴⁶ (Pl.X.12) which were buried by the construction of the hanging garden. The whole structure is in a good state of preservation, although the top of the walls are overgrown and sycamore saplings which have taken root may cause problems in the future. What may be the remains of another tower, labelled the north-east bastion, is situated some 15 m. from the east tower. The intervening length of curtain wall is probably mediaeval, although it is obscured by the nineteenth century stables built against it. The steep scarp slope which runs up to the north-east bastion from the north may represent the line of the town wall.

The only other surviving portion of mediaeval masonry, the north-tower, is incorporated in the nineteenth century house. This emasculated structure, the basement almost buried by accumulations of soil and rubble on the outside, the arrowslits of the first floor enlarged to accommodate windows and the second storey replaced with nineteenth century stonework, must originally have been an imposing tower. Internally the basement of the tower is rectangular, with three arrowslits, the eastern one enlarged for access, the northern for a coal chute, and the western almost completely submerged below garden soil. Built into the thickness of the tower on the south side is the remains of a newel stair; built into the north side of the newel stair well is what appears to be a flue, although this may be a later addition. Part of the foundations of the tower are set on bed-rock. This basement is built in rather curious fashion—as though the walls and vaulting were constructed in two divorced stages, the vaulting being later. The first floor is similar in character to the basement, although the ceiling is of nineteenth century timber and the south side of the tower has been demolished to accommodate the building of Castle Green House (Pl. X.13). Externally and internally at foundation level the tower is rectangular, with the northern corners' massive pyramidal buttresses tapering up into the circular structure at second storey level. The buttresses are an

THE SOUTH VIEW OF CARDIGAN CASTLE AND PRIORY.



Wm. Thomas, Proprietor
This Prospect is humbly presented by
his most Obedient Servants
(in the Priory) *Saml & Nathl Buck.*

Cardigan Castle, built from its situation on a River of that Name, which formerly was the seat of the Welsh Princes, and which was destroyed by the English in 1282. The Priory, which was founded by King Edward I. in 1282, and which was destroyed by the English in 1282. The Priory, which was founded by King Edward I. in 1282, and which was destroyed by the English in 1282.

Pl. X. 12.

The 1741 view of Cardigan by Samuel and Nathaniel Buck. The print clearly shows the circular south-east tower (nearest the viewer) and the circular east tower with its angle spur buttresses. Between the two towers the curtain wall has been demolished and windows or vaulted undercrofts can be seen in the castle yard. The slightly protruding north-east bastion is located at the right hand end of the castle connected to the east tower by a length of curtain wall.
 (The National Library of Wales)



Pl. X. 13.

The north tower, incorporated in the rear of Castle Green House, viewed from the north-east. The partly buried and truncated angle-spur buttresses are clearly visible, as is the almost buried, enlarged, arrowslit of the basement. The box-sash window in the tower is an enlarged arrowslit of the first floor.

integral part of the tower and it is assumed they continue down to the bottom on a ditch situated to the north. The form of the southern side of the tower is not known, but, originally, the external structure must have been circular or D-shaped at first floor level and above. It is probable that the tower was not free standing but formed an integral part of the defensive circuit.

The course of the curtain wall on the northern side of the castle is not known. It seems probable that the north tower formed part of the defensive circuit, so the curtain wall probably branched from its south-east corner, meeting a known section of mediaeval masonry at the north-east bastion. To the west of the north tower a 4 m. high garden wall indicates the probable course of the mediaeval wall. This wall has a slate plaque built into it: 'THIS WALL BUILT WERN NEWYDD ESTATE 1830'.

Topographical Evidence from Early Prints and Drawings

It was hoped that the study of eighteenth and nineteenth prints and drawings of the castle would resolve some of the problems concerning the course and form of the defences and the nature of the castle's interior not answered in the topographical survey. Cardigan was generally ignored in this period, for little account of it was taken in the journals and diaries of gentlemen tourists. Engravings and drawings of the castle are few, and where they do exist they are often plagiarised copies of earlier prints. This review attempts to resolve several anomalies and ambiguities that apparently exist in the drawings and prints of the castle.

The first known pictorial representation of the castle was published in 1610 by John Speed.⁴⁷ This is an unreliable view with several apparent errors and must be used with caution. The two extant circular towers facing the river are depicted square, as are all the other towers of the castle apart from the keep. The entrance to the castle, or possibly a postern gate, is shown facing the river outside the confines of the town wall. For all its shortcomings it is clear that when Speed drew the castle it was still an impressive structure, with most of its elements easily recognisable. The most interesting aspect of the print is its treatment of the keep, which is shown as a round structure, free standing in the centre of the castle yard with half of it demolished or collapsed.

In 1741 the Buck brothers produced an engraving of the castle⁴⁸ (Pl. X. 12) which, by relating it to the known remains, appears quite accurate. The south-east and east round towers are shown, with the partly buried east tower, having small pyramidal spur buttresses at its base. The wall

between the two round towers had been demolished; however, two arched openings are shown between the towers in the interior of the castle, possibly the remains of vaulted undercrofts rather than windows. The extant north-east square corner bastion of the castle is also depicted. The Buck print was copied in the remaining years of the eighteenth century by Eastgate,⁴⁹ Metcalf⁵⁰ and Ryland.⁵¹ All these plagiarists obviously had never visited the castle as the square north-east bastion of the Buck print has been grossly misinterpreted as two substantial round towers. All the later copies of the castle depict it as being far more impressive than it actually ever was.

The next original drawing of the castle was in 1770 by R. Grose;⁵² from an easterly viewpoint, it clearly shows the two round circular towers facing the river and, as in the Buck print, the two arched openings in the castle's interior are reproduced although the different perspectives and viewpoints employed by Buck and Grose are irreconcilable. Grose's drawing of the castle was a source of information for another engraver, Greig⁵³ who, in 1811, faithfully copied Grose's original drawing.

In 1797 a drawing of the castle and bridge from the south-west side was reproduced in Wigstead's tours.⁵⁴ This is again apparently an accurate rendering, for the south-west corner of the castle appears exactly as it is today. Some pencil drawings are preserved in the National Library of Wales,⁵⁵ only one of which by an unknown artist of 1808⁵⁶ appears to be at all reliable. In 1830 an engraving from a drawing by H. Gastineau⁵⁷ was published, and although some faith can be placed in its accuracy it supplies no new detail, the castle by then appearing much as it does today.

The Excavations

The purpose of the excavations was to answer the general question concerning the nature of the archaeological deposits and more specifically to delineate key areas of stratigraphy and determine lines of buried walls and ditches. The method considered most suitable to answer these questions efficiently and with least destruction to the archaeological record was a series of isolated 1 metre wide trenches (Fig. X. 9).

Trench 1 (Figs. X. 9-10)

Trench 1 was designed to confirm, or deny, the existence of a ditch to the north of the tower and to ascertain the nature, if any, of the archaeological deposits to the north of the ditch. It was not intended to provide a complete section through the ditch deposits. The trench was 1 m. wide, 15 m. long and its maximum depth 2 m. It is clear from the present ground level, which is almost at the height of the Tower's first floor and from the section

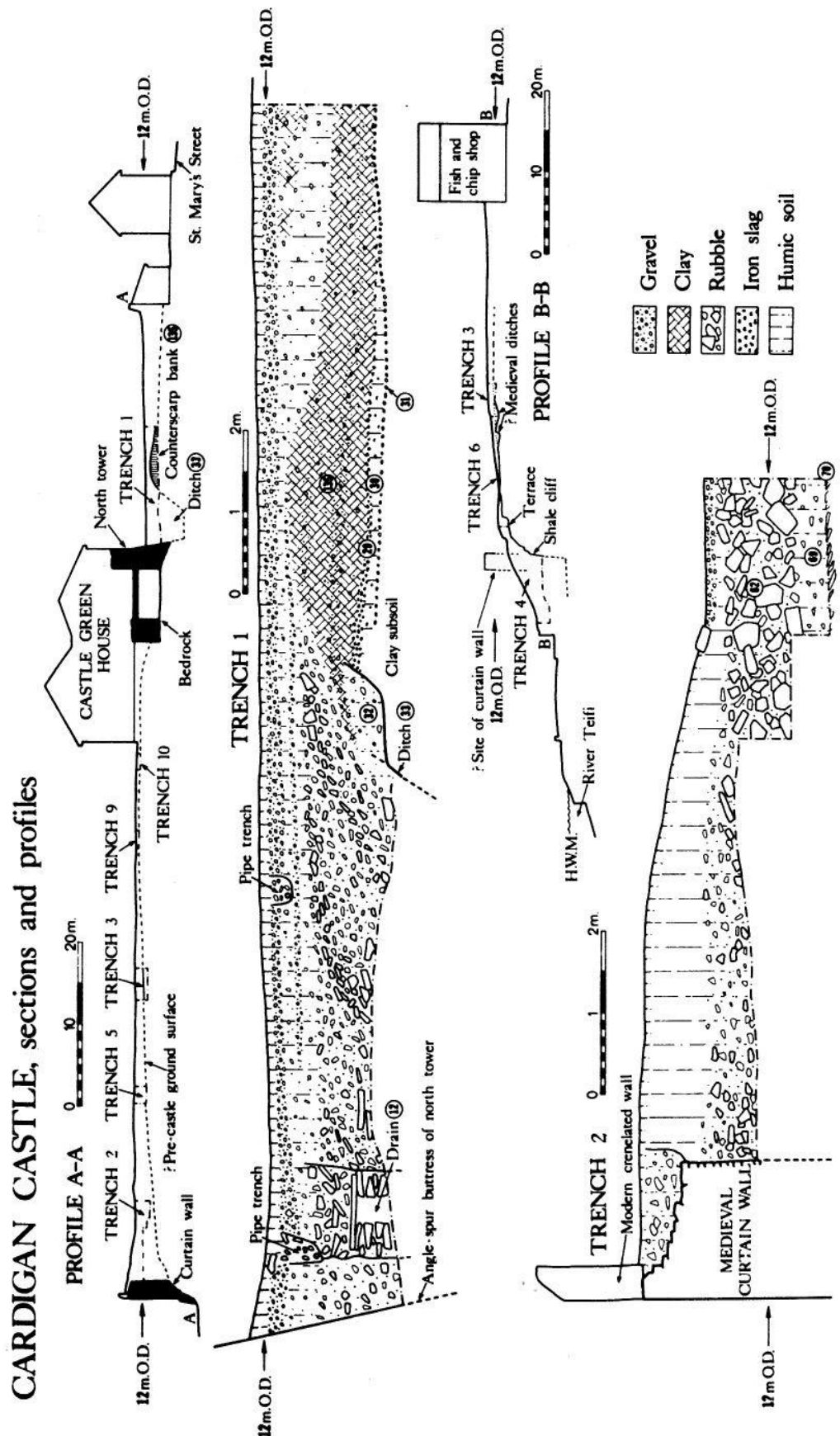


Fig. X. 10.
Sections and Profiles.

that this area to the north of Castle Green House was extensively landscaped prior to, and during, the construction of the house in the early nineteenth century. There are no surface indications of the massive back-filled ditch and a bank that lie under the level kitchen garden.

The bank, 135, was at least 7 m. wide (its northern limit was not obtained in the trial trench) and survived to a height of 1.2 m. Its southern steep-side edge had partly slumped and eroded into the ditch and its crest had been truncated, probably during the nineteenth century landscaping; it must originally have been over 2 m. high. It was of a laminate construction—clay and gravelly clay, presumably from material upcast during the excavation of the ditch. A quantity of pottery sherds were incorporated into the lower 20-30 cms. of the bank (Fig. X. 11, nos 17, 18; Fig. X. 12, nos 19-24). This upcast material, 135, probably served as a counterscarp bank and may be contemporary with the digging of the defensive ditch.

The counterscarp bank sealed deposits of three distinct layers; a cobbled surface, 31, laid directly onto clay subsoil, a dirty soil layer, 30, and finally a layer of iron slag and charcoal, 29. The latter layer was not burnt *in situ*. Also sealed by the counterscarp bank, and cut by the defensive ditch was a shallow trench, 32, apparently running parallel with the ditch edge. The layers 29, 30, 31 and bank 135 contained large numbers of matching pottery sherds (Fig. X. 11, nos. 1-15; Fig. X. 12, no. 16).

The defensive ditch, 33, was shown to be 7 m. across. No mediaeval ditch deposits were revealed in the excavations, the top fill of the ditch consisting exclusively of nineteenth century rubble backfill, a drain, 12, pipe trenches, garden soil and gravel pathways. The ditch was backfilled prior to the building of Castle Green House; the north-east corner of the house certainly lies over the course of the ditch, and part of the east wing may also lie over it. The house must either have extremely deep foundations or the ditch was systematically backfilled as the building, quite remarkably, exhibits no signs of subsidence.

It is difficult in such a narrow excavation trench to ascertain the original topography of the site. However, the land surface under the counterscarp bank does appear to be gently sloping down to the north and east. The height of the present floor in the basement of the north tower equates with the original ground surface under the counterscarp bank (Fig. X. 10).

The line of the defensive ditch to the west of the great tower was confirmed by the presence in trench 7 of the southern ditch lip some 4 m. to the north of the garden wall. Trench 7 also demonstrated the modernity of the garden wall and the complete lack of any archaeological deposits, as

immediately to the south of the garden wall 40 cm. of black garden soil was removed to reveal clean clay subsoil.

Trench 2 (Figs. X. 9-10)

The purpose of this trench was to determine the nature of the low bank built up against the curtain wall, to discover if the curtain wall was mediaeval, and, lastly, if any mediaeval deposits have survived. The trench was 9 m. long, 1 m. wide and at its maximum 2 m. deep. The bank against the curtain wall was quickly demonstrated to consist of a fairly modern dump of building rubble, 62, probably derived from the demolition of mediaeval and later buildings within the castle yard during the construction of Castle Green House, with topsoil laid over it. The rubble dump was an estimated 2.5 m. thick at its maximum against the curtain wall. Sealed by the rubble was a layer of black soil, 69, containing building material—stone, slate, mortar and mediaeval pottery. Examination halted after the removal of layer 69 when it became clear that beneath it intact mediaeval deposits, 70, were present. The false crenellations of the castle were founded on top of the curtain wall. The top of the latter was only 40 cm. below the present ground surface and was 1.9 m. thick, constructed from mortared square slate with a rubble core.

Trenches 3, 4 and 6 (Figs. X. 9-10)

These three trenches provide a composite section across the line of the curtain wall on the south-east side of the castle up into the centre of the castle grounds. No definite evidence was discovered of buildings in the castle and the curtain wall appears to have been completely demolished, which confirms the documentary evidence for the building of a hanging garden in 1810.⁵⁸ The slope on the south-east side of the castle was shown in trench 4 to be composed of a post-mediaeval rubble dump (a sherd of seventeenth to eighteenth century pottery was found in the lower levels of the rubble) overlying a shale cliff. It is assumed that, as with surviving portions of the mediaeval wall, the shale cliff was revetted in stone. A 2.4 m. wide rock cut terrace at the top of the cliff may have been artificially fashioned out of the bedrock to accommodate a wall, perhaps an earlier line of the curtain wall.

Inside the castle grounds the bedrock is overlain by thin natural deposits of sands and gravels which are in turn covered by post-mediaeval deposits. The only archaeological features that may be of mediaeval date were two wide shallow ditches running at approximately right angles to the archaeological trenches; no function can be ascribed to these features.

Other Trenches (Fig. X. 9)

Owing to the lack of success in locating stratified mediaeval deposits in trenches 3 and 6, several smaller holes were excavated within the castle grounds in the hope of defining areas of archaeological potential. In trenches 9, 10 and 17 sand, gravel and clay subsoil respectively lay 30-40 cm. below the present ground surface under black garden soil; no archaeological features were present. Trench 5 located subsoil, with a hint of archaeological deposits, possibly a cobbled surface above it, 1.4 m. below the present ground surface, and in trench 13 patchy, thin deposits, a gravel surface and occupation layer, overlay a gravel subsoil which was 60 cm. below present ground surface. Two trenches excavated in the eastern corner of the castle, 12 and 14, demonstrated that stratified deposits exist 30-60 cm. below present ground levels, and trench 8 demonstrated that the curtain wall is mediaeval apart from the crenellations.

Trenches 11 and 15 revealed that the curtain wall against which they were excavated is of post-mediaeval date. The results from trench 16 were rather inconclusive, the block of masonry which forms the south-west corner of the castle may or may not be mediaeval.

Summary

The results of the excavations were disappointing; no mediaeval buildings were identified within the castle yard and much of the curtain wall was shown to be post-mediaeval. No features pre-dating the mid-thirteenth century rebuilding of the castle were recognised. Nevertheless, several points of confusion concerning the line of the curtain wall and extent of the castle were resolved and areas were defined where any future excavations could obtain useful information.

The present appearance of the castle yard must be ascribed to the early-nineteenth century house and garden builders. It is suggested that the original topography in the castle yard was a low dome-shaped hill which was truncated with the landscaping of the grounds; this would account for the lack of any archaeological deposit in the middle of the castle yard. At roughly the same time, the ditch to the north of the north tower was back-filled and rubble was dumped against the curtain wall on the south side and down the slope on the north-east side of the castle, as recorded in documents.

If the early castle, from 1093, was situated on the present site and not as some authorities suggest at Old Castle Farm⁵⁹ then the remains overlie a probable Iron Age fortress, known as Din Geraint in the eleventh and twelfth centuries. No evidence was discovered during excavation for Iron Age occupation or for any definite pre-1240 features.

The castle, as it stands, is of ringwork type with the north tower an integral part of its defensive circuit. Several problems are encountered in attempting to equate the extant tower in the rear of the Castle Green House and the great tower or keep mentioned in mediaeval documents and money for the building of which was first assigned in 1250. The first problem is morphology; pyramidal spur buttresses are usually dated to around 1300, indeed similar buttresses on two drum towers at Carew Castle⁶⁰ are dated to 1290-1320. Square rooms in round towers are unusual, although again Carew has a similar layout, but this may be a result of the angle spur buttress—at foundation level to the tower is square and so are the rooms. The relatively small size mitigates against this tower equating with the keep; it is only approximately the same size as the previously mentioned drum towers at Carew and 5 m. less in diameter than the keep at Pembroke.⁶¹ In addition the drawing of 1610 by John Speed shows the keep as a free standing structure, while it is strongly suspected that the tower under discussion formed part of the defensive circuit. The two stages of construction of the tower, the basement and the stone vaulting, favours its equation with the keep as they may represent the periods of funding for its construction, the first in 1250⁶² and an extra £284 eleven years⁶³ later to build the keep up to the second storey.

On the 1741 Buck print, the round east tower is shown to have angle spur buttresses, now buried. If these are integral to the tower then the east tower and the north tower are probably contemporary. If the north tower is not the keep of the mediaeval documents then the morphology of the castle must have been radically different to what we see today. Certainly no evidence was discovered during excavations for a masonry structure in the castle yard, although given the small dispersed nature of the trenches even massive foundations could have been missed. Nor was any evidence discovered, topographical or archaeological, of a motte.

The area to the north of the north tower, including the defensive ditch, counterscarp bank and occupation layers sealed by the counterscarp bank, also presents many problems of interpretation. It is not certain if the site of the north tower utilised a pre-existing defensive circuit, or if the defensive ditch was excavated contemporary with the construction of the tower. The make-up of the counterscarp bank, clean clay and gravel, indicates it was deposited during the excavation of the ditch and does not represent residue from ditch cleaning. The date in which the layers beneath the counterscarp were sealed cannot be accurately ascertained from the archaeological and historical evidence available; the defences may have been in existence prior to the major rebuilding of the castle, beg-

inning in 1240, or they may have been constructed in the rebuilding programme, or the ditch may have been enlarged and the counterscarp formed subsequent to the mid-thirteenth century. The majority of the pottery sealed by the counterscarp bank is not easily datable. However, the Ham Green wares perhaps suggest that the layers containing the pottery were sealed by the end of the thirteenth century.

The presence of occupation layers attests activity in the area to the north of the north tower prior to the formation of the counterscarp bank. It could not be demonstrated if this activity was associated with the castle or belonged to domestic buildings of the town. This area may have formed part of the castle prior to its reconstruction in the mid-thirteenth century, perhaps functioning as a secondary or outer bailey. Certainly the steep drop on the northern side into St. Mary Street would have presented a suitable line for a defensive circuit.

The most useful result of the excavations has been to delineate areas of archaeological potential. The area in the eastern corner of the castle and enclaves around the southern circuit of the curtain wall should provide stratified deposits from the castle's beginnings up to the present day, while to the north of the north tower the filled ditch may provide rich water-logged deposits, while the layers under the counterscarp bank could provide evidence for the early history of the castle or town. It is in these areas that any future work should concentrate.

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KENNETH MURPHY

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POTTERY

Introduction

This report deals mainly with types of pottery found in the lower levels of the counterscarp bank, context 135, and the three layers sealed by the bank, contexts 29, 30 and 31. These levels contain a limited range of fabrics (1-6). A brief summary of the varied mass of additional types of unstratified pottery which cannot yet be placed in exact chronological order is included at the end. Only two kinds of pottery are present in any quantities in the stratified levels, Gwbert-type ware and jugs and cooking pots from the kilns at Ham Green, near Bristol. Other stratified types are represented by single sherds only.

Local fabrics have been divided into four categories: 1, roughly corresponding to Gwbert-type; 6, a finer fabric also present at St. Dogmael's Abbey and Cardigan Woolworth's excavation; other local mediaeval, and sherds similar to one fabric from the kiln site at Newport, Pembrokeshire. Two post-mediaeval types are also possibly local. The lines between some of these categories are as yet indistinct. Mediaeval North Devon pottery could well have reached Cardigan as it has been found at various sites in south Wales, including Barry Island.⁶⁴ However, none has been identified from the castle so far. It is similar in petrology to post-mediaeval North Devon gravel-tempered wares. Local fabrics have been broadly distinguished from North Devon products by the presence of shale, the small quantity of quartz, and the apparent lack of granitic material. Thin sectioning is required to confirm these divisions. The term 'local' is used when referring to fabrics thought to come from the Cardiganshire/Pembrokeshire area (west Wales).

STRATIFIED POTTERY

Type 1 Gwbert Type Ware

This term is used throughout, rather than 'Dyfed gravel tempered ware',⁶⁵ as it may be possible to isolate products of a kiln in the Cardigan area from a wider tradition of pottery with large inclusions found throughout west Wales. Similar fabrics found at Tenby, Laugharne and Haverfordwest, for instance, seem to have a denser scatter of slightly smaller inclusions, whilst the majority of vessels from Cardigan Castle, Volk's Bakery, Cardigan,⁶⁶ and Gwbert sites are characterised by an irregular scatter of very large ones. (Some of these are above 4 mm. in size and could

more accurately be called pebbles than gravels). However, the fabric varies so much from vessel to vessel that this distinction may not always be valid.

The pottery is generally bold, chunky and lumpy in character, often very hard fired although softer versions are common. It is sometimes very thick, one base sherd measuring 1.3 cm. in places. The most noticeable inclusions are rounded shales and sandstones,⁶⁷ which appear red in oxidized parts of the vessels and blue grey in reduced areas. Large white angular lumps of quartz are comparatively rare. There are also soft unidentified inclusions and sometimes varying amounts of small rounded different coloured quartz grains, and occasional small flakes of white mica. No vessels are as conspicuously micaceous as No. 9 from the Gwbert site.⁶⁸ A possible origin for the materials is the Llechryd clay, which is under and overlain by fluvioglacial sands and gravels.⁶⁹

Although the fabric of some vessels conforms to Gwbert types (i) and (ii)⁷⁰ there are variations both within and outside these categories. No vessels are consistently reduced internally as Gwbert (ii), and none are 'corky', but a large proportion of the pottery has this heavy texture. Colour varies but is most often orange or reddish-brown; cores are frequently reduced. Often interior surfaces have a different, washy appearance, possibly due to a finishing process that has formed a slight slip.

Forms at Cardigan Castle are limited to cooking pots and jugs; no parts of tripod pitchers or inturned pans have been identified. The great majority of vessels are cooking pots (or jars—it is recognised that these vessels were not only used for cooking but the conventional term is used here). It is notable that local jugs do occur in the earliest recognised levels (contexts 29, 30, 31) with those imported from Ham Green. The same variety of fabric is shown in both jugs and cooking pots, so not all sherds can be assigned to one or other form, but the proportion of jugs is small.

The range of rim forms of the cooking pots found in the stratified levels is very limited, most being variations on illustrations 1, 3, 5, 7 (Fig. X. 11), with a slight groove in the top of a flattened rim. The pronounced overhanging ledge of the rim typical of many Gwbert pots⁷¹ is not well represented at Cardigan Castle. Unfortunately no complete profiles can be reconstructed but the diameters of basal angles that can be associated with upper portions suggests that some at least of these vessels were a rather saggy bag shape, with no marked narrowing towards the base. The distinction between straight-sided and globular vessels observed at Gwbert is not apparent in material from the Castle. Bases appear to be only slightly sagging. A few basal angles are illustrated, 8, 9, 10, (Fig. X.

11) but these may be misleading as thickness and angle can vary around the circumference of a crudely made pot. The form of one jug rim 11 (Fig. X. 11) appears to be based on the cooking pots; the others are different.

Some variations of form and fabric are observable in material from context 135 (Fig. X. 11, nos 17-18; Fig. X. 12, no. 19) but in a small sample of pottery little emphasis should be placed on this. 18 and 19, (Fig. X. 11-12) are in a smoother and finer fabric with lighter coloured surfaces. The thumbled and glazed based angle 19, and another from context 135, probably from the same vessel as a glazed sherd decorated with scored lines, may represent a transition to Type 6. No thumbled bases are found in layers below the counterscarp-bank (although one sooted basal angle does have one finger or thumb impression, presumably accidental) but no bases have been found that can be attributed to jugs. The cooking pots from stratified levels are completely devoid of decoration (a thumbled cooking pot rim was found in the topsoil). The jugs appear to be equally plain, apart from the slashing down the back of the one surviving handle, 11 (Fig. X. 11). This has been plugged into a hole made in the rim. It is possible that the strap handle thumbled down both sides, 37, (Fig. X. 13)⁷² is from the same vessel as Fig. X. 11, 6, but this may be a later development. Many of the sherds of this type found in unstratified contexts come from vessels in stratified ones, and many more may do. However, some forms are represented, 25, 26, (Fig. X. 12) which do not occur in the stratified deposits. At present it must be presumed that these are later, cf. Woolworth's excavations.⁷³

Most of the pots were probably hand-made (pulled up, not coiled) and finished on a wheel. This is suggested by their general lumpiness and unevenness. It is possible that some of the smoother ones, e.g. 7 (Fig. X. 11) were wheel-thrown. Wiping marks are often visible on both surfaces, and particularly noticeable on bases. Many of these look as if they were made with the fingers, but the impression of criss-cross weave of cloth on the exterior of 21 (Fig. X. 12) suggests that this was also used. An instrument of some kind must have been used in the finishing process to protect the hands from the coarseness of the inclusions. Several surfaces have an uneven texture, possibly caused by adding water to smooth over cracks. The heavy nature of the forms reflects the character of the materials and it is possible that many of the inclusions occurred naturally in the clay, or were mixed in accidentally when it was dug, and were not deliberately added temper. This would explain the variations in fabric. Occasionally, there are examples where the clay matrix is much cleaner and the temper probably was added, 24 (Fig. X. 12). It would seem, though, that the

vessels are so thick and crude because this was the only type of pottery that could be made with the materials available. Strong, sturdy heavy cooking pots would be very useful, but the need for finer jugs is shown by the presence of Ham Green Wares. Primitive firing techniques could also explain why such heavy gritting was necessary, since lightly-tempered vessels shatter more easily under these conditions.

Few conclusions can be drawn about the uses of these pots. The creamy deposits found on the interior of many vessels from the Gwbert site do not occur at the Castle. Many 'cooking pot' sherds are sooted, but not heavily or very extensively, and it is not easy to distinguish between sooting and subsequent burning. The occurrence of so many almost identical vessels (similar to 1-4, Fig. X. 11) strongly suggests the presence of a very local kiln; possibly these are all the work of one potter.

Illustration Nos: 1-11, 14, 15, 17-19, 21-26, 29-38.

Type 2

This is represented only by one small broken bodysherd. It contains quartz, some white calcareous patches, and a few black inclusions. It is mostly oxidized and appears to have a definite slip externally. This has been made a separate category because no shale or sandstone are visible; however, with a small fragment it is possible that there are some in other parts of the vessel and it may really belong with Type 1.

Type 3 Ham Green (near Bristol) Cooking-Pots⁷⁴

As sherds of these are visually different to those of Ham Green jugs they are described separately here to aid future identification. The fabric is not the same as the jugs, containing very fine (0.5-0.2 mm.) grains of angular to sub-rounded different coloured quartz, some of which can be seen shining on the surfaces. The vessels are usually oxidized a distinctive brick-red colour, or a light brown, sometimes with a reduced core, and are very hard fired. The colours are very similar to Vale Fabric,⁷⁵ but the larger inclusions in that make it coarser. Like the jugs, the cooking pots are hand-made, and wiping marks can often be seen on the surfaces. Horizontal bands of wavy combed lines and grooves at wide intervals are distinctive decorative features, but only a few undecorated bodysherds occur from this excavation. A sherd of Ham Green cooking pot fabric was found attached to the rim of a Ham Green jug 16 (Fig. X.12), presumably used to separate vessels in the kiln.

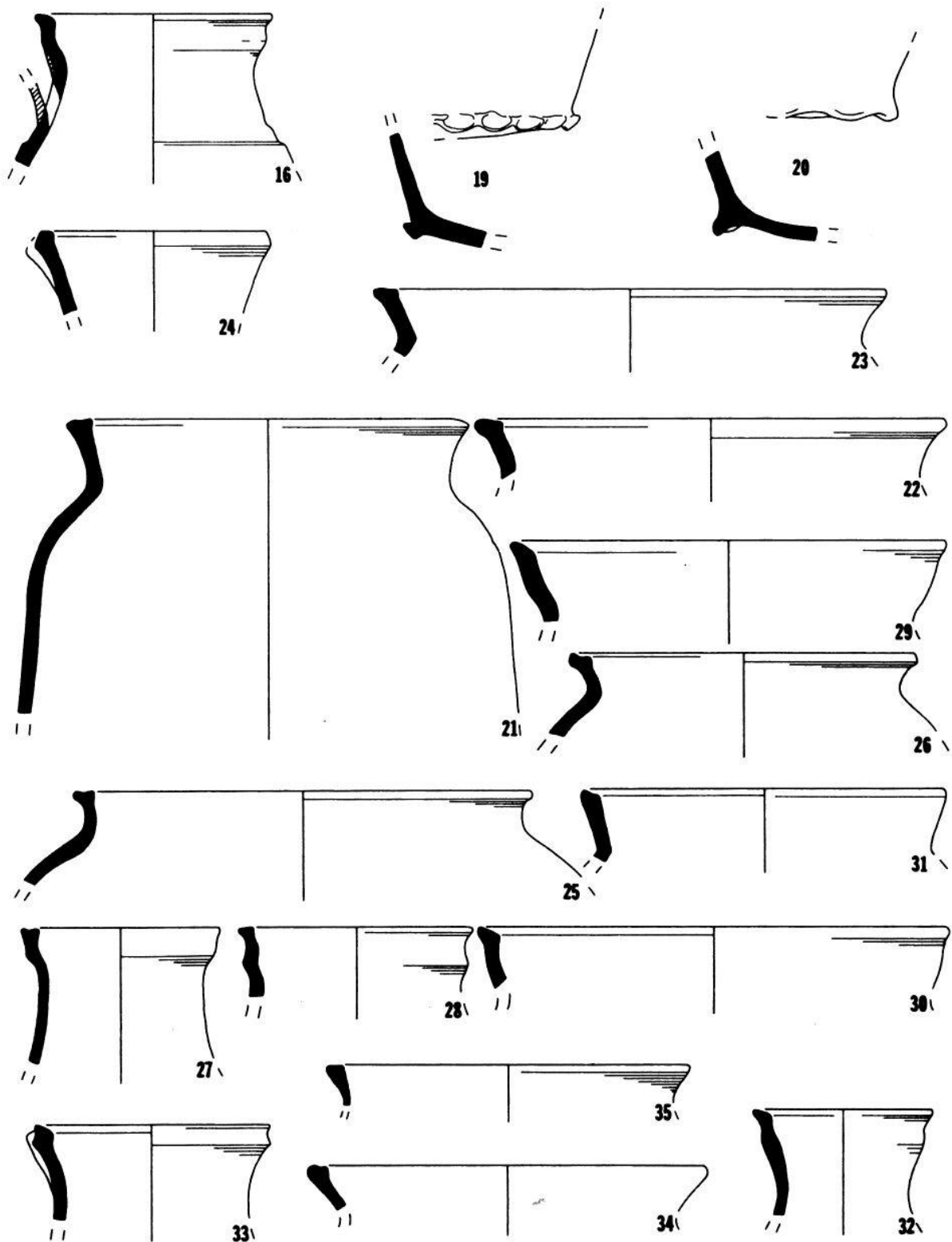


Fig. X. 12.

Pottery from context 29; type 4 (16). Pottery from context 135; type 1 (19, 21-24), type 4 (20). Unstratified pottery; type 1 (25, 26, 29-35), type 4 (27, 28). Scale 1:4.

Type 4 Ham Green (near Bristol) Jugs

It is not surprising that these should be present at Cardigan for they have a wide distribution in south Wales and have been found in Ireland. Unpublished finds from the area already exist. The fabric contains small quartz grains and varying amounts of scratchable white to dark-grey inclusions. It is usually very hard fired. Surface colours of vessels found at the Castle range from grey to light orange and buff; cores are reduced. The glaze is usually a patchy green, sometimes mottled with iron streaks and flecked with copper. Most of the sherds from Cardigan Castle are of Type B, only two type A vessels being represented: ⁷⁶ 16 (Fig. X. 12) from context 29 which has the characteristic ledge on the shoulder, and a bodysherd from the topsoil with a touch of diamond rouletting.

Typical Ham Green features represented at the Castle include remains of two bridge spouts, 16 (Fig. X. 12), 27 (Fig. X. 12), a portion of a small stabbed strap handle, 13 (Fig. X. 11) and frilled basal angles, 20 (Fig. X. 12). Decoration includes stabbing with the end of a blunt comb, scored lines at wide intervals, wide comb-marks and an applied strip over faint lines, possibly part of a figure. At present the date range of Ham Green cooking pots and jugs is 1200-1300.

Illustration Nos: 12, 13, 16, 20, 27, 28.

Type 5

Only one sherd of this fabric, a basal angle with a dark blue-grey reduced interior and core was found in the stratified deposits. It is very fine and bears no obvious inclusions, although a few very small ones are distinguishable under the microscope. The exterior surface is reddish-brown, with splashes of brown glaze. The angle is plain, not thumbbed, and knife marks are visible on the external base wall. A neatly-thumbbed basal angle, oxidized on both surfaces, unstratified, is probably the same fabric. No source has yet been found for this. A jug sherd with a slashed strap handle in the same fabric has been noted amongst unstratified material from Cilgerran Castle, and a thumbbed basal angle from the Woolworth's excavations is possibly the same.

Type 6 Local

Again only one sherd of this fabric was found in the stratified deposits, from context 135, but quite a lot came from the topsoil. It is finer and smoother than Gwbirt-type ware, with fewer large inclusions, and occasional small white calcareous ones. Surfaces are usually pink and cores blue-grey. Exterior surfaces when not glazed are sometimes a reddish colour. Glaze is

generally green but can appear brown, or purplish, varying on one vessel. It is often pitted and not well applied, only completely covering parts of the pot. Some of the vessels published from St. Dogmael's Abbey⁷⁷ are in this fabric and it is also well represented at the Woolworth's site,⁷⁸ where it usually reduced grey internally. Glazed jugs in a similar if not identical fabric are amongst material from Aberystwyth Castle.⁷⁹

Most sherds appear to be from jugs, although other forms 39, 40, (Fig. X. 13) are present. The smoothing of the clay over a wide area either side of the upper handle junction just visible on 43 (Fig. X. 13) (but not shown in the illustration) is identical on one St. Dogmaels' vessel.⁸⁰ This feature and the inturned rim form are also characteristic of some vessels in a different fabric found at Newport.⁸¹ Many sherds, especially bases, show wheelmarks, and most vessels were probably wheel-made. A few sherds are decorated with horizontal scored lines (not illustrated); more complicated combing 44, (Fig. X. 13) and stamps (45) are also present. The only surviving handle fragment is deeply slashed with a blunt instrument 46, (Fig. X. 13). Bases can be plain or thumbbed.

Variant: one sherd (not illustrated) which is unique on the site in its finish and decoration has been included in this category. It is very hard-fired, grey throughout except for patches of oxidization near the surface. Wavy lines are combed at broad angles over deep ridges and scored horizontal grooves. The glaze is very shiny, light brownish green streaked with iron; in places there are bubbly purplish patches. This is possibly an attempt at copying a Ham Green jug in a local fabric.

Illustration Nos: 39-46.

Table of Stratified Pottery

	Type 1	Type 3 and 4	Other	Total
Sherds	177	14	3	194
Minimum No. of Vessels	82	11	3	96

Unstratified

A wide variety of other pottery types were found in unstratified contexts. Foreign imports include mediaeval French, Spanish or Portuguese (Merida-type), and stoneware from Frechen, Germany. Broad categories with inclusions similar to Types 1 and 6 (local) are Fig. X. 13, nos. 47-52, mediaeval and Fig. X. 13, nos. 54 and 55, probably post-mediaeval. A few

bodysherds similar to material from the kiln site at Newport, Pembrokeshire, were also found. Amongst the post-mediaeval material North Devon wares, gravel-tempered, gravel-free and sgraffito, predominate. Of note is a sgraffito rim, probably from Donyatt. Also present are Staffordshire/Bristol type slipwares, tin-glazed earthenware, probably of Bristol origin, sherds of Westerwald stoneware, and a selection of black and brown glazed red earthenwares.

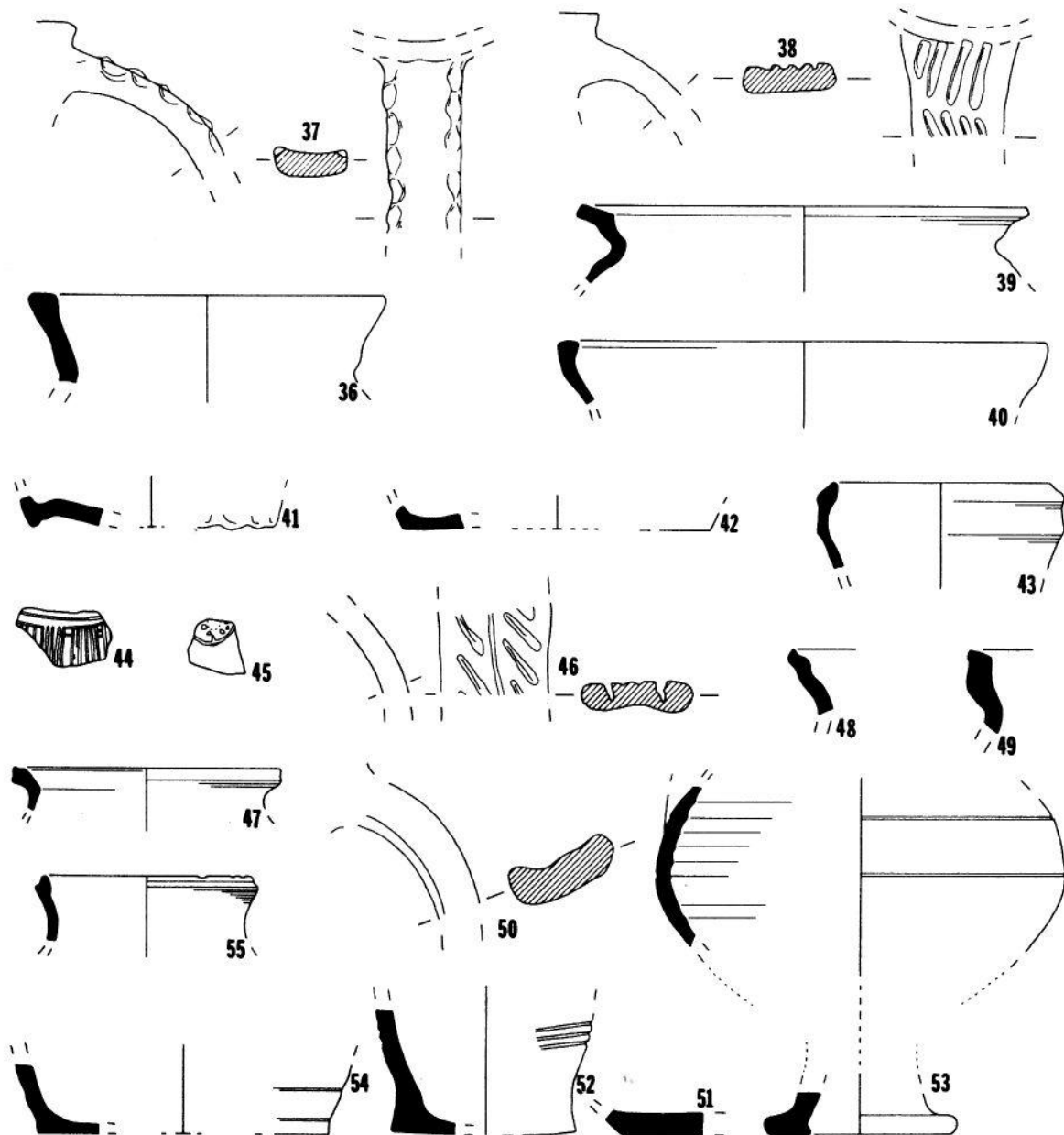


Fig. X. 13.

Unstratified Pottery; type 1 (36-38), type 6 (39-46), type A (47-52), type G (53), type H (54, 55). Scale 1:4.

Fig. X. 13, no. 53. From topsoil

Part of pedestal base and globular central portion of a vessel of unusual form, possibly Spanish. The fabric is red, very light in weight and has a layered crumbly appearance in fracture. The surfaces are covered with cream coloured slip, which is thicker externally. There are two scored grooves on the outside of the body and the start of a small handle on the shoulder. The break at the top of the basal position is very flat, as if it has been sliced off. Vessels of this form are not known, but if this vessel is Spanish the part drawn as the base is possibly the rim of a flask (i.e. the drawing is upside down), but the flat 'foot-ring' is worn beneath. Thin sectioning has shown no mica or other diagnostic inclusions to be present in the fabric, only quartz.

Summary

The stratified sample is really too small to draw definite conclusions about quantities of local and imported pottery, but it does suggest that the bulk of pottery in the thirteenth century was locally made, with only a few Ham Green vessels reaching Cardigan, perhaps as a by-product of some other trade. Their presence does not exclude the possibility of a nearer production centre making fine wares (e.g. Type 5), but illustrates the ease of transport via the Bristol Channel compared to the difficulty of overland travel. Worth noting is the absence of French imports and British Redcliffe Jugs in these levels, and the complete absence amongst all the mediaeval pottery found so far of wares with predominantly calcareous inclusions. Further excavation of material from stratified contexts is required to define local types of pottery, and to determine the relative amounts of local and imported wares in use at various dates.

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CATHY O'MAHONEY

NOTES

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- ²S. M. Meyrick, *The History and Antiquities of the County of Cardigan* (1810, reprinted Brecon, 1907), p. 168.
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- ⁶D. J. Cathcart King, 'The Castles of Cardiganshire', *ante*, III (1956), pp. 50-69.
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- ⁹*Ibid.*, p. 64.
- ¹⁰T. Jones, *Brut y Tywysogion. Red Book of Hergest Version* (Cardiff, 1955), p. 155.
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- ¹⁹Jones, op. cit., (1952), p. 99.
- ²⁰Lloyd, op. cit., (1911), p. 666.
- ²¹Colvin, op. cit., vol. II, p. 590.
- ²²Lloyd, op. cit., (1911), p. 672.
- ²³Jones, op. cit., (1952), p. 102.
- ²⁴*Ibid.*, p. 105.
- ²⁵King, op. cit., p. 53.
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- ²⁷Lloyd, op. cit., (1911), p. 653.
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- ³⁰I. J. Sanders, 'Trade and Industry in some Cardiganshire towns in the Middle Ages', *ante*, III (1959), pp. 319-336.

³¹Colvin, op. cit., vol. II, p. 590. Canon Cunnane has suggested to me this was a retrospective payment to Robert Waleran for work done, for by 1261 the castle was no longer under his custody.

³²*Ibid.*, p. 591.

³³*Ibid.*

³⁴Colvin, op. cit., vol. I, p. 234.

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³⁹J. Speed, *Cardiganshyre described with the due form of the Shiretown as it surveyed by I. S. Anno 1610*.

⁴⁰J. R. Phillips, *Memoirs of the Civil War in Wales and the Marches 1642-1649* (London, 1874), 2 vols., vol. i, p. 233.

⁴¹*Ibid.*, vol. II, pp. 228-9, Document LXIX A, an extract of a letter by Captain W. Smith to the Lord High Admiral, 5th February 1645. 'The enemy within the castle yard cast up a half-moon some distance from the place, on which the demy-culverin played, in which they placed their great guns laden with case shot, that in case a breach should be made those guns, might disanimate our men in entering, or perform sudden execution on them. Our men playing the demy-culverin forced a breach and being full of resolution entered running into the mouth of their guns recovered the half moon . . .'

⁴²Royal Commission on Historical Monuments, Newark on Trent. *The Civil War Earthworks* (London, 1964) p. 51—a demi-culverin was a 10 ft. long cannon weighing 3,600 lbs. of 4 ½ inch calibre firing a 9 lb. shot. Its point-blank range was 400 yards, at an elevation of 10° its range was 2,400 yards. p. 101, 'Half-moon, outwork, originally crescent-shaped, but more often with two faces forming a salient angle, placed outside the main work in front of the curtain or bastion'. At Cardigan the half-moon must have been built in the castle yard, enabling the defenders to fire their guns over the curtain wall.

⁴³Phillips, op. cit., vol. I, p. 233.

⁴⁴*Ibid.*, p. 291.

⁴⁵N. Carlisle, *A Topographical Dictionary of the Dominion of Wales* (London, 1811).

⁴⁶I. S. and N. Buck, *The South View of Cardigan Castle and Priory* (1741).

⁴⁷Speed, op. cit.

⁴⁸I. S. and N. Buck, op. cit.

⁴⁹H. Bosell, *Complete Historical Descriptions of a New and Elegant Collection of Picturesque Views and Representations of the Antiquities of England and Wales* (London, 1780), p. 353, engraving of 'Cardigan Castle' by Eastgate, sculpt.

⁵⁰Metcalf, sculpt., *Cardigan Castle*, N.L.W. PA 6646.

⁵¹J. Ryland, sculpt., H. Ralph, del., 'Cardigan Castle', in *Illustrations to Meyrick's Cardiganshire*, N.L.W. BV 213.

⁵²F. Grose, *The Antiquities of England and Wales*, vol. VIII (London, 1786), p. 35, 'Cardigan Castle'. A note in the text states that although published in 1786 the drawing was made in 1770.

- ⁵³ T. Rees, *A Topographical and Historical Description of South Wales* (London, 1815), p. 535. 'Cardigan Castle' engraved by J. Greig from a drawing by F. Grose.
- ⁵⁴ H. Wigstead, *Remarks on a Tour to North and South Wales in the year 1797* (London, 1800), p. 50. Drawing of 'Cardigan' by Rowlandson aquatinted by T. Hill.
- ⁵⁵ J. L. Petit, *Sketches in Wales 1831*, N.L.W. Original Drawings, 379, no. 14.
- ⁵⁶ Anon., *Sketches on a Tour Through Wales 1808*, N.L.W. Original Drawings vol. 18, No. 36.
- ⁵⁷ H. Gastineau, artist, W. Wallis, 'Cardigan Castle', 1828, a copy in *Illustrations to Meyrick's Cardiganshire*, N.L.W. BV 213.
- ⁵⁸ Carlisle, op. cit.
- ⁵⁹ King, op. cit., (1956), pp. 50-69.
- ⁶⁰ D. J. Cathcart King and J. C. Perks, 'Carew Castle, Pembrokeshire', *Arch. Journal*, 119 (1962), pp. 270-307.
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- ⁶² Colvin, op. cit., vol. II, p. 590.
- ⁶³ *Ibid.*
- ⁶⁴ A. G. Vince, 'The Petrology and source of the Mediaeval Pottery from Meldon Quarry, Devon', in 'Excavations in Okehampton Deer Park 1976-1978', by D. Austin, *Devon Archaeological Society Proceedings*, No. 36 (1978), pp. 235-6.
- ⁶⁵ H. James, 'Mediaeval Pottery from Carmarthen: a fabric type series', *Mediaeval and Later Pottery in Wales*, V (1982), pp. 1-8.
- ⁶⁶ D. Maynard, 'Excavations in Cardigan: Volk's Bakery 1975', *ante*, VII (1974-5), pp. 350-4.
- ⁶⁷ I am grateful to Martin Bell, St. David's University College, Lampeter, for pointing out that the grain size of some of these inclusions is too small for them to be sandstones, and that they may be silicified siltstones.
- ⁶⁸ D. G. Benson, H. James and S. Jones, 'A Mediaeval pottery group from Gwbert, Dyfed', *Mediaeval and Later Pottery in Wales*, I (1978), pp. 26-39.
- ⁶⁹ D. Q. Bowen and D. L. Lear, 'The Quaternary Geology of the Lower Teifi Valley', pp. 297-302 in Bassett M. G. ed., *Geological excursions in Dyfed, South-West Wales* (1982).
- ⁷⁰ Benson, James and Jones, op. cit.
- ⁷¹ *Ibid.*, see illustration 1 and 2.
- ⁷² The thumbing of each side of the handle is a feature found on some pottery from Devon and Cornwall but appears to be unusual in Wales. Fig. 14; No. 52 in Appendix 2 'The Pottery' by J. P. Allan, in D. Austin op. cit., note 64. Fig. 18, p. 85 in 'The Pottery' by Pamela Broady in 'St. Andrews St. Excavations 1976', by G. J. Fairclough. *Plymouth Museum Archaeological Series*, No. 2.
- ⁷³ See ix, 26, No. 4, in T. James, 'Excavations at Woolworth's Cardigan, 1978', *ante*, IX (1983), pp. 336-342.
- ⁷⁴ All Ham Green wares have been identified and commented on by Mr. M. Ponsford of the City of Bristol Museum and Art Gallery. For this type of pottery see K. J. Barton, 'A Mediaeval Pottery kiln at Ham Green Bristol', *Transactions of the Bristol and Gloucestershire Archaeological Society*, LXXXII (1963), pp. 95-126. M. Ponsford and R. Price, 'The Pottery' in R. Price 'Excavation at the Town Wall, Bristol, 1974', in N. Thomas ed., *Rescue Archaeology in the Bristol Area: 1* (City of Bristol Museum, an Art Gallery Monograph No. 2), 1979. M. W. Ponsford, *Bristol Castle: archaeology and history of a royal fortress* (unpublished M. Litt. thesis, University of Bristol, 1980).

⁷⁵B. E. Vyner, 'Vale Fabric—a mediaeval pottery industry in Glamorgan', *Mediaeval and Later Pottery in Wales*, V (1982), pp. 31-43.

⁷⁶Barton, op. cit.

⁷⁷See vessels nos. 7, 8, and 10 in J. K. Knight, 'Some Late Mediaeval Pottery from St. Dogmael's Abbey, Pembrokeshire', *Arch. Camb.*, 119 (1970), pp. 125-130.

⁷⁸James, T., op. cit., Note 73.

⁷⁹Pottery in Ceredigion Museum, Aberystwyth.

⁸⁰Knight, vessel No. 10.

⁸¹E. J. Talbot, 'Welsh Ceramics: a documentary and archaeological survey', *Post-Med. Arch.*, 2 (1968), pp. 119-139.