

VIII.

KIRKCUDBRIGHT CASTLE, ITS POTTERY AND IRONWORK.

By G. C. DUNNING, B.Sc., F.S.A., H. W. M. HODGES AND
E. M. JOPE,¹ M.A., F.S.A.

The medieval castle at Kirkcudbright, like those of Dumfries and Wigtown often linked with it in the records of 1288–1307, has no masonry standing above ground. The tradition of the site was however preserved, "Castle dykes," the earthwork to the west of the town, between and the latter estuary of the Dee. Here in 1911–13 excavations were carried out, recovering the ground plan with some success.² A fair amount of pottery (parts of over fifty vessels) and ironwork were also found, and reported on briefly by A. O. Curle. Of particular interest are the eight imported French jugs, a number exceeded at few other single sites in the British Isles.

Since this castle seems to have had a short occupation, c. 1288–1308, the pottery should be a closely datable group, and should provide some measure of reference for the Edwardian occupation material of other southern Scottish castles used over a longer period. Although Scotland has a number of vessels datable by coin-hoards,³ detailed study of pottery as datable or stratified groups (and particularly of kiln material)⁴ is still much needed to define the development of medieval pottery in Scotland. Accordingly this Kirkcudbright material is published here in some detail, through the co-operation and kindness of Mr G. E. Paterson, under whose charge it is preserved in the Stewartry Museum⁵.

Kirkcudbright castle is first mentioned in 1288 when John Comyn of Buchan, one of the four guardians of the realm of Scotland and sheriff of Wigtown, was appointed *custos*.⁶ The office is combined with that of Dumfries and of Wigtown in the 1291–2 records, and was held successively by William de Boyville, Walter de Curry, Henry de Boyville and Richard Suard.⁷ These castles were called the "three castles of Galloway and

¹ When our study of this pottery was fairly advanced, we found that Mr Dunning had earlier also studied some of it. He generously handed over his drawings and notes, and it is with great pleasure that we now put it forward as a joint publication—H. W. M. H., E. M. J. We are most grateful to Mr H. M. Colvin and Mr. D. M. Waterman for these comments and to the latter for co-operation in preparing the maps; and to Mr A. Austin (Physiology Laboratory, Oxford) for preparing copies of the old photographs for blockmaking.

² *P.S.A.S.*, XLVIII (1914), 381–94.

³ J. D. A. Thompson, *Inventory of British Coin-Hoards* (1956).

⁴ Particularly that in the National Museum still unpublished from Colstoun, near Haddington.

⁵ We are most grateful to Mr Thompson and to his successor Mr Dobie, as caretakers of the Museum, for their constant help and kindness.

⁶ *Exch. R.*, I, 39.

⁷ *Bain's Cal. Docts. (C.D.S.)*, II, 1272–1307, Nos. 520, 547, 550, 572, 574, 580, 582, 589.

Nithsdale.”¹ But no accounts for expenditure on building or repair or incidental references to work there have yet been traced for Kirkcudbright castle, such as exist for other SW. Scottish castles, Lochmaben, Caerlaverock, Ayr or even Tibbers.² Some of these even by c. 1300 seem still to have had much timber work in their defences,³ though Tibbers was certainly built in stone.

Edward I evidently intended Kirkcudbright as a supply port when in 1300 his fleet lay off the Dee estuary⁴ and he stayed there from 19th to 31st July,⁵ then making his encampment at Twynholm, whence many royal letters were despatched⁶ (“Palace Yard” is reputed to be the site of this camp).⁷ Thereafter the king turned his attention to the east of Scotland, leaving the W. to his son Edward, who may have come to Kirkcudbright in July 1301 on his journey W. to Cree, Loch Ryan and Ayr.⁸ For provisioning and repair in 1304-5 Dumfries and Ayr only are mentioned in this area,⁹ the latter with its castle becoming an important base and trading town. But in 1304 the escheators were escorted from Wigtown to Kirkcudbright and Dumfries,¹⁰ and Kirkcudbright appears again as a potential supply base in 1306.¹¹

The castle is unlikely to have been significantly used by the English after Edward I's death at Burgh-by-Sands by the Solway shore in 1307 and Edward II's withdrawal from Scotland in the following year,¹² and the town was reported as waste in 1335-6 (“vasta per tempus huius computi”).¹³ There is no record that the castle was at all used by the Douglasses up to

¹ Bain, *C.D.S.*, II, No. 582. Cf. the “three castles” of the South Welsh March, White, Grosmont and Skenfrith.

² R.C.A.M. (Dumfries) B. H. St J. O'Neil, *Guide to Caerlaverock Castle* (H.M.S.O. 1951); W. D. Simpson, in *S.H.R.*, xxxii (1953), 123-27.

³ In 1300 Dumfries was enclosed by a palisade prepared in Inglewood Forest, Cumberland (R.C.A.M. 50). There were evidently earlier stone buildings, as in 1294-6 Magister Petrus Cementarius was in charge of work here and at Wigtown (Bain, *C.D.S.*, I, 27, 31). Lochmaben also had a timber palisade.

⁴ *T. Glasgow A.S.*, III (1899), 297-301.

⁵ Gough, *Itin. Edw. I.*

⁶ *Ibid.*

⁷ Grid ref. 613544. The sort of tents used in such a camp for a stay of one week may be seen from the Wardrobe accounts of the prince Edward in preparation for his campaign in Scotland in 1303. Twenty-eight tents and pavilions were made in London; one was a great hall with six posts, another, the prince's chamber with three posts, two stables each had four posts, a chapel three, a council chamber four, and twenty-two little tents each had one post; some had the leopards of the prince's arms embroidered on them. (*Each. Accts.*, 363/18, fo. 20; Hilda Johnstone, *Edward of Carnarvon* (1946), 87.) “Preparations to strike and pitch tents” were also sometimes recorded (*ibid.*, 78).

⁸ Humphrey de Bohun, whose company had been specially desired by prince Edward, dated a letter at Kirkcudbright on 21st July (H. Johnstone, *Edward of Carnarvon* (1946), 73, 78 n. 5).

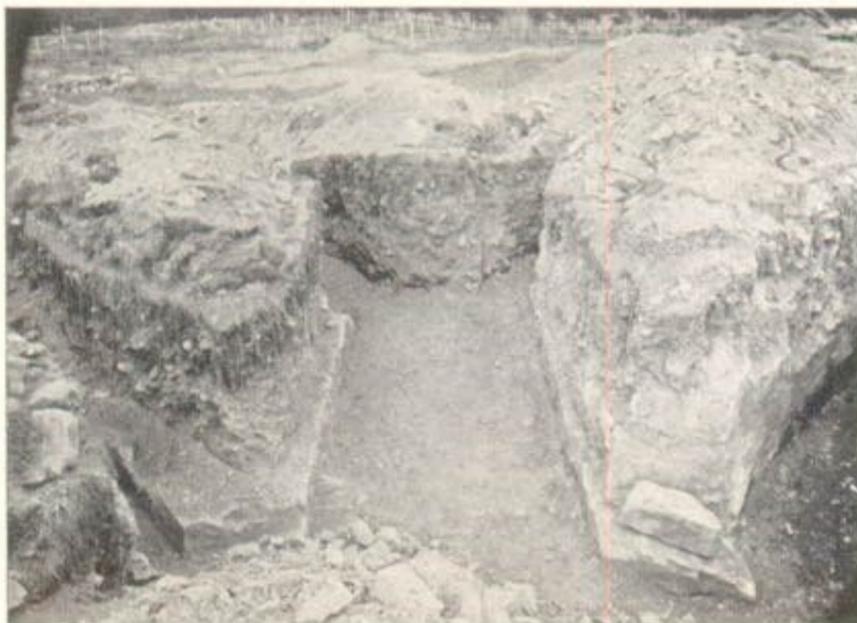
⁹ Bain, *C.D.S.*, II, No. 1722.

¹⁰ Bain, *C.D.S.*, II, 443. For the office of escheator see Sir Maurice Powicke, *The Thirteenth Century* (Oxf. Hist. Eng. IV, 1953), 63-64.

¹¹ H. Johnstone, *Edward of Carnarvon* (1946), 113; *Cal. Close R.*, 1302-07, pp. 399-400.

¹² But a castle as near as Buittle had an English constable in 1311 (Bain, *C.D.S.*, III, 218). The English march on the whole after this was between Annandale and Nithsdale.

¹³ Bain, *C.D.S.*, III, 317-18.



Kirkcudbright Castle: 1911 Excavation.

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their forfeiture in 1455¹ (as it might have been, for Kirkcudbright became their burgh), and during the later middle ages it probably lay a ruin. In 1577 Sir Thomas McClellan acquired the site, and he probably used much material from the old castle to build from 1581 his house which still stands within the town.² The site later reverted once again to the Crown.

The castle was set on low-lying ground beside the river Dee to the W. of the town. Excavations here in 1911–13 were intended mainly to recover

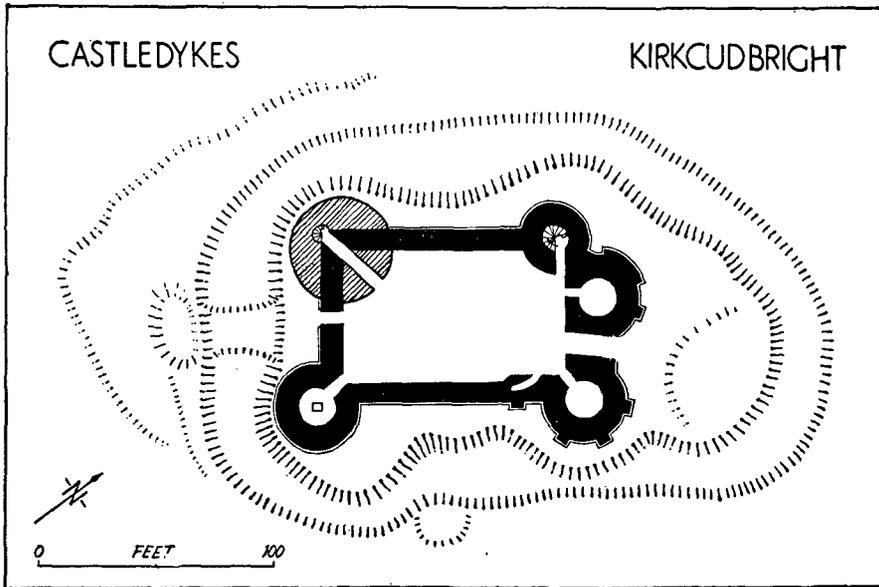


Fig. 1. Plan showing stone castle in relation to earthwork.

the ground plan,³ but a fair amount of pottery was found and preserved, on which A. O. Curle commented. No original notes or plans of the excavation can now be found, but four photographs preserved in the Stewartry Museum show the character of the masonry, and that the footings remained fairly complete. The walling, both of the curtain and of the round towers, was of random rubble with wide mortar joints. Externally, both curtain and towers had a chamfered plinth of steep angle (about 20° to the vertical), mostly made up of random rubble, though with ashlar used in places. The buttresses were also of random rubble, and had a steep chamfered plinth following that of the main walling.

¹ Cf. *T. Dumf. & Gall. A.S.*, xxix (1952), 53.

² For the date of this building see *T. Dumf. & Gall. A.S.*, xxx (1952), 196.

³ It would seem from the account that the published plan (*P.S.A.S.*, xlviii (1914), 388) was the result of a little extrapolation from the actually identified parts of wall faces, though clearly in the main justified. The plan now printed utilises the *R.C.A.M.* plan to show the position of the stone castle as set within its earthwork (revised).

The plan, though not typical of, for instance, the Edwardian castles of Wales, shows that it had a gatehouse of some strength. It may be compared with Scottish castles of the period at Caerlaverock,¹ and those at Bothwell,² Kildrummy³ or Dirleton,⁴ with their large round keep-towers probably represented here by the large round footing at the west. At Kirkcudbright the plan as presented by the excavators makes this appear an addition, though perhaps only representing the sequence of construction. Towers were at this period sometimes built on solid footings, or on an entirely solid ground floor.⁵ The buttresses of the gatehouse towers and adjacent curtain are most unusual for this period. They were however probably intended to carry machicolations near the wall-top, perhaps even arched, as at Haughton Castle, Northumberland, the design of which Dr W. D. Simpson has argued⁶ was inspired by the fortified churches of southern France,⁷ a style seen notably in the papal palace at Avignon⁸ and which influenced similar architecture in Europe, but is seen otherwise in Britain only on Southampton town walls.⁹

THE POTTERY.

There are at least fifty jugs represented by the fragments preserved from the excavation, and four cooking-pots. There are no dishes, bowls or other more specialised shapes.

At least six of the jugs (and probably eight) are imports from south-west France. Of the rest, a variety of styles and fabrics suggest several different sources, some probably being brought from England. The garrisons of the English royal castles in south Scotland were being provisioned from England (and sometimes from Ireland), usually through Skinburness (near Carlisle) as a collecting base,¹⁰ and it would not be surprising if some English pottery (as the French) sometimes accompanied the supplies. English (North, and North Midland) influence in design and technique was however so strong on pottery making in Scotland¹¹ during this period (as emphasised by the faces

¹ B. H. St J. O'Neil, *Guide to Caerlaverock Castle* (1951); W. D. Simpson, in *S.H.R.*, xxxii (1953), 123-27.

² *P.S.A.S.*, LIX (1925), 165 ff.

³ *P.S.A.S.*, LXII (1928), opp. p. 86.

⁴ Ministry of Works Guide. *S.H.S.*, xxvi (1948), 48-56; Cf. the clustered towers of the gatehouse.

⁵ E.g. Dundonald (*Coll. Ayr. A.S.*, I (1949), 4-15); Auchencass, near Beattock (W. M. Mackenzie, *Med. Cas. in Scotland* (1927), 44-45); Harry Avery's Castle, Co. Tyrone, and Elagh, Co. Derry (*Ulster J.A.*, XIII (1950), 85, and pls. opp. 77, 85).

⁶ *Arch. Ael.*, xxix (1951), 126-34.

⁷ E.g. A. Gardner, *French Church Architecture* (1938), pl. CXCVI b.

⁸ J. H. Harvey, *The Gothic World* (1950), pl. VI (1344-52).

⁹ B. H. St J. O'Neil, in *Aspects of Archaeology* (O. G. S. Crawford Volume, ed. W. F. Grimes, 1951) pl. XI c, fig. 60. See also Kildare Cathedral, Ireland (H. G. Leask, *Irish Churches and Monastic Buildings*, II (1958) pl. XV a.

¹⁰ Bain's *Cal. Docts.*, II, passim; *Cal. Pat. R.* 1301-07, 208; *T. Glasgow A.S.*, III (1899), 290 ff.

¹¹ As brought out in S. H. Cruden's valuable publications of Scottish medieval pottery, particularly from Bothwell Castle (*P.S.A.S.*, LXXXVI (1952), 140 ff.).

with beard-handles from the kiln at Colstoun near Haddington) that inferences about the actual sources of the pottery itself can only be made if stylistic is enforceable by fabric evidence. Even then choice of suitable clay and method of firing were part of the technique.¹

Of the rest, some two-thirds shows an underlying uniformity of rather powdery fine fabric and could have been made at or near Kirkcudbright, the persistent English influence being attributable to potters drawn from English kilns, at work for the English garrison. There are some jugs the actual source of which must remain doubtful. The suggestion of local manufacture is based on the rather fragile powdery fabric (which can be produced from local clays), on two pieces twisted in firing, and the high proportion (five jugs) of almost black glaze (applied as such), unusual elsewhere.

In tracing the origins of the English potters and their influence, and of some of the vessels themselves, we are (as in studying the Carlisle pottery)² persistently brought back to the north and east Midlands and Yorkshire, and to Nottingham in particular, though there are other features which are more local to the Solway area, traceable probably to Carlisle and its hinterland. The Nottingham background is shown here by the face-masks with beard-handles, and also by the style of some of the dark applied stripes. The glazing methods are sometimes reminiscent of Nottingham, though the Nottingham small cooking-pots in evidence at Carlisle and Burgh-by-Sands are absent from Kirkcudbright, as are other typical Nottingham features like lidded jugs and accentuation of outward splaying base angles. Also absent are the urinals, seen at Nottingham, Carlisle and at Bothwell.³ The fine jug No. 9 is of a general style to be found in the north Midlands, and again at Nottingham in particular. But its fabric is not typical of Nottingham; this in texture is better paralleled at Chester, though Chester pottery (which is found in the north of Ireland) is not otherwise in evidence at Kirkcudbright. Medieval pottery was clearly carried over considerable distances through England,⁴ and Nottingham products have been found for instance in Cambridge.⁵

Much more detailed research on medieval pottery of the Solway and north Irish Sea area is needed before its patterns of development and trade can be adequately worked out. But it is evidently a subject of promise

¹ Thus, study of the fabric requires to be based upon judicious use of petrographic identifications of mineral grains, and also on the results of firing experiments on local clays.

² *T. Cumb. & West. A.S.*, LV (1956), 78-107.

³ *T. Cumb. & West. A.S.*, LV (1956), 100, Nos. 34, 35; to the map, fig. 5, should be added a fragment of such a urinal at Bowes Castle, N.R. Yorks.

⁴ *E.g.* G. C. Dunning, in K. M. Kenyon, *Jewry Wall Site, Leicester* (1948), 243-44. See also *T. Bristol & Glos. A.S.*, LXXV (1956), 25 ff.

⁵ G. C. Dunning, in *Ann. Rep. Peveler Archæol. Group* 1954; B. Rackham, *Med. Eng. Pottery* (1948), pl. XII a. Pottery of this general class was also going abroad by North Sea trade (see *Arch. Cant.*, LXIX (1955), 143-46; *Norfolk Arch.*, xxx (1954), 308 ff.).

and service in the study of campaign supply, and the trade which, across that sea linking England, Scotland, Wales and Ireland, was considerable.

There does seem a considerable contrast between the 13th-century

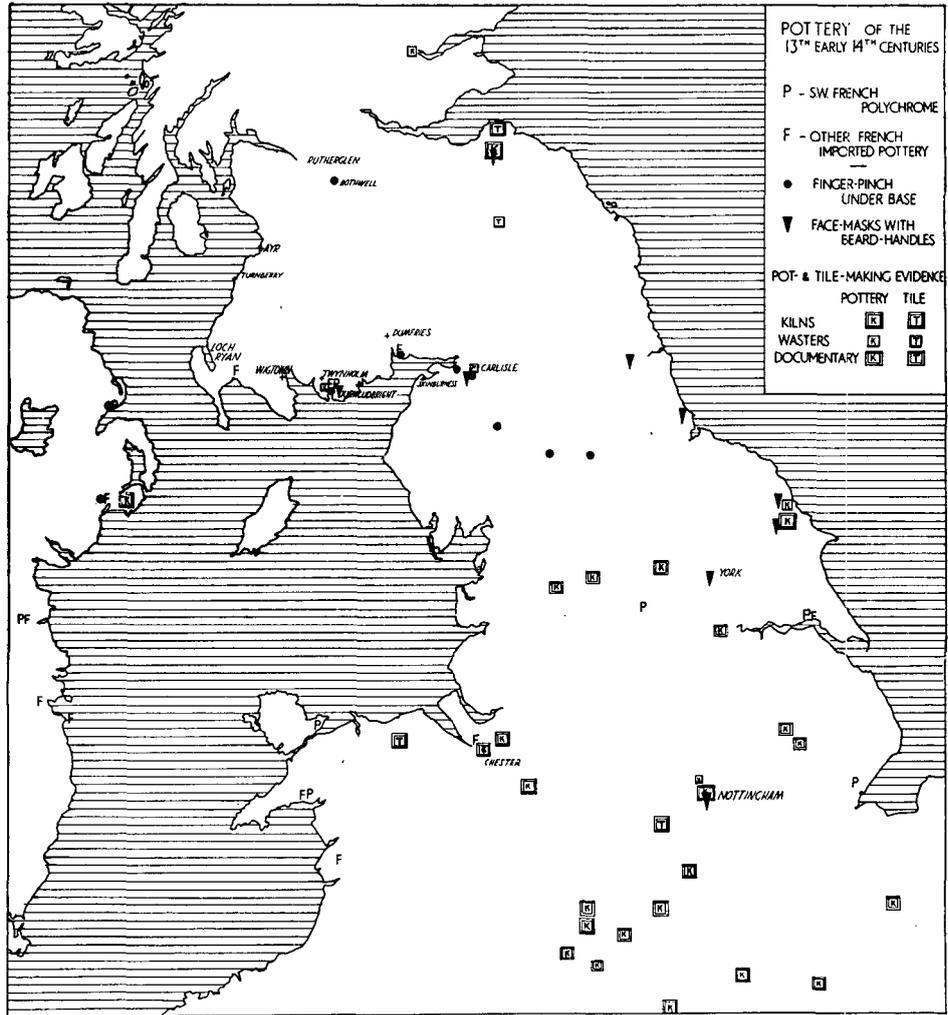


Fig. 2. Map showing sites mentioned, finds of French imported pottery, some British types, and the evidence for pottery and tile-making sites of 13th-14th centuries. Scale, 60 miles to 1 in.

pottery styles of the Solway area and those of NE. Ireland. The three-grooved handles, frilled base angles, and applied frilled bands round jug rims (the latter probably traceable to the Bristol area) of the Ulster castle and abbey sites¹ have not so far been recorded in the Solway area. Some

¹ *Ulster J.A.*, xvii (1954), 123 ff.; xxi (1958), 67-73; *Med. Arch.* iii (1959).

Chester pottery reached Carrickfergus,¹ and it seems that Chester and the Bristol channel ports were more active in supplying the north of Ireland (the former but not so much the latter clear from documents), Carlisle and its north Midland connections being more so for south Scotland.

A. French Imported Pottery.

First, there is one small fragment of a French medieval polychrome pitcher, a type found on a number of English and Welsh sites,² and on three in Ireland;³ this is the only example from Scotland.⁴ Where datable they are later 13th- early 14th-century. This fragment, the only Scottish example, is perhaps the most closely datable of all. This refined pottery, painted in two or three colours, was being made in south-west France, at La Chapelle des Pots,⁵ near Saintes, Charente Maritime, and there are jugs at Saintes⁶ with features closely matching the English examples, such as the trefoil-ended broad stripe down the back of the strap-handle.

The transport of this pottery has been associated with the extensive Gascon wine trade to Britain. This may well be justified in many cases, such as English-garrisoned castles, with their constant supplies of wine, but pottery was also sometimes carried in vessels apparently not directly connected with the wine trade.⁷

There are also parts of at least four other bridge-spouted jugs of fine white fabric and good green (copper) glaze, imports probably again from south-west France.⁸ The French-imported pottery thus seems to account for some 15 per cent of the jugs from Kirkcudbright. This series of c. 1288-1308 shows the continuing import of these plainer jugs, as already

¹ *Ulster J.A.*, xxiii (1960). See also *Ibid.*, xv (1952), 113.

² *Archæologia*, lxxxiii (1933), 114-38; *Arch. J.*, xciv (1937), 133, map. The find places from the southern half of England may now be more than doubled. These jugs are well inland, and also now from ports such as Hull, Boston, Southampton and Bristol. This new data is in course of publication by one of us (G. C. D.).

³ Ennis, Co. Clare, *J.R.S.A.I.*, lxxvi (1946), 200, 207; Carrickfergus Castle, *Ulster J.A.*, xxii (1959), and Mellifont Abbey, Co. Louth (per Liam de Paor) where some Caen stone was used.

⁴ A. O. Curle (*P.S.A.S.*, xlvi (1914), 391), recognised its unusual character and the parallel with the Bishopsgate, London, polychrome jug.

⁵ *Rev. de Saintonge et d'Anis*, n.s. I (1952), 24-34. It is perhaps worth noting that Edward I had only a fluctuating and insecure hold over the Saintonge to the north of Bordeaux. Exhaustive study of the voluminous documents might throw light on the purchase of wares from Saintonge merchants.

⁶ In the museum at the Hôtel de Ville. It is also worth noting that the bird of the Cardiff and some London polychrome jugs (*Archæologia*, lxxxiii (1933), 128, pl. xxvi) is to be seen on the Gascony (Bordeaux) paper water-marks of the 14th century (*Archæologia*, xxxvii (1873), 451; *The Library*, x, 282).

⁷ N. S. B. Gras, *The Early English Customs System* (Harvard, 1918), 269, 354-56, 626; L. F. Salzman, *English Trade in the Middle Ages* (1931), 415.

⁸ Cf. examples at Bordeaux (Mus. Hist. Nat., from excavations in Place S. Christoly, for finger-pressed strip descending from spout), and at La Rochelle.

known for the earlier 13th century in the north Irish Sea area.¹ Later medieval imported vessels are also known from the area.²

Identification of French imports requires the combination of fabric and glaze with French shapes, structural details and workmanship. These

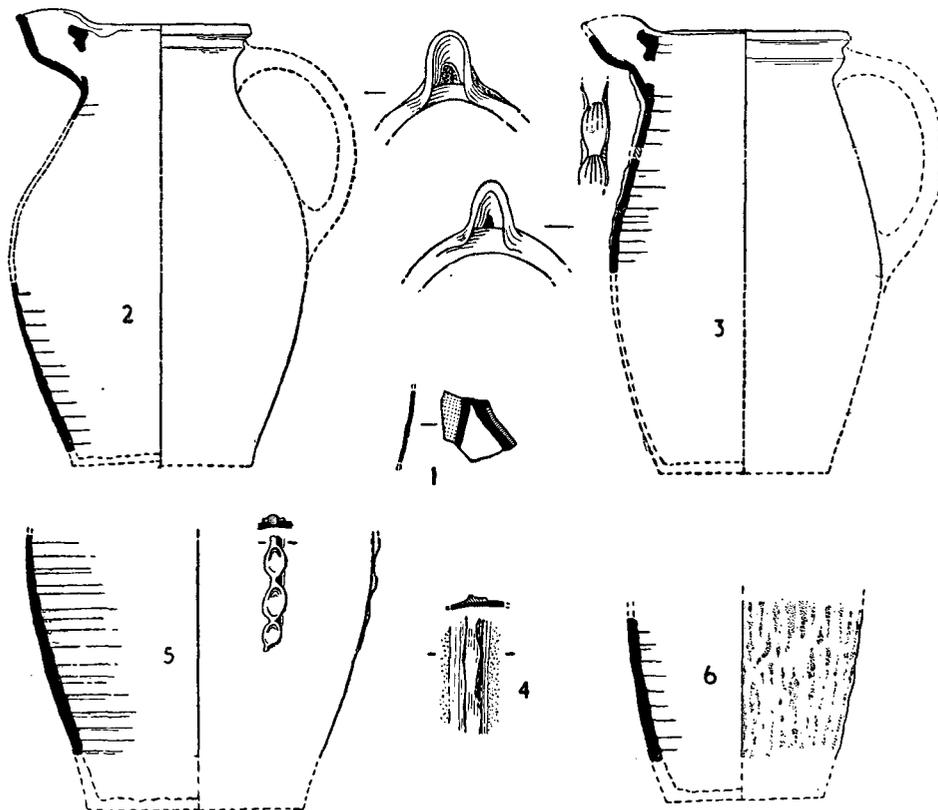


Fig. 3. Fine glazed pottery imported from France. Scale $\times \frac{1}{4}$.

were followed in Britain and there are border-line cases where it is not easy to be certain of a French source. There are sometimes fragments of white or fine pinkish fabric made from fine plastic clay, with strong rilling and grooving internally, which are nevertheless from their glaze, or structural details and rim forms (*e.g.* No. 8) are not so clearly of French origin. There was evidently some urge to produce white fabrics in Britain, Chester particularly being locally supplied (and which reached Carrickfergus), and in another form, Carlisle.

¹ *Ulster J.A.*, xvii (1954), 124-47, 161-62; *T. Dumf. & Gall. A.S.*, xxix (1952), 179-81, 188 (Glenluce Abbey).

² There is an example of the yellow and green glazed pedestal bowl with face masks (*cf.* Glenluce Abbey, 188, fig. 6) from Carrickfergus Castle, *Ulster J.A.*, xxiii (1960): the shadowy hint of reticulated head-dress on the Glenluce example seems slender evidence on which to base a 14th-century dating.

French Imports—Descriptions.

1. Fragment of polychrome jug, of fine hard white fabric with thin colourless glaze. The design is outlined in broad dark brown lines, and sufficient remains to identify parts of a bird in green, and a heater-shaped shield in yellow (cf. *Archæologia*, LXXXIII (1933), 128).

2. Parts of a parrot-beak spouted jug of hard-fired very fine white fabric with almost no grit. It has a blotchy glaze varying from dark to pale green. The dark green emanates from very dark almost black spots, whereas the pale green appears as circles radiating from pittings in the pot surface, intruding into the dark green. This is the result of sprinkling with a lead compound (galena) and copper filings; the surface is pitted where the galena particles have taken silica from the fabric on firing, and there are some patches of thin very pale yellow where the copper has not reached. As some areas have remained unglazed, this glaze must have been primarily ornamental, serving no real purpose (indeed it was hardly needed on such a fabric).

The body is heavily rilled on the interior, and it has a moulded and squared-off rim. The parrot-beak spout has been added to the jug, the neck being perforated to connect with it. The spout rises from the rim and has been pressed down to join it. These jugs have thin strap-handles: but no fragments of their handles are preserved from Kirkcudbright.

This (and Nos. 3–8 below) compare with the pottery group *b* at Kidwelly (*Archæologia*, LXXXIII (1933), 111).

3. Parts of another parrot-beak spouted jug, of fabric and glaze exactly similar to No. 2. The spout is smaller, and there is an applied strip ornamented with finger-tip impressions running down the body from the lower part of the spout, and probably from other points on the shoulder as well.

4. Fragments of applied strips, of exactly similar fabric and glaze. These have been finished off in a less usual way, by smoothing with the fingers along the strip and down the pot in a border on either side, the initial finger-tipping being thus much obscured. Probably from a similar parrot-beak spouted jug.

5. Lower part of a jug, probably of the same form, of hard white fabric, but thicker, and containing some rounded quartz particles of the order 1–2 mm. across (compare for instance the French import from Clough Castle, *Ulster J.A.*, xvii (1954), 125–27, fig. 6 (2)). The glaze is even more blotchy, and it has numerous small patches on the inside. It is deeply rilled inside, and has a vertical applied rod of round section, pressed down at intervals.

6. Part of lower half of jug, of greyish white fine fabric, but more gritty than Nos. 1–5 above (though with no coarse particles). It has a green glaze (more even than Nos. 2–5 above), with very dark green spreading downwards in vertical streaks.

7. Fragments of a similar parrot-beak spouted jug (not illustrated), in rather softer fabric with a faint pinkish tinge, and glaze similar to Nos. 2–4.

8. Fragments of a jug (not illustrated; shape not deduceable) of fine fabric (softer, as No. 7), of pinker tinge (due to iron) on inside and half way through fracture, white on the outside where covered with a blotchy dirty olive-greenish glaze, evidently the effect of iron in oxydised state on the copper-green. The interior is heavily rilled.

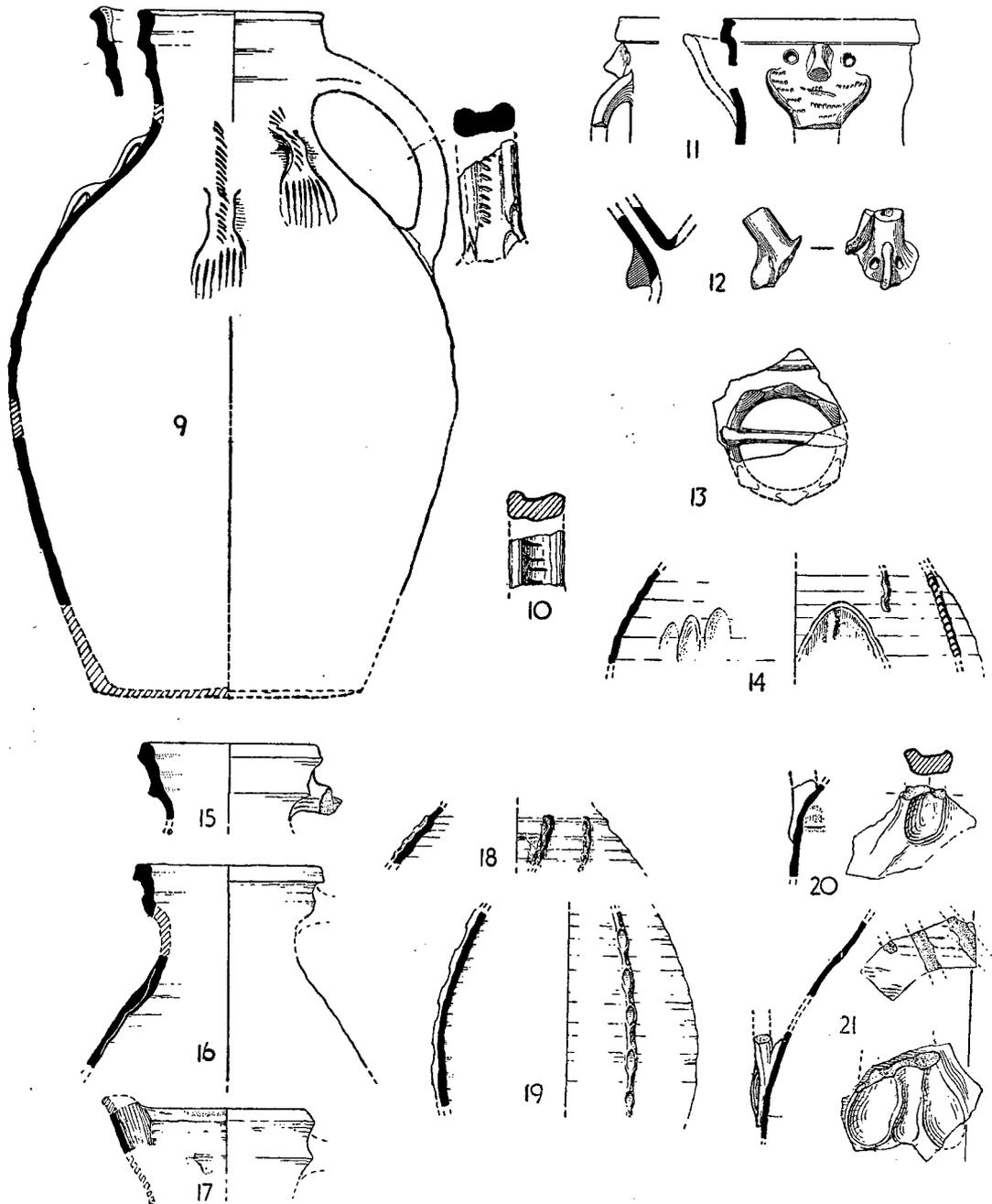


Fig. 4. Glazed jugs. Scale, $\times \frac{1}{4}$.

B and C. *Jugs and Pitchers made in England or Scotland.*

Shapes.—Few jug profiles can be reconstructed at all fully, though sufficient can be inferred to show normal jug shapes, with no very baggy or waisted forms; all the bases are rather broad, suggesting also the absence of any baluster or other tall slender forms.

The jugs have simple moulded rims. Most have pinched lips; there are no true bridge-spouts except on the French-imported jugs, but the jug with two face-masks (No. 11) evidently had a spout attached below the rim,¹ and there is one fragment of a tubular spout. Bases are flat or slightly convex, often finished off by tool-trimming. A few have finger-pinching round the base angle, two with pronounced finger-tip impressions under the base angle, a feature apparently peculiar to the Carlisle area and its hinterland, extending into Scotland, and also found in Ireland.² One at least on fabric grounds may have been made near Kirkcudbright, and this (and the stacking-rings) suggests Carlisle-trained potters at work (as also perhaps at Bothwell). There are no foot-rings.

All have strap-handles (except one with a rod-handle) though some are rather thick; others are curled to give the common type with central channel, which is itself emphasised by running the finger along it when pressing on the top junction (*e.g.* Nos. 23, 24, 28). The thumb impressions emphasising the join of the lower end with the jug body are seen on all six lower junctions preserved; this is an almost universal feature at this time in the N., and fairly common in the English Midlands,³ though less so in the S. By contrast, none of the four upper junctions preserved has the thumb and finger impressions.⁴ There is no actual evidence here for two-handled vessels, so frequent on Scottish sites in the later middle ages.

Ornament.—Simple rotational ornament, rilling, ridges or grooves made while the vessel was still on the wheel-head, make little show here. Plastic ornament, however, as a separate process executed after wheel-work, was quite ambitious, as in England. This includes knife-slashing, jabbing with a point or comb, use of toothed wheel and of individual stamps, thumb and finger pressing, and application of strips of clay often notched or finger-tipped and of a contrasting (usually dark) colour. There is also much more elaborate plastic ornament. The face-masks below the rim with beard-handles down to the shoulder (No. 11) are known from a number of sites in the N. (see fig. 2) such as Carlisle.⁵ They were being made in

¹ Cf. the fine vessel from Carlisle, *T. Cumb. & West. A.S.*, LIII (1954), 207-08; there is a spout of this type from Bowes Castle.

² But seen occasionally elsewhere, *e.g.* Holland, *Ber. v.d. Rijksdienst v.h. Oudheidkundig Bodem-onderzoek*, VIII (1958), 133, No. 19.

³ *E.g.* G. C. Dunning in K. M. Kenyon, *Jewry Wall Site, Leicester* (1948), 229-48.

⁴ A feature to be seen in use sporadically over much of Britain.

⁵ As well as Carlisle, and Hartlepool, Co. Durham, these may be seen from Bothwell, Jedburgh and St Andrews (*P.S.A.S.*, LXXXVI (1952), 142, No. 6; LXXXIX (1956), 77, No. 10; 80, No. 53).

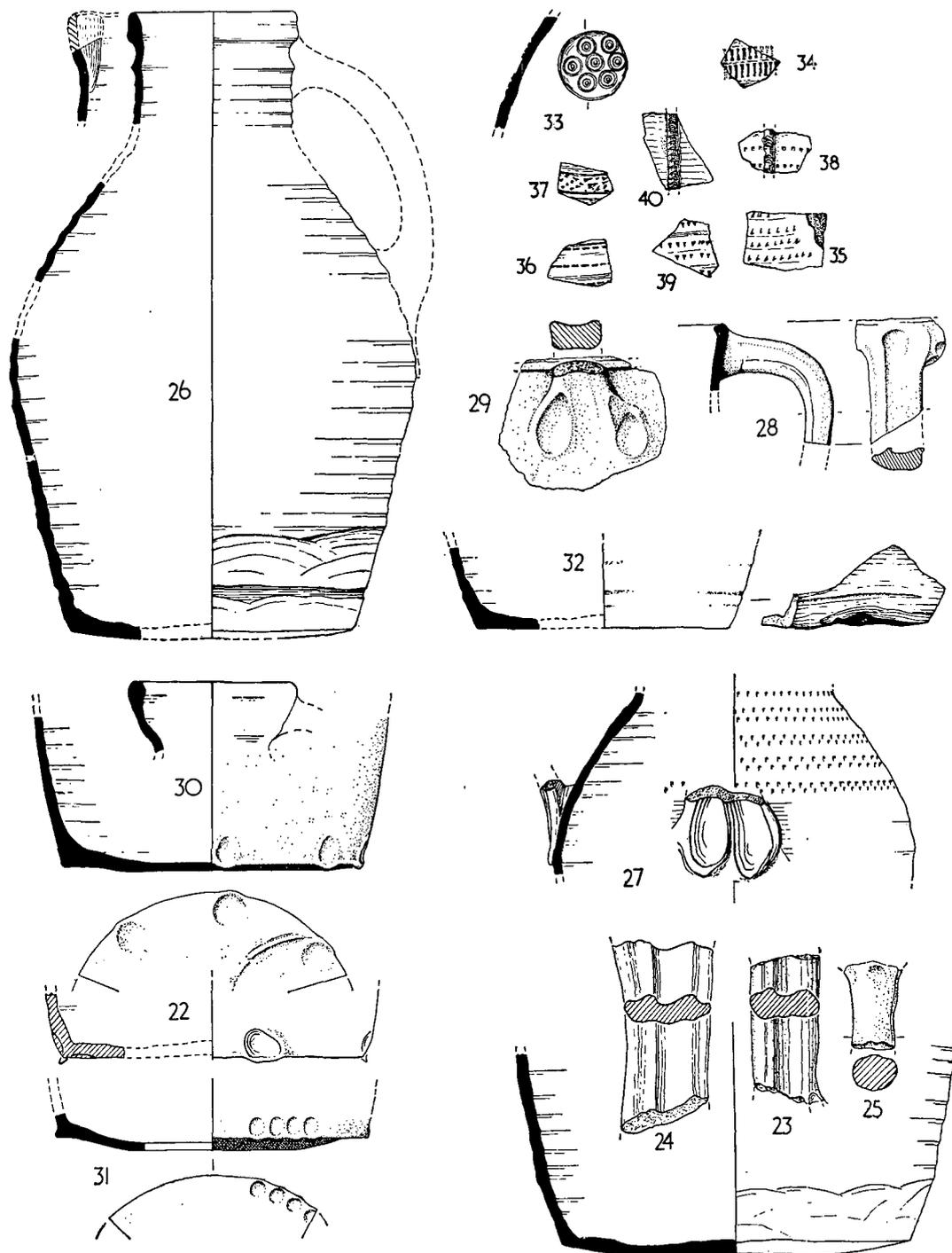


Fig. 5. Glazed jugs. Scale, $\times \frac{1}{2}$.

the Nottingham kilns (yielding coins of Edward I–III) and in Scotland in the kiln at Colstoun near Haddington. A face also ornaments the lower end of the tubular spout (No. 12), and the brooch shows this complex added modelling. Stamped or carved medallions (Nos. 14, 34) are to be found sporadically over much of Britain: here no extra clay pad has been used. Such secondary ornament was common in England in the 13th century and the products of the Haddington kiln show us conclusively, what was hinted already elsewhere, that such work was also being carried out in Scotland. This plastic ornament tends to be less frequent in the 14th century;¹ it must have added considerably to production time and cost. Incised wavy lines do not appear on the Kirkcudbright pottery.

At Kirkcudbright there is no certain example of painting; two possible examples may both be no more than chance running of a slurry. Painting is in fact rarely to be seen on Scottish or north (or even Midland) English medieval pottery, and was much more of a southern or East Anglian practice.

Fabrics.—There are a few pieces of hard grey fabric made from a fine clay with very little coarser grit, the matrix well vitrified in firing to give a rather metallic ring. No. 9 is of a buff even fine fabric with a uniform sand of about 0.25 mm. particle size and a little mica: it does not seem a northern fabric; a similar texture can be found on white wares at Chester, but by its style the jug probably came from some kiln in the English Midlands. Some other vessels are of a coarser harsh gritty fabric, with buff surface layer and grey or black core, a common widespread type of ware; similar wares occur at Carlisle though not exact parallels for the gritting.

Most of the rest is of a fine powdery fabric rubbing off on the fingers, with no larger grit particles, of varying hardness depending probably upon the firing; the softer is easily marked with the finger-nail, the harder almost so. They are a medium grey under reducing conditions, oxydising to an ochreous orange. These sherds, abraded and shorn of their glaze, with rotation striations still showing, have a disconcertingly Romano-British appearance. These softer wares are of poor quality and wear badly; they must have been fragile² and inferior for holding liquids, their patchy glaze helping little in this. Such wares are not found much at other Solway sites, and it is very likely that these vessels were made locally from the fine valley-bottom or ancient marine clays available round the Dee estuary.³

The ware with black core, white surface layers and dark green glaze, so

¹ It was almost absent from the sequence at Carlisle (*T. Cumb. & West. A.S.*, LV (1956), 79 ff.).

² Though this should not be emphasised too much in suggesting local manufacture, for their poor quality is much more noticeable in abraded sherds than it would have been in new complete pots. Also, such fine powdery fabrics are sometimes found used in England.

³ Similar textures and colours have been obtained by firing experiments with the fine zone VI marine clay from Brighthouse Bay to the west, and similar clays from the Dee Estuary for which latter we are most grateful to Mr G. E. Paterson.

characteristic of Carlisle and sites nearby and in use at this period, is not represented at all at Kirkcudbright, though hinted at in one vessel (No. 18).

The fine hard-fired sandy grey wares with olive glaze, the product of firing under reducing conditions, so typical of the later middle ages in Scotland and the border country, are not really seen in their early stages in this group of c. 1288-1308 at Kirkcudbright. Sherds of this ware were however found with the coin hoard deposited a little after 1344 at Closeburn in Dumfriesshire.¹

Glaze.—Most vessels carried some lead glaze. On some it is smooth, even and fairly thick; on others it is very sparse and patchily applied, and can have served no real purpose in making the fabric less permeable to liquids, being put on merely out of ingrained habit. No vessels here were glazed inside.

Glaze was applied to this pottery by several methods. First, crushed galena (native lead sulphide ore, PbS) or lead filings were sprinkled or thrown on to the vessel surface; on firing these took silicate material from the clay to form fusible lead silicate leaving a characteristic small pit where each lead particle had been. This gives inevitably an uneven glaze, spreading outwards in waves from each focal particle, and in olive-green reduced glazes being often marked by orange oxidation fringes at the wave edges. This technique was commoner in the north than in the south of England (it was used at Nottingham and round the Severn estuary), but it is seen also on some of the French-imported wares (Nos. 2-8), and elsewhere on the continent.

The more even glazes could be produced either by coating the pot with very finely powdered lead compound in suspension (a gum seems to have been used as a vehicle in Roman times), or by applying the glaze as a powder already formed as a lead silicate (a "glass"). The latter method (used in the East from ancient times), sometimes does not bind well and flakes off easily, as it takes nothing from the fabric and has no chemical relation with it. It can however hold well on some fabrics; the almost black glaze on nearly white fabric (No. 20) may have been put on ready formed, for the iron forming the colour cannot have come from the fabric.

Crackling is liable to occur in any glaze if it has been cooled too quickly without annealing.

Colour.—Almost all pottery colours, in both fabric and glaze, are due to iron. In fabric the reds, browns and buffs are due to iron in the oxidised state, the paler greys iron in reduced state, the darker greys and blacks being due to carbonised organic matter in the clay not burnt out, or to smoking in the firing. The creams and whites may be due to a low iron and

¹ In the N. M. A. There was no "bronze tripod cooking pot" (J. D. A. Thompson, *Inventory of British Coin-Hoards* (1956), 33); these sherds probably prompted this story.

carbon content, but it seems that partial reduction of iron can yield a colourless fabric. This is shown by the white layers, covered with an olive-green glaze over a black core, some of which may be turned pale reddish-orange or pink on heating in air; the protection from air by the glaze (so that some of the iron is in the ferrous state) is sometimes the cause of this effect.¹

In glazes the more subdued olive-greens are due to reduced iron, the fringes where air penetrates slightly sometimes being orange. The pale lemon or deep orange glazes are due to oxydised iron. The iron usually comes from the fabric, the depth of colour depending on the amount of iron in the clay, and perhaps the length of firing.

The deep brown or almost black glazes are also due to iron, present in larger quantities in a pre-formed glaze, and not merely derived from the fabric. The curious brown or purplish sheen sometimes seen on pottery is due to a very thin run of lead glaze, often due to overheating (*i.e.* above about 1050–1000°C.) when the glaze tends to run off.

Addition of copper to the glaze gives a deep green colour, which is retained under oxydising conditions, and hence appears green on an orange fabric background. Copper filings sprinkled on will thus give a characteristic green speckled effect on an orange glaze and fabric background. This use of copper is rare in the north; there is one piece only at Kirkcudbright, apart from the French-imported wares, all of which except the polychrome have glazes coloured deep green with copper. The predominating reducing conditions used in northern kilns sometimes give an opaque red on the rare occasions when copper is used due to a suspension of red cuprous oxide in the lead silicate, exactly like red enamel.

Technique.—All the vessels, jugs and cooking-pots, are wheel-thrown. The convex bases, formed probably as a result of removing the vessels from the turntable, have mostly been shaped finally by trimming off the excess clay with a tool, shown both on the outside surfaces and by the lack of conformity between the inner and outer profiles in cross-section.² There is a hint that No. 16 (and possibly No. 9) may have been constructed with its neck as a separate addition. This was a usual technique in the south Midlands and Severn–Bristol Channel area in the 12th and earlier 13th centuries,³ though there, by the later 13th century, many large pitchers were being thrown in one piece throughout; the range of this method of making jugs with separate necks needs detailed study throughout the British Isles.

Only two handles were dowelled in at the top, both from jugs probably

¹ This revises *T. Cumb. & West. A.S.*, LV (1956), 103–05.

² This unconformity is almost universally seen on the base angles of convex bases, medieval or earlier (see, e.g., *Ant. J.*, XXXIX (1959), in press; *Medieval Archaeology*, II (1959), 127, 133, 137; *T. Cumb. & West. A.S.*, LV (1956), 102–03; cf. T. C. M. Brewster, *Two Medieval Sites in the Vale of Pickering*, goes perhaps too far.

³ *Oxoniensia*, xxiii (1959), 1–84.

not made locally. The other handles were all merely luted and pressed at both top and bottom.

The high proportion of red and brown wares shows that the kilns were not much clamped down to reducing conditions towards the end of firing. Many pots have grey interior surfaces, often extending over half way through the fracture, but this is merely due to air not penetrating inside the pots (due to their arrangement in stacking), and so not burning out the carbonised organic matter. The fabrics dark grey throughout, with olive glazes, showing reducing conditions predominating, through firing and cooling, so typical of northern later medieval pottery,¹ are not found in this group.

Two bases show "stacking-rings," the rim of the pot below in the kiln stack has stuck with glaze, and been removed when cold. These "stacking-rings" are common in the north (*e.g.*, at Carlisle)² but are also sometimes seen on kiln material from more southerly places in England.³ Rims of jugs only rarely show the corresponding loss of glaze round the top, and it is doubtful if both jugs so stuck could be separated successfully. It may be that waster rims or even specially made clay rings were in fact used as spacing rings for kiln packing, which could then be knocked away; direct stacking would have been too wasteful.

B. Pottery of Good Hard Fabrics: Descriptions.

9. Many fragments of a large pitcher of fairly hard creamy-buff to reddish fabric, a moderate amount of fine sand (rounded quartz particles up to c. 0.25 mm. giving a granular inside surface. The good fairly even glaze shows all gradations of colour from dirty olive-green to orange. Pitting is rare on the surface under the glaze.

This very simple rim has been naturally formed by the fingers and thumb in throwing, and finished off round the top with a wet swab: it is however very characteristic of the 13th century. The lip is formed by a slight pinching-out of the rim, making a vertical channel with the finger. The strap-handle sits neatly under the upper outward kick. Applied to the shoulder are miniature decorative strap-handles (*cf.* Bothwell, *P.S.A.S.*, LXXXVI (1952), 161, No. 56) a series of slanting slashes is carried down from the shoulder of the pot over these handles, the splayed lower ends of which are vertically slashed giving the effect of hands (*cf.* Bothwell, No. 26 b; London, Rackham, *Med. Eng. Pottery*, Pls. XLVI and XLVII).

10. Handle, of very hard grey fabric with olive to brownish even crackled glaze; notched impressions down back.

11. Upper parts of a jug of fine slightly sandy-grey fabric with reddish-buff surface layers except under the glaze where grey: the glaze is yellow to olive, with some orange fringes to the flow (all due to iron). The rim is moulded out to oversail the neck. The jug had below this rim two faces, one on each side

¹ *T. Cumb. & West. A.S.*, LV (1956), 84-85; the statement made there that the beginnings of this ware may be seen at Castledykes, Kirkcudbright, is here amended.

² *Ibid.*, 102, pl. IV.

³ *E.g.* the kilns at Brill, Bucks (*Rec. Bucks*, XVI (1954), 39-42, for preliminary report).

(preserved separately), their tapering beards extending down to the shoulder as side-handles. The face features are carefully modelled. The position of the attached spout is indicated by the hole and place of attachment below the neck moulding. The main handle opposite the spout is not preserved (for photo see *P.S.A.S.*, XLVIII (1914), 393). Found on the south-west side of the north stair-tower.

12. Lower end of a long tubular spout attached to the shoulder of a jug, of hard grey to reddish fabric and dirty olive to yellow-brown glaze. In front is a mask with aquiline nose and deep-set eyes, and on one side of the spout an arm with notched-line decoration (for tubular spouts, see *T. Cumb. & West. A.S.*, LV (1956), 78; *Arch. Cant.*, LXIX (1955), 146).

13. Fragment of the shoulder of a jug, of pale reddish fabric with a grey tinge to the core and occasional white quartz particles up to 0.5 mm. An even greenish-brown glaze covers the whole outer surface. At the top is a raised cordon; below it in high relief is modelled a circular brooch with pin, having originally six swelling bosses round the ring, representing ornaments or jewels, a well-known brooch type of the 13th–14th centuries (e.g. J. D. A. Thompson, *Inventory of British Coin Hoards* (1956), No. 70, Pl. IX, Canonbie, Dumfriesshire, c. 1292–6; No. 229, Pl. XVI, Langhope, Roxburgh, 14th century; No. 56, Pl. VII, Brechin, Angus, c. 1280–1307; F. Parenteau, *Inventaire Archéologique*, (1878) 60, Pl. XXX, 3, France, mid-13th century). Such brooches on pottery may be seen in the Winchester and London Museums, from Pulborough, Sussex (*Ant. J.*, x (1930), 256, Pl. XXVII), from Dover (*Arch. Cant.*, LXIV (1951), 147, figs. 12, 30; 144, figs. 10, 15), and Nottingham (*Ann. Rep. Peverel Arch. Group*, 1954).

14. Part of shoulder of jug of fine hard close-textured grey fabric made from a fine plastic clay with very little grit; the outside carries an even olive glaze (with no pitting). There are applied strips of very dark brown (due to much iron), one with slantwise notching. There is the upper part of a stamped panel (the finger-marks taking the pressure when stamping being visible inside). Too little is preserved to show the design of this panel, but it calls to mind the elaborate vessel from Welsrijp, Holland, with its stamped figures (in higher relief) of a fiddler standing under an arch (*Bonner Jahrbücher*, CXLII (1937), 171, Pl. XLV, fig. 1, middle). This Kirkcudbright vessel is most likely to have come from north-east England or the north-east Midlands (cf. B. Rackham, *Med. Eng. Pottery* (1948), Pl. XII b, from York). From Bowes Castle Yorks, WR., is part of a stamped panel like this Kirkcudbright one but of sandier fabric).

15. Rim with part of strap-handle attached, of hard orange rather granular fabric (grit particles c. 0.5 mm.): the surviving part is entirely unglazed. The central channel of the strap is continued into a thumb impression under the rim.

16. Fragments of rim and shoulder of jug with bulbous moulding under the rim. Of hard, but slightly gritty and powdery, cream fabric, carrying a dirty olive glaze (with some orange at fringes), much blotched and vertically streaked with dark brown; all this colour is due to iron, for which there is not sufficient in the fabric itself. One fragment shows evidence of the two thumb-impressions at the base of the handle. From the fracture in some pieces it appears that the neck was added as a separate ring from the shoulder up, and then finished off with further wheel-work (cf. *Oxoniensia*, XXIII (1959), 1–84).

17. Part of jug rim showing the vertical channel made for the pinched spout, which has been pulled up to rise above the rim: the vertical working is seen on the outside as well. Of hard grey, slightly harsh fabric, with red surface layer

inside and elsewhere when not protected by the thick but patchy very dark olive-brown glaze, the iron here probably being available from the fabric.

18. Fragment of jug neck, of hard, slightly gritty, fine grey fabric with 1 mm. pale buff surface layer on inside: on the outside it has remained grey, covered with a good olive-green glaze with tiny dark-brown speckles (under which in places is a white layer up to 1 mm.). It has pronounced rilling, and dark-brown rough pinched applied strip on the outside.

19. Part of body of ovoid jug of hard, moderately gritty, grey fabric, with red surface layer on outside where not protected by the very dark-olive to brown glaze; the pitting shows this was sprinkled on, probably as galena. It had vertical applied strips finger-pressed at intervals.

20. Lower end of bar-handle thumb-pressed and smoothed on, of hard-fired pale cream fabric containing quartz particles of c. 0.1-0.2 mm., giving a rough surface. The outside surface has a faint orange "monolayer," and an irregular patch of thick dark-brown, almost black glaze. There is also a base fragment of the same fabric, tool-trimmed.

21. Lower end of broad strap-handle attached by, two large, much emphasised, thumb-presses, with finger marks on the inside. It is of close-textured, hard, well vitrified, grey fabric, with very dark olive-brown glaze on outside and a very thin reddish surface layer on inside. Another piece of the same fabric has purple-black low relief applied strips, and another piece, perhaps from the same pot, has become much distorted on the firing and is really a waster, though not necessarily rendering the vessel unusable.

22. Base, of hard-fired, slightly gritty, but nevertheless plastic, grey fabric with thin buff surface layer, and scanty patches of green to orange glaze. It has isolated thumb and finger pinchings round the base angle, as much under as up the side, and the trace of a stacking-ring on the under surface.

23 and 24. Strap-handles and bases representing two large heavy pitchers of hard, moderately gritty, grey fabric with light-red surface layers 1-2 mm. thick except where protected from air by the light-green patchy glaze, itself orange at its fringes. There are traces of stacking-rings under the bases (that corresponding to No. 23 being illustrated).

25. Rod-handle, of fabric and glaze similar to Nos. 23-24 above.

C. Pitchers of Fine Powdery Fabrics, of Varying Degrees of Hardness: Descriptions.

26. Fragments of a tall pitcher of powdery rich ochreous fabric containing a little grit (rounded particles c. 0.5 mm.), with a bright, thick, even orange-brown glaze on the outside. The body and neck show marked rilling and the simple rim, a typical 13th-century form, has been formed by bending over outwards. It has a pinched and channelled pouting lip (*cf.* No. 17). For a similar tall pitcher, *cf.* Bothwell, *P.S.A.S.*, LXXXVI (1952), 153, No. 27.

27. Lower handle junction and shoulder of jug of light red, hard, but rather powdery fabric (can just be marked with the finger-nail), with very little grit (particles c. 0.5-1 mm.); the red fabric tends to flake, but the grey fired part in the core of the handle is much tougher and more stone-like. It has a thick black glaze on the outside. The strap-handle junction is marked by two emphatic

thumb impressions, with finger impressions corresponding on the inside. The body and shoulder are ornamented with rows of rectangular notches.

28. Strap-handle and rim of jug of fine fabric with powdery, light red, surface layer (1-3 mm. thick) and harder grey core. The rim is very simple, and the top junction of the handle has been strengthened by a strip of clay wrapped underneath it. It has a very erratic, patchy, spotty-brown to orange glaze, the pitting showing that it was formed by sprinkling on galena.

29. Lower handle junction of similar fabric, the glaze speckled a little greener, due to a few flecks of copper. It has a cordon round the shoulder. There are three other similar lower handle junctions (not illustrated) of similar fabric and glaze, and one large shoulder fragment shows more marked and regular green streaking (due to copper) on an orange ground.

30. Many parts of the base and rim, probably of same jug, of very fine, soft, powdery fabric, easily abraded and marked with finger-nail, grey on fracture and on inside, with ochreous surface layer on the outside. It has numerous tiny specks of brown glaze each centred on a pitting, and a few areas of clear orange glaze. The base angle has six isolated finger impressions up the side, but with no impressions on the under surface. Another vessel of similar fabric but more even orange glaze, had vertical applied strips.

31. Base of fine, hard-fired, grey powdery fabric (though not marked with finger-nail), with reddish outside surface layer and blotchy olive glaze (with orange fringes) on under side but hardly at all up sides. It has groups of four finger-and-thumb pinches on the base angle, the impressions especially marked on the under side (see map, fig. 2). Patches and fragments of less well-fired fine powdery fabric adhere to the glaze of the under surface.

32. Plain base of very fine hard fabric, as No. 31. This has much twisted in firing, and though perhaps not enough to make the jug unusable, this does suggest pottery making nearby. There are at least five other jug bases of similar fabric (not illustrated), some much softer.

The following small sherds show a variety of ornament on jugs of this powdery fabric:

33. Several pieces of a jug of soft grey fabric with bright red inside surface layer and brownish-yellow glaze on outside. The circular recessed panels appear to have been cut back, and the dot-and-circle made by rotating a hollow tube, the centre element being separately cut.

34. Fragment in the same soft fabric, with rows of rectangular notches made apparently with a toothed wheel.

35. Very fine powdery red fabric (*cf.* No. 33) with olive glaze speckled with brown, and with an applied dark band in very flat relief; lines of triangular nicks run horizontally. There are two others similar in harder fabric.

36. Fabric a little harder than No. 35; lines of thin rectangular marks probably made with a toothed wheel.

37. Moderately hard powdery grey fabric, with olive glaze: a band of irregular jab marks.

38. Harder, slightly more vitrified, grey fabric, olive glaze: nicked applied dark-brown strip and horizontal lines of squares.

39. Fabric as No. 38.

D. *Cooking-pots.*

Six pieces of cooking-pot preserved represent four vessels. Of these, three were probably small, and two show the rilling characteristic of many northern cooking-pots. No. 43 must have been a taller pot, less usual in Scotland, where the smaller cooking-pots were commoner, illustrated here by two found with early 14th-century hoards.

Descriptions.

40. Part of rim of fine, hard-fired, close-textured, clayey fabric, smoked black all through in the firing. The rim has been thickened by an inward fold. The

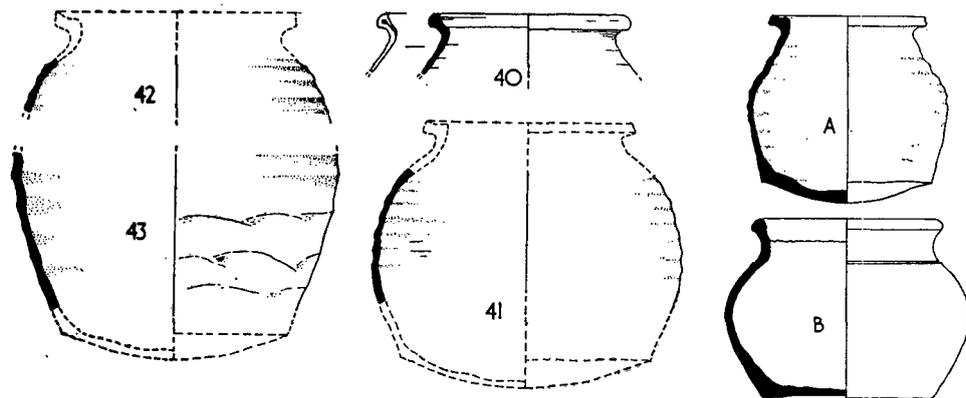


Fig. 6. Cooking-pottery. 40-43, Castledykes, Kirkcudbright; A, Ayr; B, Kinghornie, Kincardine. Scale, $\times \frac{1}{4}$.

roll-rim with concave inner surface may be compared with one from Whithorn (Whithorn Museum) and another from Darvel, Ayrshire (N.M.A., Edinburgh, ME 217).

41. Part of body of small cooking-pot of harsh sandy fabric gritted with irregular particles with rounded edges up to 0.5 mm. across: black exterior, in fracture grading through grey to an orange interior layer. It has well-preserved rilling, and also in places on the inside, the tiny grooves where grits have been dragged along the soft surface in the making.

42. Shoulder fragment of thin-walled vessel showing marked rilling, in fine white fabric with a little fine sand, blackened on outside, and with a dirty orange monolayer on inside.

43. Parts of a tall cooking-pot with rilling on upper part and tool trimming of outside on lower part. Of white fabric slightly less sandy than No. 42: it has a smoke-blackened outside surface, penetrating the core 1-2 mm. Cooking pots of comparable white ware, though with less sand, come from the motte at Hawick (Hawick Museum), where the pottery sequence seems to extend well into the 13th century.

The small cooking-pots which contained hoards of this period are included here for comparison. That from Ayr, (A) Nat. Mus. Ant., Edinburgh, ME 239), is of hard, sandy, light reddish surfaced fabric, grey in fracture (cf. No. 41) with small patches of dirty grey-green glaze towards the top. It was found with coins and brooches, deposited c. 1280-1300 (J. D. A.

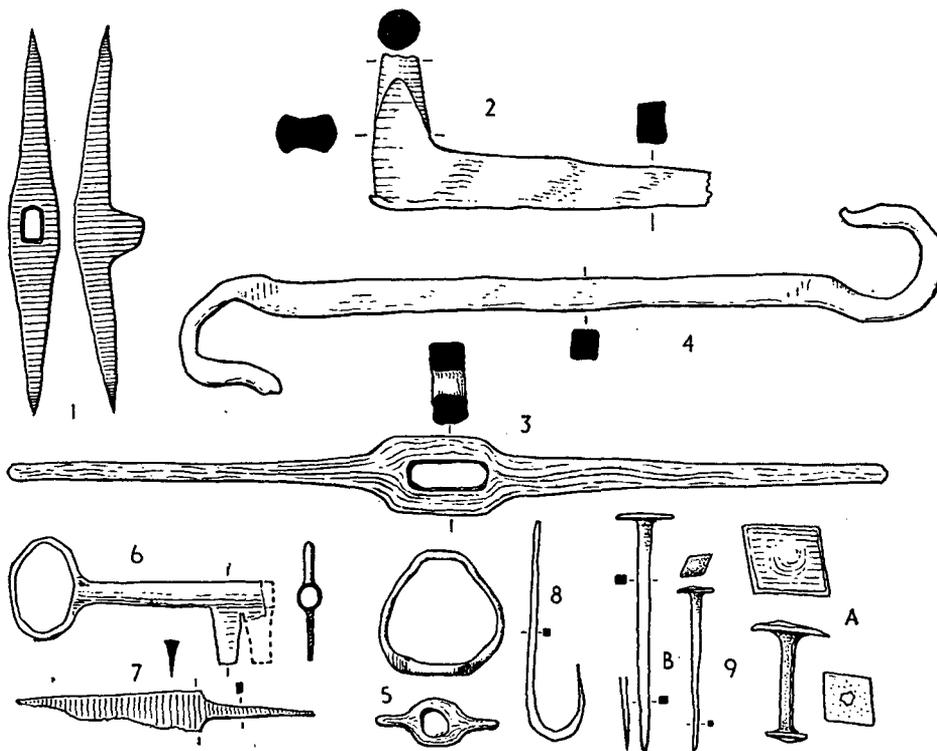


Fig. 7. Ironwork from Castledykes, Kirkcudbright. Scale, $\times \frac{1}{2}$.

Thompson, *Inventory of British Coin Hoards* (1956), 6, No. 18 (not No. 19, as on Pl. I); *P.S.A.S.*, xxvi (1892), 60). The other, (B), from Kinghornie, Kincardineshire, was with coins deposited c. 1300, and is of light brown hard-fired fabric, unglazed (Nat. Mus. Ant., Edinburgh; J. D. A. Thompson, *Inventory of British Coin Hoards* (1956), No. 218). For other small cooking-pots from south-west Scotland, see *P.S.A.S.*, LII (1918), 68 (Kidsneuk, Ayrshire), and LXXVIII (1939), 223 (Kildonan, Kintyre).

E. Ironwork (fig. 7).

1. A light double-ended pick, a mason's tool, sometimes called a race or "jad," such as is still used (until replaced by pneumatic drills) for preparing slots

for splitting stone, particularly at the quarry (see W. J. Arkell, *Oxford Stone* (1947), 120-21).

2. A heavy door-hanging pivot, the shaft of square section, forged to round on the hinge; a usual pattern. This is presumably the pivot from the door to the passage in the large west tower, where it was found (*P.S.A.S.*, XLVIII, 385).

3. Iron bar with rectangular hole in the central expansion; made by forging together two bars. This was possibly the transome of a window grille, the vertical member passing through the hole (*cf.* an iron yett, W. M. Mackenzie, *Med. Castle in Scotland* (1927), Pl. VIII).

4. Large double-ended hook, perhaps part of the suspension for a large cauldron.

5. A swivel loop, having a fair degree of wear round the hole. Mr H. W. Holden has shown us a similar loop from Hangleton, Sussex.

6. Key, of simple pattern, in common use through the middle ages.

7. Small knife, with triangular sectioned blade, of common long-lived type.

8. Slender, well-preserved iron hook with sharp point, perhaps for hanging meat.

9. Nails: two types are preserved, and were presumably brought from England. (a) Clench-nails with shanks $1\frac{1}{2}$ ins. long, and flat heads slightly rhomboidal-shaped (of two sizes, $1\frac{1}{8}$ ins. and $\frac{3}{4}$ in.), clenched at the ends over a flat, slightly rhomboidal plate ($\frac{3}{4}$ in.). Such clench-nails are typical of shipbuilding, but were also used in building, particularly in heavy doors, not only "clinchers" but even sometimes shipwrights being used to do the work (L. F. Salzman, *Building in England to 1540* (1952), 309). Clench-nails with similar rhomboidal heads were found by Pitt-Rivers at Castle Hill, Folkestone (a 12th-century castle site, *Archæologia*, XLVII (1882), Pl. XVIII), and others with square heads at Criccieth Castle (*Arch. Camb.*, xcVIII (1944), 41, Pl. X), and at Glenluce (*Med. Arch.*, III (1960). These square heads were often hammered up to a flat pyramidal finish, as they are on modern ironwork. (b) Nails with oblong shanks $3\frac{1}{2}$ ins. and $2\frac{1}{2}$ ins. long, with square or slightly rhomboidal heads, the smaller ones being badly corroded. These have no washers nor are they clenched over at the tips.