

The Trelleborg House Reconsidered

By HOLGER SCHMIDT

Royal Academy of Fine Arts, Copenhagen

THE RECONSTRUCTED Viking-age house erected at Trelleborg in 1942 (FIG. 20) has, as a result of recent archaeological investigation,¹ proved to be wrongly designed. The theory that it had an outside gallery is impossible to sustain, since on further examination the posts proved to be inclined towards the house and they must, therefore, be explained as buttresses. Further, since the height of the walls had been deduced basically from the fact that the gallery must allow of free passage, the whole structure of the house must be reconsidered. Despite these errors the Trelleborg reconstruction has produced an extended discussion of Viking-age house structure and provides a reasonable starting point for a new study.

THE ORIGINAL reconstruction of the Trelleborg house was undertaken by C. G. Schultz, an architect on the staff of the Danish National Museum, who was asked by the excavator, Poul Nørlund, to build a full-scale trial-model of one of the houses at the Viking fortress, based upon observations made during excavations of thirty-one uniform houses, as well as on comparative studies, in order to visualize it, and to encourage scholarly discussion.² Fortunately Schultz published his ideas in a paper,³ adding a third reason of his own, namely that a full-scale model was a far better experiment than reconstructions made only on paper. He also stated that his comparative material was made up of contemporary illustrations of houses, a few literary descriptions, and the Norwegian stave churches. He brought home from a study tour a medieval shingle from the Urnes stave church and reproduced it on the reconstruction-model.⁴ But in reality his impressions of the stave churches deeply affected his reconstruction and resulted in what might well be described as a Norwegian Gothic stave church erected over the plan of a Viking-age long-house. The stave walls, the roof-covering, the vertical gables, and the open ambulatory outside the house are all of Norwegian ancestry. The roof-construction was not, however, taken from the stave churches, but was certainly partly inspired by the 17th-century barn from Biskops on north Gotland (FIG. 21),⁵ while the queen-post construction was taken from a description of a Norwegian medieval church.⁶ Surviving Danish Romanesque trussed-rafter roofs in churches were probably the pedigree of the pitch of the roof.

¹ O. Olsen, 'Om at udgrave stolpehuller', *Nationalmuseets Arbejdsmark*, 1968, 155-70.

² P. Nørlund, *Trelleborg* (Copenhagen, 1948), 18 and 76.

³ C. G. Schultz, 'Vikingetidshuset paa Trelleborg', *Fra Nationalmuseets Arbejdsmark*, 1942, 17-30.

⁴ The shingle is now in the collection of medieval building materials at the National Museum of Copenhagen, inv. no. D 12869.

⁵ Carefully published by M. Clemmensen, *Bulhuse* (Copenhagen, 1937).

⁶ G. Indrebo (ed.), *Gamla norsk homiliebok, Cod.A.M.619, 4°* (Oslo, 1931), 97.

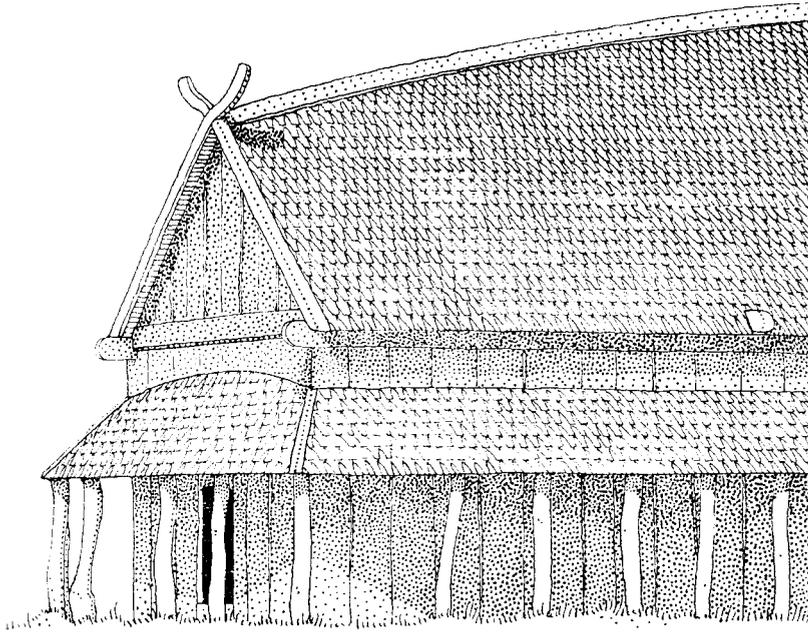


FIG. 20

TRELLEBORG, DENMARK

Schultz's reconstruction of a Viking-age house (p. 52)

The scholarly discussion which Nørlund hoped for did not fail to appear. Palle Lauring was harshly critical, to some extent with reason.⁷ By a statistical analysis of the information in the report he demonstrated that the posts of the open gallery of the reconstructed house did not correspond with the evidence of the excavated post-holes. He further pointed out that the absence of corner-posts would make the construction of a gallery impossible and that the post-holes outside the gables formed straight lines on the published plans and not curved lines as on the reconstruction. Lauring was also sceptical about the queen-post construction and about the huge quantity of oak required for the houses. Together with Arne Hoff-Møller, Lauring published a reconstruction of the Trelleborg house inspired by the traditional Icelandic turf house.⁷ Johan Larsen continued the discussion and published a reconstruction in which he claimed that the external post-holes represented the walls of the house and postulated an aisled construction (based on an alleged Swedish tradition), which would imply a house without the curved wall-plates which are so difficult to shape. Larsen's reconstruction, however, gave no satisfactory explanation of the construction at the gables.⁸

On the basis of the hog-back grave-covers of northern England (which were also studied by Schultz) James Walton suggested that English cruck construction

⁷ P. Lauring and A. Hoff-Møller, 'Trelleborgshusets Rekonstruktion', *Aarbøger for nordisk Oldkyndighed og Historie*, 1952, 108–65. I am grateful to Mr. Lauring for discussions concerning these problems.

⁸ J. Larsen, 'Rekonstruktion af Trelleborg', *ibid.*, 1957, 56–103.

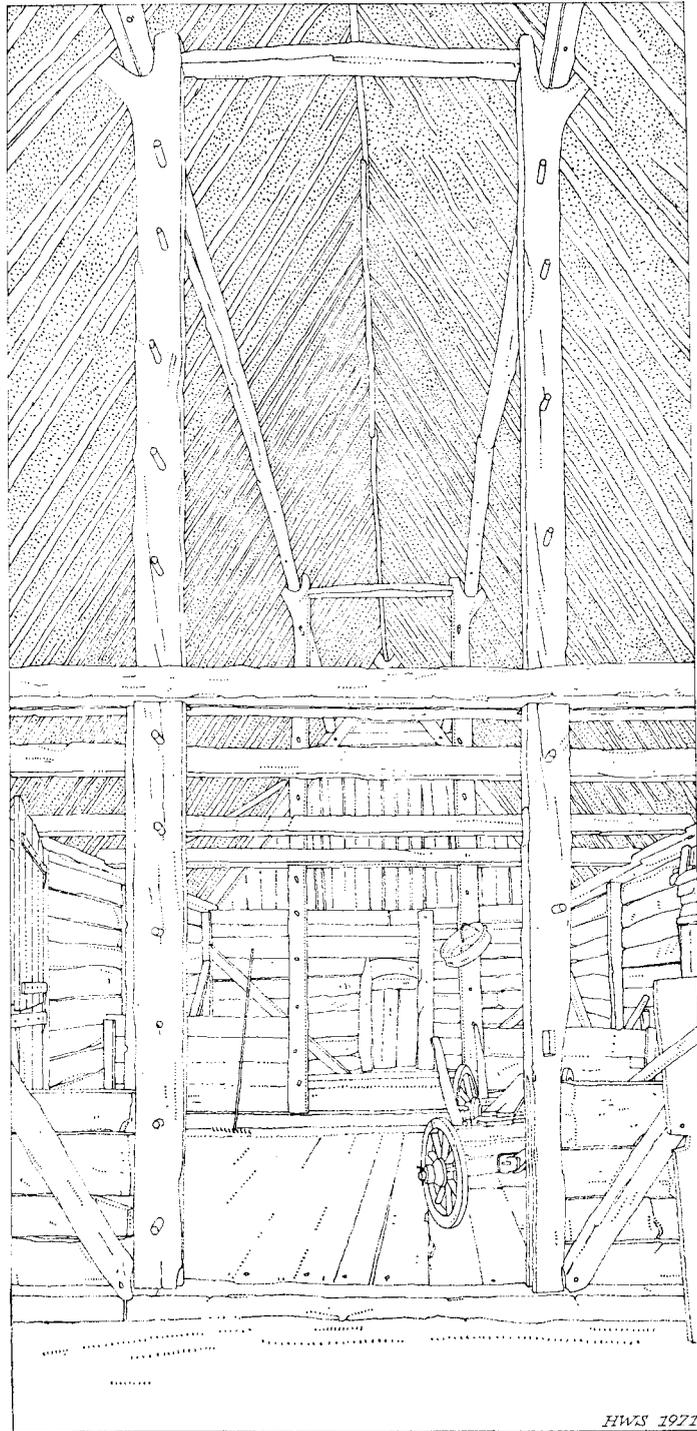


FIG. 21

BISKOPS, GOTLAND

Interior of barn with roof-construction similar to that of the reconstructed house at Trelleborg (p. 52)

might have a bearing on the problem.⁹ J. T. Smith and C. F. Stell introduced the interesting 14th-century Baguley Hall in Cheshire into the discussion, saying that a Scandinavian building tradition must be the explanation of the plank technique and of the 'boat-shaped' plan of the hall. Moreover, as they were unwilling to accept Schultz's aisled-derivative roof, they pointed out how the structure of the cross-wall at Baguley explains the structure of the cross-walls at Trelleborg.¹⁰

AGGERSBORG AND FYRKAT

Two other late 10th-century fortresses have now been partly excavated in Denmark. Both are in north Jutland: Aggersborg by the Limfjord,¹¹ and Fyrkat near the town of Hobro.¹² Like Trelleborg they have a circular rampart with four gates, bole-constructed roads, and long-houses regularly laid out in blocks of four, which only in minor details differ from those at Trelleborg. Schulz was in charge of both excavations until 1958, when they were taken over by Olaf Olsen. As the Aggersborg fortress was placed on top of an abandoned village it is hard both to dig and to interpret. No stratification was established, and the post-holes belonging to the rampart, the roads and the houses of the fortress are only separable from the multitude of post-holes and pits of the village by the regular patterns they form. Accordingly any detailed interpretation must be accepted with reservation. As the fortress at Fyrkat was laid out on practically virgin land, the archaeological conditions are far better. At first, however, the highly discoloured moraine subsoil made it difficult to distinguish the post-holes. Indeed only a hypothetical plan made it possible for Schultz to locate the separate house sites. Because of this the post-hole evidence at Fyrkat has been somewhat misinterpreted. However, since twelve identically-planned houses were excavated, it is possible to achieve a fairly good impression of the long-house at Fyrkat, at least as regards those parts which lay below ground (FIG. 22). The uncertain tiers in one house were explained by another. As the Fyrkat monograph will shortly be published, I shall here merely give a short description of the typical house.

The house was 96 Roman ft. (28·41 m.) long,¹³ 25 ft. (7·42 m.) across at the middle, and only 17 ft. (5·02 m.) at the gables. It consisted of five bays, the three in the middle forming a single hall, 60 ft. long. The walls were built entirely of vertical planks, 4 in. thick, but the long walls and the gables were strengthened every 3 ft. by means of a double plank—each plank measuring 4 by 12 in. There was a 5-ft.-wide door in each wall, the frames of which measured 4 by 18 in. and were dug well into the ground. While the doors in the gables and cross walls were exactly in the middle, the doors in the long walls were asymmetric-

⁹ J. Walton, 'Hogback tombstones and the Anglo-Danish house', *Antiquity*, xxviii (1954), 68-77.

¹⁰ J. T. Smith and C. F. Stell, 'Baguley Hall: the survival of pre-conquest building traditions in the fourteenth century', *Antiq. J.*, xl (1960), 131-51. I am grateful to Mr. J. T. Smith for kindly discussing the Trelleborg house and the English halls with me.

¹¹ C. G. Schultz, 'Aggersborg, vikingelejren ved Limfjorden', *Fra Nationalmuseets Arbejdsmark*, 1949, 91-108. This preliminary publication includes only the first few years' excavations at Aggersborg.

¹² O. Olsen, *Fyrkat, the Viking Camp near Hobro* (Copenhagen, 1959). Olaf Olsen, Else Roesdahl and I are preparing the final publication of the Fyrkat site.

¹³ The houses inside the circular bank at Trelleborg were 100 ft. long, the houses in the outer fortifications only 90 ft. long. The reconstruction was built to the measurements of the smaller house for reasons of economy. Measurements are based on the Roman foot throughout this paper.

ally placed 24 ft. from the ends, thus giving access to the hall near the cross-walls. Porches measuring 10 by 10 ft. showed that these were the main entrances. As in the Trelleborg house the cross-walls included two heavy, deeply-set planks. Like the other planks in the house they were only 4 in. thick, but were up to 3 ft. across and varied greatly (sometimes by more than 8 ft.) in the distances which separated them from one another. Three to four feet outside the walls was a considerable number of buttresses. The inclination of the post-holes shows that they met the wall at a height of about 10 ft. Like the double planks of the wall the buttresses measured 4 by 12 in., the broader face to the wall. Few buttresses were placed opposite a double wall-plank, which must imply that a vertical plank, acting as a wall-plate, crowned the perpendicular planks of the wall. (This wall-plate would not only stiffen the construction but would also provide a seating for the buttresses.) The rows of buttresses ended flush with the gables or long walls respectively. There were no corner buttresses. Immediately inside the main entrances the only two posts of the house were placed 5 ft. from the side walls and 10 ft. from the cross-walls. They were 12 in. in diameter and divided the respective bays in the middle. Screen walls or speers were fastened to the posts to avoid draught from the doors. In some houses traces of benches were found along the side walls of the hall (they were 5 ft. across), and in many halls there was a rectangular hearth in the middle of the floor.

With minor differences the Aggersborg house is similar to the Fyrkat house, although the Aggersborg house was the bigger (108 ft. long). No porches were found at Aggersborg, and the external post-holes did not appear to slope towards the house, a factor which may be explained by local conditions, for the topsoil was thick and only the lower part of the deepest-set planks could be seen. Re-excavation at Trelleborg revealed both the porches and the sloping buttresses. Thus it is clear that only minor differences, probably due to local building traditions (particularly in relation to the construction of the walls), distinguished the typical house at Trelleborg from those at Fyrkat and Aggersborg.

THE PLAN-TYPE

The plan of the Trelleborg house is characterized by its great length and the disposition of its rooms, dominated by the central hall. Its proportions immediately connect the building with the well-known prehistoric and medieval long-houses of NW. Europe.¹⁴ Among excavated long-houses it is, however, difficult to find parallels for the well-planned, symmetrical disposition of rooms. The long-house was originally a farmhouse, with men and cattle living together at opposite ends of the only room. During the iron age this house-type was improved, and transverse walls separated the different functions, particularly dividing the stables from the living-quarters. At a later date a private chamber was sometimes screened off at the outer end of the common living-room. The Viking fortresses, however, were certainly not planned by the local farmers, and even though some

¹⁴ B. Trier, 'Das Haus im Nordwesten der Germania Libera', *Veröffentlichungen der Altertumskommission in Provinzial-institut für Westfälische Landes- und Volkskunde*, iv (Münster/Westfalen, 1969).

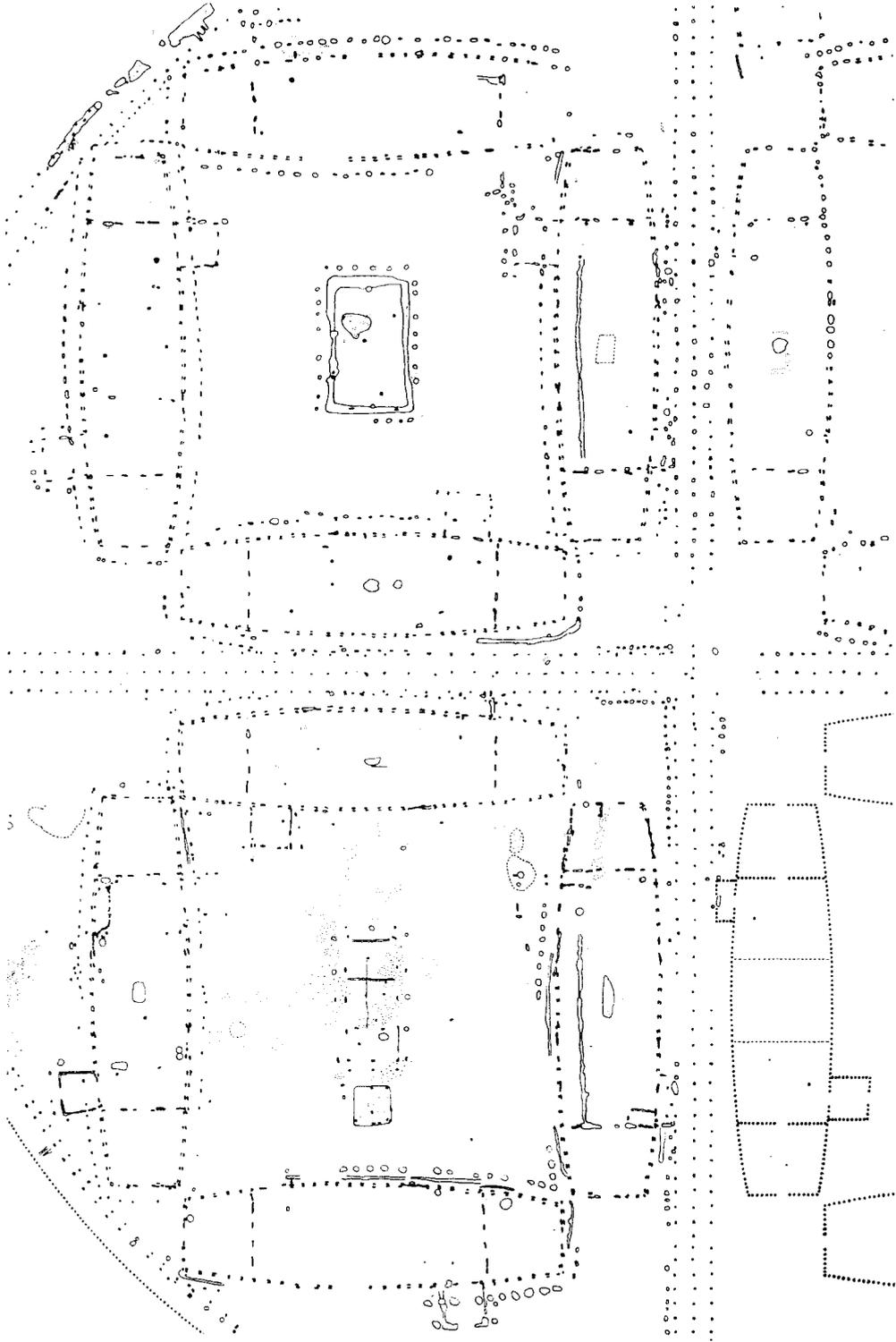


FIG. 22

FYRKAT, N. JUTLAND

Plan of post-holes in central area, forming house-sites and roads (p. 55 f.). Sc. 1: 500

of the long-houses may have served as workshops, barns or stables,¹⁵ the idea of the central room was that it should be a hall. Several of the excavated prehistoric and early medieval houses have been claimed as halls, *inter alia* the typical Gotland house¹⁶ and the important houses of the 8th century at the village of Warendorf in Westphalia.¹⁷ In fact only the lack of evidence for stables as an integral part of the house justifies this interpretation, which is far from satisfactory, since traces of main posts and walls are usually all that is found, and other important subdivisions of the house, such as those for stalls, can only occasionally be proved archaeologically. However, examples of early medieval halls are verified in Iceland,¹⁸ as well as in England.¹⁹ The St. Gall plan, which dates from *c.* 820, might provide important parallels.²⁰ On this plan most of the houses situated round the church and cloister had a common living-room—a hall, which contained a central hearth—while rooms at the ends and at the sides of this hall served different functions. Walter Horn has suggested that in all probability these houses were of timber and aisled, and can be compared with surviving medieval halls and barns in England.²¹ The layout of the typical 14th-century English feudal hall comes very close to the Trelleborg pattern. The dominant room is centrally placed with a hearth in the middle of the floor, benches along the walls and an entrance at the lower end with a porch. The solar and the service wings are separate rooms at either end of the house. Even the speer at the lower end of the English hall can be seen in the halls of the Viking fortresses, which are more than three centuries older.²²

THE CONSTRUCTION

The distances between the main planks in the cross-walls, which vary considerably, deny Schultz's interpretation of them as posts which bore a beam (a purlin) running the length of the roof and supporting the rafters. The posts were simply part of the cross-wall construction, exactly as at Baguley Hall,²³ and accordingly are not a 'key to the principle of the roof construction'.²⁴ In most of the houses only the two circular post-holes inside the entrances (always 5 ft. from the side walls) could be claimed as evidence for the presence of side purlins,

¹⁵ E. Roesdahl, 'The Viking fortress of Fyrkat in the light of the objects found', *Château Gaillard*, 1973, 195-202.

¹⁶ G. Boëthius, *Hallar, tempel och stavkyrkor* (Stockholm, 1931).

¹⁷ W. Winkelmann, 'Eine Westfälische Siedlung des 8. Jahrhunderts bei Warendorf, Kr. Warendorf', *Germania*, xxxii (1954), 189-214.

¹⁸ M. Stenberger (ed.), *Forntida Gårdar i Island* (Copenhagen, 1943).

¹⁹ Apart from the royal halls at Yeavinger and Cheddar (*cf.* R. Allen Brown, H. M. Colvin and A. J. Taylor, *The History of the King's Works*, I (London, 1963) 2-4) it would seem that the hall at Sulgrave, Northamptonshire, is a particularly interesting parallel to the Trelleborg house: B. K. Davison, 'Excavations at Sulgrave, Northamptonshire', *Archaeol. J.*, cxxv (1968), 305-7.

²⁰ H. Reinhardt, 'Der St. Galler Klosterplan', 92 *Neujahrsblatt herausgegeben vom Historischen Verein des Kanton St. Gallen* (St. Gall, 1952). This publication includes a full-scale facsimile reproduction of the plan.

²¹ W. Horn, 'On the origin of the medieval bay system', *J. Soc. Architectural Historians*, xvii (1958), 2.

²² J. T. Smith has tried to show how, in the 13th and 14th centuries, different building elements were added to the aisled hall of southern England. The plan of the Trelleborg house as well as, for example, the hall from Sulgrave indicates that this development occurred much earlier: J. T. Smith, 'Medieval aisled halls and their derivatives', *Archaeol. J.*, cxii (1955), 76-94.

²³ *Op. cit.* in note 10, 137.

²⁴ *Op. cit.* in note 3, 21.

such as certainly existed in the five aisled houses outside the circular rampart at Trelleborg.

The prime keys to the roof-construction are the slanting post-holes outside the house walls. These post-holes at Trelleborg were originally believed to be vertical and were interpreted as evidence of an external gallery. The function of the slanting posts was to sustain the outward pressure on the walls caused by the rafters. The existence of buttresses indicates beyond doubt that the roof was of the trussed-rafter type,²⁵ and I believe there was a buttress for every rafter, save in front of the doors. Moreover it is evident that the roof had hipped gables, as buttresses also occurred outside the gable walls. The buttresses as well as the heavy timber walls were the roof-supporting elements of the house, while the aisled-derivative construction, if it ever existed in the house, was of secondary significance, presumably providing longitudinal stability. If present at all, the side purlins were a mere relic from iron-age house-construction.

Comparative material shows that in the early middle ages the aisled construction in many long-houses was replaced by trussed-rafter roofs supported by buttresses. The Warendorf houses are important examples,²⁶ but the firmest proof of this development is provided by the exceptionally well-preserved and slightly later houses excavated at Elisenhof on the Eiderstedt peninsula.²⁷ While the walls were made of light wattle, the buttresses were of heavy, split wood and obviously had a roof-supporting function. To prevent them from being pressed down into the soft marsh, the buttresses were anchored at ground level in exactly the same way as were the inner uprights of a house of the Roman iron age at Feddersen Wierde.²⁸

The Trelleborg house is a rather late example of a building with a trussed-rafter roof supported by buttresses, and we know that only one or two generations later trussed-rafter roofs with tie-beams were built in Denmark.²⁹

THE HOUSE-SHAPE

We may assume that the convex-shaped long-house was popular in Denmark in the Viking period. At both Trelleborg³⁰ and Aggersborg³¹ convex-shaped long-houses older than the fortresses were found, and at other Viking-age sites in Denmark houses of similar shape have been excavated, i.e. Lindholm Høje,³²

²⁵ For definitions of roofs with purlins (*Rotendach*) and trussed-rafter roofs (*Sparrendach*) see A. Zippelius, 'Das vormittelalterliche dreischiffige Hallenhaus in Mitteleuropa', *Bonner Jahrbücher*, CLIII (1953), 13-45. See also note 14.

²⁶ The section through the post-holes at Warendorf, which revealed the oblique setting of the outer post-holes, led Schultz to cut sections through some outer post-holes at Fyrkat in 1952.

²⁷ A. Bantelmann, 'Vorbericht über die Untersuchungen auf der Warft Elisenhof bei Tönning', *Germania*, XLII (1964), 227-39. I am very grateful to Dr. Bantelmann, who in 1972 kindly discussed all his material with me and placed it at my disposal for comparative purposes. A final publication is now in the press.

²⁸ W. Haarnagel, 'Vorläufiger Bericht über die Wurtengrabung auf der Feddersen-Wierde bei Bremerhaven', *Germania*, XXXIV (1956), 125-41.

²⁹ The famous wall-plate from a stave church at Høring is the earliest documented example of such in Denmark: K. J. Krogh and O. Voss, 'Fra hedenskab til kristendom i Høring', *Nationalmuseets Arbejdsmark*, 1961, 5-34.

³⁰ *Op. cit.* in note 2, 44-5.

³¹ *Op. cit.* in note 11, 105-6.

³² T. Ramskou in *Acta Archaeologica*, XXIV (1953), XXVI (1955), XXVIII (1957).

Lejre,³³ Viborg,^{33a} and Esbjerg.³⁴ A small house with curved side walls was excavated at Trælborg, near Kolding.³⁵ A brooch found in a pit in this house shows, surprisingly, that it belonged to the migration period. The shape may be even older elsewhere in Scandinavia, as many of the iron-age long-houses known from Gotland and Öland³⁶ have side walls that are more or less regularly curved. After the Viking-age, houses of this shape are only known in Scandinavian settlements of the north Atlantic.³⁷ As later medieval wooden long-houses are practically unknown in Scandinavia, we cannot be sure whether convex-sided houses were no longer built there after the Viking age.

Early medieval convex long-houses are also known outside Scandinavia. Recent excavations at the important town of Dorestad in Holland have proved that, c. 800, it consisted of slightly oval long-houses which were used as farms and as merchants' houses.³⁸ These houses were very similar to the late 8th-century houses at Warendorf.³⁹ It is, therefore, no longer possible to accept the idea that houses of a convex plan were specifically Scandinavian.⁴⁰ The examples mentioned above also demonstrate that the diverse theories which try to explain the form of the houses by their specific function or construction must be wrong.⁴¹ Nor is it possible to accept the derivation from boat-building,⁴² although the splendidly-built Scandinavian Viking-age ships demonstrate the carpenters' ability to handle complex, double-curved, wooden constructions. The superior strength of the shell-like structures of the ships must have been appreciated in the Viking age. In the iron age and in the early middle ages house-building and boat-building developed hand in hand, and, indeed, no one in the late Viking age would have tried to explain why a convex shape was preferable. At the time when Trelleborg was built this shape was traditionally used in boat-building, in architecture, for grave monuments⁴³ and in art. The oval form was to some extent universal, and I should, therefore, prefer to label it as a stylistic element. The convex architectural style

³³ H. Andersen, 'Hovedstaden i riget', *Nationalmuseets Arbejdsmark*, 1960, 13-35.

^{33a} E. Levin Nielsen, 'Pederstræde i Viborg', *Kuml*, 1968, 23-31.

³⁴ H. C. Vorting, 'Gammelby, en vikingetidssbebyggelse i Esbjerg', *Mark og Montre*, 1972, 20-6.

³⁵ O. Voss, 'Trælborg', *Skalk*, IV (1957), 14-16.

³⁶ *Op. cit.* in note 16.

³⁷ See note 18. Cf. J. R. C. Hamilton, *Excavations at Jarlshof* (Edinburgh, 1956), and C. A. R. Radford, *The Early Christian and Norse Settlements at Birsay, Orkney* (Edinburgh, 1959).

³⁸ W. A. van Es, 'Excavations at Dorestad, a pre-preliminary report', *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek*, XIX (1969), 183-206. I am grateful to Dr. van Es for kindly showing me the site and discussing the houses with me in 1971.

³⁹ *Op. cit.* in note 17.

⁴⁰ An idea which seems to have been generally accepted, particularly by British archaeologists.

⁴¹ B. Hope-Taylor, 'The "boat-shaped" house in northern Europe', *Proc. Camb. Antiq. Soc.*, LV (1962), 16-22; T. Capelle, '“Schiffsförmige” Hausgrundrisse in frühgeschichtlicher Zeit', *Frühmittelalterliche Studien*, III, pt. III (1969), 224-56; E. Möller, 'Træbyggningskunsten fra stenalder til middelalder', *Danmarks Bygningkunst* (Copenhagen, 1963), 9-37; Margaret Wood, *The English Medieval House* (London, 1965), 211. The houses at Warendorf alone are proof of the contrary. Here the curved houses are succeeded by houses with straight walls, without any other change in the function or construction of the house. As suggested by van Es, the Warendorf houses were presumably farms, nor were central fireplaces found in the curved houses.

⁴² J. Brøndsted, *The Vikings* (1960). Erik Hinsch took a curved-sided boat-house (*naust*) from W. Norway belonging to the migration period as a basis for the hypothesis that the shape of the *naust* was the model for the house with curved walls: E. Hinsch, 'Naust og Hall i Jernalderen', *Arbok for Universitetet i Bergen, Humanistisk Serie*, II (1960).

⁴³ At Lindholm Høje and Lejre there were boat-shaped stone settings as well as houses with curved walls. See notes 32 and 33.

reached perfection with the building of the Danish fortresses at a time shortly before it was replaced by a style with very different theories and means of expression.

CONCLUSION

To sum up, the Trelleborg house-type is that of the NW. European medieval hall. It was built entirely of wood, the walls were of a stave-plank construction and it had a trussed-rafter roof. The convex shape of the structure was in accordance with contemporary taste or style.

Pictorial representations of early medieval houses have so far only been briefly mentioned in my discussion. Although they omit detail and may not be naturalistic in our sense of the word, and although their value is greatly dependent on the material in which they were made, there is good reason for studying them in connexion with the Trelleborg house. Relevant illustrations, both two- and three-dimensional, are known in Scandinavia and in Britain. The essential examples were pointed out by Schultz,⁴⁴ and have been further considered by other scholars. The material they cite, however, is far from exhaustive.

TWO-DIMENSIONAL REPRESENTATIONS

The houses at the bottom of the picture-stone from Hunninge, Klinte, Gotland (FIG. 23) were not used by Schultz and have only recently been considered in relation to the Trelleborg house by Erik Lundberg.⁴⁵ Lundberg had earlier used them as an inspiration in his reconstruction of the 'Giants' Graves' on Gotland.⁴⁶ He interpreted the houses on the stone as illustrations of structures formed of bent rafters, the ends sunk into the ground, thus making a regular curve. This primitive cruck principle, Lundberg suggests, was also used at the Viking fortresses; on the basis of a reconstruction which I made,⁴⁷ he even produced a speculative sketch, showing how the houses could be built without scaffolding.

In 1970, however, together with my colleague Else Roesdahl, I made a detailed examination of this stone which showed that the picture of the houses was so badly preserved that any interpretation of it must be accepted with great caution. When the stone was first examined, the 'houses' were interpreted as a row of standing persons; only later did Sune Lindqvist recognize them as houses.⁴⁸ Lindqvist picked out his interpretation in paint on the surface of the stone. Later, when the stone was moved into the museum at Visby, it was repainted. By this time, however, Lindqvist had rejected the houses on the left-hand side of the stone, which is much more badly preserved, and the six houses inside the enclosure

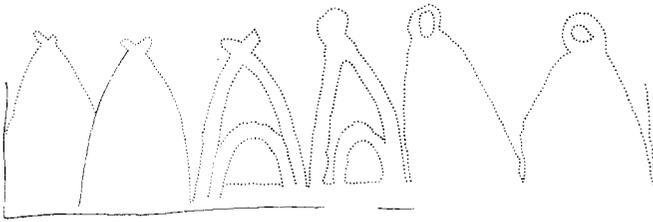
⁴⁴ *Op. cit.* in note 3.

⁴⁵ E. Lundberg, *Trä gav form* (Stockholm, 1971), 83-5.

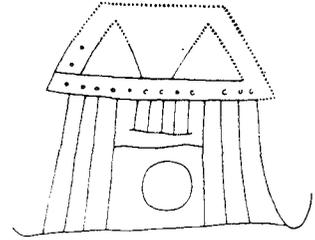
⁴⁶ E. Lundberg, *Arkitekturens formspråk*, III (Stockholm, 1949), 55-6. Repeated, *op. cit.* in note 45, 36-7.

⁴⁷ O. Olsen, 'Typehuset på Trelleborg', *Skalk*, IV (1965) 18-27.

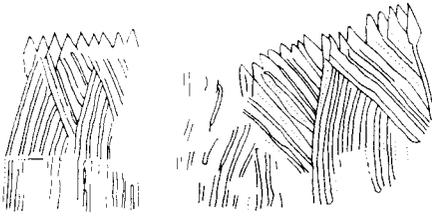
⁴⁸ S. Lindqvist, *Gotlands Bildsteine*, I-II (Stockholm, 1941-2), fig. 128.



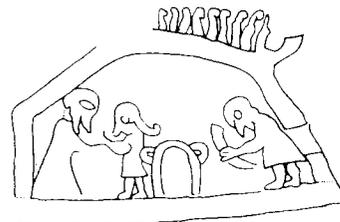
THE HUNNINGE STONE



THE SPARLÖSA STONE



THE OSEBERG TAPESTRY



THE DYNNA STONE

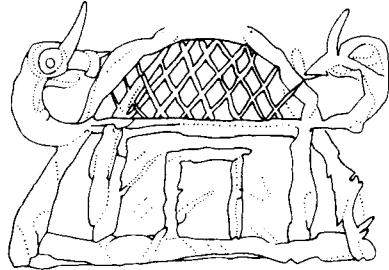
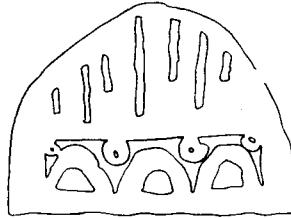
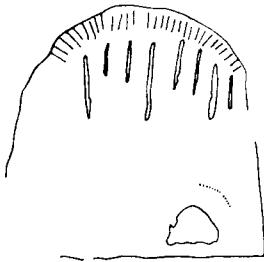


THE BOOK OF KELLS

FIG. 23

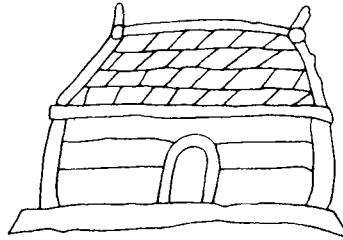
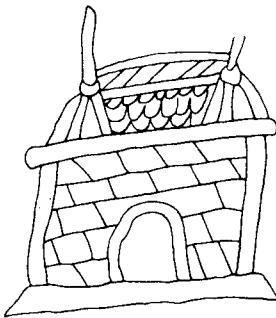
REPRESENTATIONS OF VIKING HOUSES

on picture-stones and the Oseberg Tapestry, and in the Book of Kells (pp. 61, 64 ff.)



THE TJÄNGVIDE AND ARDRE STONES

THE BJÖRKÖ COIN



THE BAYEUX TAPESTRY

FIG. 24

REPRESENTATIONS OF VIKING HOUSES

on picture-stones, a coin and the Bayeux Tapestry (p. 64 f.)

were repainted, with some alteration to the outlines. As the stone is now exhibited, it is hardly possible to see more than half of the outline of one 'house'. Torsten Capelle⁴⁹ based his reconstruction on a house on another stone from Gotland (Buttle, Änge I),⁵⁰ but it is now absolutely impossible to find any traces of this house, particularly as Lindqvist's paint had been washed off.

On the Oseberg Tapestry there is a small composition (FIG. 23) which comes very close to the houses interpreted on the picture-stone from Hunninge.⁵¹ Curiously enough it has never been considered in the discussion of the Trelleborg houses, although there is no doubt as to its authenticity. It is, however, difficult to say whether the tapestry illustrates actual houses—perhaps unfinished—or less permanent structures. It is interesting, however, to note the curved rafters which reach the ground.

The two Gotlandic picture-stones, Tjängvide I and Ardre VIII,⁵² dated by Sune Lindqvist *c.* 800, are worked in higher relief and bear almost identical motifs. Among these is a house which is usually believed to be Valhalla (FIG. 24). The house is almost semicircular in outline, but it is not clear whether the gable or the side of the house is shown. Lindqvist believes that it is the gable, and describes it as follows. At the bottom of the Ardre VIII are three, at Tjängvide I only two, round-arched entrances. Ardre also has four round windows above the entrances, and over these, a big, semicircular gable, presumably made of vertical boards. On the Tjängvide stone even the turf can be seen upon the barrel-vaulted roof.⁵³ Because of the many doors and windows Schultz concluded that the house, or rather the hall, was represented from the side, and that the steeply-curved ridge classed the building with the Trelleborg house.⁵⁴ Ole Klindt-Jensen sees the vertical openings just below the roof as window-slits,⁵⁵ and Sidney Cohen also interprets them in this way, even finding confirmation for Johan Larsen's theory that the rooms in the gable ends at Trelleborg contained a loft like the one described as Gunnar's bedchamber in the Saga of Burnt Njal.⁵⁶ When comparing the house with the representations discussed below, it would seem that Schultz was right. The house is depicted from the side and Lindqvist's 'turf roof' is rather to be interpreted as a roof-crest, while the vertical boards do not cover the gables but the sides of the roof, a feature well-known in Gotland.

Lindqvist parallels the representation on the two stones with a representation of a house on a unique contemporary coin (FIG. 24) found in a grave at Birka (Björkö). The coin is a Norse copy of a type minted at Dorestad, and for this reason Schultz rejected the coin as evidence of Scandinavian architecture.⁵⁷ Brita

⁴⁹ *Op. cit.* in note 41.

⁵⁰ *Op. cit.* in note 48, fig. 125.

⁵¹ S. Krafft, *Oseberg funnets tekstilier* (Oslo, 1955). The representation of houses can be seen on part of fragment 3, reproduced on p. 32.

⁵² *Op. cit.* in note 48, figs. 137, 139.

⁵³ *Ibid.*, 86.

⁵⁴ *Op. cit.* in note 3, 27.

⁵⁵ D. M. Wilson and O. Klindt-Jensen, *Viking Art* (London, 1966), 80.

⁵⁶ S. L. Cohen, *Viking Fortresses of the Trelleborg Type* (Copenhagen, 1965), 93.

⁵⁷ *Op. cit.* in note 3, 25-6. The name of the town is found on the reverse of the Dorestad coins and Schultz believes that the form of the house was dictated by the moneyer's ignorant interpretation of the letters T A T in the name 'Dorstad'.

Malmer⁵⁸ and Sidney Cohen⁵⁹ have, however, since clearly established that the motive on the coin is a Norse house. Cohen's description of this house shows its relevance for the reconstruction of the Trelleborg house. 'The details of the Birka house include a clear designation of thatching—or shingles—on the roof. The moneyer depicted this by placing seven lines from right to left, and nine(?) lines from left to right. The roof itself is round; two inclined posts, struts, or buttresses run from the point of juncture of the roof and vertical posts down to ground level, where they are met by an extension of the bottom of the house to the ground. In the centre is a high door.' However, Cohen does not mention the fact, noted by Schultz, that a finial at either end of the wall-plate takes the form of elaborate animals' heads. I only know of one other contemporary illustration of a house with buttresses. The temple in the Temptation scene from the Book of Kells is constructed of the same elements as the house on the coin (FIG. 23).⁶⁰ The straight ridge of the temple clearly shows that it is seen from the side, and the curved ridge of the house on the coin may simply reflect the difference in shape between a Norse hall and an Irish wooden church. It is interesting to note on the picture of the temple the highly-decorated wall-plate, the shingles on the hipped roof, the high, decorated roof-crest, and the animal finials of the angle rafters.

The representation of the house on the Sparlösa stone, which is roughly contemporary with the coin,⁶¹ is constructed of almost the same elements (FIG. 23). Schultz⁶² postulated that this represents a stave building with inclined walls, the bottoms of the planks presumably resting in the ground, while at the top they were fixed into a wall-plate; plugs are indicated by a row of points. In the middle of the wall is a door, whilst above this short planks have been inserted between the lintel and wall-plate. The roof is damaged, but in all probability it also contained two small triangles representing the gables. Certain buildings on the Bayeux Tapestry are similar to this, although that tapestry is 250 years later in date. Schultz is undoubtedly right in his interpretation, but the houses on the Bayeux Tapestry are a poor argument in favour of vertical gables. Both the Sparlösa stone and the tapestry depict hipped roofs.

The Bayeux Tapestry depicts several buildings chiefly acting as frames for figures, but on top of the frames (which indicate interiors) exteriors of the same houses are sometimes shown. A good example is the scene of incendiarism,⁶³ with the burning exterior similar to some of the best house-illustrations of the tapestry, which form the background of the foraging party (FIG. 24).⁶⁴ These houses have round-arched doors, bole-constructed walls, and curved, shingled roofs.

The stone from Dynna, of the mid 11th century,⁶⁵ also depicts both the interior and the exterior of a house (FIG. 23) by cutting the house lengthwise, so that an outline encircles the three persons inside while the exterior is characterized by the inevitable door and the high, curved roof-crest. To the right are crossed

⁵⁸ B. Malmer, *Nordiska myntföre år 1000* (Lund, 1966).

⁵⁹ *Op. cit.* in note 56, 92.

⁶⁰ F. Henry, *Irish Art during the Viking Invasions* (London, 1967), colour plate B.

⁶¹ H. Jungner, 'Sparlösastenen', *Fornvännen*, 1938, 193 ff.

⁶² *Op. cit.* in note 3, 26.

⁶³ F. Stenton (ed.), *The Bayeux Tapestry* (London, 1965), pl. 52.

⁶⁴ *Ibid.*, pl. 47.

⁶⁵ M. Olsen, *Norges innskrifter med de yngre runer*, 1 (1941), 198–202.

barge-boards, while the left-hand corner of the roof has been damaged.⁶⁶ The shape of the outline is that of a convex house with a hipped roof.

These examples show that pictures of houses were constructed from the same elementary pattern. Only the houses on the Hunninge stone (which might or might not exist) and those on the Oseberg Tapestry differ from this pattern. The buildings were naïvely conceived as arches, and characterized as houses by the addition of specific, easily recognizable elements—a door, shingles and a roof-crest for example. The shape of the outline accords well with contemporary style. It would, however, be underestimating the pictures as source material if the convex shape is understood only as a stylistic element. There is reason to assume that houses with a curved ridge were the direct inspiration for the pictures and it is clear from the embellishments that a well-built house was ‘pleasantly adorned’.⁶⁷

THREE-DIMENSIONAL REPRESENTATIONS

Three-dimensional house models of the Viking age are similar in general idea and detail to those represented two-dimensionally. In a mid 10th-century grave from Klinta, Öland,⁶⁸ was found an iron rod⁶⁹, the top of which is embellished with a unique bronze model of a small house standing on a plate (FIG. 25). The house

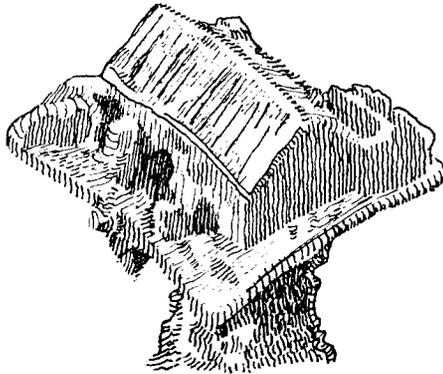


FIG. 25
KLINTA, ÖLAND

Bronze model of house on top of iron rod, found in a 10th-century grave (p. 66). Sc. c. 1:1

Drawn from a photograph

plan is rectangular, but the ridge is curved. The roof has vertical boards and in the middle of one side there is a small round-arched door, in front of which are two posts (now broken), in all probability supporting a roof or forming corner-posts of a porch. Of great interest, although they are unfortunately in a bad state of preservation, are the arches or buttresses at the corners of the sheet which support the corners of the house, and which have finials in the shape of beasts.

⁶⁶ Dag Strömbäck is ‘inclined to think that the Bethlehem star was carved at that place’: D. Strömbäck, *The Epiphany in Runic Art, the Dynna and Sika Stones* (London, 1970).

⁶⁷ This compares with the description of house-building by Byrhtferth of Ramsey in 1011, as published, in translation, by D. Whitelock, *The Beginnings of English Society* (1965), 89.

⁶⁸ K. G. Petersson, ‘Ett gravfynd från Klinta, Köping sn., Öland’, *Tor*, iv (1958), 134-50.

⁶⁹ Capelle calls it a roasting spit: *op. cit.* note in 41, 248.

Another unique house-shaped monument was the Cammin Casket,⁷⁰ destroyed during the second world war (FIG. 26). According to Nørlund,⁷¹ Mogens Clemmensen, the architect, was the first person to draw attention to its relevance for the reconstruction of the Trelleborg house, and it also played an important role in Schulz's thinking.⁷² The casket, highly decorated in the Scan-

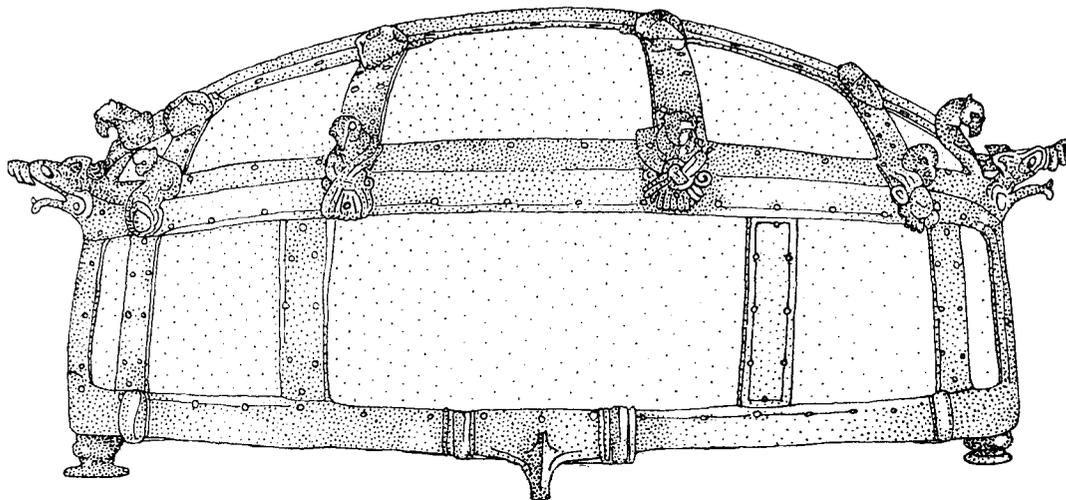


FIG. 26

THE CAMMIN CASKET (p. 67). Sc. c. 1: 5

Drawn (interlacings omitted) from a photograph

dinavian Mammen Style, was 63 cm. long, made of wood, covered with carved elk-horn plates and held together by bands of gilded bronze. Both the sides and the roof were convex. Of especial interest to Schultz was the placing of its decorative, projecting heads of beasts and birds, which—with two exceptions—were placed along the eaves. He thought of these animals as the finials of beams, as they were arranged according to a special system. He interpreted two beasts in each gable as the protruding ends of the wall-plates, and four heads of birds on each side wall as the decorative finials of the tie-beams; the latter subdivided the shrine into five bays, the same number of bays as in the Trelleborg house. This brilliant interpretation by Schultz was brought to fruition in his reconstruction, where tie-beams and wall-plates project beyond the walls and roof; he did not, however, attempt to copy the animals and birds.⁷³

⁷⁰ Described and illustrated in *op. cit.* in note 55, 126, pls. lv and lvi.

⁷¹ P. Nørlund, 'Trelleborg efter fire Aars Udgravninger', *Fra Nationalmuseets Arbejdsmark*, 1938, 74, foot-note.

⁷² *Op. cit.* in note 3, 27–8.

⁷³ On the reconstructed house at Trelleborg. Schultz made a small model (scale 1: 50) of the house before 1940 which is now in the National Museum in Copenhagen. It shows the 'wolves' heads' from the Cammin Casket on the ends of the wall-plates.

HOG-BACK GRAVE-COVERS

By far the most numerous house representations from the Viking age are the so-called hog-back grave-covers. They are distributed mainly within the old kingdom of Northumbria and the Norse earldom of Orkney, areas of Britain dominated by Scandinavian settlers during the 10th and 11th centuries. The curved backs of the stones gave them their curious name, but they are obviously derived from buildings.⁷⁴ W. G. Collingwood⁷⁵ compared them to a vernacular English cottage: cruck-built, with low, clay-daubed walls, and a steep, thatched or shingled roof, he argued that they had a wooden prototype. Collingwood claimed that the hog-back grave-cover was well-known before the Danish invasion. Schultz, however, saw the stones as models of the halls of the Viking chieftains, and therefore included them as relevant material in his reconstruction of the Trelleborg house.⁷⁶ James Walton accepted Collingwood's opinion, and, starting from the stones, he put forward the theory that cruck-construction was introduced to Britain by the predecessors of the Viking immigrants, the Angles and the Jutes.⁷⁷ Later J. T. Smith showed that this theory was wrong.⁷⁸ The discussion, however, has been impeded by the fact that the hog-backs have never been published completely. Collingwood studied only the monuments of northern England, and to him the grave-covers were primarily comparative material for his study of contemporary stone crosses, and particularly of their ornament. Pioneering publications of the 19th century are often the only sources available for the student. In order, therefore, to be able to use the hog-backs, we must go directly to the stones: I have picked out the examples which I find to be the most interesting.⁷⁹

I wish to stress that the hog-backs are first of all grave-covers found within Scandinavian settlements. They are stone sculptures belonging to the Anglo-Celtic-Scandinavian culture of Northumbria in the 10th and the 11th centuries, and must be evaluated accordingly. Only with reservations can they be interpreted as models of Scandinavian timbered houses.

The technique of stone-carving was taken over by Danish and Norwegian colonists from the local British artists.⁸⁰ A change in burial customs as the Viking farmers became converted to Christianity probably caused the interest in stone

⁷⁴ W. S. Calverley was already aware of this circumstance; see his 'Notes on some coped pre-Norman tombstones at Aspatria, Lowther, Cross Canonby and Plumbland', *Trans. Cumberland and Westmorland Antiq. and Archaeol. Soc.*, ix (1888), 461-8.

⁷⁵ W. G. Collingwood, *Northumbrian Crosses of the Pre-Norman Age* (London, 1927), 164.

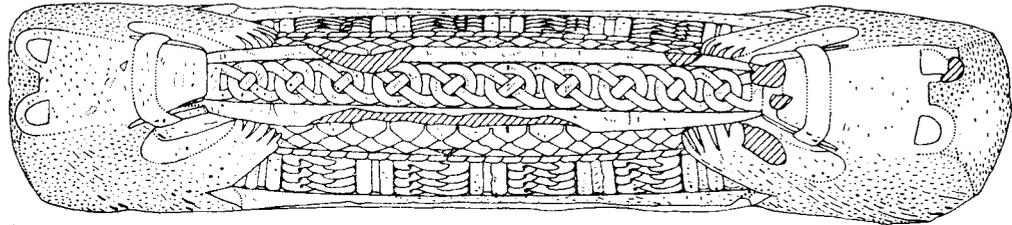
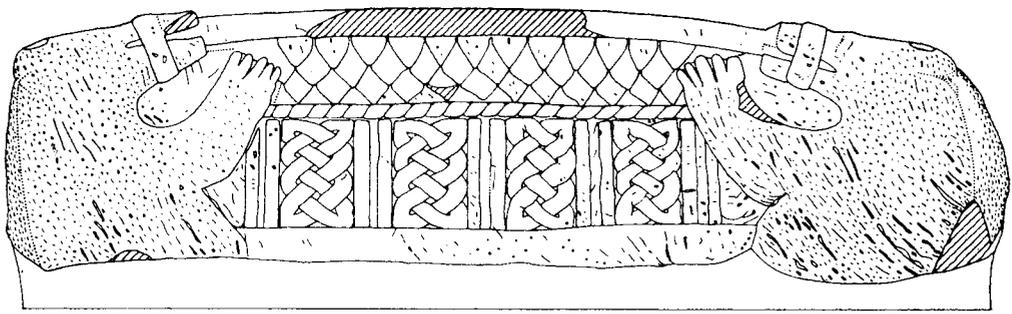
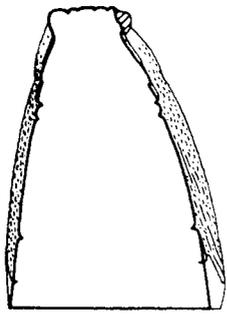
⁷⁶ *Op. cit.* in note 3, 28-9.

⁷⁷ *Op. cit.* in note 9, 74-6.

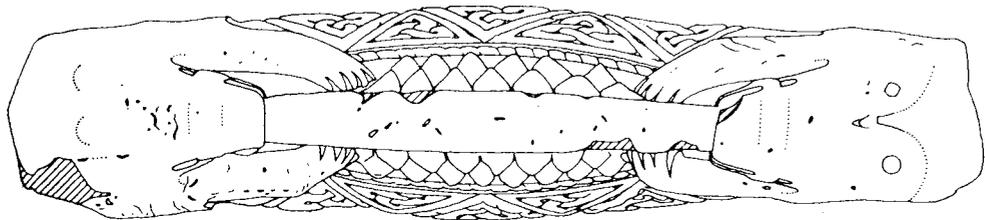
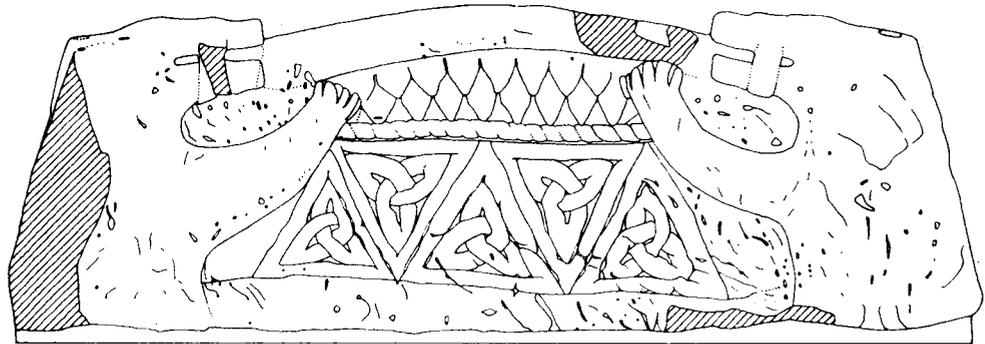
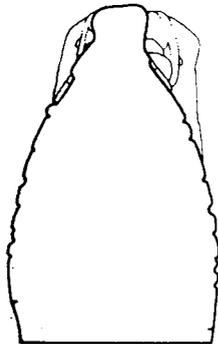
⁷⁸ J. T. Smith, 'Cruck construction: a survey of the problems', *Med. Archaeol.*, viii (1964), 119-51.

⁷⁹ For this purpose I travelled in England and Scotland in 1969, 1971 and 1972, and I wish to express my thanks to the Rask-Ørsted Foundation for their support. I am also very grateful to many scholars in England and Scotland and in particular to James T. Lang, who has studied the hog-back monuments for many years with a view to publishing them. I wish to thank Professor Rosemary Cramp, Richard Bailey and Graham Ritchie for much valuable information. The results of my first journey were published in a preliminary form as 'Vikingerne husformede gravestene', *Nationalmuseet Arbejdsmark*, 1970, 13-28, where I also published a map of the distribution of the hog-backs in Anglo-Saxon England, based on information kindly supplied by James Lang. The map is not quite complete, as there are occasional hog-backs in the north of Scotland and in Orkney. There is a single example from Ireland recently published by J. T. Lang, 'The Castledermot hog-back', *J. Roy. Soc. Antiq. Ireland*, ci, pt. 2 (1971), 154-8.

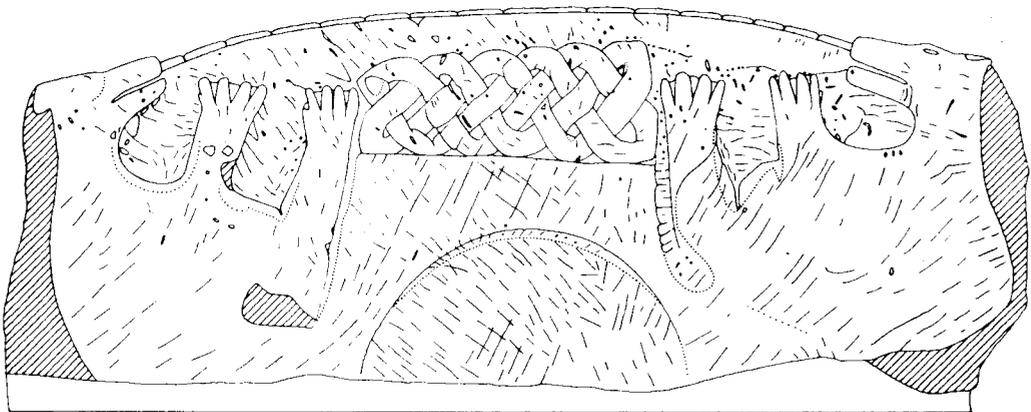
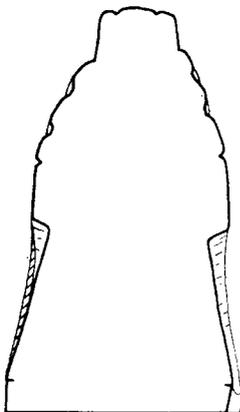
⁸⁰ *Op. cit.* in note 55, 104.



a



b



c

FIG. 27
THREE HOG-BACK GRAVE-COVERS, BROMPTON CHURCH, N.R. YORKS.
(p. 69). Sc. 1: 10

carving.⁸¹ We have few clues as to the origin and absolute chronology of the stones. I cannot approve of Collingwood's heavy-handed stylistic datings, among other reasons because hog-backs are rarely found *in situ* in the churchyards. Most hog-backs have been found, often together with stone crosses, reused in the masonry and foundations of 'Norman' parish churches, circumstances which make the ascription of many stones to the 10th century probable. The freestone is often much weathered, and the monuments must have been exposed to the elements for a long time before they found protection in the walls. Their original painting has completely vanished,⁸² and very few stones are so well preserved that we can be certain of every carved detail.

Several reused stones appeared when the church at Brompton, near Northalerton, N.R. Yorkshire, was pulled down in 1867. Among them were eleven hog-backs.⁸³ With one exception the ends of the houses which they reproduce are attacked by large bears, a strange motif which has only been found on hog-backs, and of which the symbolic meaning is unknown. On the most skilfully and naturalistically executed stone (FIG. 27, *a*) the house between the paws of the bears has walls divided into panels, a clearly-marked junction between walls and roof, and a roof covered with tapering shingles; the whole is crowned by a crest, characteristically curved, the top of which is decorated with a twist with rings. The decoration of the walls (plaits with double framing) was interpreted by Collingwood as post-and-wattle,⁸⁴ while Schultz saw it as an obvious representation of bays.⁸⁵ James Walton went still further in writing that it 'clearly depicts a low ground-wall with a wooden sill and a number of upright studs dividing the wall into panels filled with wattle'.⁸⁶ It is, of course, tempting to interpret the decoration as a direct representation of the construction of a house; but caution is necessary. Apart from the shingles on the roof, every other detail is standard Anglo-Saxon ornament of a type seen on many other stones. Another hog-back from Brompton is almost identical with the one just described, save that the walls are decorated with a different, well-known pattern, the triquetra, which has certainly nothing to do with timbered constructions (FIG. 27, *b*). In the middle of the walls of some hog-backs is a recessed round-arched panel, and this was interpreted by Collingwood as a doorway (FIG. 27, *c*).⁸⁷ We have seen that a central door is often seen on contemporary representations of houses. On a few hog-backs the recessed panel is extended for the whole length of the wall,⁸⁸ a fact which undermines the theory

⁸¹ Cf. D. M. Wilson, 'The Vikings' relationship with Christianity in northern England', *J. Brit. Archaeol. Assoc.*, 3 ser., xxx (1967), 37-46.

⁸² Collingwood states that 'in Kirklevington and Stonegrave there seem to be traces of paint, in both cases red': W. G. Collingwood, 'Anglian and Anglo-Danish sculpture in the North Riding of Yorkshire', *Yorks. Archaeol. J.*, xix (1907), 69 and 401. James Lang tells me, however, that the fragments from these churches do not include any hog-backs.

⁸³ Six of the eleven hog-backs from Brompton are now in the Cathedral Library, Durham. Good and accurate drawings were published by W. Greenwell, *A Catalogue of the Sculptured and Inscribed Stones in the Cathedral Library, Durham. The Anglian Series* (1899), nos. lviii-lxiii.

⁸⁴ *Op. cit.* in note 82, 277.

⁸⁵ *Op. cit.* in note 3, 28.

⁸⁶ *Op. cit.* in note 9, 72.

⁸⁷ *Loc. cit.* in note 84.

⁸⁸ This can be seen on some of the hog-backs from Brompton (e.g. Durham, nos. lix and lx, and one of those in the church) and on several stones from Sockburn-on-Tees, co. Durham.

that it is a doorway (although this feature could be due to further stylization of the motif). Arcades framing figures of saints are found on Anglo-Saxon house-shaped stones, for instance on the Hedda Stone in Peterborough Cathedral,⁸⁹ and this motif may have been adapted on the hog-backs; but other explanations are also possible. In this connexion it might be significant that the recessed panel is always roughly carved.

Bears are common but are rarely as naturalistic as at Brompton: the race degenerated.⁹⁰ On a stone in Wycliffe Church, in Teesdale, the head of the bear is immediately recognizable, whereas the body has partly disintegrated into Jellinge style interlacing (FIG. 28, *a*).⁹¹ The walls of the house have been damaged, but sufficient remains to show recessed flat, rectangular panels, divided by ornamented 'pilasters'. Both the ridge and the base of the roof are curved, a feature often seen on hog-backs. The convex base of the roof results from the strong curve of the ridge in relation to the slack curve of the sides. The shingled pattern on the roof is divided into three longitudinal bands by marked fillets. Hog-backs as far apart as Llanddewi-Aber-Arth, Cardiganshire,⁹² and Mossknow, Dumfriesshire (FIG. 33, *a*),⁹³ bear a feature which may represent lap-jointed boards consisting of undecorated longitudinal bands. The ridge of the Wycliffe stone consists of a double cable. Mouldings between the sides and the gable of the stone continue the ridge moulding behind the head of the bear and the interlace is also continued at the top of the gable. Thus the form of the gable is a consequence of the decoration of the sides, and cannot be interpreted as representation of building construction.

A hog-back in the parish church at Aspatria, Cumberland, represents a further step away from naturalism (FIG. 28, *b*). The monument is much damaged, but the main design is clear. An eroded lower jaw with a canine tooth is all that remains of the head of a bear, but the beast never had a body. The walls of the house continue to the gables, and consist, as on the Wycliffe stone, of recessed rectangular panels to the full height of the wall, framed by 'pilasters'. At Aspatria the sides were completely covered with Jellinge interlace. (A cross in the church is similarly decorated,⁹⁴ and it seems probable that the two stones were carved by the same craftsman; it is unfortunately impossible to say whether they formed parts of the same monument.) The gable of the hog-back is missing. The shingles are of a characteristic type with concave sides and a straight base, as on the roof of the temple in the Book of Kells,⁹⁵ but the surface of the roof is highly stylized. Each shingle was decorated with a triquetra.⁹⁶ The ridge and the base of the roof are strongly curved, and the profile of the roof-crest is, like the cross-section of the stone, tall and slender.

⁸⁹ E. A. Fisher, *An Introduction to Anglo-Saxon Architecture and Sculpture* (London, 1959), fig. 45.

⁹⁰ This can already be seen in the Brompton series (Durham, no. lviii).

⁹¹ The closest parallel is the interlace round the so-called 'bound devil' from Kirkby Stephen (Westmorland) on the other side of the Pennines: *op. cit.* in note 55, pl. x, iii *a*.

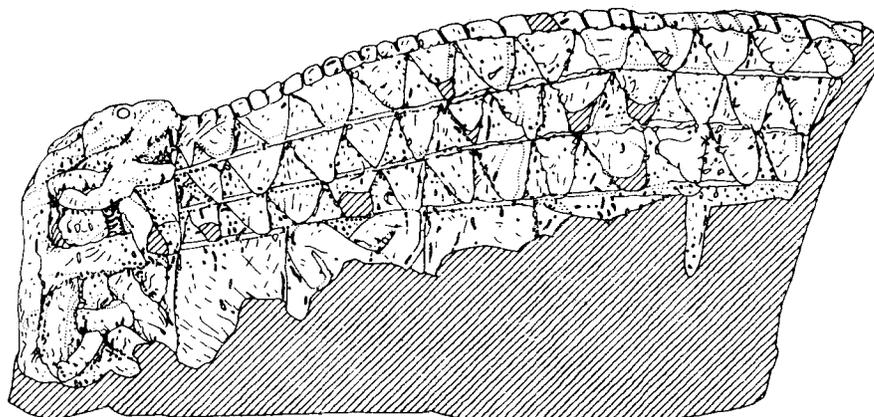
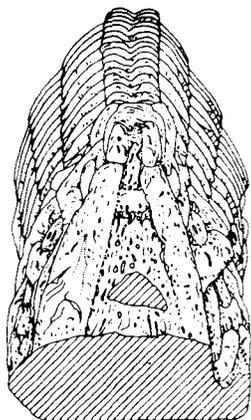
⁹² V. E. Nash-Williams, *The Early Christian Monuments of Wales* (Cardiff, 1950), 98, no. 114, fig. 92, pl. lix.

⁹³ Now in the Burgh Museum, Dumfries.

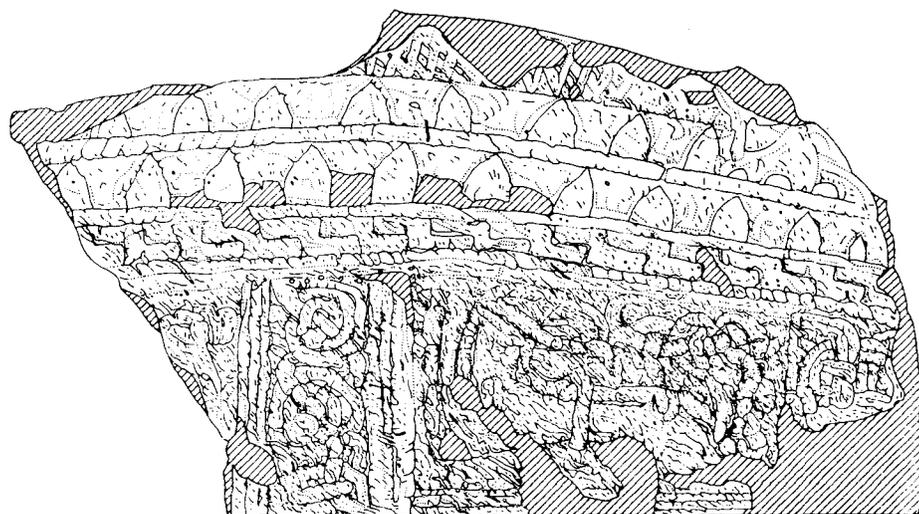
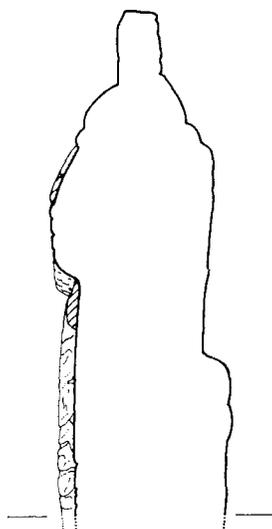
⁹⁴ *Op. cit.* in note 75, fig. 178.

⁹⁵ *Loc. cit.* in note 60.

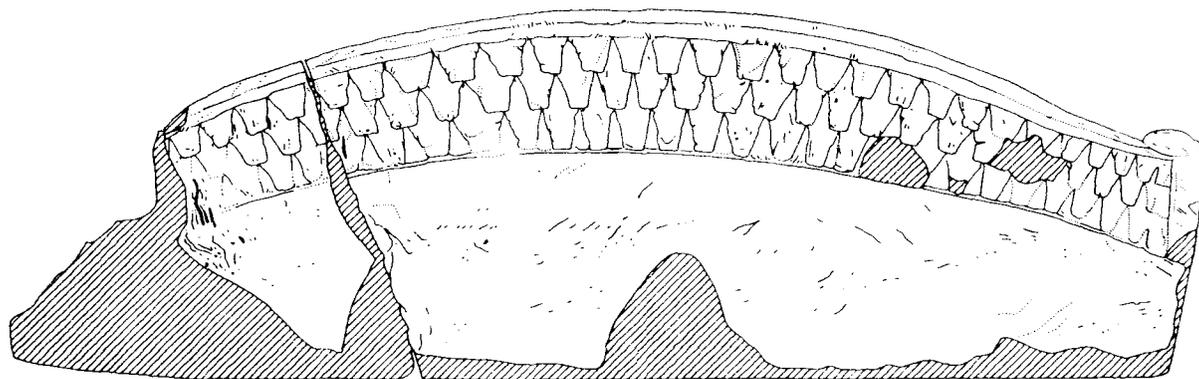
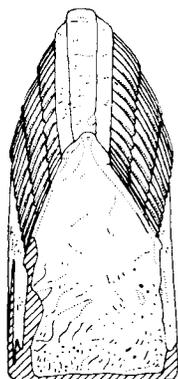
⁹⁶ Some can still be seen quite clearly on the other side of the stone.



a



b



c

FIG. 28

THREE HOG-BACK GRAVE-COVERS

a. Wycliffe Church, N.R. Yorks. (p. 70); *b.* Aspatria Church, Cumb. (p. 70); *c.* Sockburn-on-Tees Church, co. Durham (p. 71). Sc. 1: 10

Among many Viking stones in the remarkable collection from Sockburn-on-Tees is a series of hog-backs of Brompton type, but one is out of series (FIG. 28, *c*). On this example the bear has been reduced to a diminutive rudiment of a head, the ridge and the base of the roof are curved, almost to become segments of concentric circles. The gables lean outward, a trait rare on hog-backs, but paralleled at Luss-at-Loch-Lomond, Dunbartonshire (FIG. 33, *b*).⁹⁷ The walls of this example are decorated with intersecting arcades, of a type used architecturally in Durham Cathedral towards the end of the 11th century. This isolated Scottish stone can hardly be older, and must consequently have been carved some time after the end of the Viking period. There is good reason to believe that the Sockburn example is also a late development. If so its value is limited as a source for the reconstruction of Viking-age houses.

Although the bears may be interesting, they obscure to some extent the representations of houses, for we learn little or nothing about the gables. Accordingly the relatively few early hog-backs without bears are worth examining. The hog-back from Plumbland, Cumberland, despite the fact that it was broken into two parts and reused in the Early English church, is well preserved and clearly represents the sides and gables (FIG. 29, *a*). Only the ridge is completely missing, but indirectly we can deduce its curved shape from the curve of the base of the roof.⁹⁸ The walls have been adorned with slender figures of double-contoured animals carved in low relief and both gables are filled with a triquetra, also carved in low relief and with double contours. According to Brøndsted, this is significant for ascribing the stone to the mid 10th century,⁹⁹ as it 'agrees exactly in style with the decoration which is found on the silver cup and on the wood-carving from the Danish Jellinge find'. The mouldings framing the gables and walls enclose the whole surface and on the gables they thus display the curved shape of the cross-section. However, as the mouldings also follow the slanting gables, we cannot agree with Walton¹⁰⁰ in interpreting them as cruck principals. Furthermore the strange cabling shows that they are purely decorative profiles, as at Wycliffe. The fragment of a hog-back from Brigham,¹⁰¹ only a few miles from Plumbland, has a similar frame, but no ornament (FIG. 29, *b*). On this stone the gable is considerably inclined. The small hog-back from Kirkby Stephen, Westmorland, has a good house-shape, and is not obscured by animals or interlace (FIG. 29, *c*). The triangular shingles are characteristic of certain hog-backs on both sides of the Pennines.¹⁰²

In the churchyard of Crosscanonby, Cumberland, is a large hog-back (FIG. 30, *a*), which gives a good impression of a convex long-house. The roof is not decorated with the usual shingle pattern, but with a Borre ring-chain pattern, a motif chiefly known from the crosses carved by Gautr on the Isle of Man,¹⁰³ but

⁹⁷ J. Russell Walker, 'Notes on a peculiar class of recumbent monuments,' *Proc. Soc. Antiq. Scotland*, VII (1884-5), 406 ff., fig. 9.

⁹⁸ It is strange that Claverley concluded that 'it was not hog-backed or curved but a straight ridge': *op. cit.* in note 74, 465.

⁹⁹ J. Brøndsted, *Early English Ornament* (London and Copenhagen, 1924), 225.

¹⁰⁰ *Op. cit.*, in note 9, 72.

¹⁰¹ R. Bailey, 'Pre-Norman sculpture from Brigham', *Trans. Cumberland and Westmorland Antiq. and Archaeol. Soc.*, LXIII (1963), 158-9.

¹⁰² Other examples are Wycliffe, N.R. Yorkshire, and Addingham, Cumberland.

¹⁰³ *Op. cit.* in note 55, 108 ff.

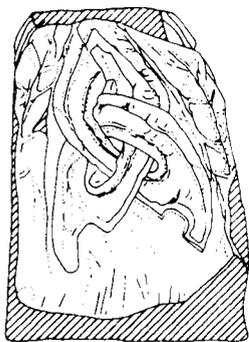
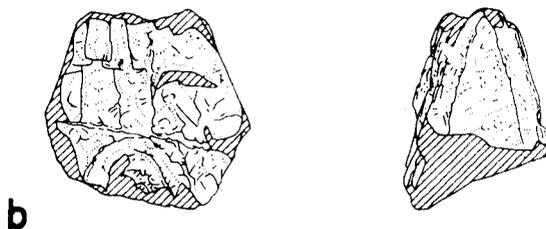
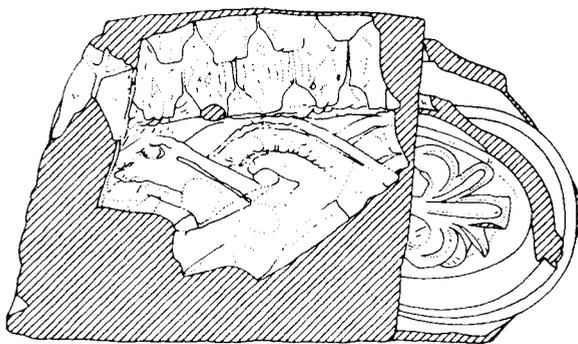
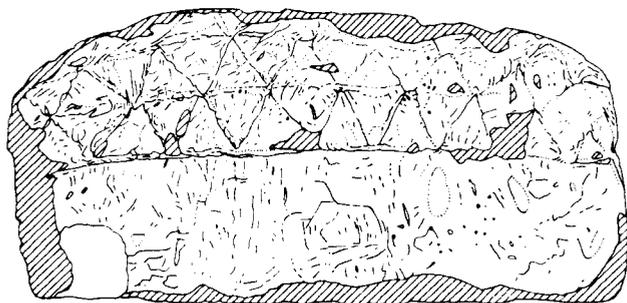
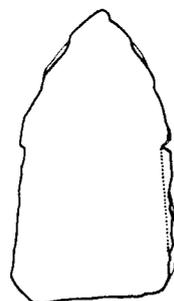
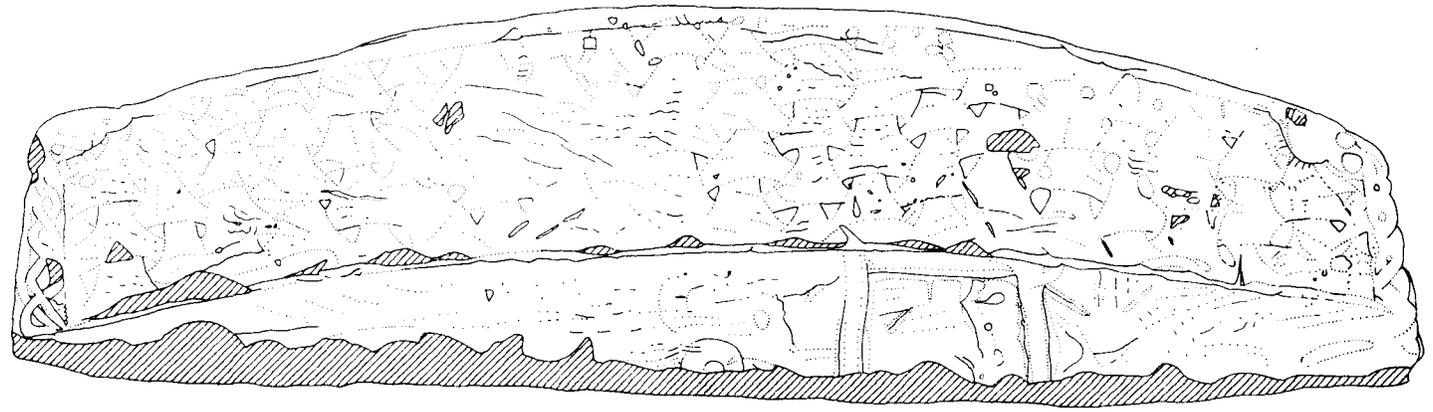
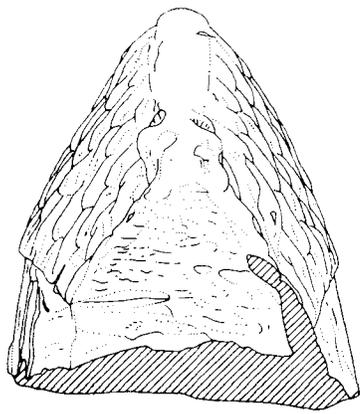
**a****b****c**

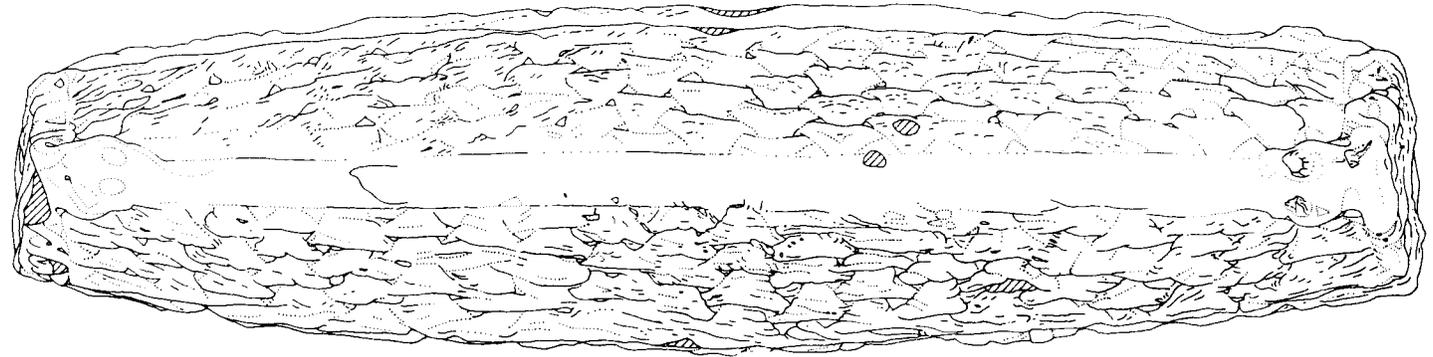
FIG. 29

THREE HOG-BACK GRAVE-COVERS

a. Plumbland Church, Cumb. (p. 71); *b.* Brigham Church, Cumb. (p. 71); *c.* Kirkby Stephen Church, Westm. (p. 71). Sc. 1: 10



a



b

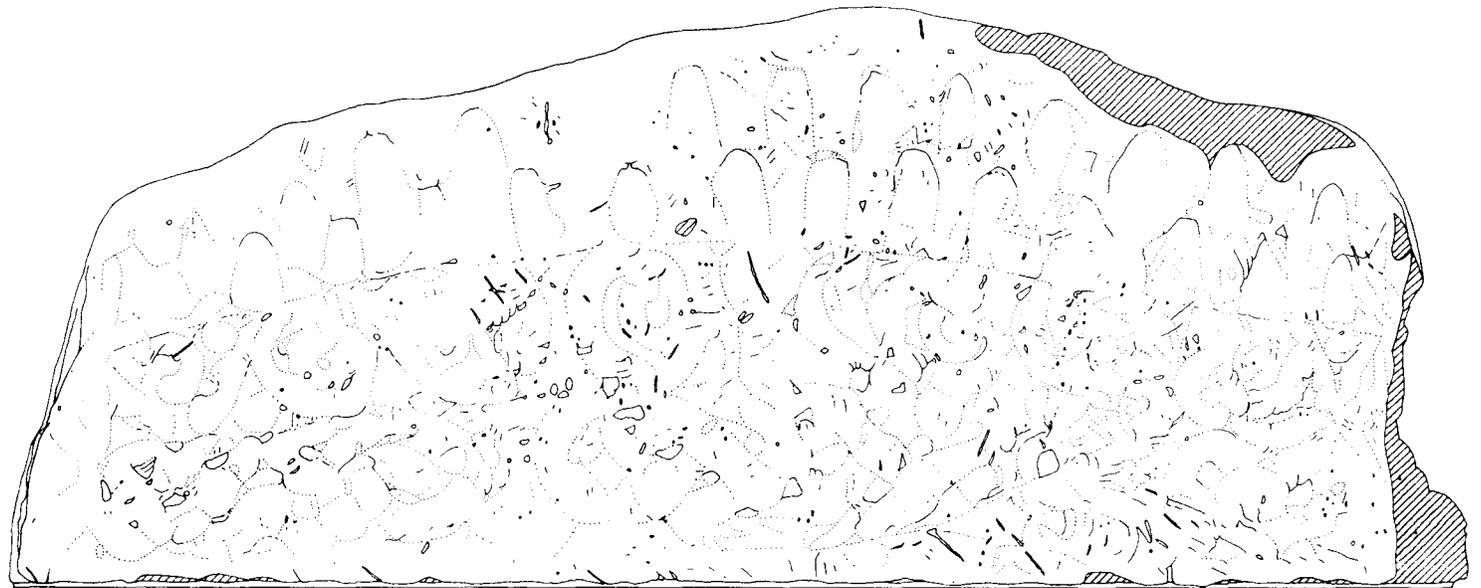
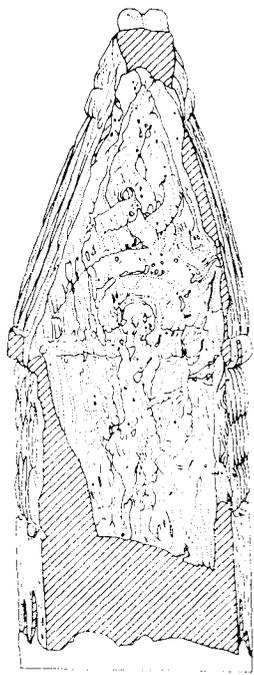


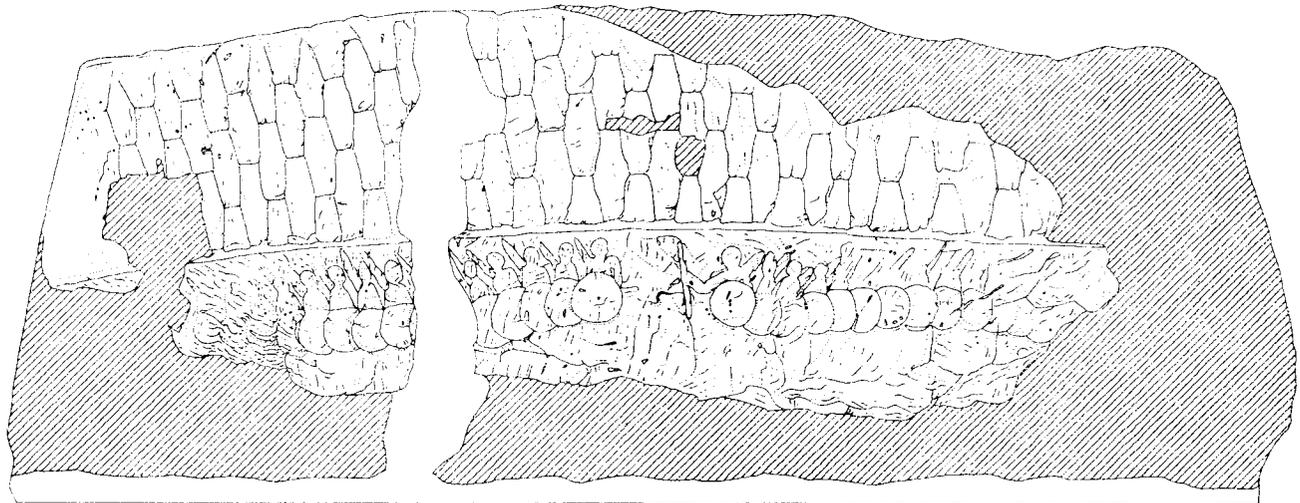
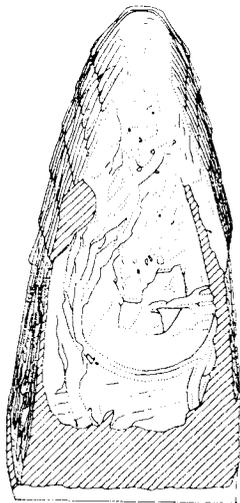
FIG. 30

TWO HOG-BACK GRAVE-COVERS FROM CUMBERLAND

a. Crosscanonby Church (pp. 71, 73); b. Penrith Church (p. 73). Sc. 1: 10



a



b

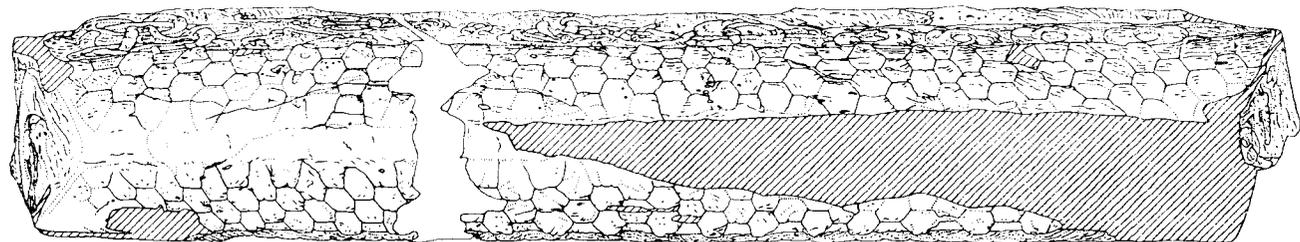


FIG. 31
TWO HOG-BACK GRAVE-COVERS, GOSFORTH CHURCH, CUMBERLAND (p. 73 f.). Sc. 1: 10

also seen in Cumberland (as on a cross from Dearham,¹⁰⁴ near Crosscanonby). The heads of the bears have degenerated so that they look more like snakes, and the bodies have been reduced to plaits. On one side there is an asymmetrically-placed frame (probably containing a crudely-carved figure), which may be the door of the house. At the middle of the same side, at the bottom, is a fragment of knotwork, which might be a snake,¹⁰⁵ indicating that the stone was originally taller, equivalent perhaps to the Penrith hog-backs.

The Penrith 'Giant's Grave' consists of two crosses and four hog-backs (or perhaps only three, as two may be part of the same split stone). Undoubtedly Collingwood is right in stating that the much-restored monument hardly represents the original position of the stones.¹⁰⁶ Only one of the grave-covers is sufficiently well preserved to give an idea of its main outline (FIG. 30, *b*). The patterns are so weathered that Collingwood misunderstood both the twist-and-ring pattern and the spiral decorations on the walls, as well as the shape of the shingles; it is also hard to believe in the 'person' on the gable. On the other hand it is safe to say that the bear motif was not used on the Penrith stones.

The two famous hog-backs at Gosforth (FIG. 31, *a*, *b*), near the Cumberland coast, have many features in common with other stones in the county. They were found in 1896 and 1897 as corner-stones in the foundation of the N. wall of the nave of the church, but were somewhat damaged by the explosives which were used to demolish the strong Norman ashlar. The stones were published by C. A. Parker,¹⁰⁷ and by W. S. Calverley,¹⁰⁸ who printed frontal photographs, taken while the stones were still outside the church; these were the source for Collingwood's well-known drawings.¹⁰⁹ On the one called the 'Saint's Tomb' (FIG. 31, *a*) there are Christian as well as Norse motifs similar to those on the splendid cross in the churchyard; indeed the similarity is so striking that we must believe they were carved by the same craftsman, presumably in the mid 10th century.¹¹⁰ It has been pointed out that the cross is closely related to Irish crosses,¹¹¹ and it is natural to believe that the tombstone is also of Irish ancestry. Curiously the somewhat older Irish high crosses also contain a house element.¹¹² They are usually capped by a small model of a sanctuary with a shingled roof and a roof-crest, and with crossing barge-boards, which on the Durrow cross are even adorned with animal heads.¹¹³ Brøndsted pointed out that Celtic reliquaries provide good parallels for the relatively weak representation of houses on the 'Saint's Tomb'.¹¹⁴ The snakes

¹⁰⁴ *Op. cit.* in note 75, fig. 185.

¹⁰⁵ Possible parallels are hog-backs at Penrith, Cumberland, and Lowther, Westmorland.

¹⁰⁶ W. G. Collingwood, 'The Giant's Grave, Penrith', *Trans. Cumberland and Westmorland Antiq. and Archaeol. Soc.*, xxiii (1923), 115 ff.

¹⁰⁷ C. A. Parker, *The Ancient Crosses at Gosforth, Cumberland* (London, 1896), 81-5.

¹⁰⁸ W. S. Calverley, 'Shrine-shaped or coped tombstones at Gosforth, Cumberland', *Trans. Cumberland and Westmorland Antiq. and Archaeol. Soc.*, xv (1899), 239-46.

¹⁰⁹ *Op. cit.* in note 75, figs. 211-12.

¹¹⁰ Collingwood follows Brøndsted in dating the 'Saint's Tomb' a hundred years later; Kendrick also dates it late. David Wilson kindly gives me his opinion that the Gosforth cross belongs to the mid 10th century.

¹¹¹ *Op. cit.* in note 55, 106-7.

¹¹² See note 60.

¹¹³ H. G. Leask, *Irish Churches and Monastic Buildings*, 1 (Dundalk, 1955), fig. 21.

¹¹⁴ *Op. cit.* in note 99, 203.

on the side walls are carved in an unusually high relief, the roof is covered with key pattern, and its ridge is only slightly curved. A dragon's head is seen where the bear might have been, and (as on the hog-back from Crosscanonby) a plait replaces the body. The other Gosforth hog-back, the 'Warrior's Tomb' (so-called because of the remarkable figures on one of its sides, FIG. 31, *b*), may give a fairly good impression of a Scandinavian long-house, and of Scandinavian decoration as well. Bears or other animals never menaced this House of the Dead. The gables slope inwards from the bottom of the stone. (The perspective of the photograph deceived Collingwood about this, while a shadow led him to believe that there was a kneeling figure between the two armies.)

Five gigantic hog-backs survive among the numerous early stones in the old parish church of Govan on the Clyde. Drawings of three of them were published as early as 1883 by J. Russell Walker;¹¹⁵ measured drawings of the other two are published here (FIG. 32, *a, b*). The Govan stones are, not surprisingly, closely related to those from Cumberland. Two hog-backs (nos. 2 and 10; FIG. 34, *a, b*) display degenerate bears' heads. Two other hog-backs (nos. 3 and 12; FIGS. 32, *a, 34, c*) are stylized; the artist has, in a curious way, formed them as scaly, leaping monsters, completely sacrificing the idea of a house. Only the much smaller stone from Meikle, Perthshire,¹¹⁶ has a similar form, and only on these three stones are the heads of the beasts turned outwards. Obviously we have here a local Scottish misrepresentation of the hog-back motif. The fifth Govan hog-back (no. 11; FIGS. 32, *b, 34, d*) is unique. The two bears at the ends have been split in two, set at right angles to the roof and reduced to gable decorations. Parallels to the plaits on the backs of the bears have been noted in Cumberland, and the partly interlaced bears, set face-to-face, are similar to a panel on the famous cross at Collingham in Yorkshire.¹¹⁷ As on most Scottish hog-backs, one of the Govan stones (no. 10; FIG. 34, *b*) has no representation of the walls of the house, the shingle-covered roof reaching to the ground.¹¹⁸ The best example of this can be seen in the hog-back from Abercorn, West Lothian,¹¹⁹ but the stones in Orkney also belong to this group (FIG. 33, *c, d*).¹²⁰ Few Scottish stones, apart from those at Govan, portray beasts and, since the curve of their roof-ridge is usually slack, there is good reason to suppose that they are a late, local degeneration of the type.

Some late stones are far from being worthless as witnesses of architecture, as we may see in the main hog-back area, Yorkshire. From Ingleby Arncliffe, near Brompton, N.R., come three hog-backs which are all very different in design. Two of them, one undoubtedly from the Brompton workshop, are now in the Cathedral

¹¹⁵ *Op. cit.* in note 97, figs. 5-7. Radford (*Trans. Glasgow Archaeol. Soc.*, xv) uses the numbering adopted by J. Romilly Allen (*Early Christian Monuments of Scotland*, Edinburgh, 1903), according to which nos. 2, 3 and 10 are illustrated by J. Russell Walker; nos. 11 and 12 have been measured by me; nos. 3 and 12 are those which have 'leaping-monsters'; no. 11 is the stone with two bears on each gable; no. 10 is of the 'roof-type'. Radford has confused no. 3 with no. 12.

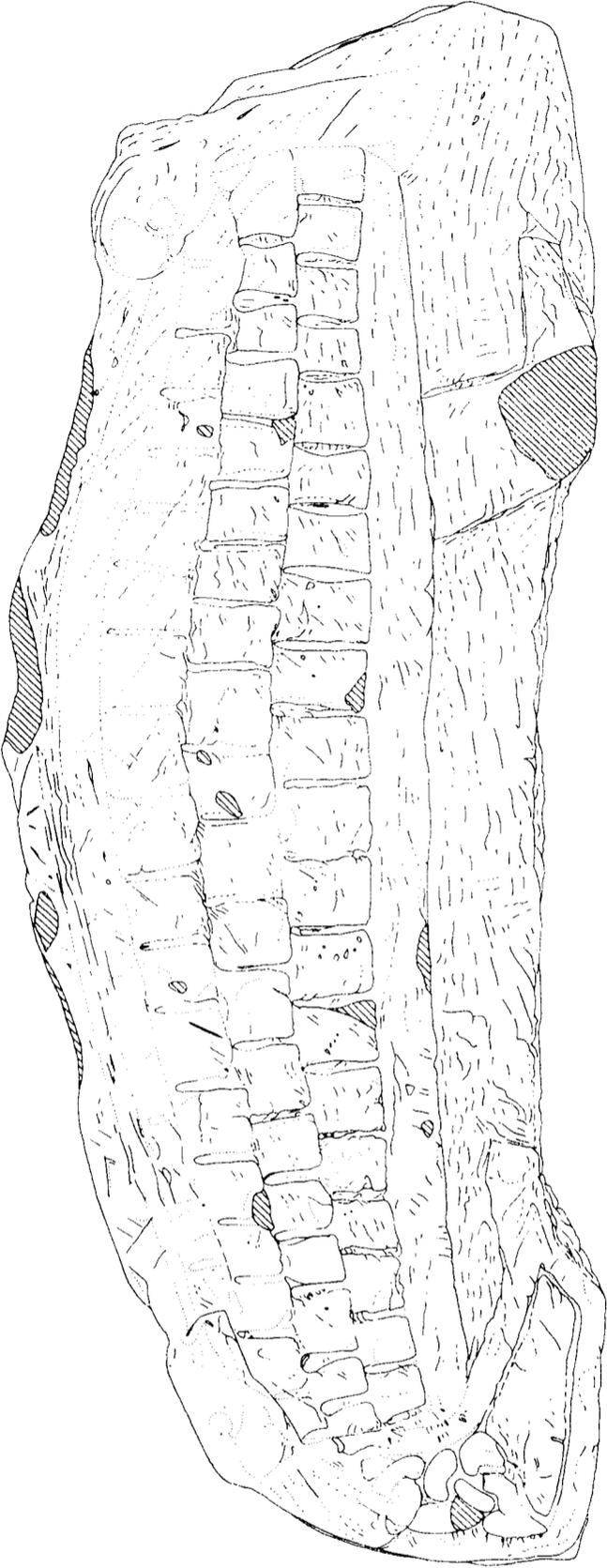
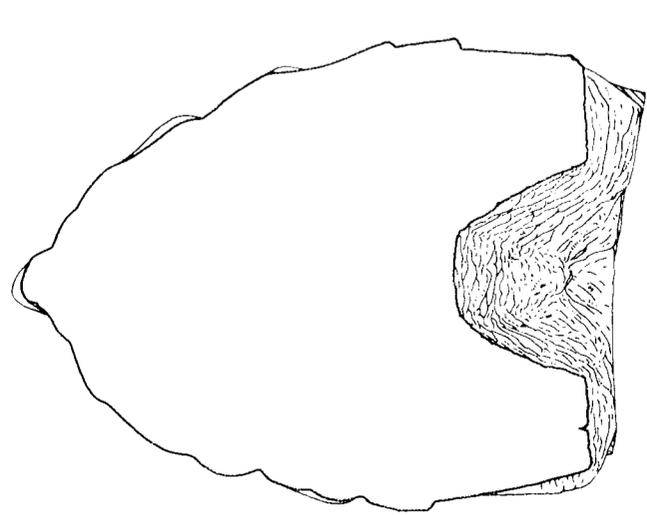
¹¹⁶ *Op. cit.* in note 97, fig. 10.

¹¹⁷ *Op. cit.* in note 55, fig. 48.

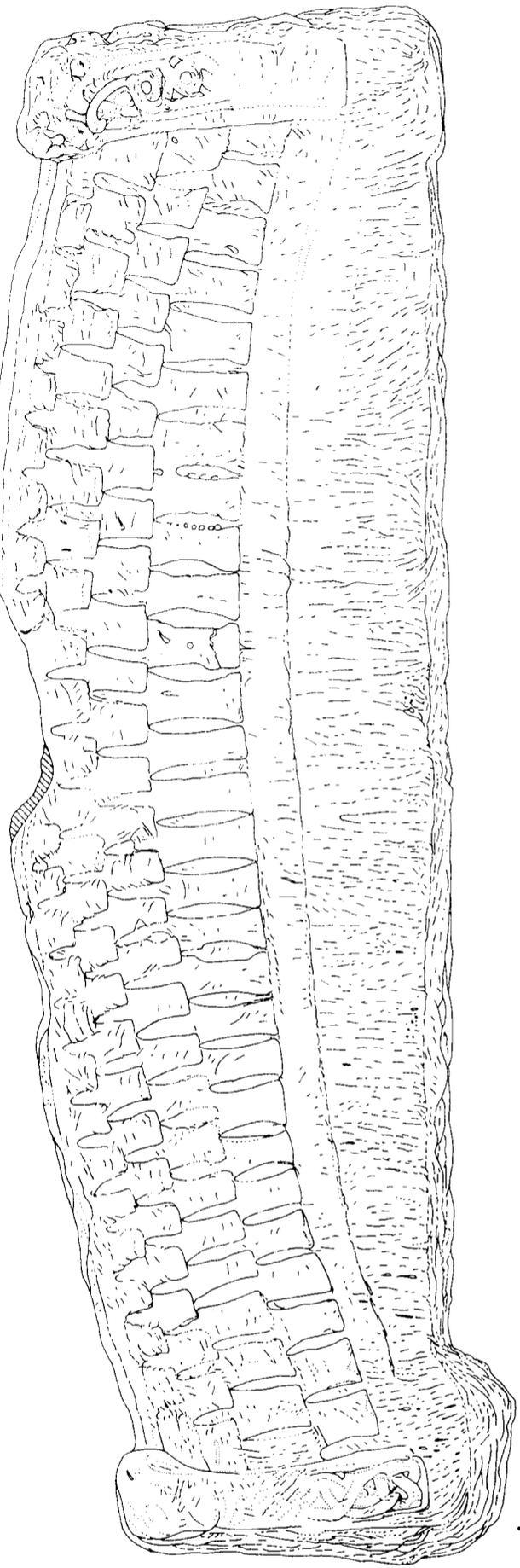
¹¹⁸ *Op. cit.* in note 97, fig. 7.

¹¹⁹ *Ibid.*, fig. 1.

¹²⁰ W. Kirkness, 'Notes on the discovery of a coped monument . . . at the graveyard, St. Boniface Church, Papa Westray, Orkney', *Proc. Soc. Antiq. Scotland*, LV (1920-1), 132.

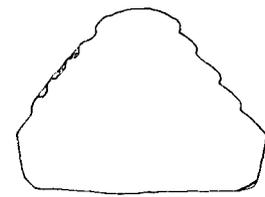


a



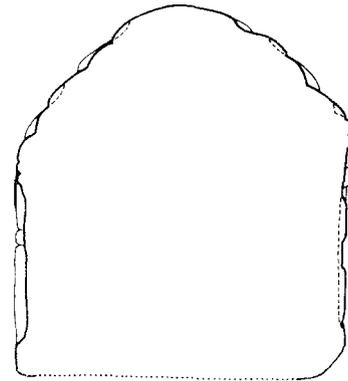
b

FIG. 32
TWO HOG-BACK GRAVE-COVERS, GOVAN CHURCH, GLASGOW (p. 74). Sc. 1: 10.
a. Govan, no. 12; b. Govan, no. 11



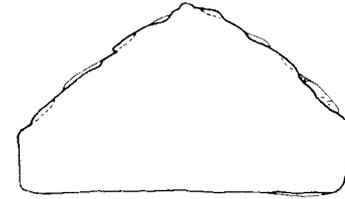
*MOSSKNOW
DUMFRIESSHIRE*

a



*LUSS
DUNBARTONSHIRE*

b



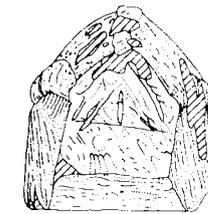
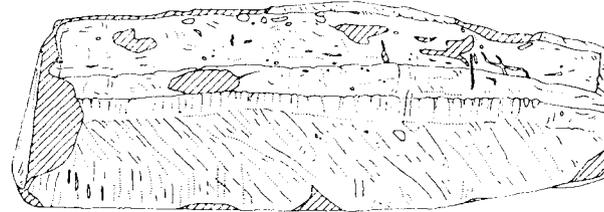
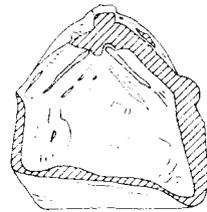
*DEERNESS
ORKNEY*

c

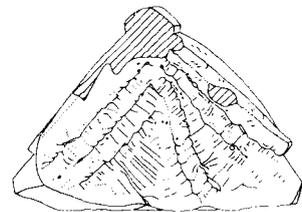
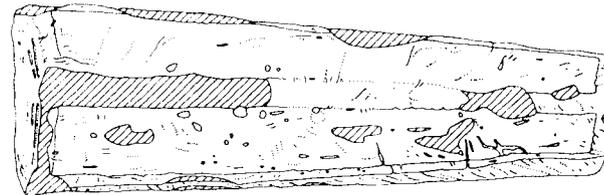


*KIRKWALL
ORKNEY*

d



e



f

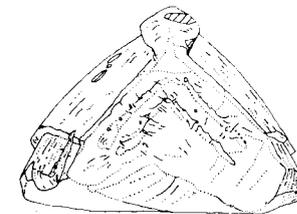
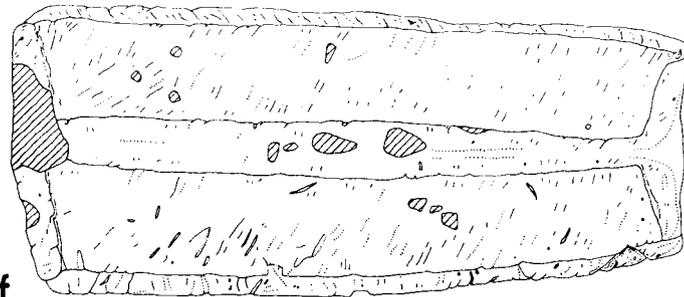
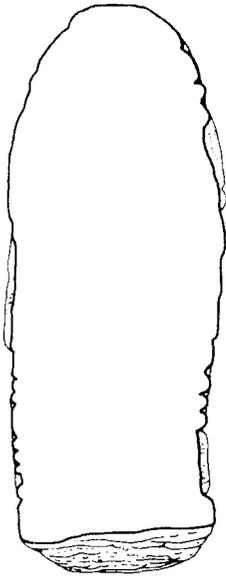
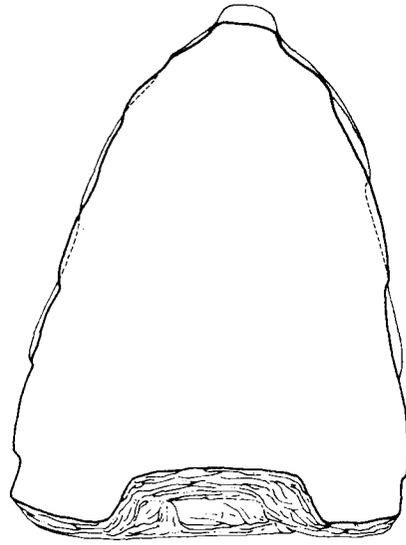


FIG. 33. HOG-BACK GRAVE-COVERS. *a-d*. Lateral sections through four Scottish examples (pp. 70f., 74); *e, f*. Four views each of examples in Ingleby Arncliffe and Lythe churches, N.R. Yorks. (pp. 74, 76). Sc. 1: 10



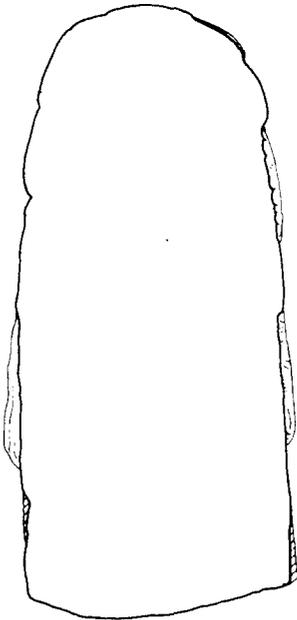
a

*GOVAN NO 2
GLASGOW*



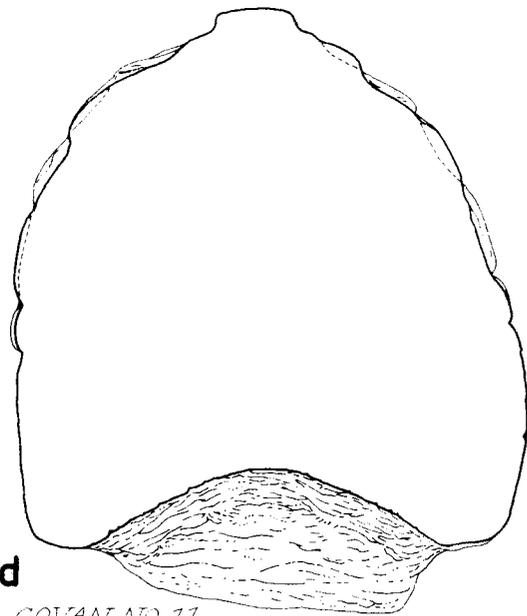
b

GOVAN NO. 10



c

*GOVAN NO 3
GLASGOW*



d

GOVAN NO 11

FIG. 34
LATERAL SECTIONS OF FOUR HOG-BACK GRAVE-COVERS, GOVAN CHURCH,
GLASGOW (p. 74). Sc. 1: 10

Library, Durham,¹²¹ while the third is in the Yorkshire Museum, York (FIG. 33, *e*). The last is small, and the lower parts of the sloping walls have been hacked away. The roof has a shallow slope, the gables are squared off abruptly, and the surface is plain. A peculiar trait is that the gables are of unequal width and height. The trapezoidal shape of the grave must have influenced the plan of the stone.¹²² This early Romanesque feature may also explain its massive quality. Animal sculpture and ornament have been replaced by sober, if rather coarse, architectural characteristics. James Walton pointed out the apparent reproduction of features of roof-construction on the perpendicular gables.¹²³ Besides lines parallel to the roof, the smaller gable has in the middle a vertical representation of a king-post.¹²⁴

No other church has produced such great numbers of hog-backs as the splendidly situated church of Lythe, near Whitby, N.R. Yorkshire. Three hog-backs in the crypt of the tower belong to the same group as that just mentioned, and one of them has an even better representation of a king-post.¹²⁵ On the side near the gable another of the stones (FIG. 33, *f*) has a deeply carved, acute-angled triangle which might be interpreted as a porch or a doorway. The gables of these three stones are of unequal width and height, and are decorated with features of roof-construction. (One wonders if the undecorated roof-surfaces reproduce thatching, which was undoubtedly used for roof-covering on contemporary buildings, and which would be well suited to a house of the shape of the stone.)

The hog-backs, as well as the Cammin Casket, indicate without question that the buildings they reproduce (which I am willing to believe were Scandinavian long-houses),¹²⁶ as a consequence of their convex plan, had a convex roof-ridge. Furthermore they demonstrate that this ridge was crowned by a crest, no doubt adorned with carvings. It seems likely that the animal heads may be distantly related to carved heads on the ends of the roof-crest, like the preserved medieval example from the church at Lom in Norway.¹²⁷ The hog-backs also show that the roofs were usually steep and were covered with shingles which, even within a limited area, varied considerably in shape.¹²⁸ Generally speaking, the roof is the part of the building about which we learn most. On stones from Brompton, Wycliffe and Aspatria there may be hints as to the wall-construction, but we must treat the decorated panels primarily as products of the universal taste for decoration in that period. There are no certain representations of such items as doors and windows, and details of construction only occur on the few late stones from Lythe and Ingleby Arncliffe. The hog-backs have a characteristic convex cross-section.

¹²¹ *Op. cit.* in note 83, nos. lxiv and lxv.

¹²² Rather like many Scottish stones.

¹²³ *Op. cit.* in note 9, 72, fig. 4, *b*. Walton's drawings were modelled on those of Collingwood. He does not seem to have realized that the perpendicular walls did not appear on the original.

¹²⁴ A feature which Collingwood saw as the upper part of a cross: *Yorks. Archaeol. J.*, xx (1908) 186-7.

¹²⁵ A photograph of the three stones appears in *op. cit.* in note 79, fig. 10.

¹²⁶ But Scandinavian long-houses are not found side by side with hog-backs except at Deerness in Orkney (FIG. 33, *c*).

¹²⁷ R. Hauglid, *Norske stavkirker* (Oslo, 1969), pl. 46.

¹²⁸ An oak shingle (FIG. 35) was found at Trelleborg, but, curiously, was not published by Poul Nørlund. Like all the other finds from the site it is now in the Danish National Museum, Copenhagen (Hospitum no. Q 1715). Roof-shingles roughly contemporary with the Viking age have also been found at Winchester: M. Biddle, 'Excavations near Winchester Cathedral 1961', *Archaeol. J.*, cxix (1962), 192-4.

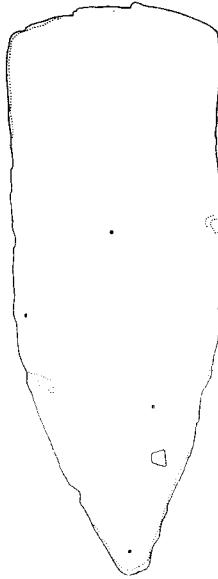


FIG. 35

OAK ROOF-SHINGLE, TRELLEBORG, DENMARK (p. 76, note 128). Sc. 1: 3

Rarely are the walls perpendicular. This reason, together with the mouldings on the corners of some stones, led Walton to believe that the hog-backs represented houses of a cruck construction. This can hardly be so, and I think that the inclined curved line of the wall and roof must be understood in connexion with the sloping gables. The backs of the bears show the same slope, and must primarily be due to the artist's feeling for the compact shape of the sculpture, which is further stressed in the characteristic convex curves. We have seen that this feeling for the compact, curved shape was universal in the Scandinavian Viking age. The walls of the Trelleborg house, however, were perpendicular, but the roof and buttresses would have been the overriding feature of the exterior, giving it the curved outline of the hog-back grave-covers.¹²⁹

¹²⁹ I am grateful to Professor David M. Wilson for much help at all stages of the writing of this paper.