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THE 'HELM' IN ENGLAND, WALES, SCANDINAVIA AND NORTH AMERICA

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The 'helm', a building with an adjustable roof, for storing all sorts of crops, was during the last few centuries widely distributed in Europe, and even in some areas of North America. South of the North Sea its history can be traced back in the archaeological record to the late Bronze Age. Most of the excavated sites of the first and early second millennia AD on which the 'helm' can be identified have been in the Netherlands and North Germany, but some, dating to the first millennium AD, lie as far west as Calvados in France and as far south as southern Germany. A 'Rutenberg' (the German equivalent for 'helm') can be recognized only when it has a pattern of three, or five to eight, postholes, with an additional central posthole in about half of the examples. In recent times a 'Rutenberg' often had four posts, and similar ones will certainly have also existed in prehistoric times, but in excavation such structures cannot be distinguished from four-post granaries.

The most common names in the Germanic and Slavonic languages are derivatives of 'berg', meaning shelter, while in Scandinavia and the British Isles the name was 'helm' or similar. Although in recent times the building has disappeared in England and Wales it must have had a wide distribution up until recent centuries. The most thorough illustrated description of a 'helm' we owe to Pehr Kalm, who saw this building in 1748 near Little Gaddesden, Hertfordshire. Another description, of 1810, we owe to Walter Davies of north-east Wales.

'Helm' and stack

The name 'helm' is used here for a structure with a roof, which could be moved up and down on one to eight posts, depending on how much hay, corn or other types of crop needed shelter. For full descriptions we refer to eighteenth, and early nineteenth-century records cited below. We have to stress, however, that discussion of this building must be combined with that of the construction and use of the stack. Both were used to store the different types of crop, hay, corn, flax, beans etc. and had to be carefully built up in the same way, the stalks somewhat sloping to the outside, so that, as with a straw or thatch roof, rainwater was led off. During recent centuries, several articles and handbooks on agricultural practices dealt with the proper way to manage this. A 'helm' was indeed a rick under a roof. In different parts of Europe, 'helms' and ricks were often used alongside each

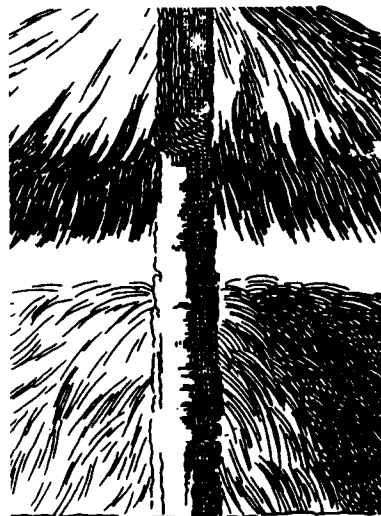
other (fig. 3), the one for short-term, the other for longer, storage (Zimmermann 1991). It is very likely that the 'helm' evolved out of the stack.

The 'helm' in Europe and its age

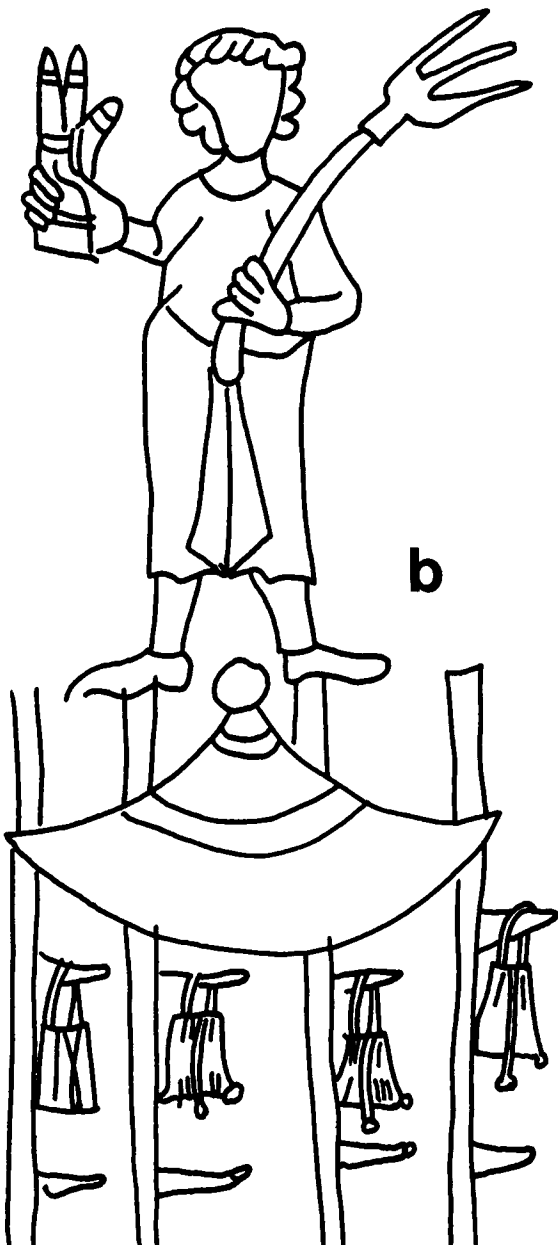
Quite rightly, authors dealing with the 'helm' in England make reference to comparable buildings on the Continent, especially the Netherlands. This is indeed the country where the 'helm' is still widespread from west to east. But, in view of all the other areas where this structure has been recorded since prehistoric times, the 'helm' is not only a typical Dutch building but one with a far wider European distribution than most other building types. In recent times, for instance, it was known in the lower Elbe area of northern Germany, in Italy, Istria in Yugoslavia, Hungary, Czechoslovakia, and in Poland (figs. 1c; 3) where the building can be seen today or at least existed until very recently.

Apart from these traditional buildings, there has been a renaissance of erecting 'helms' as a result of convincing arguments in the technical literature for agricultural building since the last century. The influence of this specialised literature on rural building practice would be a very worthwhile subject to be dealt with in a wider context.

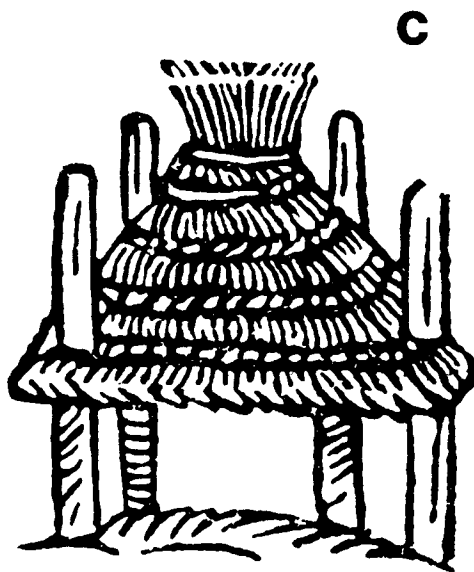
Alongside the effect of technical literature, the example of prototypes must not be neglected. These, especially in the British Isles, were built by 'substantial gentleman farmers', mostly owners of big estates. Because of their interest in progress in agrarian technology and economy, they tested implements as well as types of buildings which they saw in foreign countries, to see how efficient they would be if used in the British Isles. The question as to vernacular buildings is how vernacular they are in the sense of long tradition or local development on the one side, as against introduction by the one or other authority or expert, on the other side. Following Fussell (1959, 621), the British 'helms' would be traceable to the Dutch 'berg'. He concludes this from a 'helm', built after Dutch example, built by Sir Hugh Plat on his farm at St Albans. In this matter, valuable hints can be given by the names, whether they are traditional and/or regional ones, like derivatives of 'helm' or 'berg' or more recently constructed names, like 'Dutch Barn'. There are various, non-traditional names on the Continent, used for structures built according to the advice of agricultural societies and their publications (Zimmermann 1991). In England,



a



b



c

Figure 1.

1a. Helm from cartouche on Danish map of 1789 with (right) detail of pole, to show grooves made by rope.

1b. Helm from the 'Oldenburger Sachsenspiegel', illuminated MS, 1336.

1c. Woodcut of helm from 1574 edition of a collection of Polish epigrams by M. Rej. (After Krassowski 1961)

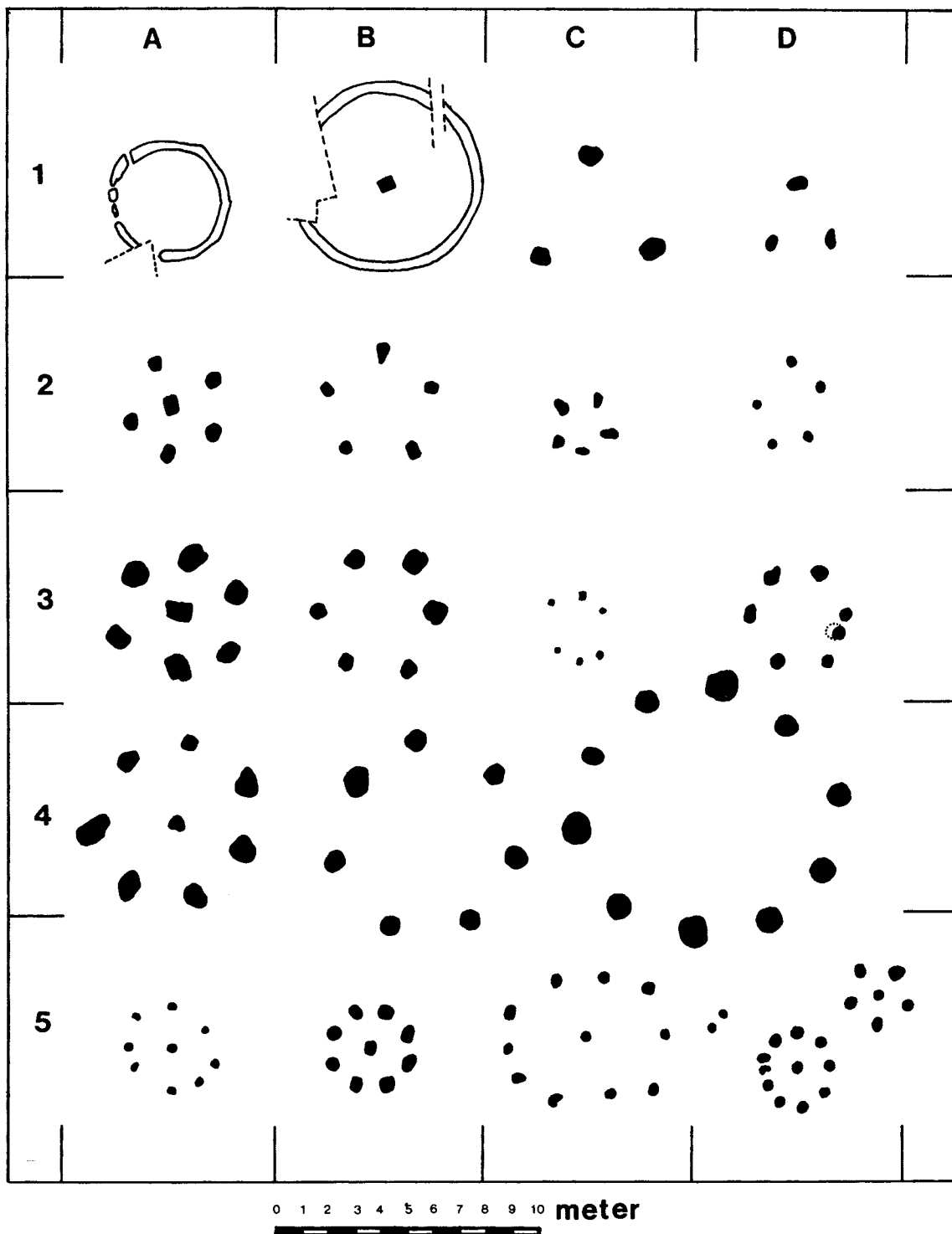


Figure 2.

Patterns of postholes from Continental excavations, identified as:

Stacks — 1A Altenwalde (D); 1B Westwick (D).

Helms — 1C Colmschate (NL); 1D Borne (NL); 2A Dalem (D); 2B Gasselte (NL);
2C Borne (NL); 2D Drenghsted (DK); 3A Dalem (D); 3B Böhme (D); 3C Baalder (NL);

3D Sontheim South (D); 4A Böhme (D); 4B Gasselte (NL); 4D Pesse (NL);

5A Bremen-Grambke (D); 5B Warendorf (D); 5C Odoorn (NL).

also, for comparison, structures in cemeteries — 5D 1 & 2 Rullstorf (D). (Zimmermann 1991)

D=Germany. NL=Netherlands. DK=Denmark.



Figure 3.
Helm from the Welislaw illuminated Bible, Prague c. 1340 (after Matejcek 1926, f.43).

the name 'helm' is a good indication that, with all exceptions which might have been there, it has been a genuine vernacular building, which possibly derives from early-medieval Scandinavia, rather than from the Netherlands in more recent times.

On the Continent the 'helm' can be traced back archaeologically at least to the late Bronze Age. The oldest examples so far, with three and five posts, have been found as part of a late Bronze Age farm at Zwolle-Ittersumerbroek, Ov., in the Netherlands (Verlinde 1991). Three others are known from the pre-Roman Iron Age and several from the Roman Iron Age and more recent times. Features excavated on medieval sites are contemporary with illustrations in the codex 'Oldenburger Sachsenspiegel', finished in 1336 AD, and in the Bohemian Welislaw illustrated Bible of about 1340 AD (figs. 1b; 3). The stack with only one posthole representing the central post cannot be recognized as such (Reynolds 1987, fig. 23) unless it has some special feature such as a ditch around it and leaves traces in the subsoil (figs. 2, 1A, 1B). Such stacks have been mapped along the North Sea shore from the Netherlands to Denmark.

Most traditional 'helms' had four posts, like those depicted in illuminated manuscripts (figs. 1b, 1c and 3). Four-post structures have been excavated in great numbers, both in the British Isles and on the Continent, and indeed some of these could have been 'helms'. But because granaries have the same

configuration of posts, we have to exclude these four-post structures, though perhaps thus omitting the majority of those which originally were 'helms'. We have to restrict the identification to structures with three, five to seven and more posts which most likely cannot represent any structure other than the 'helm'. This procedure is possible on the Continent, where posts set in circles are uncommon, except occasionally in cemeteries. In the British Isles, however, circular buildings are the norm during prehistoric times. Therefore a circle formed out of six postholes, like Harehope, house 1 (Cunliffe 1991, 287) or out of eight postholes, like structure 804 from Shaugh Moor, Dartmoor, Devon (Wainwright and Smith 1980, 89), would be interpreted on the Continent as a possible 'helm', while in the British Isles the same configurations are more convincingly interpreted as huts, perhaps with drystone walling originally.

Because 'helms' were common outside, as well as within, settlements, and that is true for those excavated as well as those recorded as standing buildings, one always has to be aware that an excavated 'helm' may not be contemporary with surrounding settlement structures but may derive from an agricultural phase of a different date. On the other hand, in areas where the archaeological features of 'helms' are rarely found, one explanation may be that, although excavation uncovers the settlement sites to their full extent, the surrounding fields are seldom investigated.

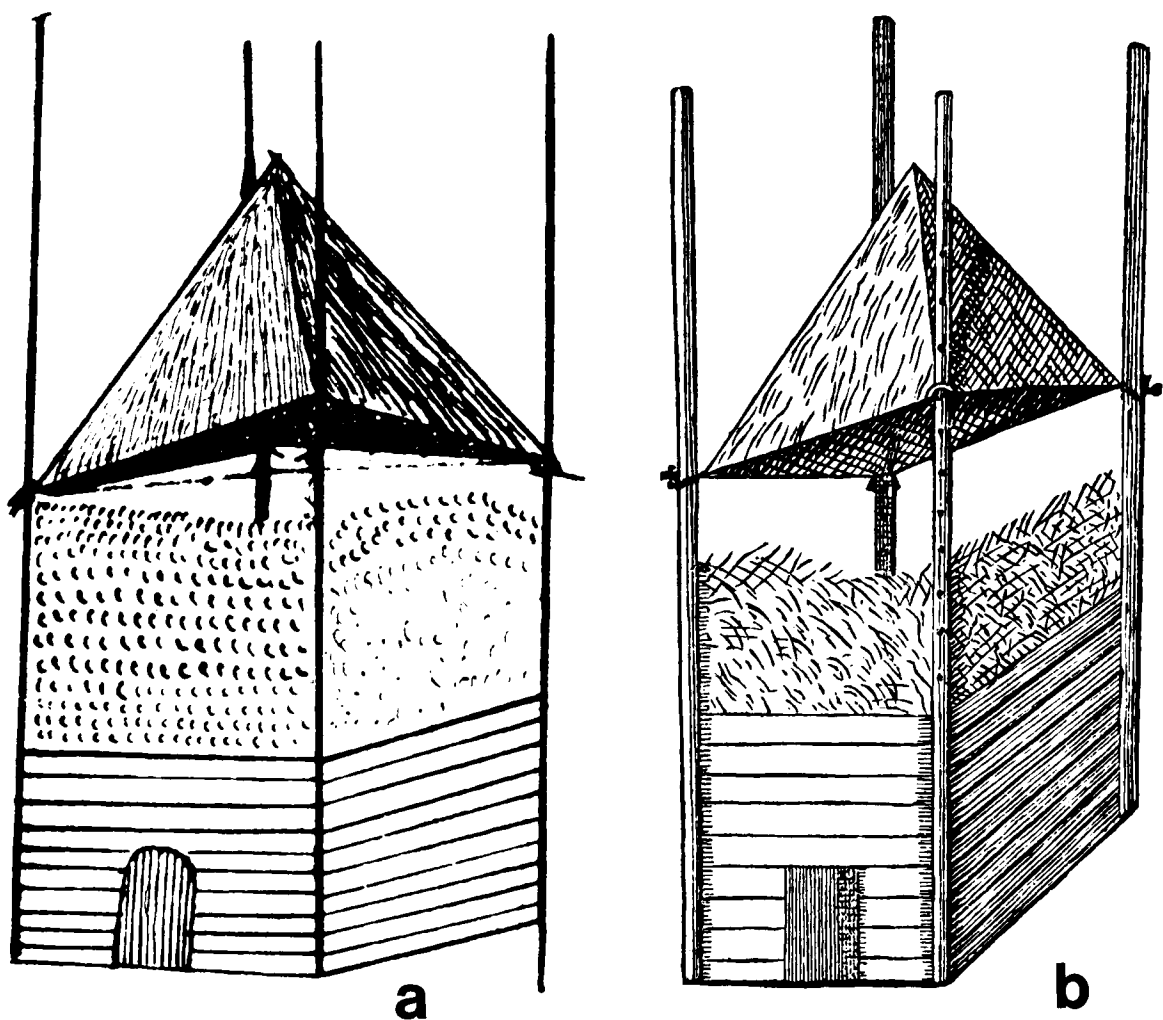


Figure 4.

Helm from Little Gaddesden, Hertfordshire.

a) Kalm's own drawing, 1748; b) from the first printed edition of his book, 1753.

The 'helm' in England

According to the discussion in *Vernacular Architecture* 13, 14 and 15, the word 'helm' or cognate names like 'hemmle' (Barley 1985, 675) meant a different type of building, with the functions of a building for storage, both to house crops or carts, but certainly more temporary than a barn. Additionally, it was used as a shelter for cattle. Repeatedly the word was used for the type of building in question. Often this seems to have stood on saddle stones. According to the OED (1970, 207) it meant a roof shelter for crops (1641: Best garth helde 43 [loads], the Helme in the foregarth helde 23) as well as for cattle. Clear evidence from Wales that this type of building with adjustable roof was called a 'helm' is given by the description by Walter Davies in 1810: (cited by Wiliam 1982, 154; Wiliam 1986, 112-114):

In precarious harvests, Dutch barns, or helms, as they are provincially called, are found very convenient to secure any quantity of hay, or corn, that may be dry

enough to be carried. On Nassau demesne, in Meirionyddshire, and other places, they are erected at convenient distances in different parts of the farm. Some for corn, rest on ten or more capped pedestals of wood, or stone.... They are made of various shapes and dimensions, some square, five yards to a side, which will admit of about eight tons of hay; others, oblong, nine yards by seven, and six, high, which will contain about 20 tons; estimate, according to dimensions and materials, from 50s. to 7l. The roofs slide up and down vertically, that their height may be adjusted to any quantity put or left under them; and are supported by iron pins running through the posts.

Though in more recent times the 'helm' must have been quite unusual (Brunskill 1987, 161; Wacker 1973, 46) or even extinct in parts of the country, the fact that the name appears in records from various areas is an argument for an originally far wider distribution. In regional surveys, study of written records like inventories will reveal more hints as to 'helms', so that, in time, a distribution map could be attempted. Certainly, in a lot of

cases, the exact identification will remain doubtful. For example, the following passage might apply equally well to the 'helm' or the thatched stack: 'the covered Reekstavel (much in use westward) must needs prove of great Advantage, in wet or dry Harvests, to save long Draughts at so busie a time' (Worlidge 1669, p.184, cited Moore 1976, 340).

The most important evidence is the thorough description and illustration of a 'helm' by Pehr Kalm (1904, 191-193, fig. 5; 1966, 170-172). He was a Swedish botanist from the university in Åbo in Finland, who, on his way to America, spent the time from 17th February to 5th August 1748, in England, mainly in Gravesend, London, Woodford and Little Gaddesden. Fascinating is his accurate account of the state of agriculture and much more that he was interested in. The publication, an English translation of the part dealing with England, was edited by J. Lucas in 1892, and deserves much more attention as evidence for the agricultural history of the eighteenth century in England than it has hitherto received. Lucas states in his preface:

[It] far transcends in completeness and accuracy of description any work of its age on England.... Few subjects have escaped his scrutiny; but whether social or natural, town or country, each has been described with the minute and delicate accuracy of a man of keen observation, of refined taste, and of high scientific training.

In this connexion, his description of haystacks (Pehr Kalm 1904, 181-183) and 'helms' is of great interest. In April 1748 he saw a 'helm' (Kalm 1892, 223-227), the English name of which he does not quote, used for storing hay for deer kept in Ashridge Park close to Little Gaddesden, Hertfordshire. Kalm went there to meet William Ellis, the author of agricultural books; the contact proved to be disappointing. Meanwhile two pictures of this 'helm' are available, one his own drawing (1748) (fig. 4a), one from the first edition of his book (1753) (fig. 4b). The first is more of a sketch, the second is more detailed, showing the holes for fastening the roof. The latter must have been drawn according to Kalm's instructions. The only difference, the rounded or rectangular head of the door, is of no significance. Though this helm obviously held the fodder for the deer in the park, it cannot be equated with 'helms' like racks, from which the animals were foddered directly. These, which were used in forests, could be one-post structures with an umbrella-like roof which could be set with a pin to the necessary height, or four-post structures with the roof sinking with the reducing amount of fodder (Raesfeld 1965, 193). The difference was that these racks should be accessible to the deer, unlike the 'helm' described by Kalm. Obviously this was a copy of storage

buildings used on farms. For Fussell (1959, 621), this Ashridge Park 'helm' was one example of a British 'helm' that should be traceable to the Dutch 'berg'. As Kalm does not mention the name 'helm', this cannot be excluded. We must leave the question open as to whether it was built according to indigenous English practice or after a Dutch model.

Kalm's description of this 'helm' is so important, that we print it here in full:

A Hay-lathe with a roof to lift up and down.

Among other lathes, in which the hay was kept for the deer, we got to see one here, which was made in a particular manner, that is, that when some of the hay which lay in it was taken away, the roof could be lowered after it, so that it nearly always lay close on to the hay when it was so desired. The plan was this; they had driven down four posts, in a square, one at each corner. The length of the posts was 30 feet, the distance between two posts was 14 feet. At the bottom, between these posts, there were made walls of oak boards which were nailed fast to the posts.

The height of the walls from the ground was 8 feet. Above the board-walls there was a thatch-roof between the posts, which thatch suspended above the house was convex, and formed absolutely a half octagon, which, however, at the border had slightly oblong sides.

The 'thatch-band' or roof-plate, consisted of wooden bars, dovetailed into each other at the ends. They all went close outside the posts, so that the posts stood right in the angle which two sides of the roof-plate, made with each other. A crooked stick was afterwards nailed fast by one end to the one side of the roof-plate, and by the other end to the second side, which formed a right angle with the first; yet in this way, that this crook came, as it were, to form at the corner a little triangle, of which the crook made one side, and the other two were formed of the two sides of the roof-plate, and the post ran right through the middle of this triangle.

On others which I saw, the thatch-band or roof-plate went inside the posts, and the crook outside, just as they wished. In the posts were several holes, right through them, the one a little above the other.

When the thatch-roof is to be lifted higher up, a fellow climbs up at each corner and lifts it up with his shoulders, when a thick iron pin is set in one of the holes, as high as one wishes to have it, on which pin the roof is then rested. When the roof was lifted up, the corners of the roof-plate went up close by the posts. If they wished to lower it further down, the pins were taken out, so that it gently descended as far as was desired. The thickness of the straw on the thatch-roof was 9 inches. The stack was now full of hay, loaded up to 4 feet below the roof.

Kalm mentions a 'helm' only once, but he speaks about others he saw, so this building was once more common. His description omits the reason for the planking round the sides, and he does not say where the door led to. In New Jersey, America, a 'helm', comparable in outer appearance, housed a cow at the base (Wacker 1968, 99-101). If a room for some special use had been hidden behind the planks, Kalm would have given a

description of it, thorough as he was. It is more likely, therefore, that the hay was packed on to the floor of this room right up to the roof.

In the following chapter, 'What plants the hay in this place consisted of', he classifies the types of all plants and herbs, which the haystacks, not only this very one, contained. This analysis is of special importance for archaeobotany. It was high quality hay, containing some plants which are rare today. Most of the hay was in a good state: 'A part of the hay had become slightly musty, but much of it was uninjured, and smelt very good.' Kalm notes the composition of the hay at several places in England (see Kalm 1892, index under 'hay').

It is strange that the 'helm' is extinct in Great Britain where ricks often were, and sometimes still are, thatched annually (Best 1857, 59-61; Kalm 1892). 'Helms' would have been far more convenient and just as efficient. Stacks were covered on the Continent as well, but seldom in such an elaborate and time-consuming way.

The names 'berg' and 'helm'

It is necessary to find out whether the second, and in Europe far more common traditional name, the 'berg' derivative, was used in England as well. The meaning and spread of names like 'scúr beorh' (OED 1933, under 'Bergh', 811) should be examined. The word 'berg' comes from 'bergen' e.g. OE 'beorgan', to shelter, protect, and is common to Germanic and Slavonic languages. Cognate with 'berg' are the names of this type of storage building in the region from Eastern Belgium in the west to the Baltic countries in the east, and to the south as far as Italy. From various parts of Europe these names are recorded from medieval times onward (Zimmermann 1991).

Although it is acceptable in England and Wales to call this type of building a 'helm', almost certainly there are other types of structure with the same name. Studying the term 'berg' we saw that, on the whole, this name meant the building now under discussion, but in some cases, where the latter was replaced by another type of store, the name seems to have been taken over. While this is still hypothetical there is enough argument in its favour to make it a likely supposition. References for the English 'helm' are still too scarce to enable the question to be considered but the ample documentary evidence that this building was called a 'helm' in Scandinavia and the scarce but certain evidence in England, quoted above, allow this use of the name. Etymologically, 'helm' in Anglo-Saxon meant 'cover', 'protection', as well as 'helmet', so the name of the building might relate either to the form of the roof or to the function of sheltering or a combination of both. So a Scandinavian word could be easily accepted.

Interestingly, the 'helm' was called an 'English Stack' in a Latvian agrarian handbook written at the end of the eighteenth century (Dumpe 1982, 138).

The 'helm' in Scandinavia

In all Scandinavian languages there is documentary evidence, according to various etymological and other specialised dictionaries, that the word 'Hjelm' and other forms meant a storage building, usually square and with an up-and-down roof on four posts, a strong argument that the name in Great Britain is of Scandinavian origin. The building itself is nowhere in use today; only one illustration from Denmark came to our notice, and we possess descriptions from Norway and Sweden. The name is preserved in the south of Jutland (Nielsen 1991) for a barn with a through passage, which had presumably replaced a former 'helm'.

On a cartouche on one sheet of a map covering all Denmark, 'Det Kong. Videnskabernes Selskabs Kort, map no. 6: 'Kort over Skivehuus, Bøvling og Lundenæs Amter samt Stykker af de tilstødende Amter' dated 1800 (Lomholt 1961), the upper part of a 'helm' is depicted (Fig. 1a). The cartouche's lower part is covered by the title of the map, below which there is an agricultural and a fishery scene. While several of the maps do carry simple cartouches, some are adorned with rustic scenes. Only one other map shows a shed with sheaves of corn in the loft. The artist of the cartouche in question is unknown, it could be J. J. Georg Haas (1751-1817) who is known to be the artist of the cartouches on two other maps which show similarities of motif and style (Lomholt 1961, 132, nos. 10, 11). But because these followed the fashion of the time, the attribution must remain uncertain. The question as to whether this 'helm' may be taken as evidence for Denmark is made easy by the fact that a 'helm' of this type seems to be almost unique, while on the other hand the drawing is so precise as to detail that it is certainly no product of the imagination. The roof is fastened to the poles by means of ropes. Marks of grooves have been imprinted by prior fixing of the roof to different heights. This arrangement is very rare; only the roof of the four-pole-helms of the 'Bojken' in the forests of the Carpathians hung on pegs in the poles by ropes twisted out of twigs (Zimmermann 1991, 92). Three rods carry the roof of the Danish 'helm'. In vernacular architecture three-post 'helms' are unknown, apart from a version of the six-post 'helm' in the Netherlands which, during this century, could have its posts reduced to three by the use of steel poles. Three-post 'helms' are, however, known from the Netherlands in the archaeological records. Because a configuration like this has hitherto never been imprinted into the archaeologist's mind,

there is the chance that traces of 'helms' have been overlooked elsewhere. The Dutch archaeologist, A. Verlinde, who excavated the first three-post structures and identified them as 'Rutenberge', met with scepticism at first. Such configurations can also be noted on the plans of Danish excavations, but without knowledge of the depth of the postholes, and bearing in mind the possibility of their belonging to other structures, this can only remain a mere hint as to their real function.

The illustration on the map, with its naturalistic representation of the construction, which could have been in use at the time, even down to details such as the imprinted grooves, is unique in the vernacular architecture record. We can take it as evidence of this building in Denmark. In those days Denmark reached almost to the gates of Hamburg, into an area where the 'Rutenberg' survived until this century; but there it had six or eight posts and was very different from the structure in the illustration. So the artist certainly did not take his model from the most southerly part of Denmark.

Lars Reinton (1957, 83, 173-176) quotes documentary evidence according to which the 'hjelm' or 'kjelm' for hay, corn or leaf fodder was distributed from the south to the north of Norway. Equivalent references from Iceland prove the existence of the building in this country as well. Here it certainly derives originally from Norway, just as the British 'helm' derives from Scandinavia. For Norway we owe a description of the 'helm' to the folklorist M. Hoffmann of Oslo. According to her fieldwork notes made in Rogaland in 1942, the 'helm' was already extinct by then, but farmers could still remember how it was constructed. She was told by the farmer at Austrumdal farm, in the mountains, that the 'hjelm' was a stack with a central post under a small movable pyramidal roof on four rods. The roof was tied to the rods with twigs of willow, so that it could be moved up and down. Whether the roof slid up and down on the central post as well, or whether this was shorter, is not stated. The former is more likely as, in the latter case, the roof would not be able to cover the shrinking amount of crops right down to the bottom. However, it was necessary that the roof kept close to the contents, for the bigger the space below it the more vulnerable the construction was to gales. This has been the reason for the destruction of many 'helms' in the Netherlands (communication of Dutch farmers). It was, however, possible to prevent rainwater from entering the gap, as is shown by the umbrella-like one-rod-helms from the Netherlands. The Norwegian 'helms' are the only ones recorded that have a central post, while in about half of the patterns of postholes uncovered in archaeological excavations a central posthole could be observed.

The roof of the Norwegian 'hjelm' was formed out of a framework of twigs covered with rye straw. Farmers remembered that often, after threshing, a 'hjelm' was erected in the farmyard to protect the straw. Originally, according to numerous references in etymological and other dictionaries of old Nordic, Norwegian, Swedish and Danish, the 'helm' housed corn as well as hay, as in all other areas of Europe from which the 'helm' is adequately recorded.

In Sweden, the Nordiska Museum of Stockholm issued a questionnaire at the end of the 1950s to establish the distribution of 'helms'. In most parts of Skåne the name 'stackhjälms' was used for a storage building with open sides, a fixed roof and a square or rectangular ground plan. This is most likely to be a derivative of the standard helm, though true helms, with a movable roof, were seldom used in Sweden. Some were, however, reported from estates or larger farms in Södermanland, just south of Stockholm. J. Arrhenius (1855, Pt. 1, 11) in an agricultural handbook illustrates a 'sädeshjelm' or 'halmhjelm' which, according to his description, could have either four, five or six corner posts.

The 'Barrack' in North America

The 'helm' or, as it was called in the United States, the 'barrack', was widespread in Pennsylvania, New Jersey and New York and it is recorded from Maryland, Massachusetts, Virginia, Ohio, and Prince Edward Island in Canada as well. Today, only a few survive on Long Island.

In the south it does not appear in records; according to T. G. Jordan, Austin (personal communication) it was probably unnecessary because hay gathering was less important there on account of the mild climate which allowed cattle to stay in the open and find their food outside all the year round.

A careful description of a 'barrack' is given in a letter written in New Jersey in 1787....

....four poles fixed in the ground at the distance of fifteen feet in a square. The poles are squared fifteen feet or more at top and five feet at bottom unsquared. This is all above ground. In the square part of the poles there are holes bored thro at the distance of twelve inches big enough for a strong iron pin to be put thro to suport four wall plates which are tennanted at the ends, then some light spars are put upon the wall plates and thatch upon them. When it was only five feet from the ground, the roof can be raised at pleasure twenty-one feet or any distance from the ground between that and five feet. These are to put hay or any kind of grain under and the roof is always ready to shelter it from hasty rains which 'is' common hear in summer. Those that have only two cows have the bottom part boarded at the sides and a floor lais over and the hay at top and the cow stable under. (Long 1972, 361)

There are abundant written sources from tax and other records, diaries etc., and several early pictures exist as well. These have been quoted in various publications. In the early texts the advantages of the 'barrack' are discussed. (Shoemaker 1958; Wacker, 1968, 99-101, 148, 151; Blackburn & Dunn 1989; Long 1972, 360-362.) Pehr Kalm saw 'barracks' around Philadelphia and Albany in 1749 and described them and their function (1987, 264-265):

...many people, especially in the environs of Philadelphia, had haystacks with roofs which could be moved up and down. Near the surface of the ground were some poles laid, on which the hay was put, that the air might pass freely through it. I have mentioned before that the cattle had no stables in winter or summer and were obliged to graze in the open air during the whole year. However, in Philadelphia, and in few other places, I saw that those people who made use of the latter kind of haystacks, viz. that with movable roofs, commonly had built them so that the hay was put a fathom or two above the ground, on a floor of boards, under which the cattle could stand in winter when the weather was very bad. Under this floor were partitions of boards on all the sides, which, however, stood far enough from each other to afford the air a free passage.

Kalm went by boat on the Hudson from New York to Albany (1987, 332) and wrote 'Here [near Albany] we could see everywhere the type of haystacks with movable roofs....' The 'barracks' were used on the farms during the eighteenth and nineteenth centuries for storing hay, crops and straw. Often several uses are mentioned on the same farm. As we hear from Kalm's letter cited above, there was formerly a cattle shelter at the base, such shelters being otherwise very rare. Most 'barracks' had four posts, but there were also some with five and six posts. They were mostly built by Dutch and German settlers.

The name 'barrack' derives from 'berg' (Wacker 1973, 12). 'Berg' itself also appears occasionally in early records, such as one for Long Island, N.Y.: 'One bergh with five posts, long 40 feet....' (Weslager, C. A. 1961, 188). This height of about 12m is not so astonishing, compared with some heights of 16m recorded in the Netherlands and in the basin of the Lower Elbe. 'Shutt-sheier': this structure was called by Pennsylvania Germans. 'Sheier' certainly comes from 'Scheuer', a German word for barn, but the derivation of 'Shutt' is not known. On the eastern shores of Narragansett Bay, the 'barrack' was called 'Dutch Cap' (Wacker 1973), which certainly derives from 'kapberg', one of the names of this building in the Netherlands. In areas with Dutch settlements it was often the last visible evidence of Dutch building tradition. The question as to whether the American 'barrack' might derive from other European buildings, outside the Netherlands, has yet to be addressed.

NOTE

In another publication (Zimmermann 1991) the author has tried to assemble evidence for the history of the 'helm' in Europe and America. Where, in the foregoing, no references are given they will be found in that article. A further article on the same subject is in preparation.

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