

Riding gear from Late Viking-age Denmark

by Anne Pedersen

In Denmark, grave finds containing iron stirrups and horse harness are a well-known phenomenon clearly linked to the 10th century AD. During one short phase, men were buried with (*inter alia*) horse gear and spurs; in many cases also with a horse. Most, if not all, of the metal fittings from this equipment were made of iron and they are often decorated with silver and copper. The burial custom appears to have been followed mainly in western Denmark and gradually died out towards the end of the century (cf. Pedersen 1997a). Riding equipment was then no longer deposited in graves, and it becomes far more difficult to gain a definite impression of any typological development based on secure find combinations. In recent years, however, intensified metal detector scanning and excavations on settlement sites have yielded new finds that cast some light on the later developments.

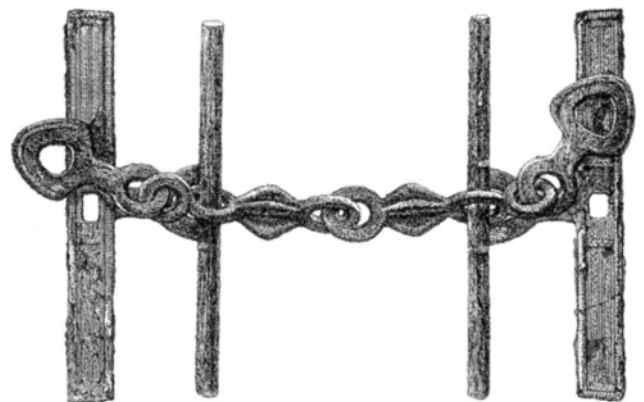
Whereas most of the equipment in the 10th century was made of iron, harness fittings of cast copper alloy appear in the following century. The objects most easy to recognize are cheek-pieces for snaffle bits and decorated copper-alloy stirrups. Such objects have been known for a long time, but have rarely been discussed in detail as a group (see Paulsen 1937; Fuglesang 1980; Graham-Campbell 1992). With the increasing number of metal detector finds, not only cheek-pieces but also stirrup-strap mounts of copper alloy are beginning to appear in larger numbers, although unfortunately often as fragments that may be difficult to identify. Another group of mounts, the so-called stirrup terminals, has only recently been identified in England (cf. Williams 1998), but a preliminary survey has shown that these terminals are in fact present in Denmark amongst the single finds discovered with metal detectors. Without attempting to present com-

plete surveys of all four groups of horse trappings, mounts as well as stirrups, the aim of this article is to draw attention to these characteristic objects from the transition period between the Viking Age and the Medieval Period in Denmark.

CHEEK-PIECES OF COPPER ALLOY

Horse-bits with long cheek-bars and matching rectangular plates are well known in Scandinavia, especially in Denmark. The horse-bits included in the Danish equestrian burials of the 10th century are almost exclusively of this type (Brøndsted 1936 and find list no. 2 in Pedersen 1997b). Variations occur in, for instance, the length of the bar and plate, and towards the end of the 10th century and in the following century we see examples with curved rather than straight bars or

Fig. 1. Iron horse-bit from Stengade grave 3, Langeland, Denmark (after Brøndsted 1936). Scale ca. 1:3.



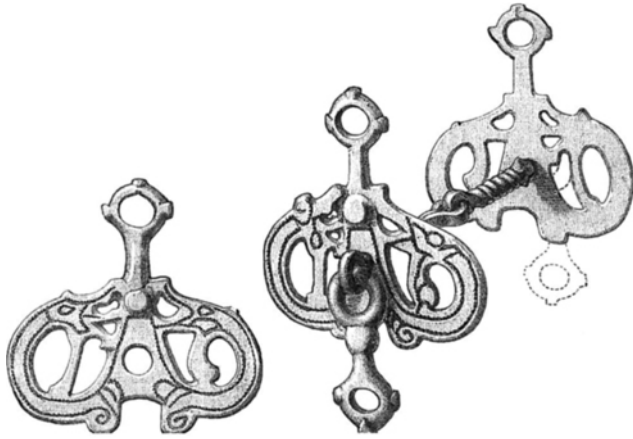
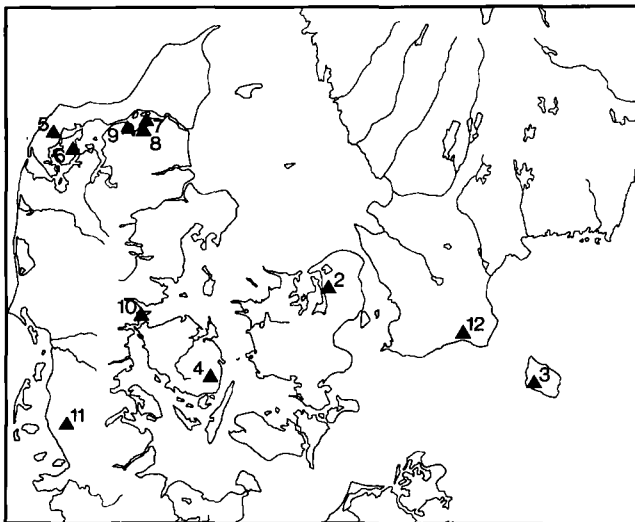


Fig. 2. Iron horse-bit with copper-alloy cheek-pieces from Lundby, Södermanland, Sweden (after *Fornvännen* 4, 1909). Scale ca. 1:3.

bars ending in animal heads such as on a well-preserved horse-bit of iron from Lund in Skåne, dated to AD 1000-1050 (Kulturhistoriska Museet i Lund inv.no. KM 59126:751; *Vikingarna* 1989, 108). Here stylized bird's heads with curved beaks terminate the ends of both bars. Curved bars are found on a horse-bit from a burial uncovered at Næsby in northern Jutland (Ranum parish, Ålborg county; Vesthimmerlands Museum Aars inv.no. VMÅ 867/C226). Close parallels to

Fig. 3. Distribution of copper-alloy cheek-pieces in Schleswig, Denmark and Skåne (cf. find list no. 1).



this bit are known from burial finds in Norway where they are dated to the early 11th century (Petersen 1951, 21ff.).

In spite of the variety of shape and size, these iron horse-bits all belong to the same basic type, a two-link horse-bit with two eyes set at right angles to each other at either end, the inner eye for a single cheek-bar or a bar with an attached decorated plate, the outer eye for the rein strap (Fig. 1). The mouth-piece may have a square, circular (a twisted bar), or rhombic to cross-shaped cross-section, the latter probably being required for a well-trained horse (cf. Forsåker 1986, 115, note 1).

A small group of horse-bits dated to the 11th century have a slightly different construction and are fitted with copper-alloy cheek-pieces instead of decorated iron bars and plates. The two-link mouth-piece was made of iron, and each end passed through a decorative plate cast of copper alloy to which the bridle-straps were fastened (Fig. 2). The ends of the iron mouth-piece therefore have only one eye for the rein strap, instead of the two typical of the bits with bar and plate. This construction is not an entirely new development, appearing, for instance, in two identical iron bits from the Ladby ship burial in Denmark, dated to the first half of the 10th century (Thorvildsen 1957, 56). A more elaborate example from the early 9th century is a pair of copper-alloy cheek-bars of Carolingian origin from the Haithabu ship burial (Müller-Wille 1976, 84ff., Abb. 38-39; Wamers 1994, 19ff.).

Until now twelve finds of copper-alloy cheek-pieces have been recorded from Viking-age Denmark, including Schleswig and Skåne (Fig. 3). Further examples are known from Sweden and Norway (type Rygh No. 568), as well as from England, where the number of finds is steadily increasing (cf. find list no. 5). In many cases the cheek-pieces are broken and thus difficult to identify, especially fragments with a rounded cross-section which have been wrongly classified, for instance as strap buckles depending on the break. The breaks usually occur down the central axis of the plate, i.e. through the hole for the bit, or horizontally, in which case the eye for the harness-strap is missing.

It is generally accepted that the copper-alloy plates are cheek-pieces for horse-bits, although some of them, such as a fragment from Sebbersund in northern Jutland (Fig. 4c), appear small and very slight.



Fig. 4. Danish finds of copper-alloy cheek-pieces. a. Dueholm Mark, Mors. b. Unknown provenance, Denmark. c. Sebbersund, Ålborg county. d. Bøgeskov Strand, Vejle county. e. Græse, Frederiksborg county. f. St. Myregård, Bornholm. g. Gärarps church ruin, Skåne. h. Sønderholm, Ålborg county. Scale 1:1. Photo: National Museum, Henrik Wichmann; Museet Færgegaarden; Trelleborgs Museum, Skåne.



Fig. 5. Cheek-pieces from Leck, Schleswig, Germany. Scale 1:1. Photo: Archäologisches Landesmuseum der Christian-Albrechts-Universität, Schleswig.

This interpretation is supported by two Swedish burial finds, a cremation burial from Lundby, Fors parish in Södermanland (cf. Fig. 2), and a disturbed boat grave (grave III) excavated at Tuna, Alsike parish in

Uppland, in which the bits are combined with stirrups and a pair of spurs (cf. find list 5, no. 5 and 8).

Based on the shape of the cheek-piece and the composition of the animal motif, it is possible to distinguish two main types:

- 1 A cheek-piece consisting of a thin (c. 3-6 mm) copper-alloy plate with a hole at the centre for an iron bit and an eye for the bridle-strap with three ornamental projections. The plate is decorated with two animal heads, one at each side or end. The heads are depicted with a stylized mane and may stand freely or be joined to the centre of the cheek-piece (cf. Fig. 4).
- 2 A cheek-piece of roughly the same shape as type 1 but with slightly rounded cross-sections in the animal ornament and apparently depicting only a single animal instead of the two heads on type 1. An animal's head with open jaws is set opposite a tail-end resembling a fleur-de-lis. No mane is evident, but tendril extensions emphasize the lower jaw and the tail. Two cheek-pieces from Leck in Schleswig are mirror images of each other (Fig. 5); the pair from Lundby in Södermanland on the other hand consists of two identical cheek-pieces (cf. Fig. 2). In both pairs the two sides of the ornament are slightly different, and it is evident that only one animal was intended on each cheek-piece.

On both main types, the two heads or head/tail normally face each other, but an unusual cheek-piece from Edsvära in Västergötland, Sweden depicts two heads turned outwards (cf. find list 5, no. 3). This mount, with its attached iron bit, was found in 1906 next to the skeleton of a horse.

Apart from the cheek-pieces from Leck, there is one other example of type 2 from the Danish area, a fragment from Sønderholm in northern Jutland (Fig. 4h). The proportions of the animal head are almost identical to the heads on the set from Leck, and it is possible that they were fashioned over the same model. Most of the present Danish finds belong to type 1, showing variations over the main theme, animal heads with a more or less elaborate mane. However, one from Gudme on Fünen is atypical, carrying what seem to be very debased versions of the animal ornament and a mask-like figure above the hole for the mouth-piece (Fig. 6).

The most complete examples of type 1 from Den-

Fig. 6. Cheek-piece from Gudme, Svendborg county, Denmark. Scale 1:1. Photo: Weiss & Wichmann.



mark are a cheek-piece from Dueholm Mark on the island of Mors and a stray find picked up on the beach at Bøgeskov in Vejle Fjord (Fig. 4a and 4d). The surface of the cheek-piece from Bøgeskov is very worn, whereas the decoration on the piece from Dueholm stands out clearly. This latter find is reported to have been found together with the fragment of a sword not far from the site of a burial mound. It is, however, uncertain whether the two objects represent one or possibly two burials or rather stray finds from a settlement site. Equestrian burials are not unknown on Mors, and one grave, most likely a burial from the 10th century according to the description of the contents published in the local newspaper at the time, was uncovered in 1857 on Dueholm Mark (J. Nielsen 1991).

A third group of cheek-pieces made of iron, not copper alloy, may be added, although as yet no examples have been recorded in Denmark. The disturbed

boat grave (grave III) at Tuna, Alsike parish in Uppland, contained a horse-bit with iron cheek-pieces combined with *inter alia* two different iron stirrups, a pair of spurs and a heavy spearhead as well as a second snaffle-bit and a harness-bow mount (Arne 1934, 26ff., Taf. VI). A similar horse-bit with very stylized cheek-pieces of iron was found together with two strap-mounts, a broad-bladed iron axe and an iron spearhead with silver inlay in a burial mound at Gökso in Altuna parish, also in Uppland (Paulsen 1937, Abb. 17). A third example is a single find of unknown provenance from Sweden (cf. find list 5, no. 1). All three horse-bits are very simple and stylized versions compared to the more elaborate bits with copper-alloy cheek-pieces.

A copper-alloy mount from Lund in southern Sweden has been interpreted as yet another version of decorated cheek-piece (Fig. 7). It has an eye at either end but instead of the central boss typical of strap-links, it is decorated with an animal figure. The back-turned animal's head forms a hole above the animal's back and a strap fixture corresponding to the eye on the animal-head cheek-pieces joins the two legs. The hole is placed slightly off the central axis of the object and the diameter, only 5 mm, appears too small for a mouth-piece when compared with the cheek-pieces. The object therefore is most likely a decorative strap-link with a fixture for a third strap-end. The archaeological context gives an approximate date of AD 1020-1050 (Kulturhistoriska Museet i Lund inv.no. KM 66166:711; Bergman & Billberg 1976). Also from Lund comes a roughly T-shaped, triangular mount of copper alloy with a rhombic eye at either end of the bar (one missing) and a projecting ornamental part with



Fig. 7. Copper-alloy bridle-mount from Lund, Skåne. Scale 1:1. Photo: Lunds Universitets Historiska Museum.



Fig. 8. A pair of copper-alloy stirrups from Lundby, Södermanland, Sweden. Scale 1:2. Photo: ATA Stockholm.

a hole in the centre (Strömberg 1961 II, Taf. 67.3a). A function as a cheek-piece is not obvious, although the object doubtless comes from a bridle or harness.

The cheek-pieces from Leck in Schleswig and the horse-bit from Lundby, Södermanland as well as one from a burial (grave III) uncovered at Årsunda in Gästrikland, Sweden were found with strap-mounts of copper alloy for the reins. A circular eye at one end of these mounts was attached to the iron mouth-piece, and at the opposite end the rein strap was drawn through an eye with three ornamental projections giving it a rhombic or square appearance similar to the eye terminating the cheek-pieces (cf. Fig. 2). Årsunda grave III also contained two cross-shaped strap-mounts with four such rhombic eyes. Similar mounts or fragments of mounts with one, two opposite or four eyes turn up as single finds and are most likely part of a bridle or horse harness.

STIRRUPS

The horse-bit from Lundby in Södermanland was found together with a pair of copper-alloy stirrups characterized by a low, almost semi-circular hoop with a flat, slightly raised rectangular tread-plate (Fig. 8). The basic shape of these stirrups also occurs in iron and may be seen as a further development of the tri-

angular stirrups typical of the Viking Age. The hoop is, however, significantly shorter than the ones on the triangular stirrups which usually measure between 15 to 20 cm, in some instances up to 25 cm as on an ornate pair of iron stirrups from Nr. Longelse on Langeland (Brøndsted 1936, Pl. V-VI; cf. Pedersen 1997a). The width of the tread-plate and thus the space for the rider's foot is narrow, only about 9-10 cm, and

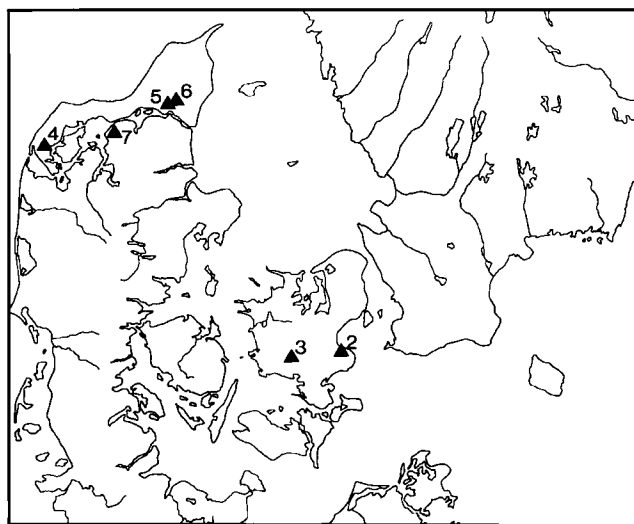


Fig. 9. Distribution of copper-alloy stirrups in Denmark (cf. find list no. 2).

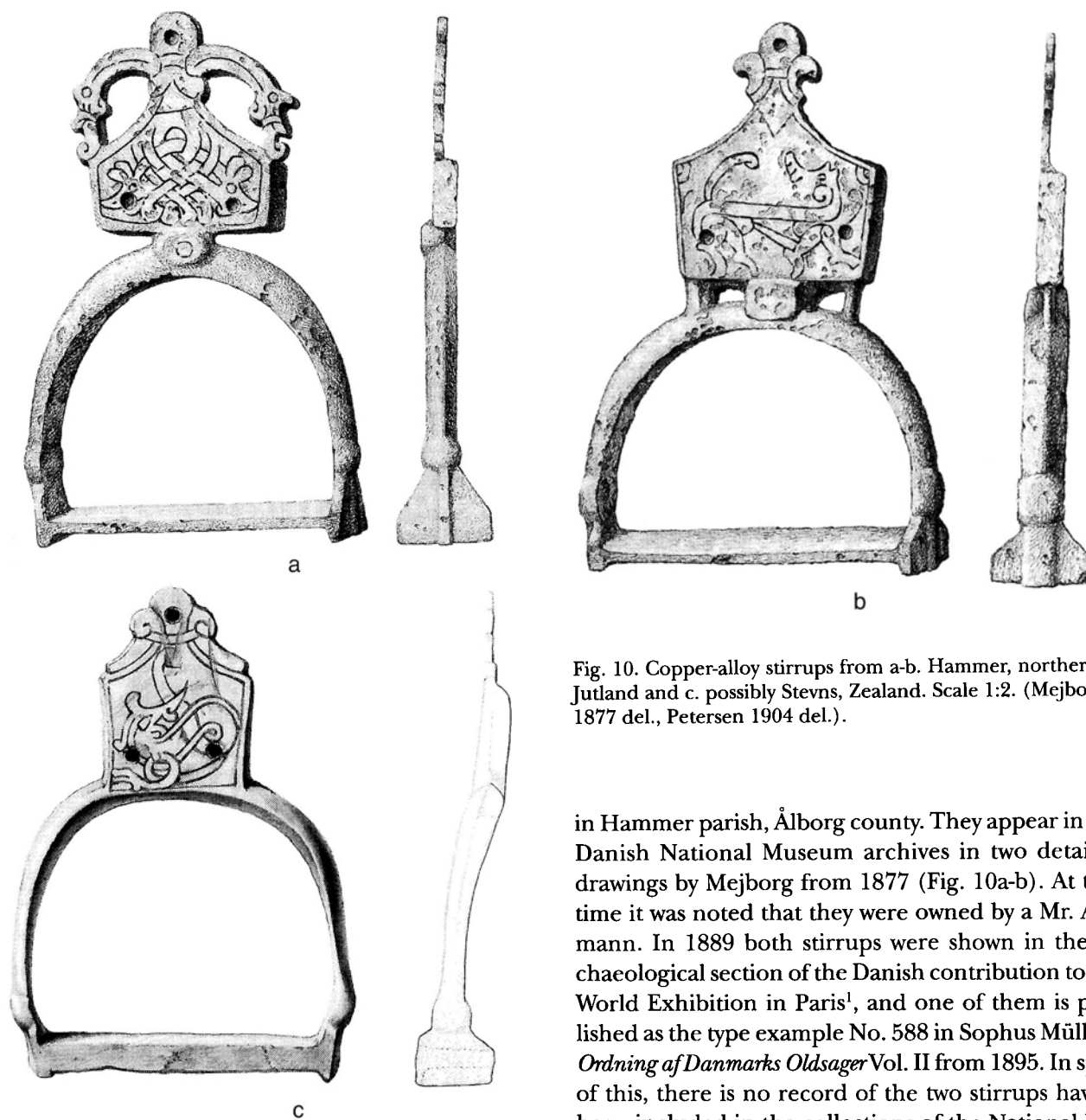


Fig. 10. Copper-alloy stirrups from a-b. Hammer, northern Jutland and c. possibly Stevns, Zealand. Scale 1:2. (Mejborg 1877 del., Petersen 1904 del.).

in Hammer parish, Ålborg county. They appear in the Danish National Museum archives in two detailed drawings by Mejborg from 1877 (Fig. 10a-b). At that time it was noted that they were owned by a Mr. Ahlmann. In 1889 both stirrups were shown in the archaeological section of the Danish contribution to the World Exhibition in Paris¹, and one of them is published as the type example No. 588 in Sophus Müller's *Ordning af Danmarks Oldsager* Vol. II from 1895. In spite of this, there is no record of the two stirrups having been included in the collections of the National Museum and their present location is unknown.

The third stirrup was apparently returned to the owner after a drawing had been made for the National Museum by Magnus Petersen in 1904 (Fig. 10c).

instead of the usual rectangular eye at the top through which the stirrup-leather would be passed, the cast stirrups from Lundby and their counterparts have a decorated strap-plate to which the stirrup-leather was riveted.

Six copper-alloy stirrups are known from late Viking-age Denmark (Fig. 9), although unfortunately three of these have so far only been identified in drawings and photographs. Two of them came from a bog

1 Photograph of the Danish archaeological exhibition in the archives of the Prehistoric Dept. of the National Museum, Copenhagen. The exhibition was organized by Sophus Müller and included c. 400 objects, about half of which were from private collections.



Fig. 11. Copper-alloy stirrup from Stenåsa, Öland, Sweden. Scale 1:1. Photo: ATA Stockholm.

According to the drawing it was purchased at an auction in 1904 and on 27th June of that year it belonged to a mechanic H. Petersen of Strøby on Stevns, eastern Zealand. The stirrup is mentioned in a compilation of local legends referring to burial mounds on Stevns (Boberg 1931). It appears that a burial mound at Strøby beach was removed around the year 1880. A copper-alloy stirrup was later found in one of the gardens in Strøby to which soil had been carted from the beach, and it is very likely that this stirrup is the one sold at the auction in 1904, in which case the provenance for the stirrup drawn by Magnus Petersen is Strøby.

The three preserved stirrups are also single finds, one of them without provenance. This latter stirrup has only a simple strap-plate whereas the other two are typical of the decorated copper-alloy stirrups. One is a single find from Trollegab Mose, a bog in northern Jutland; the other is from Bavelse on Zealand. It

is reported to have been found during marl digging in Bavelse Mark at a depth of c. 1 metre. A later inspection of the site provided no further information, and it is doubtful whether the stirrup came from a burial².

Apart from the Danish examples, copper-alloy stirrups have been found in Sweden, Iceland and England (one example), but none are mentioned from Norway (cf. find list no. 6). These stirrups are all similar to the ones recorded from Denmark apart from slight variations in the ornament such as the number and shape of the animals depicted on the plates as well as the general outline of the plate. Only the two stirrups from Lundby in Södermanland constitute a definite pair. All the others are single finds like the Danish examples are. The two stirrups recorded from Hammer in Jutland may of course have been used together; on the other hand they are not identical. In nearly all Viking-age burials with stirrups in Denmark, the two stirrups form a pair, and although wealthy burial finds may not be the best source of information for common everyday behaviour, it does appear that mis-matched pairs were avoided if possible.

The actual number of preserved copper-alloy stirrups is limited, but they appear to fall into three main groups, characterized by differences in the strap-plate:

- 1 Stirrups with a four-sided or trapezoid plate.
- 2 Stirrups with a four-sided plate ending in a top ornament similar to a „fleur-de-lis“.
- 3 Stirrups with a plate showing a curved outline; in this group the plates are usually attached directly to the main hoop of the stirrup.

As yet, it is not clear whether the variation in the shape of the strap-plate is of geographical, chronological or possibly symbolic significance, and there does not appear to be any definite relation between the shape of the strap-plate and its ornament or between the plate and the way it is attached to the main hoop of the stirrup, either with a single joining “neck” (Fig. 10a) or several (Fig. 10b).

2 National Museum inventory from 1853, inv.no. 13308. In 1991 L. C. Nielsen apparently considered the stirrup to be a burial find (cf. L.C. Nielsen 1991, Fig. 5), but this is uncertain.

The strap-plate provides room for ornamentation, usually in the form of sketchily engraved animals. Single beasts are found on, for instance, one of the stirrups from Hammer (Fig. 10b) and a broken stirrup from Stenåsa on Öland, Sweden (fig. 11). On the latter the main motif is surrounded by a frame with a stepped pattern. Two ribbon-shaped animals are depicted on the second stirrup from Hammer (Fig. 10a) and the one from Bavelse Mark, as well as on a stirrup from Romsey, England and one from Merkiðvoll, Iceland, none of them identical (Read 1887; Eldjárn 1956, Fig. 189). A single ribbon-shaped animal is seen on the stirrup from Stevns (Fig. 10c).

Niello was used to emphasize the animal figure on the strap-plate of the stirrup from Stenåsa, and according to the information given on the drawings, traces of niello were evident on the two stirrups from Hammer. Silver wire was apparently used to trace the design on the stirrup from Romsey (Read 1887, 532), but as the silver had almost entirely disappeared leaving only the empty lines, this may be a mis-interpretation. Whether the inlay was of silver or niello can no longer be verified. The sketchy designs suggest inlay, but where no traces are preserved, it is possible that, as suggested by Holger Arbman, the intention was to create a contrast between a matt line decoration and the surrounding polished surface (Arbman 1937, 268).

The foot plates on two stirrups from Vidafjell and Klóarfjell on Iceland have a decorative moulding at the lower edge (Eldjárn 1956, Fig. 190, 191). This is even more pronounced on a single find from Vindblæs in northern Jutland, kept in the National Museum in Copenhagen (Fig. 12). The foot plate is curved downwards and has small plant-like ornaments along the edge resembling the ornaments on some medieval stirrups. The strap-plate on the other hand is very similar to the plates on the copper-alloy stirrups with semi-circular hoop, and the attachment of the plate to the main hoop is not unlike that on the two stirrups from Lundby in Södermanland (cf. Fig. 8). The stirrup from Vindblæs probably represents the final stage in the development of the type and is as yet a unique find in Denmark.

STIRRUP-STRAP MOUNTS

The copper-alloy stirrups have a fixed strap-plate. Similar, decorated plaques occur as single objects. They have often been classified as book-mounts or clasps, as box-mounts or as strap-ends, even though the characteristic bottom flange set at an angle to the plaque itself renders the last interpretation unlikely or unpractical (Roes 1958, 96). The number of mounts alone is an argument against an interpretation as book-mounts; books were still very rare and precious objects (cf. Margeson 1997, 33). Similarities in the design of some of the types to the strap-plates on the decorated stirrups as well as a few find combinations provide a definite link between these single mounts and iron stirrups. On one iron stirrup, a recent detector find from Chalgrove, Oxfordshire in England,



Fig. 12. Copper-alloy stirrup from Vindblæs, Ålborg county. Scale 4:5. Photo: National Museum.

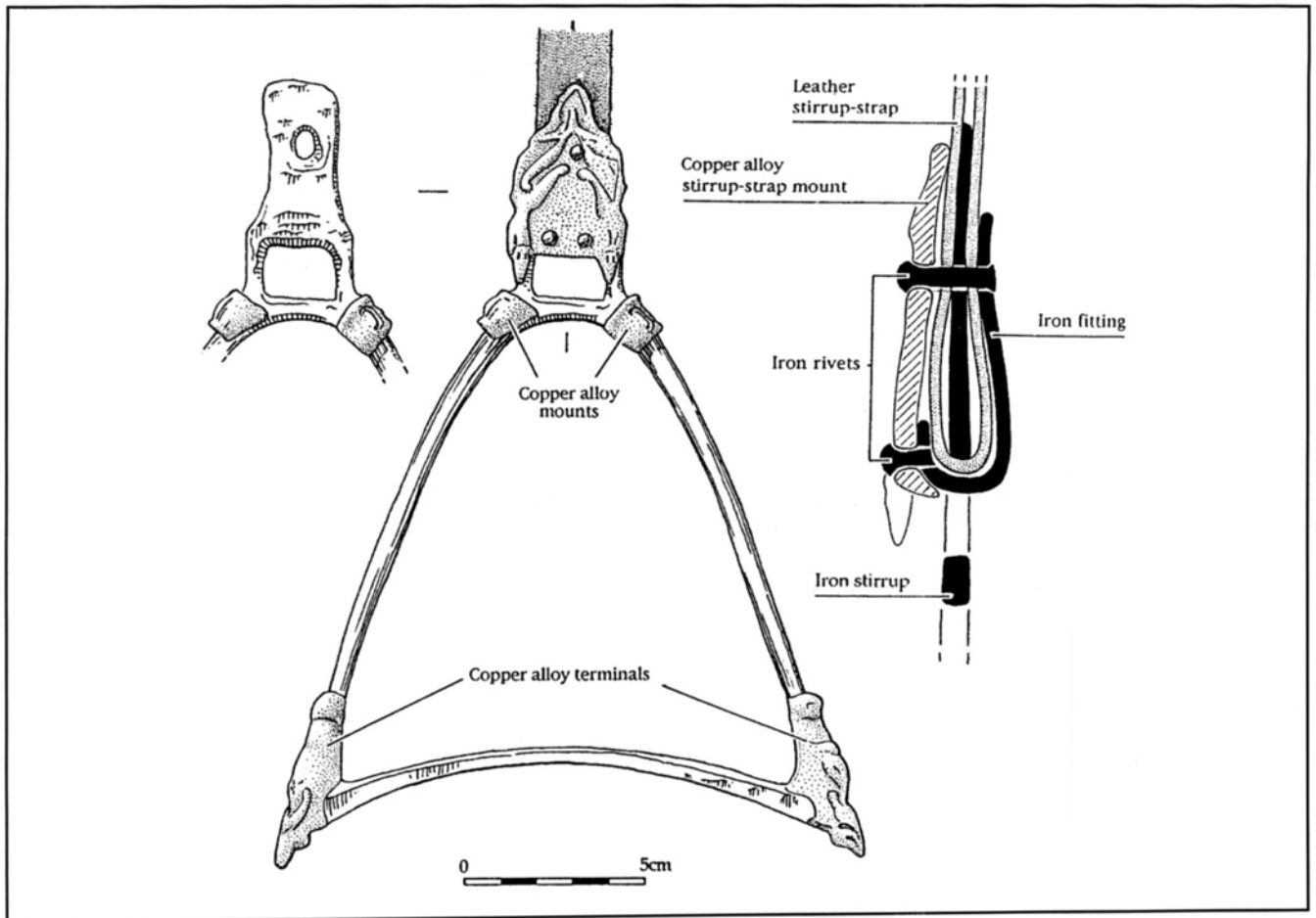


Fig. 13. Iron stirrup with copper-alloy mounts from Chalgrove, Oxfordshire (after Williams 1997a). The position of the strap-mount and stirrup-leather is indicated in the reconstruction.

a strap-mount of copper alloy is still in place. The leather of the stirrup-strap is partly preserved, enabling a reconstruction to be made (Fig. 13).

The mount from Chalgrove belongs to a type that has not yet been recorded in Denmark, and there are no parallels to its shape among the fixed strap-plates on the copper-alloy stirrups. A Swedish find from Kvalsta in Västmanland provides a closer resemblance to the stirrups. At Kvalsta a decorated mount of copper alloy was found together with tall iron stirrups fitted with a broad rectangular eye for the stirrup-leather (Arbman 1937, 270ff, Fig. 7). Most of the stirrups of this basic type were apparently used without metal mounts or with strap-mounts consisting of narrow iron bands or rectangular decorated iron plates of about

the same width as the stirrup-leather (cf. Brøndsted 1936, Figs. 5-6, 71, Pl. IX), but the Kvalsta find indicates that this stirrup-type may also have been combined with decorative copper-alloy mounts similar to the strap-plates on the cast stirrups. The find circumstances at Kvalsta are not very accurately documented and several burials may have been mixed up, but the objects found together with the stirrup and published by Holger Arbman as a group, among them several copper-alloy strap-mounts, suggest a date in the 11th century (Arbman 1937).

Considering the number of mounts that are now coming to light with the aid of metal detectors, it is very likely that iron stirrups with copper-alloy strap-mounts were far more common than the cast stirrups.

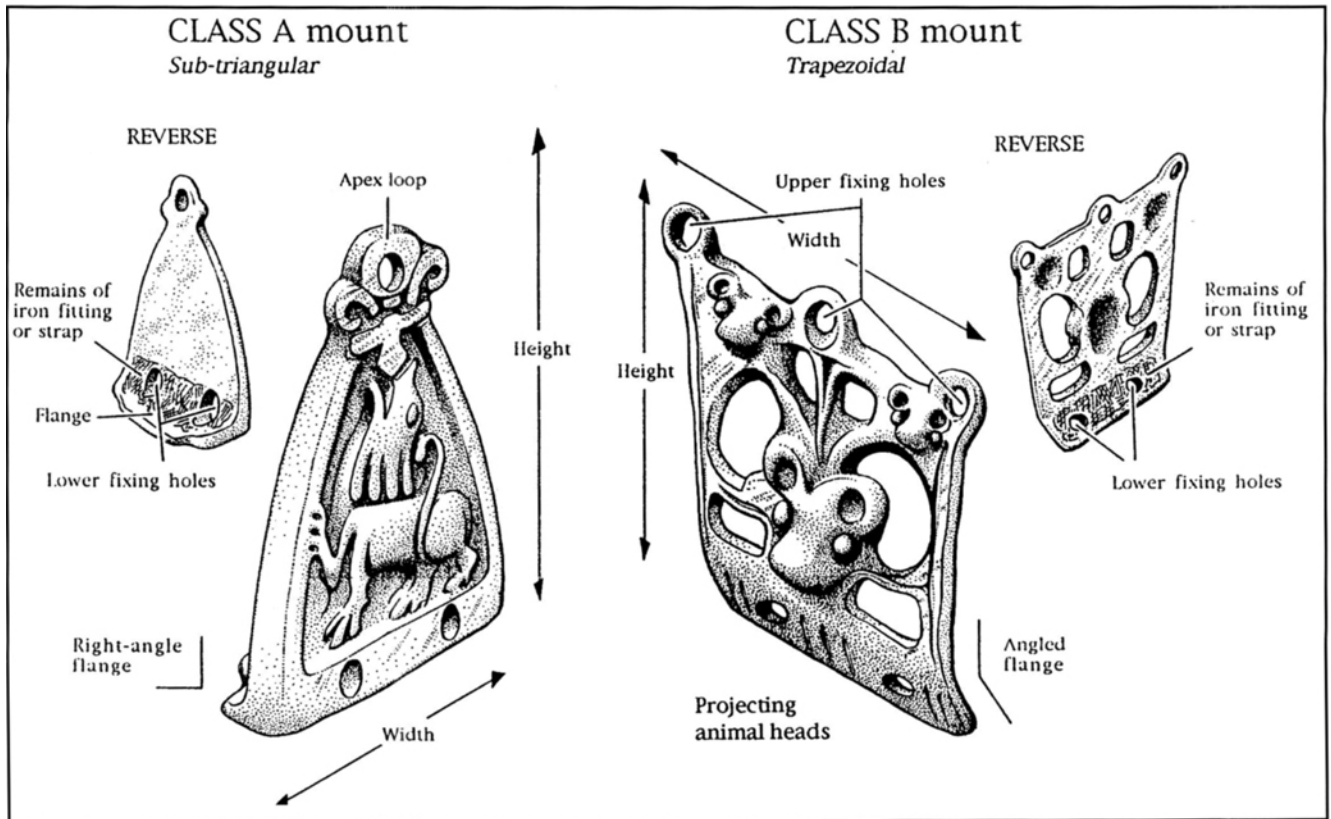


Fig. 14. Construction principles for strap-mounts of Classes A and B (after Williams 1997a). No scale.

The Anglo-Saxon mounts have recently been studied in detail by David Williams, and his catalogue numbers just over five hundred. The widespread distribution in rural and urban areas supports the interpretation as horse-equipment rather than book mounts (cf. Margeson 1997, 34). Based on the shape and decoration the strap-mounts are grouped into three main classes with sub-types (Williams 1997a). Most of them fall into class A (Fig. 14). They are most often triangular and have a single rivet-hole at the top or the upper part and one or two rivet-holes at the base. Class B is less numerous (Fig. 14). These mounts tend to be trapezoidal or sub-rectangular with rivet-holes placed at the top and in the angled flange at the bottom. The decoration is often openwork. Class C covers a small group with projecting side-lugs.

A preliminary survey has revealed fourteen finds from Viking-age Denmark (Fig. 15). Nothing like all

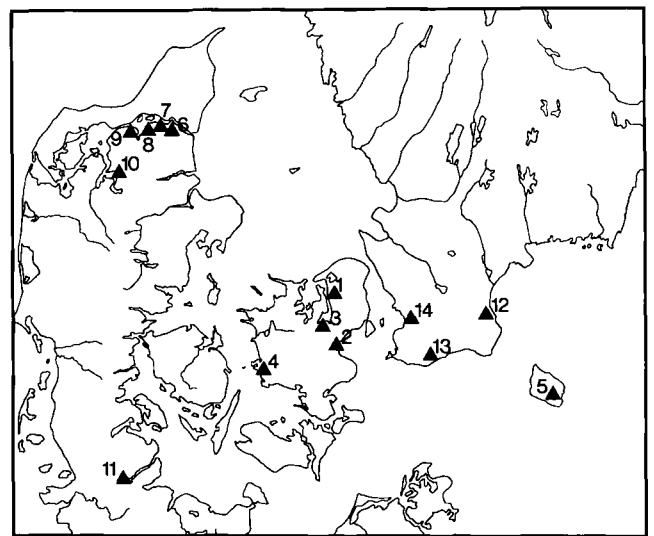


Fig. 15. Distribution of stirrup-strap mounts in Schleswig, Denmark and Skåne (cf. find list no. 3).

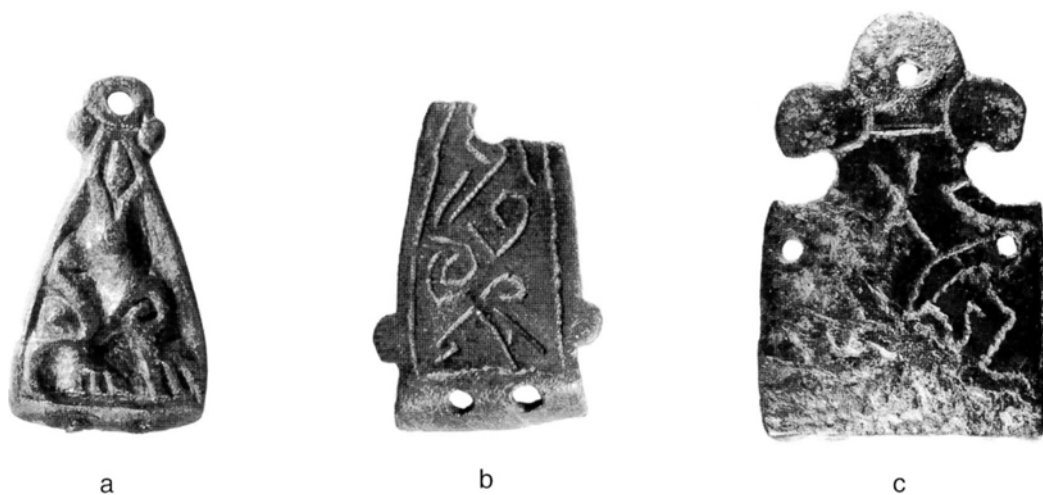


Fig. 16. Stirrup-strap mounts from a. Græse, Frederiksborg county, b. Langetofte, Sorø county, c. V. Klagstorp, Skåne. Scale 1:1. Photo: Weiss & Wichmann; Lunds Universitets Historiska Museum.

of the types distinguished by David Williams are present, possibly due to the limited number yet recorded, but all three main classes have been identified.

Eight strap-mounts belong to William's Class A. A sub-triangular mount with slightly curved sides and two rivets at the base from Græse, northern Zealand, is very similar to a type common in England depicting a four-legged leonine animal. The known finds range from very well-made examples with a clearly defined animal figure to debased versions. The animal on the Danish mount looks to the right (Fig. 16a).

The tail at the left curls up over the animal's back, and the head with open jaws is turned upwards, reaching for an object at the top of the mount. The animal lacks the raised front paw seen on better versions. Another broken triangular mount with two rivet-holes at the base from Langetofte, western Zealand, has a more uncertain design consisting of straight border-lines and comma-like figures in the centre field, possibly a very debased version of a sketched animal motif (Fig. 16b).

A four-sided mount with a fleur-de-lis ornament at the top from V. Klagstorp in Skåne also belongs to



Fig. 17. Rhombic strap-mounts from a. Sebbesund, Ålborg county, b. Hjulmagergård, Bornholm, c. Postgården, Ålborg county. Scale 1:1. Photo: Aalborg Historiske Museum; National Museum, Henrik Wichmann.

Class A (Fig. 16c). The front is very worn, but the motif appears to have been a rough sketch of an animal. The shape of the mount comes very close to the strap-plates on the copper-alloy stirrups with a fleur-de-lis ornament at the top, and a function as a stirrup-mount was suggested by Märta Strömberg in 1961 (Strömberg 1961 I, 146). The sketchily engraved lines are similar to the technique employed in the decoration on the stirrups.

Openwork mounts of roughly rhombic shape with two rivet-holes at the base and a circular terminal with a central rivet-hole at the top (William's Class A, type 12) are at present the most common type in Denmark and are recorded in five finds, three from northern Jutland, one from Skåne, and one from Bornholm (cf. find list no. 3). Two further examples of this type are known from the island of Öland off the east coast of Sweden (Strömberg 1961 I, 146f.; Williams 1997a). These mounts have been described as strap-ends (cf. Strömberg 1961 I, 147), but considering their similarity with other strap-mounts and the often slightly oblique base with two rivet-holes, the latter identification is the most likely.

The rhombic mounts are very similar but vary in details such as the decoration and the number of bosses on the frame (Fig. 17). A well-preserved mount from Hjalmeröd in Skåne has a boss at the centre and three bosses or slight projections at either side where the central cross-shaped figure joins the frame (Strömberg 1961 II, Pl. 72.3). Double rows of dots decorate the framework. On a mount from Sebbersund in northern Jutland, the bosses are situated more directly on the frame without forming actual projections (Fig. 17a).

A very distinctive mount from Flengemarken in Roskilde, Zealand, belongs to William's Class B, type 4, which appears to be most common in East Anglia (Williams 1997a, 95ff.). These mounts are characterized by a staring human mask with a very marked nose and two prominent eyes. The background for the mask from Flengemarken is difficult to determine but may be interpreted as waving hair or some kind of headdress (Fig. 18a). The mount has a single rivet-hole at the top in the hair or headdress of the mask and two rivet-holes at the base, which is set at an oblique angle to the front.

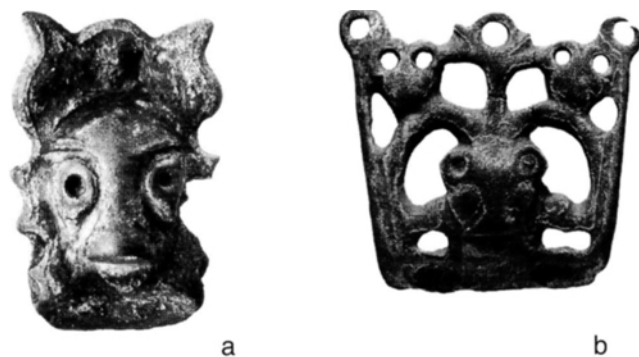


Fig. 18. Stirrup-strap mounts from a. Flengemarken, Copenhagen county, b. Gl. Køgegård, Copenhagen county. Scale 1:1. Photo: National Museum.

Many of the types of stirrup-mount distinguished by David Williams have no direct parallels in the strap-plates of the copper-alloy stirrups, but the link is evident when, for instance, the mount from V. Klagstorp (Fig. 16c) is compared with the stirrup-plates. The similarity in outline and ornament is also very close in a small group of four-sided openwork mounts with animal motifs of William's Class B. Three examples are preserved from Haithabu in Schleswig, Gedsted in northern Jutland and Lund in Skåne (Fig. 19). They are surprisingly alike and were probably fashioned over the same or almost identical models. The mounts depict a four-legged animal with one raised front paw and a curved tail over its back. The jaws are open, and the head seen in profile is dominated by a large round eye. The motif has been interpreted as an animal with a male rider, but this seems rather doubtful in view of the example from Lund on which the tail appears to pass down between the two hind legs of the animal and curl up over its back.

A rectangular openwork mount from Dingtuna in Sweden is very similar to the ones from Denmark, but the animal is shown in greater detail (Ekegård, Dingtuna parish, Sweden; Statens historiska Museum Stockholm inv.no. SHM 9170:1235) (Fig. 20). Whereas these mounts depict the whole animal, another openwork mount (William's Class B, type 1) is decorated with stylized cat-like heads within a four-sided frame. One such mount has been found near Ellehalen/Gl. Køgegård, Køge parish on eastern Zealand (Fig. 18b), but several are known from England, and a similar

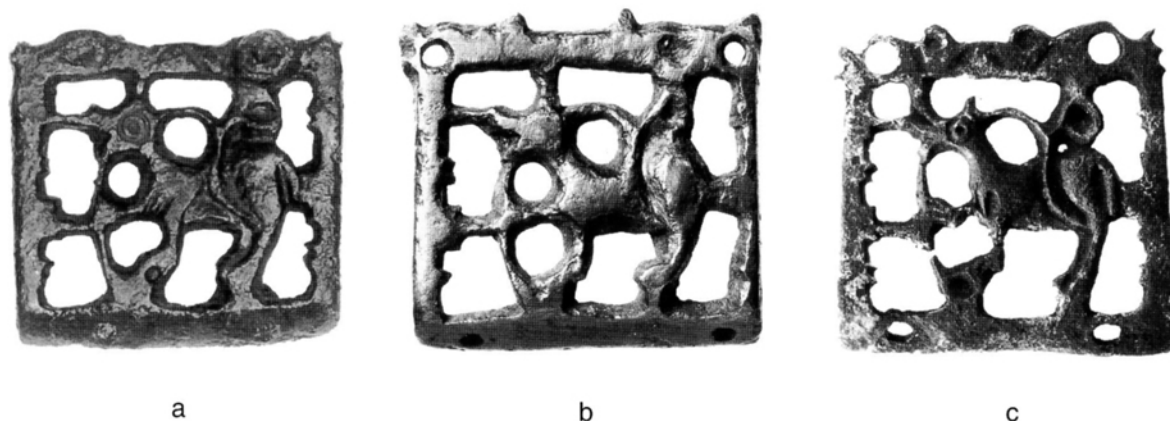


Fig. 19. Stirrup-strap mounts from a. Haithabu, Schleswig, b. Gedsted, Viborg county, and c. Lund, Skåne. Scale 1:1. Photo: Archäologisches Landesmuseum der Christian-Albrechts-Universität, Schleswig; National Museum, Copenhagen; Kulturen, Lund.

mount comes from Büberich in Nordrhein-Westfalen, Germany (Williams 1997, 85ff.; *Das Reich der Salier* 1992, 36).

Finally a stirrup-mount of William's Class C from Sønderholm in northern Jutland (Fig. 21) resembles the strap-plates of stirrups on which the plate is attached directly to the main hoop as on one of the Danish examples (Fig. 10c) or on two stirrups from Iceland (Eldjárn 1956, Fig. 190, 191). The ornament appears to consist of at least one very degenerate animal head (Fuglesang 1980, 134). A strap-buckle ac-

quired together with this stirrup-mount and presumably of the same provenance indicates that the stirrup-leather or other harness-straps were fitted with buckles decorated in a style corresponding to the mounts next to the stirrups. However, we lack secure find combinations that may confirm this connection (cf. Graham-Campbell 1992, 87).

All the Danish strap-mounts, like most of the English and Swedish examples, are single finds. A comprehensive survey of Norwegian and Swedish collections would probably reveal further mounts and could confirm whether only certain types are present in Scandinavia in comparison with the many types from Anglo-Saxon England.

ANIMAL-HEAD TERMINALS

A second group of attachments for iron stirrups has recently been identified in England (cf. Williams 1998). Apart from the copper-alloy mount for the stirrup-leather, the stirrup-iron from Chalgrove, Oxfordshire mentioned above has decorative copper-alloy fittings at the top of the hoop as well as at the tread-plate (cf. Fig. 13). The lower fittings or terminals are shaped as stylized animal heads. Similar objects are known as single finds and they appear most often stylistically related to the Ringerike/Urnes style, thus belonging to the late Viking Age/early Medieval Period (Williams 1998). Whether all examples were at-



Fig. 20. Stirrup-strap mount from Dingtuna. Scale 1:1. Photo: Statens Historiska Museum, Stockholm.



Fig. 21. Stirrup-strap mount and buckle from Sønderholm, Ålborg county. Scale 1:1. Photo: National Museum.

tached to stirrups is uncertain. Some of them appear very slight, and more than one purpose may be possible, although at present an interpretation as stirrup terminals seems the most likely (cf. Margeson 1997, 36).

A damaged stirrup of approximately the same basic shape as the one from Chalgrove is kept in the National Museum in Copenhagen. It is a single find uncovered at a depth of c. 75 cm in a meadow south of the river Rævså (Odder parish, Århus county; National Museum inv. no. D11408). The front of the stirrup is decorated with brass sheet, and the joints between the hoop and the tread-plate are hidden under copper-alloy mounts of “strange hoof-like shape” according to the inventory (Fig. 22). These mounts are very simple in comparison with the elaborate animal heads, but fulfil a similar function.

Confirmation of the connection between stirrups and animal-head terminals is also provided by a stirrup from Farstorp in Skåne, Sweden (Strömberg 1961 II, Pl. 67.1). This stirrup is made of iron with a decorative brass band wound around the hoop. Two animal heads attached with a lead solder decorate the sides of the hoop just above the tread-plate. Both heads have prominent eyes, small triangular ears and an upturned nose. An almost identical stirrup has been found in the River Ray near Islip in England (Seaby 1950; Strömberg 1961 I, Fig. 18). It is also wound with brass bands and a stylized animal head is preserved

on one side of the hoop. The almost semi-circular hoop of both stirrups provides an approximate date in the first half of the 11th century. Very similar stirrups with a small rectangular eye for the strap but no animal heads on the hoop have been found in grave VIII at Tuna, Uppland in Sweden, which has been dated to the first half of the 11th century (Arne 1934, 71, Taf. XIII.11-12).

Up to now twelve animal-head terminals of copper alloy have been identified in Viking-age Denmark (Fig. 23). Some of the animal heads are not unlike gold or silver animal-head terminals for chain ornaments. A

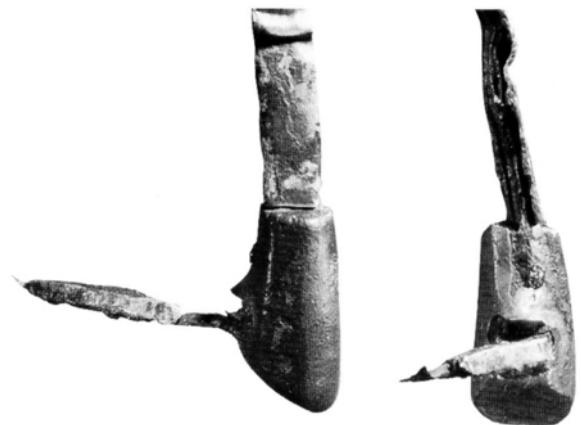


Fig. 22. Detail of iron stirrup decorated with brass sheet from Odder parish, Århus county; front and inside view. Scale 1:1. Photo: National Museum.

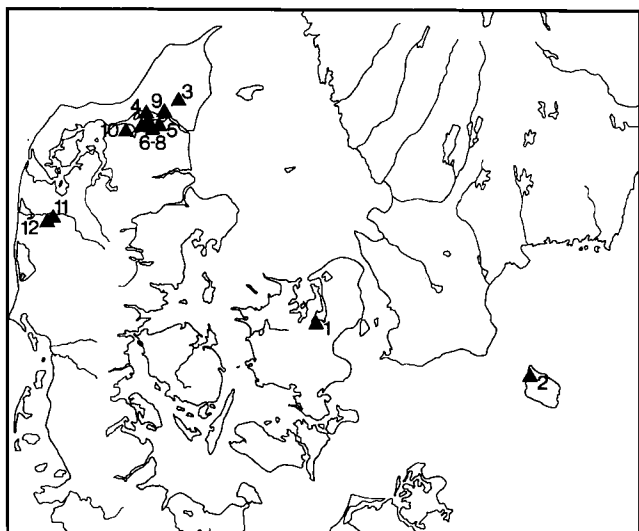


Fig. 23. Distribution of stirrup-terminals in Denmark (cf. find list no. 4).

function as supports for, for instance, candle sticks has also been suggested, although one feature is very typical. The terminals are hollow-backed (i.e. on the underside of the animal head) and the hollow may contain remains of a lead solder which secure the terminal to another object, the lower part of the stirrup-hoop. There may also be a projecting ledge which could support the end of the tread-plate, and the upper part of some terminals ends in a simple or decorated collar.

More than eighty terminals have come to light in England (as of 1997), and a preliminary study by David Williams has revealed several different groups distinguished by variations in the details of the heads such as the snout, the eyes and ears, and the tendrils or crest above the brow (Williams 1998). Similar variety is evident in the Danish finds.

One group of terminals is characterized by snub-nosed animal heads with prominent bulging brows, eyes and ears, lobe-ended tendrils and in some cases flaring nostrils (Williams 1998, Fig. 2). A well-preserved terminal from Nørregård in Ringkøbing county falls into this group and a second example with traces of iron at the top and the lower end of the back was recently found at Nørholm in Ålborg county (Fig. 24).

A second group comprises more or less simple zoomorphic terminals of various shapes without such

details as the marked tendrils of the first group (Williams 1998, Fig. 4). A terminal from Flengemarken in Roskilde, Zealand (Fig. 25a) belongs to this group. It is not very long, but has a marked collar at the top and the typical hollow back. Deep lines indicate two elongated eyes and a pair of nostrils at the base of the mount. A very similar but poorly preserved mount has come to light on Bornholm. Another is known from Nørre Felding in northern Jutland, and a small fragment from Nørholm, only 1.4 cm long, has been identified as the snout end of a simple animal head.

A terminal from Gjøl Mark in northern Jutland is more massive and the open mouth of the animal head is unusual (Fig. 25b). It has a parallel in a very short, possibly broken terminal from Stentinget, Hjørring county. Another unusual terminal with a pointed snout below two bulging eyes was found north of Lindholm Høje in northern Jutland. It is very slight, but has the characteristic hollow back and a protruding ledge indicating that it was used for the same purpose in spite of its size.

These terminals are about 3 to 3.5 cm long, the one from Lindholm only 2.5 cm long. A highly stylized terminal found at Skelagervej near Ålborg in Jutland, is slightly longer, 4.2 cm, and shows more clearly distinctive traits of the Urnes style than the other mounts. The elongated eyes resemble those on Urnes-style jewellery (Fig. 25c).

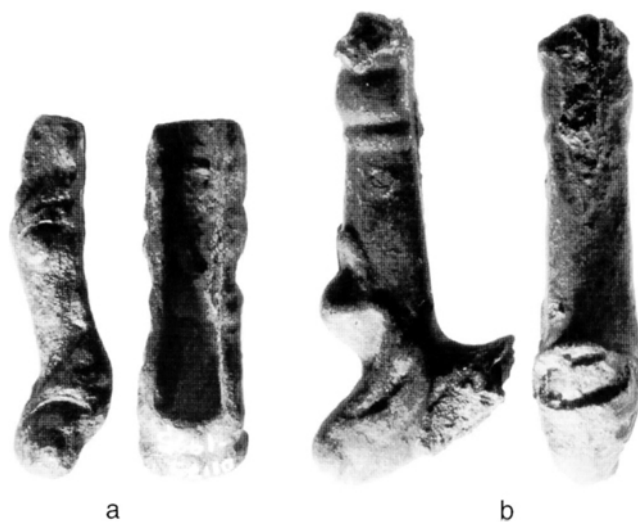


Fig. 24. Stirrup-terminals from a. Nørregård, Ringkøbing county, b. Nørholm, Ålborg county; side view and back. Scale 1:1. Photo: Henrik Wichmann.



Fig. 25. Stirrup-terminals from a. Flengemarken, Roskilde county, b. Gjøl Mark, Hjørring county, c. Skelagervej, Ålborg county, d. Nørholm, Ålborg county; side view and back. Scale 1:1. Photo: Henrik Wichmann.

Most of the animal heads face downwards on the stirrup, but one group is characterized by a crested animal head curled round to face upwards on the stirrup, not unlike the animal heads on the cheek-pieces of copper alloy. Some terminals recorded by Williams enclose the stirrup arm completely (cf. Williams 1998, Fig. 3), although the one example as yet found in Denmark at Nørholm in Jutland has an open hollow back (Fig. 25d). It does not have the elaborate crest of David Williams's type example but is otherwise very similar.

The number of identified terminals from Viking-age Denmark is still limited when compared to the many from England, but in view of the definite stylistic connection with Scandinavia these objects may be expected to turn up in larger numbers along with the strap-mounts³.

DATING EVIDENCE

Most of the Danish copper-alloy fittings for horse gear are single finds, and the archaeological evidence for a precise dating of these objects is limited. Significantly, none have yet been located in a secure burial context, although it cannot be ruled out that the cheek-piece from Dueholm Mark on Mors came from a destroyed grave. A copper-alloy strap-mount from Ag-

gersund in northern Jutland, similar to those linked with the cheek-pieces, is reported to have been found in a mound, albeit without definite reference to a burial context (Aggersund, Aggersborg parish, Hjørring county; National Museum inv.no. C23296). These objects apparently came into use in late Viking-age Denmark after the end of the burial custom involving deposition of weapons and horse trappings in male graves. Finds from Norway and Sweden where such furnished graves continue well beyond AD 1000 support this interpretation.

Cheek-pieces and decorated stirrups of copper alloy occur together in the Swedish grave find from Lundby in Södermanland. Apart from the horse-bit and stirrups, this burial contained a pair of copper-alloy spurs, an iron spearhead, a knife and strap-mounts. The spearhead is not readily classifiable, but it resembles Jan Petersen's type M which has been dated to the 11th century (Petersen 1919).

Datable objects have been found in two other Swedish burials containing horse-bits with cheek-pieces, i.e. the disturbed boat grave (grave III) from Tuna in Alsike, Uppland, and a burial uncovered at Göksbo, also in Uppland (cf. find list 5, no. 8 and 9). In both cases the cheek-pieces are made of iron in a simplified design compared with the copper-alloy versions. The objects from Tuna grave III include *inter alia* a spearhead of iron and two different iron stirrups characterized by a low, almost semi-circular hoop. The broad blade and short socket of the spearhead are typical of Jan Petersen's type G, which is dated to the second half of the 10th century and the early 11th cen-

³ Since this article was completed two further terminals have come to light south of Nørholm, Nørholm parish, Ålborg county. National Museum inv.no. D87/1999 and D102/1999, the latter of the same type as Fig. 25.d.

ture (Arne 1934, 61). The horse-bit from Göksbo was found together with a broad-bladed axe of Jan Petersen's type M and a silver-inlaid spearhead decorated in the Ringerike style (Paulsen 1937, Abb. 17; Fuglesang 1980, 29ff., pl. 12A). Both objects support a date in the 11th century.

Complete horse-bits with copper-alloy cheek-pieces are known from two other finds, but in this case the accompanying objects do not permit a definite dating (cf. find list 5, no. 11 and 12). The Norwegian type find, horse-bit Rygh No. 568, from Vestby in Sørums, Akershus, came to light in 1862 not far from a burial mound. It was found together with a spearhead, a knife of iron and a small, crudely ornamented oval brooch (Rygh 1885). The objects and the site suggest a destroyed burial; the brooch possibly coming from a second grave. Apart from a horse-bit, grave III at Årsunda in Gästrikland, Sweden, included an axe, according to the photographic records of Statens Historiska Museum in Stockholm. Two axes are preserved from the site, but it is uncertain which one is from grave III and the presence of an axe is not confirmed in the museum inventory.

The stirrups from Lundby and Tuna grave III are typologically late forms, different from the tall triangular stirrups typical of the Danish equestrian burials of the 10th century. Although very much alike, these latter iron stirrups may be divided into three main groups distinguished in terms of single features and general proportions (Pedersen 1997a, 128f.). As a whole they show a gradual change from a fairly simple stirrup without marked traits towards the well-known tall stirrups with clearly defined details such as the boss on either side of the hoop and the extensions of the hoop below the foot-rest. This type was reduced in height towards a more compact stirrup, in some cases with very pronounced features. A similar development is seen in Norway and Sweden leading to types with very low triangular hoops that do not occur in Danish burials (cf. Braathen 1989). These short stirrups are related to the forms with a semi-circular hoop, and Tuna grave III contained one of each type. The stirrup with a semi-circular hoop from Tuna has the rectangular loop for the stirrup-leather typical of the triangular iron stirrups, but is covered with thin copper-alloy sheet, leading T.J. Arne to com-

pare it to the copper-alloy stirrups, and the resemblance between the two types is clear (Arne 1934, 65, Taf. VI 8,9).

Two graves containing iron stirrups with short, almost semi-circular hoops as well as weapons (axe and spear) excavated at Åsta in Västmanland in Sweden confirm the typological development and the late date of this stirrup-type (Simonsson 1969). In Åsta grave 7 a single stirrup was found with *inter alia* an axe of Jan Petersen's type M and a spearhead possibly of Jan Petersen's type H. Åsta grave 8 contained a pair of stirrups, an axe, and a spearhead of Jan Petersen's type G. These weapons indicate a date for both burials in the early 11th century.

The fittings in Åsta grave 7 include a broad sheet-iron band that was fitted to the stirrup-leather immediately next to the stirrup. A pair of stirrups with similar iron bands are known from a cremation burial uncovered at Raglunda in Västmanland, Sweden, and G. Westin compared these iron bands to the copper-alloy strap-plates for a pair of heavy stirrups recovered in 1851 from a burial mound at Velds in northern Jutland (Westin 1941, 97; cf. Brøndsted 1936, 104, fig. 11). The Velds plates, dated to the early 11th century, are decorated with animal ornament and were rivetted to the strap-leather in much the same way as the copper-alloy strap-mounts. Although earlier stirrup-types were often fitted with decorative plates for the stirrup-leather, these plates were made of iron, and the decoration does not appear to include animal figures, thus differing from the motifs used on the copper-alloy stirrups and strap-mounts as well as on the plates from Velds (cf. for instance Brøndsted 1936, Figs. 5-6). The Velds plates may be linked to the development of the decorated stirrup-strap mounts, although they are over twice the usual size of these mounts (cf. Williams 1997a, 6).

The similarity between some of the stirrup-strap mounts and the strap-plates on the copper-alloy stirrups supports the interpretation of the single mounts and indicates that the two groups of objects are contemporary. Two strap-mounts may be given an approximate date. One is an openwork rhombic mount found in a sunken hut at Sebbersund in northern Jutland. Pit-houses appear to have gone out of use on this site around AD 1000 and a date in the late 10th century or

very early 11th century is suggested for the mount by the excavator Peter Birkedahl. The openwork mount depicting a four-legged animal from Lund was excavated from a pit in a cultural deposit with dendrochronological dates at AD 1060-70 (Mårtensson 1982), and activity at Lund as such does not appear to have commenced much before c. AD 990. The few English mounts associated with datable material also point to a date after c. AD 1000, and there appears to be no evidence for an earlier date (Williams 1997a, 8).

The strap-mount from Kvalsta in Västmanland in central Sweden was found together with several iron stirrups. To illustrate the function of the mount, Holger Arbman attached it to one of the stirrups from the site (one of an identical pair), commenting that the combination of the two objects of different metals was not what one would expect (Arbman 1937, 272). The stirrup is characterized by a triangular hoop to which the rectangular loop for the strap-leather is joined by a narrow and rather long neck. It has been suggested that this type could be an Insular form (Seaby and Woodfield 1980; cf. Williams 1997a, 4). However, the type occurs in several Swedish finds as well as in Norway and may in fact have been made in Scandinavia although possibly some time before the strap-mount⁴. A pair from Birka grave 708 was found together with weapons and an iron horse-bit with cheekbar and plate typical of the 10th century (Arbman 1940-43). The Kvalsta site was unscientifically excavated, and the wide variety of objects are most likely from several disturbed graves. It is therefore uncertain how many burials are represented and which objects belonged to each individual burial. Holger Arbman does not state whether the strap-mount was actually found *in situ* on the stirrup, thus, although the Kvalsta find

provides a probable link between mounts and stirrups, it does not supply an exact date for the mount.

The stirrup from Chalgrove in Oxfordshire provides evidence that the stirrup terminals and strap-mounts of copper alloy are roughly contemporary, and it is possible that the inspiration and prototypes behind the use not only of mounts but also of elaborate terminals lies in the development of the iron stirrups in the Viking Age.

Many of the triangular iron stirrups of the 10th century bear a boss on the arms of the hoop immediately above the tread-plate. These iron bosses were hammered out in the hoop or attached separately, and none of them has a definite animal shape, which appears to be a later development. On the stirrups from Velds in Jutland the bosses were apparently made of a lead alloy covered with gilt copper alloy (Brøndsted 1936: 104). A similar pair from Loose in Schleswig is fitted with lead-alloy bosses decorated with silver (Müller-Wille 1977, 70, Abb. 8.6-7). Other stirrups with copper-alloy bosses on the hoop as well as a copper-alloy boss at the "neck" are known from Norway and Sweden, one of them a short iron stirrup from Tuna grave III, mentioned above⁵. The decorative use of copper alloy on these typologically late stirrup-irons may be inspired by the copper-alloy stirrups or *vice versa*, and the stylized animal heads on a few iron stirrups such as the two from Farstorp in Skåne and the River Ray in England typologically dated to the first half of the 11th century may provide a background for the use of the more elaborate terminals.

To sum up, the archaeological and typological evidence points to a date for the copper-alloy fittings in the 11th century, and the forms employed show definite links to the typological development of stirrups and iron fittings characteristic of the 10th and the early 11th century.

4 The stirrups from Kvalsta correspond to a pair from Birka grave 708, Uppland (Arbman 1940, Taf. 36.2); two stirrups of unknown provenance, Närke (Örebro Läns Museum 4701); three single stirrups from Vänsta, Kolbäck parish, Västmanland (Västerås Museum 5796), Boberg, Fornåsa parish, Östergötland (Statens Historiska Museum Stockholm 11390:22), and St. Lundby, Lids parish, Södermanland in Sweden (Statens Historiska Museum Stockholm 8640:322); and a pair from Henum, Buskerud in Norway (Universitetets Oldsaksamling Oslo C.4622a-b).

5 The finds include two burials from Bryni and Finstad Søndre, Hedmark in Norway (Universitetets Oldsaksamling Oslo C.21812 and C.11323); Tuna grave III in Alsike parish, Uppland, and a burial from Svaneholm in Ås parish, Småland, Sweden (Statens Historiska Museum Stockholm 10035:3 and 9116).

STYLISTIC EVIDENCE

Apart from the archaeological and typological indications, the dating of the four groups of horse trappings relies on stylistic information. It is not possible to group all objects within one of the Viking art styles, but they doubtless belong to the late Viking Age and early Medieval Period.

The horse's heads depicted with a curling mane such as on the cheek-piece from Dueholm Mark may be grouped under the Ringerike style, even though many of the mounts are crudely executed and the stylistic traits appear rather debased (Fuglesang 1980, 133). The Ringerike style emerged in Scandinavia at the end of the 10th century and flourished in the first half of the 11th century (Fuglesang 1980, 43ff; Wilson 1995, 153ff.). Characteristic elements are the flared terminals of the mane and tail as well as the round eyes of the animals. The cheek-pieces from Leck in Schleswig as well as the almost identical fragment from Sønderholm and the pair from Lundby in Sweden are slightly different but still show Ringerike traits. The elongated eyes and fine proportions of other cheek-pieces bring them closer to the Urnes style, which emerged around the middle of the 11th century and continued in use into the 12th century (Wilson 1995, 217).

The decoration on the copper-alloy stirrups and some of the strap-mounts is linked to the late Viking-age art styles as well, although the animal and plant motifs often appear as rough sketches when compared with the more typical examples of each style. The strap-plate of the broken stirrup from Stenåsa on Öland (Fig. 11) depicts a four-legged animal within a stepped pattern-frame. The animal has been described as a debased animal of the Jelling type, whereas the tendril pattern or tail above its hind quarters in the top right-hand corner of the strap-plate points to the Ringerike style (Klindt-Jensen & Wilson 1965, 83f.). The stepped border of the strap-plate is very similar to the border of a large silver brooch from a silver hoard dated to the middle of the 11th century, uncovered at Åspinge, Hurva parish in Skåne (Holmqvist 1951, 48ff.). The four-legged animal engraved in the centre-field of the brooch is typical of the Ringerike style and far more detailed than the animal on the stirrup

(Klindt-Jensen & Wilson 1965, 105). However, the same constituent elements, the knotted front and hind legs, the curled tail and pointed snout, are evident in both animals. The combination of a stepped border and animal ornament is also found on a copper-alloy buckle from Lund dated to the first half of the 11th century (Mårtensson 1982, 162). The width of the buckle, 6.2 cm, indicates that it was fashioned for a broad strap possibly a harness strap.

The animal figures and the plant-like ornament on the other stirrups as well as the single strap-mounts from Sønderholm in northern Jutland (Fig. 21) and V. Klagstorp in Skåne (Fig. 16c) show elements that may also be associated with the Ringerike style (Fuglesang 1980, 133f.).

Torsten Capelle considered the four-legged animal in the rectangular openwork mounts (Fig. 19) to be in the Mammen style (Capelle 1968, 59). The head of the animal resembles the bird's head on the silver-inlaid axe recovered from the Mammen chamber burial, but the composition of the animal motif as such has close parallels amongst the four-legged animals of the Ringerike style. It is very similar to the animal on the openwork mount from Dingtuna (cf. Fig. 20), on which the Ringerike elements are more evident. The archaeological context for the mount from Lund suggests a date around the middle of the 11th century (Mårtensson 1982), a date which is supported by another object from Lund, a small circular brooch found in grave 17 excavated on the Thule site (Mårtensson 1963, 58ff.). The brooch depicts a bird/griffin with a head dominated by a single round eye with a dot at the centre very like the head on the mount. The grave is one of the earliest in the cemetery and has been dated to the second half of the 11th century.

Like the strap-mounts, many of the stirrup-terminals may be associated with the Scandinavian Ringerike and Urnes styles, although some of the small animal heads such as the ones from Gjøl Mark (Fig. 25b) and Lindholm Høje are stylistically uncertain (cf. Williams 1998, 1).

An elaborate flying mane formed of tendrils in the Ringerike style is found on an animal-head terminal from Gooderstone in Norfolk, and another very fine example in the British Museum is from Lincolnshire (Margeson 1997, Fig. 41.b; Williams 1998, Fig. 3). The

Danish terminal from Nørholm (Fig. 25d) is a simpler version of this type, and shows similar features, albeit more suggestive of the Urnes style.

The round eyes under curling eye brows and the corresponding bulging nostrils and flared whiskers on the terminal from Nørregård as well as the tendrils on another terminal from Nørholm (Fig. 24) may be assigned to the Ringerike style. Viewed from the side they are not unlike some of the two-dimensional animal heads on the copper-alloy cheek-pieces. The elongated eyes on the stylized animal head from Skelagervej in Ålborg, on the other hand, are definitely indicative of the Urnes style (Fig. 25c), and the terminal from Flengemarken (Fig. 25a) shows similar traits.

The evidence as a whole suggests that the copper-alloy fittings for stirrups and horse-bits belong to the 11th century, possibly with an early beginning in the very late 10th century. The presence of stylistic traits related to both the Ringerike and the Urnes styles indicates that these objects were made over some time, i.e. from the first half of the 11th century continuing into the second half of the century and possibly beyond AD 1100. At present it is difficult to be more precise about the chronological development of the types. It is to be hoped that new finds in datable contexts may provide more detailed information.

The stirrup from Vindblæs adds a new element to the decoration. The main motif on the strap-plate is a rough sketch of a single four-legged beast turned to the left (Fig. 12). It is similar to the four-legged animal turned to the right on one of the stirrups from Hammer (Fig. 10b), but a cross is clearly seen above the animal. The significance of the cross is uncertain but it may reflect an addition or change in the known motif, like that occurring in small circular openwork brooches some of which depict an animal in the Urnes style whereas others of the same shape and size incorporate an "Agnus Dei" with a cross above its back within the circular frame (Bertelsen 1991).

ORIGIN

The copper-alloy stirrups and related horse-bits have been considered to be of Anglo-Saxon origin but from areas with close contacts to Scandinavia. This interpretation was based on the typological difference be-

tween these objects and the traditional Viking-age riding gear known from burials, as well as the difference in technique and style and the choice of raw material, i.e. copper alloy rather than iron.

In his publication of the cheek-pieces from Leck, Peter Paulsen suggested that the stirrups originated in southern England and were made at the beginning of the 11th century (Paulsen 1937, 22, 34). Similarly, Holger Arbman proposed England or possibly Jutland as the place of origin (Arbman 1937, 268). Arbman based his argument on the geographical distribution and the technique of some of the copper-alloy horse-trappings which appeared foreign in a Scandinavian context. Instead of having a cast ornament, the ornament on some strap-mounts and stirrups was incised after the casting process and often seemed sketchy and crudely executed, although the contrast between rough, matt lines and polished surfaces in Arbman's opinion could have been intentional, and the niello inlay on some of the stirrups would hide a rough surface in the incised grooves. This style of ornament apparently became popular, especially for horse-trappings, at the beginning of the 11th century, and production under craftsmen in areas of Anglo-Saxon and Scandinavian contact seemed probable. To Arbman at the time, England was most likely, with Jutland as an alternative.

The copper-alloy stirrups have been compared with the very ornate set of gilt copper-alloy strap-plates from Velds in Jutland. The lightly incised decoration on the front of these plates depicts birds and floral ornaments in a style which has been linked with southern England (Brøndsted 1936, 102ff.). Holger Arbman believed the whole set of riding gear from Velds to be imported (Arbman 1937, 268ff.) but although it is true that it differs from most of the equipment in the Danish equestrian burials, there are, as mentioned above, a few related finds from Scandinavia which indicate that the objects are not all foreign. Stirrup-plates of this type do not occur in England, and the stirrup-irons are not Anglo-Saxon, but rather Scandinavian in type. On the other hand, Leslie Webster describes the ornament as an amalgam of Late Saxon acanthus and bird decoration and Scandinavian Ringerike tendrils, probably made in an Anglo-Scandinavian milieu (Webster 1984). She suggests that the strap-plates may have been made in southern England for a Scandina-

vian follower of King Cnut, or that a set of Anglo-Saxon motifs were adapted by a Danish craftsman for the Scandinavian-type stirrups. In either case, the set of stirrups and strap-mounts testifies to the close contacts between England and Scandinavia and not least the possibility of cultural influence as reflected in ornaments and objects passing both ways.

Märta Strömberg pointed to a link between Scandinavia and England for the copper-alloy cheek-pieces (Strömberg 1961 I, 145), and similarly the nature of the Ringerike ornament on cheek-pieces, strap-fittings and stirrups suggested to Signe Horn Fuglesang the possibility of these objects representing an innovation in Scandinavia based on Anglo-Saxon prototypes (Fuglesang 1980, 135). However, the semi-circular hoop of the stirrups is not without parallels in Scandinavia; on the contrary, the basic shape of the stirrups corresponds better to the Scandinavian typological development than to the stirrup-types found in England (cf. Seaby & Woodfield 1980; cf. Pedersen 1997a). The present distribution of the copper-alloy stirrups strengthens the argument in favour of Scandinavia, most likely Denmark, and it is very probable that cheek-pieces and strap-mounts were fashioned in this country as well.

Strap-mounts and stirrup-terminals have now been identified in museums and are beginning to appear on the so-called metal-detector sites along with the cheek-pieces, indicating that these objects were much more common than the old finds lead us to believe. Many of the cast stirrup-strap-mounts were probably made in England. But the similarity between certain types and the strap-plates on the copper-alloy stirrups suggests a Scandinavian origin for at least some of them. The rhombic openwork mounts may have been produced in Denmark, and there are as yet no direct counterparts in England for the three openwork mounts from Haithabu, Gedsted and Lund depicting a four-legged animal. The closest parallel is an openwork mount found near Kemsing in Kent, England, which David Williams considers to be a debased copy of the design on the Danish mounts (Williams 1997a, no. 472). The apertures are arranged identically, but details of the original motif have not been transferred.

The present distribution in Denmark of the four groups of horse-trappings shows a predominance in the area from northern Jutland across Zealand and

Skåne towards Bornholm, an area where we may expect evidence of strong influence from Anglo-Saxon England. Whether this is a true picture of the area in which horse-gear with copper-alloy mounts was in actual use in the 11th century or rather a result of different factors such as the local conditions for the preservation of copper-alloy objects and, a possibly much more relevant factor, the involvement of enthusiastic amateur archaeologists and metal-detector users working in close co-operation with the local museums, is still uncertain. Preliminary inquiries to museums in southern Denmark i.e. Den Antikvariske Samling in Ribe, Langelands Museum Rudkøbing and Svendborg og Omegns Museum, have not revealed new finds, which would seem to confirm that the distribution of these objects in Denmark may reflect regional differences in cultural orientation and influence irrespective of the definite bias caused by the varying intensity of metal-detector use across the country. A detailed survey of the related copper-alloy strap-links and cross-shaped mounts may reveal more information on the geographical distribution and use of these objects.

CONCLUSION

Copper-alloy horse-trappings form a much larger group of objects in Denmark of the Late Viking Age and Early Middle Ages than hitherto supposed, the limited number in part reflecting find circumstances in the past two centuries but also the changing burial customs of the late Viking Age and the resulting lack of secure grave finds containing horse gear. Most of the horse trappings from Denmark are single finds, and the recent addition to types and numbers is, as noted, mainly a result of intensified detector scanning on settlement sites.

Typological and stylistic evidence from the finds indicates a development of riding gear in the early 11th century in which copper-alloy details were used to decorate objects made of iron, thus replacing the silver and copper inlay used in the previous century. The new types of horse-fittings have been linked to influence from Anglo-Saxon objects and art in Scandinavia, although as the evidence of Scandinavian tradition in the use of Ringerike and Urnes style elements shows, this was not one-way influence. At least some

of the objects that have been seen as products of Anglo-Saxon workmanship may equally well have been made in Scandinavia.

Other objects testify to the close contacts between Viking-age Denmark and Anglo-Saxon England during the reign of King Cnut the Great. Coins are an obvious group. Not only do we find many Anglo-Saxon coins in Scandinavia, but Anglo-Saxon moneyers were employed by the Danish king, a number of them working in Lund. The decorated lid of a pen case, a well-known object from Lund, is often cited in this context. The ornament depicts elements typical of the Winchester style influenced by the Ringerike style, and the inscription on the lid has been interpreted as *Leofwine*, the name of a known moneyer from England working in Lund (Cinthio 1990, 49).

One of the most magnificent objects from the early 11th century representing the wealth and status of its owner is a sword with silver-gilt guards decorated with birds and snakes in high relief found at Dybäck in Skåne (Strömberg 1961 II, Taf. 65.2). The style of the decoration is mainly Anglo-Saxon in character with close parallels within the Winchester style, whereas the scabbard mount is a foreign element originating in Scandinavia. A silver-gilt sword pommel decorated with niello from Vrångabäck, also in Skåne, is very like the Dybäck sword but not identical (Strömberg 1961 II, Taf. 65.1). Whether these swords were made in southern Scandinavia under strong English influence or possibly in England and brought to Scandinavia has not been determined. However, they leave no doubt of Anglo-Saxon artistic trends present in Scandinavia (cf. Graham-Campbell 1980, No. 250; Webster 1984, No. 96).

Further evidence of close contacts may be found amongst small everyday ornaments, such as simple hooked tags of sheet copper alloy. Hooked tags have been excavated in 11th century contexts in England, and almost identical tags have appeared in Lejre and in Lund, here not only as finished products but also as semi-fabricata. Similar objects were thus fashioned and used on both sides of the North Sea.

Heavy iron stirrups were a technical innovation in the Viking Age providing support for the mounted warrior, and it has been suggested that the horse-bits with sharply profiled mouth-pieces were used for well-

trained horses and thus also formed an important part of the mounted warrior's gear. The adaptation of this equipment in Denmark is to a large extent due to contact with the Carolingian and later Ottonian empires, where effective use of cavalry evolved as a response to intruders from the East. Born of military requirements, the horse and riding gear acquired a symbolic value similar to that of weapons, and elements of what was later to characterize medieval knighthood, including the importance attached to horsemanship, were already evolving in the 9th and 10th centuries (cf. Leyser 1994). Knowledge of rituals and ceremonies related to horsemanship was very likely transmitted to Denmark together with the actual objects, thus influencing values in this country. To judge from the equestrian burials of the 10th century, horse-gear including a saddle with decorated stirrups and matching bit held definite symbolic meaning apart from its obvious practical function and was placed alongside weapons in the grave to emphasize the standing of the deceased and his family.

It is possible that the iron and copper-alloy trappings of the 11th century should be viewed in a similar context, i.e. that they too were objects intended for practical use at the same time as visually communicating the standing of the owner. On the other hand, the fact that many of the details seem poorly executed and the large numbers recorded from England suggest that, although of some value, these trappings did not necessarily belong to the social elite.

Recent studies indicate that the innovation and improvement in Anglo-Saxon riding equipment from the 10th and 11th century was largely influenced from Denmark (Graham-Campbell 1992). The overall distribution pattern of the copper-alloy horse-trappings combined with the many other examples of mutual contact support this view and suggest an Anglo-Scandinavian milieu in the 11th century across which similar objects and similar art styles were in use. The increasing number of small, surprisingly alike everyday objects turning up not only in England but also in Denmark thus provide a material background for the contact evident in the political development of this period, beginning with Svein Forkbeard and his son Cnut the Great.

Acknowledgements

I am grateful to many colleagues and institutions for information on objects and collections: Museet for Thy og Vester Hanherred, Vendsyssel Historiske Museum, Holstebro Museum, Den antikvariske Samling, Odense Bys Museer, Langelands Museum Rudkøbing, Svendborg & Omegns Museum, Bornholms Museum, Museet Færgegaarden, Lund Universitets Historiska Museum and Kulturen in Lund. Mag.art. Peter Birkedahl, Nibe has kindly supplied information on the finds from Sebbersund, and curator Svend Åge Tornbjerg, Køge Museum drew my attention to local legends concerning Strøby on Stevns. Information about the find circumstances for Årsunda grave III was kindly supplied by Kerstin Engdahl, Statens Historiska Museum, Stockholm, and I wish to thank David Williams, Reigate for valuable assistance in identifying some of the more obscure pieces and for permission to use drawings from his recent book on the Late Saxon stirrup-strap-mounts (1997).

English revision: Dr. John Hines, Cardiff.

Anne Pedersen,
National Museum, Danish Collections
Frederiksholms Kanal 12,
DK - 1220 Copenhagen K,
E-mail: Anne.Pedersen@natmus.dk

The find lists 1-4 for Denmark, Schleswig and Skåne are mainly based on published finds and information in the archives of the National Museum in Copenhagen, *inter alia* the treasure trove (*Danefæ*) records.

Find list 5 is the result of a preliminary survey and does not claim to be complete. New finds of cheek-pieces are coming to light, especially in England as a result of metal-detecting (cf. Graham-Campbell 1992, 84ff.; personal communication D. Williams), and museum collections may contain further unpublished examples.

Find list 6 covers published copper alloy stirrups from Sweden, Iceland and England. Signe Horn Fuglesang has not included any examples from Norway in her survey from 1980 (Fuglesang 1980, Appendix 5), and a recent check by the author in the database of Universitetets Oldsaksamling in Oslo did not reveal any finds.

Find list 1: Cheek-pieces

1. Unknown provenance, Denmark. National Museum D46. Fragment of cheek-piece, copper alloy; L 5.2 cm. Single find. Fuglesang 1980, pl. 79.B; Pedersen 1998, Fig. 3.2.
2. Græse, Græse parish, Frederiksborg county, Denmark. Færgegaarden MFG 41/91. Fragment of cheek-piece; L c. 6.5 cm. Single find. Unpublished.
3. St. Myregård, Nylarsker parish, Bornholm county, Denmark. Bornholms Museum BMR 1478x7. Fragment of cheek-piece, copper alloy; L 5.7 cm. Single find. Unpublished.
4. Gudme/Uhrenholtgård, Gudme parish, Svendborg county, Denmark. Odense Bys Museer FSM 7529x15. Fragment of cheek-piece, copper alloy; L 5 cm. Single find; trial excavation. Unpublished.
5. Tinggård, Sjørring parish, Thisted county, Denmark. Museet for Thy og Vester Hanherred 3471x746. Fragment of cheek-piece, copper alloy. Single find from settlement site; archaeological excavation. Unpublished.
6. Dueholm Mark, Nykøbing parish, Mors, Thisted county, Denmark. National Museum C23648. Fragment of cheek-piece, copper alloy; L 6.8 cm x W 7.7. The mount was found near the fragment of a sword, both objects near the remains of a burial mound; ? burial find. Fuglesang 1980; Pedersen 1998, Fig. 3.1.
7. Nørholm Skole, Nørholm parish, Ålborg county, Denmark. National Museum C32941. Fragment of cheek-piece, copper alloy; L 4.4 cm. Single find, metal detector. Pedersen 1998, Fig. 3.3.
8. Sønderholm, Sønderholm parish, Ålborg county, Denmark. National Museum D418/1990. Fragment of cheek-piece, copper alloy; L 4.9 cm. Single find, metal detector. Pedersen 1998, Fig. 3.5.
9. Sebbersund, Sebbes parish, Ålborg county, Denmark. National Museum C31559. Fragment of cheek-piece, copper alloy; L 5.2 cm. Single find, settlement site. Pedersen 1998, Fig. 3.4.
10. Bøgeskov Strand, Vejlbj by parish, Vejle county, Denmark. National Museum D473/1994. Cheek-piece, copper alloy; L 9.7 cm. Single find from slope near beach. *AUD* 1994, 252; Pedersen 1998, fig. 2.
11. Leck, Kr. Nordfriesland, Schleswig, Germany. Archäologisches Landesmuseum der Christian-Albrechts-Universität Schleswig K.S. 14658 a-c. Two cheek-pieces and one strap-mount, copper alloy; cheek-piece (a) L 7.9 cm x W 7.9 cm, cheek-piece (b) L 8.2 cm x W 7.9 cm. Single finds from a bog near Leck Au between Leck and Kokkedal. Paulsen 1937; Müller-Wille 1977.
12. Gårarp church ruin, Tosterup parish, Skåne, Sweden. Lunds Historiska Museum 28674. Fragment of cheek-piece, copper alloy; L 5.7 cm. Single find. Strömberg 1961 II, 31; Taf. 67.9.

Find list 2: Copper-alloy stirrups

1. Unknown provenance, Denmark. National Museum, no reg.no. Stirrup with narrow rectangular strap-plate. Single find. Unpublished.
2. Uncertain provenance, Denmark; possibly Strøby, Stevns. Private possession 1904, not located; National Museum j.nr. 286/04 (drawing by Magn. Petersen). Stirrup; trapezoid strap-plate, single animal with snake-like hindquarters; L 15.5 cm. Single find, purchased at an auction. Boberg 1931 *passim*.
3. Bavelse Mark, Bavelse parish, Præstø county, Denmark. National Museum 13308. Stirrup with strap-plate ending

- in a fleur-de-lis top ornament, two animals on plate; L 17.7 cm. Single find. Worsaae 1859, no. 481.
4. Trollegab Mose, Hassing parish, Thisted county, Denmark. National Museum 10849. Stirrup; L 14.0 cm. Single find from a bog. Unpublished.
 5. Hammer, Hammer parish, Ålborg county, Denmark. Private possession 1877, not located; National Museum drawing no. 2214a (Mejborg 1877). Stirrup with strap-plate; top ornament of two animal heads on long necks, two animal heads and interlace on plate; L c. 16 cm. Single find from a bog. Müller 1895, nr. 588.
 6. Hammer, Hammer parish, Ålborg county, Denmark. Private possession 1877, not located; National Museum drawing no. 2214b (Mejborg 1877). Stirrup with strap-plate ending in a fleur-de-lis top ornament, single four-legged animal on plate; L c. 17 cm. Single find from a bog. Unpublished.
 7. Vindblæs Hede, Vindblæs parish, Ålborg county, Denmark. National Museum D12704. Stirrup; single four-legged animal with a cross over its neck on plate; L 14.1 cm. Single find, found close to an old trackway Nibe-Vitskøl. Unpublished.
 9. Sebbersund, Sebberr parish, Ålborg county, Denmark. Ålborg historiske Museum 2863x4210. Rhombic, openwork mount, William's Class A, type 12; H 5.2 cm. Single find from the bottom of sunken hut A 635, archaeological excavation. Birkedahl & Johansen (in print).
 10. Gedsted, Gedsted parish, Viborg county, Denmark. National Museum 7032. Rectangular openwork mount, single animal, William's Class B, no type; H 4.5 cm, W 4.2 cm. Single find. Roes 1958, pl. XVII.2; Williams 1997a.
 11. Haithabu, Schleswig, Germany. Archäologisches Landesmuseum LMS Hb 1931. Rectangular openwork mount, single animal, William's Class B, no type; H 4.2 cm, W 4.4 cm. Single find from settlement site. Capelle 1968, Taf. 14.5; Williams 1997a.
 12. Hjälmård 9:30, Vitaby parish, Skåne, Sweden. Statens Historiska Museum Stockholm, not located. Rhombic openwork mount, William's Class A, type 12; H 5.1 cm. Single find, late Viking-age settlement site. Strömberg 1961 II, Pl. 72.3; Williams 1997a.
 13. V. Klagstorp 7, V. Klagstorp parish, Skåne, Sweden. Private ownership. Rectangular mount with top ornament, worn surface, William's Class A, no type; H 5.8 cm. Single find. Strömberg 1961 II, Pl. 67.2; Williams 1997a.
 14. Lund, Kv. Färgaren 38, Skåne, Sweden. Kulturhistoriska Museet i Lund 71.075:689. Rectangular openwork mount, single animal, William's Class B, no type; L 4.6 cm. Single find from a pit, archaeological excavation. Dendrochronological dates 1060-70. Mårtensson 1982, Fig. 4; Williams 1997a.

Find list 3: Strap-mounts

1. Græse, Græse parish, Frederiksborg county, Denmark. National Museum C32653. Triangular mount, William's Class A, possibly type 11; H 4.6 cm, W 2.5 cm. Single find, metal detector. Williams 1997a.
2. Ellehalen/Gl. Køgegård, Køge parish, Copenhagen county, Denmark. National Museum D348/1994. Trapezoid mount with stylized animal heads, William's class B, type 1; H 3.7 cm. Single find, metal detector. Matthiesen 1994; *AUD* 1994, 245f.
3. Flengemarken, Roskilde Cathedral parish, Copenhagen county, Denmark. National Museum C30902. Mount with mask, William's Class B, type 4; H 4.4 cm, W 3.0 cm. Single find, metal detector. Unpublished.
4. Langetofte, Boeslunde parish, Sorø county, Denmark. National Museum C32676. Triangular mount, William's Class A, no type; H 4.3 cm, W 3.0 cm. Single find, metal detector. Williams 1997a.
5. Hjulmagergård, Åker parish, Bornholms county, Denmark. National Museum D119/1997. Rhombic, openwork mount, broken at the top and bent slightly out of shape, William's Class A, type 12; H 3.9 cm, max. W 3.1 cm. Single find, metal detector. Unpublished.
6. Postgården, Sønder-Tranders parish, Ålborg county, Denmark. National Museum C33414. Rhombic, openwork mount, William's Class A, type 12; H 4.4 cm, W 3.5 cm. Single find, metal detector. Williams 1997a.
7. Bejsebakken, Hasserris parish, Ålborg county, Denmark. Ålborg historiske Museum 961. Rhombic, openwork mount, William's Class A, type 12. Single find. Unpublished.
8. Sønderholm parish, Ålborg county, Denmark. National Museum D4929. Strap-mount William's Class C, no type; H 6.5 cm. Single find. Fuglesang 1980, pl. 79.B; Williams 1997a.

Find list 4: Stirrup-terminals

1. Flengemarken, Roskilde Cathedral parish, Copenhagen county, Denmark. National Museum C30904. Short terminal with eyes and snout marked by simple lines; L 3.4 cm. Single find; metal detector. Unpublished.
2. Baggård, Klemensker parish, Bornholms county, Denmark. National Museum C31786. Short terminal, broken snout and corroded surface, features marked by simple lines; L 2.7 cm. Single find; metal detector. Unpublished.
3. Stentinget, Hellevad parish, Hjørring county, Denmark. National Museum C31438 STT91 (Vendsyssel historiske museum 80/1989x171). Short terminal, upturned snout, eyes faintly marked; L 1.9 cm. Single find; metal detector. Unpublished.
4. Gjøll mark, Gjøll parish, Hjørring county, Denmark. National Museum D321/1993. Short terminal, cast features, open mouth; L 3.1 cm. Single find; metal detector. *AUD* 1993, 239.
5. South of Skelagervej, Hasserris parish, Ålborg county, Denmark. National Museum D37/1987. Long slender terminal, animal head with elongated eyes, pointed snout; L 4.2 cm. Single find; metal detector. *AUD* 1987, 214.
6. Nørholm, Nørholm parish, Ålborg county, Denmark. National Museum D514/1993. Fragment of terminal, snout end; L 1.4 cm. Single find; metal detector. Unpublished.
7. Nørholm, Nørholm parish, Ålborg county, Denmark. National Museum D48/1998. Terminal with head curled back-

- wards to form a circle; L 3.4 cm. Single find; metal detector. Unpublished.
8. Nørholm, Nørholm parish, Ålborg county, Denmark. National Museum D282/1998. Long slender terminal, animal head with bulging eyebrows; traces of iron; L 5.4 cm. Single find; metal detector. Unpublished.
 9. North of Lindholm Høje, Nørresundby parish, Ålborg county, Denmark. National Museum D298/1989. Slender terminal, animal head with bulging eyes and pointed snout; L 2.5 cm. Single find; metal detector. Unpublished.
 10. Sebbersund, Sebbur parish, Ålborg county, Denmark. Ålborg historiske Museum 2863x01712. Slender terminal with indistinct features; L 3.6 cm. Unpublished.
 11. Nørregård, Nr. Felding parish, Ringkøbing county, Denmark. National Museum D1179/1995. Long terminal, animal head with bulging eyes and square snout; L 4.1 cm. Single find; metal detector. *AUD* 1995, 256.
 12. Nr. Felding church, Nr. Felding parish, Ringkøbing county, Denmark. National Museum D53/1997. Fragment of short terminal, top end appears to be broken; L 2.7 cm. Single find; metal detector. Unpublished.

Find list 5: Cheek-pieces from Sweden, Norway and England:

1. Unknown provenance, Sweden. Statens Historiska Museum Stockholm SHM 29163. Broken horse-bit, one cheek-piece of iron and one bit-link preserved.
2. Gullbrandstorp 1:24, Harplinge parish, Halland, Sweden. Fragment of cheek-piece, copper alloy; single find. Lundborg 1970.
3. Svanhem, Edsvåra parish, Västergötland, Sweden. Västerås Museum. Ced. 15-16. Cheek-piece, copper alloy, with iron bit; ? burial find, apparently found near the skeleton of a horse. Wideen 1955, 70; Fig. 123.
4. N. Åsarp, Västergötland, Sweden. Borås Museum 4316. Fragment of cheek-piece, copper alloy; single find. Wideen 1955, 69; Fig. 37.F.
5. Lundby, Fors parish, Södermanland, Sweden. Statens Historiska Museum Stockholm SHM 13703. Horse-bit with copper-alloy cheek-pieces; cremation burial containing a pair of copper-alloy stirrups, a pair of spurs, a spearhead and a knife. Tillväxten under år 1909, *Fornvännen* 4, 1909 [245-247].
6. Byringe, Husby-Rekarne parish, Södermanland, Sweden. Statens Historiska Museum Stockholm SHM 14207. Cheek-piece, copper alloy. Paulsen 1937, 28.
7. Ångsby, Lena, Uppland, Sweden. Uppsala Museum UMF 4573. Intact cheek-piece, copper alloy. Graham-Campbell 1992, Fig. 6.
8. Tuna grave III, Alsike parish, Uppland, Sweden. Statens Historiska Museum Stockholm SHM 10289. Horse-bit with iron cheek-pieces; boat burial with *inter alia* stirrups, spurs, spearhead, iron bit and harness mount. Arne 1934, Taf. VI.
9. Göksbo, Altuna, Uppland, Sweden. Statens Historiska Museum Stockholm SHM 18122. Bridle with iron cheek-pieces; burial find from a mound with an axe J. Petersen type

- M and a spearhead with silver inlay. Tillväxten under år 1926, *KVHAA Årsbok* 1927; Paulsen 1937, Abb. 17.
10. Öland, Sweden. Lunds Historiska Museum LUHM 14137. Cheek-piece, copper alloy. Paulsen 1937, 28.
 11. Årsunda grave III, Gästrikland, Sweden. Statens Historiska Museum Stockholm SHM 17408. Complete horse-bit with copper-alloy cheek-pieces (one broken); burial find. Tillväxten under år 1924, *Fornvännen* 19, 1924.
 12. Vestby, Sörum, Akershus, Norway. Universitetets Oldsaksamling Oslo C2748. Complete horse-bit with copper-alloy cheek-pieces; burial find including a spearhead, knife and copper-alloy buckle. Rygh 1885, 568; Petersen 1951, 16.
 13. Cambridgeshire, England. University Museum of Archaeology and Ethnology Cambridge, Aug. 6. 1914. Fragment of cheek-piece, copper alloy. Bjørn & Shetelig 1940, Fig. 40.
 14. Stoke Holy Cross, Norfolk, England. Fragment of cheek-piece, copper alloy. Graham-Campbell 1992, Fig. 5.
 15. St. Martin-at-Palace Plain, Norwich, England. Fragment of cheek-piece, copper alloy. Margeson 1987, Fig. 39.
 16. Near Tandridge village, Surrey, England. Cheek-piece, copper alloy. Williams 1997b, Fig. 1.A.
 17. Henhaw Farm, South Nutfield, Surrey, England. Fragment of cheek-piece, copper alloy. Williams 1997b, Fig. 1.B.

Find list 6: Copper-alloy stirrups from Sweden, Iceland and England:

1. Stenåsa, Öland, Sweden. Statens Historiska Museum Stockholm SHM 1851:27. Stirrup with rectangular plate, single animal. Single find.
2. Lundby, Fors, Södermanland, Sweden. Statens Historiska Museum Stockholm SHM 13703. Two stirrups with openwork plate; sub-foliate ornament. Cremation burial. *Fornvännen* 1909 [245-247].
3. Skagershult, Porla Brunn, Närke, Sweden. Statens Historiska Museum Stockholm SHM 9170:1231. Single find.
4. Merkihvoll, Landsveit, Iceland. Reykjavík 332. Stirrup with rectangular plate, two animals. Single find from farm site, 1866. *Eldjárn* 1956, Fig. 189.
5. Viðafell, Reykjadalur, Iceland. Reykjavík 381. Stirrup with "rounded" plate, two animals. Single find c. 1867. *Eldjárn* 1956, Fig. 190.
6. Klóarfjall, Árnessýsla, Iceland. Reykjavík 3170. Stirrup with "rounded" plate. Single find c. 1888. *Eldjárn* 1956, Fig. 191.
7. Romsey, Mottisfont, Hampshire, England. Private possession 1887, not located. Stirrup with trapezoid plate, two animals. Single find from a bog. Read 1887; Seaby & Woodfield 1980, no. 9.

LITERATURE:

- Arbman, H. 1937: Vikingatidsgravar vid Ulunda vad. *Upplands Fornminnesförenings Tidskrift* XLV, 1935-1937 (1937), pp. 261-275.
 - 1940-43: *Birka I. Die Gräber*, Bd. 1 Text (1943), Bd. 2 Tafeln

- (1940). Stockholm.
- Arne, T.J. 1934: *Das Bootgräberfeld von Tuna in Alsike. Uppland*. Stockholm.
- AUD = *Arkæologiske Udgravninger i Danmark*. København.
- Bergman, K. & I. Billberg 1976: Håstutrustning. In A.W. Mårtensson (ed.), *Uppgrävt förflutet för Pkbanken i Lund*. *Archaeologica Lundensia* VII. Lund, pp. 229-231.
- Bertelsen, L. Gjedssø 1992: Præsentation af Ålborg-gruppen, en gruppe dyrefibler uden dyreslyng. *Aarbøger for nordisk Oldkyndighed og Historie* 1991 (1992), pp. 237-264.
- Birkedahl, P. & E. Johansen (in print): Den østlige Limfjord i germansk jernalder og vikingetid - intern struktur og eksterne forbindelser. *Acta Archaeologica*.
- Bjørn, A. & H. Shetelig 1940: *Viking Antiquities in Great Britain and Ireland Part IV. Viking antiquities in England with a Supplement of Viking Antiquities on the Continent of Western Europe*. Oslo.
- Boberg, I.M. 1931: Stevns Gravhøje i Sagnoverleveringen. *Danske Studier* 1.2. Hæfte, 1931.
- Braathen, H. 1989: *Ryttergravar. Politiske strukturer i eldre rikssamlingstid*. Varia 19. Oslo.
- Brøndsted, J. 1936: Danish inhumation graves of the Viking Age. *Acta Archaeologica* VII 1936, pp. 81-228.
- Capelle, T. 1968: *Die Metallschmuck von Haithabu. Studien zur wikingischen Metallkunst*. Die Ausgrabungen in Haithabu Band 5. Neumünster.
- Cinthio, M. 1990: Myntverk och myntare i Lund. *Kulturen 1990. Lund 1000 års krönika*, pp. 48-53.
- Das Reich der Salier (1024-1125)*. *Katalog zur Ausstellung des Landes Rheinland-Pfalz*. Sigmaringen 1992.
- Eldjárn, K. 1956: *Kuml og haugfé úr heidnum síð á Íslandi*. Akureyri.
- Forsåker, A.-L. 1986: Zaumzeug, Reiterrausrüstung und Beschirrung. In G. Arwidsson (ed.), *Birka II:2 Systematische analysen der Gräberfunde*. Stockholm, pp. 113-136.
- Fuglesang, S. Horn 1980: *Some Aspects of the Ringerike Style. A phase of 11th century Scandinavian art*. *Mediaeval Scandinavia Supplements*. Vol. 1. Odense.
- Graham-Campbell, J. 1992: Anglo-Scandinavian Equestrian Equipment in Eleventh-Century England. *Anglo-Norman Studies XIV. Proceedings of the Battle Conference, 1991* (1992), pp. 77-89.
- Holmqvist, W. 1951: Viking Art in the Eleventh Century. *Acta Archaeologica* XXII, 1951, pp. 1-56.
- Klindt-Jensen, O. & D.M. Wilson 1965: *Vikingetidens kunst*. København.
- Leyser, K. 1994: Early Medieval Canon Law and the Beginnings of Knighthood. In T. Reuter (ed.), *Communication and Power in Medieval Europe. The Carolingian and Ottonian Centuries*. London/Rio Grande, pp. 51-71.
- Lundborg, L. 1970: Aktuellt om Antikvariskt. Gullbrands-
torp, Halland. *Ale* 1970/3, pp. 49-50.
- Margeson, S. 1997: *The Vikings in Norfolk*. Norwich.
- Matthiesen, J. 1994: Historien om et fund. *Detektor Nyt* 3. årg., 1994/9, pp. 8-9.
- Müller, S. 1895: *Ordning af Danmarks Oldsager. II. Jernalderen*. København 1888-1895.
- Müller-Wille, M. 1976: *Das Boothammergrab von Haithabu*. Berichte über die Ausgrabungen in Haithabu 8. Neumünster.
- 1977: Krieger und Reiter im Spiegel früh- und hochmittelalterlicher Funde Schleswig-Holsteins. *Offa* 34, 1977, pp. 40-74.
- Mårtensson, A.W. 1963: Gravar kring stavkyrkan. In R. Blomqvist & A.W. Mårtensson (eds.), *Thulegravningen 1961. En berättelse om vad grävningarna för Thulehuset i Lund avslöjade*. Lund, pp. 43-66.
- 1982: Några söljor och beslag i Lund från sen vikingetid. *Kulturen* 1982, pp. 160-168.
- Nielsen, J. 1991: Vikinger til hest. *MIV* 16, 1991, pp. 55-60.
- Nielsen, L.C. 1991: Hedenskab og kristendom. Religions-skiftet afspejlet i vikingetidens grave. In P. Mortensen & B. Rasmussen (eds.), *Fra Stamme til Stat i Danmark 2. Høvdingesamfund og Kongemagt*. Jysk Arkæologisk Selskabs Skrifter 22:2. Højbjerg, pp. 245-267.
- Paulsen, P. 1937: *Der Wikingerfund von Leckhus und seine Bedeutung für die nordwest-europäische Frühgeschichtsforschung*. Beiträge zur Heimatforschung Heft 1. Kiel.
- Pedersen, A. 1997a: Weapons and riding gear in burials - evidence of military and social rank in 10th century Denmark ? In A. Nørgård Jørgensen & B.L. Clausen (eds.), *Military Aspects of Scandinavian Society in a European perspective, AD 1-1300*. Publications from the National Museum. Studies in Archaeology & History Vol. 2. Copenhagen, pp. 123-135.
- 1997b: Søllestet - nye oplysninger om et velkendt fund. *Aarbøger for nordisk Oldkyndighed og Historie* 1996 (1997), pp. 37-111.
- 1998: Bidselbeslag fra Bøgeskov Strand. *Kuml* 1997-98 (1998), pp. 185-195.
- Petersen, J. 1919: *De norske vikingesverd. En typologisk-kronologisk studie over vikingetidens vaaben*. Videnskapselskabet Skrifter. II. Hist.-Filos. Klasse 1919, No. 1. Kristiania.
- 1951: *Vikingetidens redskaber*. Skrifter utgitt av Det Norske Videnskaps-Akademi i Oslo II. Hist.-Filos. Klasse 1951. No. 4. Oslo.
- Read, C.H. 1887: On an iron sword of Scandinavian type found in London, now in the British Museum; and a bronze stirrup of the same period found near Romsey, in Hampshire, in the possession of Philip B. Davis Cook, Esq. *Archaeologia* L, 1887, pp. 530-533.
- Roes, A. 1958: A strap-end in the Yorkshire Museum and its continental counterparts. *The Antiquaries Journal* XXXVI-II, 1958, pp. 94-96, Pl. XVII.

- Rygh, O. 1885: *Norske Oldsager ordnede og forklarede*. Christiania.
- Seaby, W.A. 1950: Late Dark Age Finds from the Cherwell and Ray, 1876-86. *Oxoniensia* XV, 1950.
- Seaby, W.A. & P. Woodfield 1980: Viking stirrups from England and their background. *Medieval Archaeology* 24, 1980, pp. 87-122.
- Simonsson, H. 1969: Ett senvikingatida gravfält från Västmanland. *Fornvännen* 64, 1969, pp. 69-89.
- Strömberg, M. 1961: *Untersuchungen zur jüngeren Eisenzeit in Schonen*. I Textband, II Katalog und Tafeln. Acta Archaeologica Lundensia. Series in 4°. No. 4. Bonn.
- Vikingarna*. Malmö 1989 (exhibition catalogue).
- Thorvildsen, K. 1957: *Ladby-Skibet*. Nordiske Fortidsminder VI. Bind, 1. Hefte. København.
- Tillväxten under år 1909, *Fornvännen* 4, 1909.
- Tillväxten under år 1924, *Fornvännen* 19, 1924.
- Tillväxten under år 1926, *KVHAA Årsbok* 1927.
- Wamers, E. 1994: König im Grenzland. Neue Analyse des Bootkammergrabes von Haithabu. *Acta Archaeologica* 65, 1994, pp. 1-56.
- Webster, L. 1984: No. 96. Sword; No. 98. Stirrup-plates. In J. Backhouse, D.H. Turner & L. Webster (eds.), *The golden Age of Anglo-Saxon Art 966-1066*. London, pp. 104-105.
- Westin, G. 1941: En västmanländsk ryttargrav. *Fornvännen* 36, 1941, pp. 85-101.
- Wideen, H. 1955: *Västsvenska Vikingatidsstudier. Arkeologiska källor til Vänerområdets kulturhistoria under yngre järnålder och äldsta medeltid*. Skrifter utgivna av Göteborgs Arkeologiska Museum 2. Göteborg.
- Williams, D. 1997a: *Late Saxon stirrup-strap-mounts. A classification and catalogue*. CBA Research Report 111. York.
- 1997b: Two Anglo-Scandinavian harness cheek-pieces from Tandridge and Nutfield. *Surrey Archaeological Collections* 84, 1997, pp. 192-193.
- 1998: *Stirrup Terminals*. Finds Research Group 700-1700. Datasheet 24. Stock-on-Trent.
- Wilson, D.M. 1995: *Vikingatidens Konst*. Signums svenska konsthistoria. Lund.
- Worsaae, J.J.A. 1859: *Nordiske Oldsager i Det Kongelige Museum i Kjöbenhavn*. København.