Men-at-Arms

OSPREY PUBLISHING

Medieval Scandinavian Armies (2)

1300-1500

D Lindholm and D Nicolle • Illustrated by Angus McBride

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Series editor Martin Windrow

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OPPOSITE **The incised** effigial **slab of the Swedish knight Nils Jonsson dates from between 1316 and 1319. Although he has full military equipment including a coat-of-plates (note rivet heads and vertical lines on his surcoat), his armour and weapons are distinctly old-fashioned by contemporary German or even Danish standards. His mail coif is thrown back onto his shoulders; his mail hauberk has integral mittens, here thrown back at the wrist; and his mail chausses have mail flaps which only protect the tops of his feet. His broadsword has a distinctive pommel which almost seems to hark back to Viking swords of the 11th** century, **if not earlier. *(in situ* church of St Maria, Sigtuna, east-central Sweden)**

MEDIEVAL SCANDINAVIAN ARMIES (2) 1300-1500

THE POLITICAL BACKGROUND

DURING THE 14TH CENTURY Scandinavia developed rapidly in virtually all areas of economic, social, cultural and political life. Towns sprang up that were much more than the previously existing small hamlets. Cathedrals were built and great stone castles were constructed, while the kings began to try to consolidate their power. At the same time military technology advanced and trade flourished. As a result a once rather remote region became a fully participating member of the mercantile, financial and political webs of western Europe.

However, as in continental Europe, this was not a time of peace. To the natural scourge of the pandemic plague known as the Black Death were added wars and political strife. The latter was generally connected with efforts by the monarchies to curb the influence of the nobilities, especially of the older families whose power was strengthened by their holding large landed estates. Such powerful families were in many ways independent of the crown, and were often ready to resist increases in royal power at any cost. Here it should be noted that Scandinavian rulers themselves often held relatively little land as their own direct estates.

This struggle, which had been going on since the emergence of medieval kingship in the 11th century, came to a head in the 14th century when the kings of Denmark, Sweden and Norway began to ennoble supporters who did not hold large tracts of land; they also nominated them for official positions which could only be filled by men of noble rank. This process slowly but steadily eroded the influence of the old aristocracy, replacing them with people more dependent upon the king's goodwill. These 'new men' were the first members of a new nobility which would prove vital for the development of Scandinavian kingship during the next two centuries.

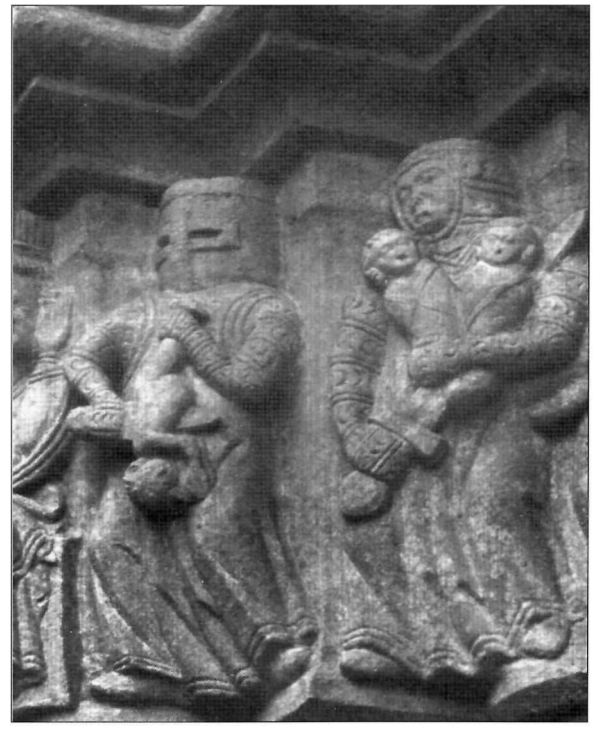
The 14th century

In Scandinavia the 14th century was marked by several on-going conflicts. One of the most enduring was that which flared up every now and then between Denmark and the northern provinces or minor states of Germany. There was also a conflict between the supporters of different pretenders to the throne of Sweden, who were also supported by, among others, relatives and friends in Denmark and the Hanseatic League.

In 1327 the Swedish King Magnus Eriksson drew up his famous Sodermanland Law for the southern parts of the kingdom (including references to the military duties of militias, etc.). In 1361 the Danish King Valdemar Atterdag retook Skane from Sweden and then went on to attack Gotland. This was a wealthy trading island and a free

province with nominal ties to the Swedish throne; however, Sweden responded very half-heartedly to the invasion, and Valdemar conquered the island. Thereafter Gotland would remain an important pawn in the wars of the 15th century.

The end of the 14th century saw the creation of what was to become a union of all the Scandinavian countries under one crown. Unfortunately, the fact that the king was to be Danish was not at all popular in Sweden, and soon led to both mistrust and warfare. This Union of Kalmar was the creation of Queen Margareta of Denmark, a remarkably strong and capable woman who, in an age when women had little political influence, managed to forge three different countries into a union - albeit an unstable one. The idea for this union is preserved in a letter written in Kalmar after the coronation of King Erik in 1397. Sweden had a larger number of older and independent noble families who could trace their ancestors back to the Viking Age, as well as a large number of new nobility created in the early 14th century. Neither group was particularly trusted by the new king, and consequently many castles and official posts as bailiffs were given to Danes or Germans. Not surprisingly, this quickly became very unpopular with the Swedes and led to a civil war that raged - primarily in Sweden - for the better part of 120 years. Not until the reign of Gustav Vasa was the matter brought to a close in the 1520s, and then only after much fighting.



The early 14th century also saw both expansion and decline in various rural areas. New territories were opened in northern Scandinavia for more regular trade as well as farming along the coasts and major rivers. Increased trade and developing contacts with the indigenous populations allowed the frontiers of the settled regions

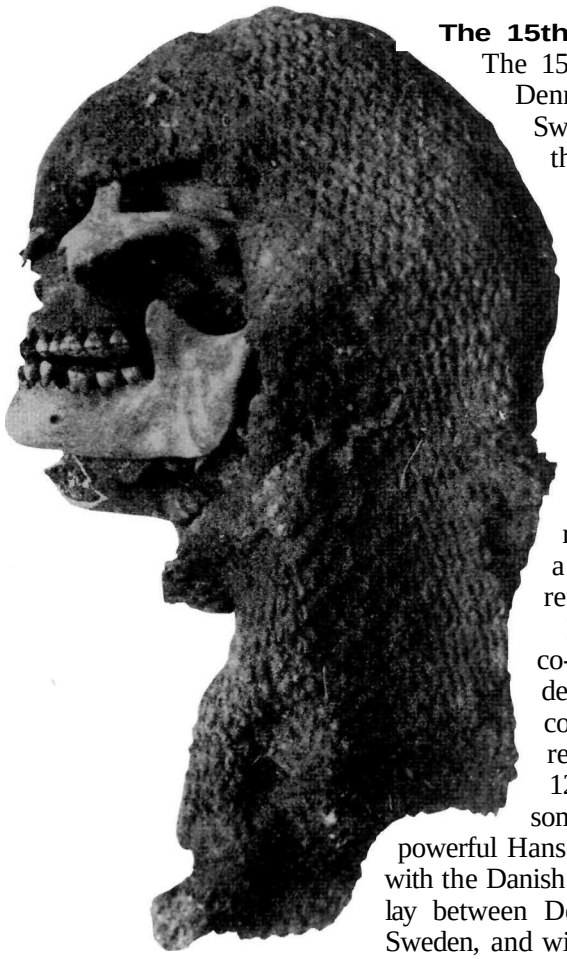
OPPOSITE The 'Legend of Halvard' on a late 13th or early 14th century painted ceiling of a Norwegian church. Three soldiers wear brimmed chapel-de-fer helmets and mail coifs. One appears to have a long-sleeved mail hauberk which lacks mittens for the hands, while another clearly does have a hauberk with integral mittens, *{in situ* local church, Vang, central Norway).

RIGHT 'The Death of St (King) Olaf, on the painted walls of Trondheim Cathedral. The arms and armour illustrated in this series are typical of those used in Norway by the ruler's well-equipped *Hird* men in the early 14th century- Note broad-brimmed chapel-de-fer helmets, conical helmets with nasal guards (out of date elsewhere in western Europe), full mail hauberks, coifs and chausses, plus couters for the elbows. Some of the helmets either include pendant cheek pieces or are worn over some form of bascinet. The weapons include swords, spears and axes. Particularly interesting is the man plunging a spear into the saint's chest; he seems to wear a large fur or animal-skin coat, and may represent a 'wild pagan' from the north, *{in situ* Trondheim Cathedral, Norway)

to be pushed further north. This brought the Swedish settler population into close contact with those of Norway, who already had close ties to the regions today known as Jamtland and Harjedalen in north-central Sweden. On the other hand there was, at the same time, a decline in trade and contact between the mainland of Norway, the Faeroe Islands and Iceland, while the colonies in Greenland eventually ceased to exist. The reasons for their abandonment remain an open question, but the last confirmed reference to a trading ship sailing to Greenland dates from the early 15th century. Speculations have included war with Inuit (Eskimo) peoples, plague, and starvation as a result of climate change.

In the other direction there was expansion of Swedish authority and settlement in Finland, from the coastal areas into the interior. Meanwhile the conflict with the indigenous population continued in the other Baltic states. A major player in this struggle, now and for a long time to come, was the *Ordens Staat* or domain carved out by the Teutonic Knights along the eastern coast of the Baltic Sea. Sweden also had good reason for trying to expand inland from its original outposts along the coasts in Finland and north-eastern Estonia. Here it endeavoured to gain some advantage over the powerful Russian trading city of Novgorod; this resulted in several clashes that eventually cost the Swedish crown its foothold in Estonia. Denmark had had a presence there since the first Danish Crusades; but the Danish impact seems to have been minor in all except political respects.

OPPOSITE A carved frieze illustrating The Massacre of the Innocents, made by Master Fabulator c.1330. The military equipment and clothing would have been very old-fashioned by that period - a flat-topped 'great helm', full mail hauberks with mail coifs and mittens. The surcoats are remarkably long, and the sculptor has not indicated mail over the feet. The weapons include a sword with a massive pommel, and a small dagger, (in *situ* church of Lye, Gotland, Sweden)



This gruesome photograph often appears in books about medieval warfare. It shows the skull of a Gotlandish soldier from the grave-pits of the battle of Visby, fought in 1361. The man was wearing a mail coif, apparently of the separate form rather than an integral part of a mail hauberk. Analysis of the numerous skeletons in the Visby graves provided detailed evidence concerning the sorts of injuries inflicted by medieval weapons. (National Museum, Stockholm, Sweden)

The 15th century

The 15th century was a period of prolonged warfare between Denmark and Sweden. Most of the fighting took place in Sweden and the southern provinces of Skane and Bohuslan then ruled by Denmark-Norway. There were two main reasons for this conflict. Firsdy, the king, as ruler of the Union of Kalmar, resided in Denmark and left the government of Swedish territory in the hands of local countrymen, hired German soldiers or noblemen. This was seen as something of an insult by the people of Sweden; and furthermore the Swedish peasants and mountain communities were very resistant to taxation, especially when demanded by those seen as foreigners. Secondly, sections of the local Swedish nobility felt ignored, and as a result sided with or encouraged discontent amongst the farmers. Consequently several rebellions and civil wars broke out, lasting for almost a hundred years. In many respects these conflicts were reminiscent of 15th century England's Wars of the Roses.

Meanwhile, Norway was relatively quiet and remained a co-kingdom with Denmark in a union that was only briefly destabilized. Denmark, on the other hand, had several conflicts with the northern German principalities; these resulted from Denmark's expansionist policies during the 12th and 13th centuries. Such tensions were, however, to some extent countered by the fact that the wealthy and powerful Hanseatic League of cities was dependent upon co-operation with the Danish crown which controlled the vital 0resund Straits. These lay between Denmark and what is now the mainland of southern Sweden, and without passage through the straits the Hanseatic League could not trade effectively with much of Western Europe.

These periodic wars over the Union of Kalmar and Baltic trade routes lasted throughout the 15th century. They served as a major stimulus to the development of Denmark-Norway as a single kingdom in western Scandinavia, and of Sweden-Finland in eastern Scandinavia. The animosity between the two blocks has sometimes been exaggerated in history books, but there was clearly little love lost between them. Denmark could never quite forget that it had once headed a unified kingdom which incorporated all of Scandinavia, while Sweden perhaps felt a certain inferiority complex which encouraged its military adventures in continental Europe during the 17th and 18th centuries.

CHRONOLOGY

1292-93 Third Finnish Crusade by Sweden builds castle at Viborg and extends Swedish control to the shore of Lake Ladoga, leading to conflict with the Russian principality of Novgorod.

1302 Norwegian laws of succession altered because King Hakon V has daughters but no sons.

1318 Death of Birger Magnusson, King of Sweden.

1319 Death of King Hakon V of Norway; Magnus Eriksson becomes

titular king of both Norway and Sweden; death of King Erik Menved of Denmark, whose ambitious interventions in northern Germany and southern Sweden left Denmark exhausted.

1323 Treaty of Noteborg agrees frontier between Swedish and Russian (Novgorod) territory in eastern Finland; a clearly defined frontier is established from the Gulf of Finland to Lake Saimaa, but further north two boundaries enclose a large area open to the merchants of both sides. Norwegians launch crusade against Russians further north in Finland.

1327 Swedish King Magnus Eriksson draws up his Sodermanland Law.

1326 Treaty between Norway and Novgorod establishes a shared zone in what are now northern Norway and the Kola Peninsula of Russia.

1332 Death of King Christopher II of Denmark, after which Denmark has no king for eight years but is largely dominated by the German Counts of Holstein; Magnus Eriksson, King of both Norway and Sweden, seizes provinces of Halland and Skane from the Kingdom of Denmark (lost again in 1360).

1340 Valdemar IV is elected King of Denmark, leading to a revival of Danish power and a reaction against German influence.

1342 Debatable evidence indicating that the inhabitants of the Western Settlement of Greenland abandoned the settlement and Christianity, then either joined the local Inuit or migrated to present-day Canada.

1345 The Papal representative in Norway is informed that the Greenland colonies can no longer pay crusading tithes.

1346 Denmark abandons its claim to Estonia in favour of the Teutonic Order, in return for a payment of 10,000 marks.

1347 Last recorded voyage of men seeking sources of timber returning from 'Markland' (Labrador in present-day Canada) to Greenland; blown off course by a storm, they seek shelter in Iceland.

1348 Unsuccessful crusade by King Magnus Eriksson of Sweden and Norway against Russian Novgorod.

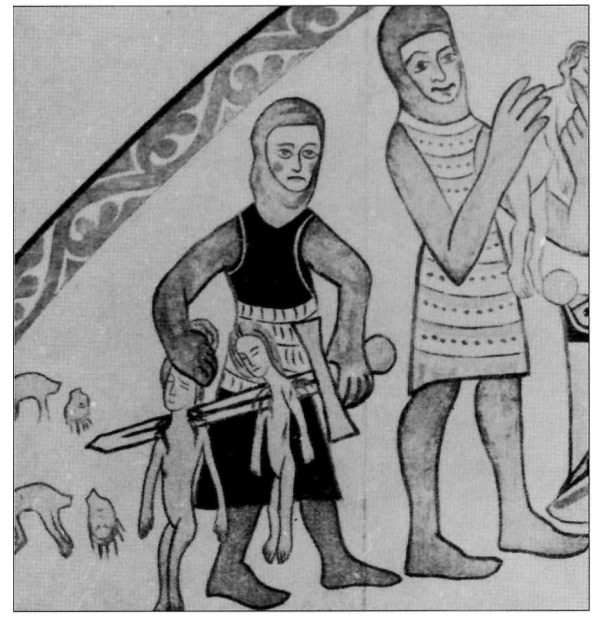
c.1350 The Vestribyggd (Western Settlement) in Greenland is found abandoned, its population vanished.

1350-5 Unsuccessful crusade by King Magnus Eriksson of Sweden and Norway against northern Russia.

1354 King Magnus Eriksson of Sweden and Norway proclaims his intention of sending an expedition under Paul Knutsson to the Greenland colonies.

1355 Hakon, younger son of King Magnus Eriksson of Sweden and Norway, becomes King of Sweden; possible expedition from Norway under Paul Knutsson to Greenland (and ? NW Canada), returning in 1364.

Another Scandinavian illustration of The Massacre of the Innocents can be found on an early 14th century wall painting that was originally in the local church at Orum in Denmark. It shows two figures in full mail armour; that on the left also wears an early form of coat-of-plates over his sleeveless surcoat. This may reflect the sorts of armour worn by Islamic soldiers during the Crusades, but might also indicate a form of lamellar or splinted cuirass worn in parts of Scandinavia as a result of eastern European military influence from the other side of the Baltic Sea. (Thisted Museum, Denmark)



The northern walls or *Ringmur* and towers of the fortified medieval town of Visby on the Swedish island of Gotland, including a gate-tower (centre). There is a doubled defensive ditch in front of the walls, and the Baltic can be seen beyond the town which slopes down to the sea. Most of this wall was started in the late 13th century and a large part dates from the early 14th and 15th centuries, though it may also incorporate earlier work. On top of the wall there was originally a covered walkway supported by angled beams which rested against the outside of the wall. (D.Lindholm photograph)

1356 Rebellion against King Magnus Eriksson of Sweden resulting from military failures and excessive taxation.

1357 Sweden divided between King Magnus Eriksson and his son Erik, who is supported by the rebels (Erik dies in 1359).

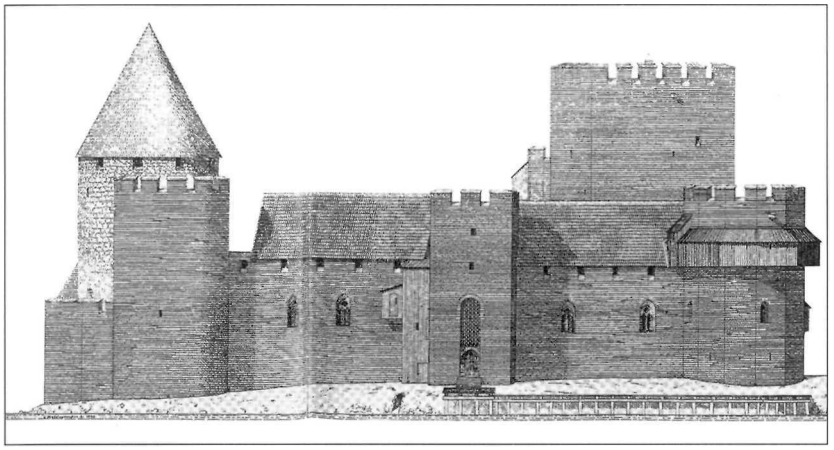
1360 King Valdemar IV of Denmark reconquers Skane in what is now southern Sweden.

1361 King Valdemar IV of Denmark conquers the Swedish island of Gotland, defeating the local militia at the battle of Visby.

1362 King Magnus Eriksson deposed as King of Sweden in favour of his son Hakon; Finland recognised as having equal voting rights as the rest of the Swedish kingdom.

1363 Reconciliation of Magnus Eriksson, his son Hakon and King Valdemar of Denmark; some Swedish nobles refuse to accept the new political establishment and elect Albrecht of Mecklenburg as a rival King of Sweden.

This remarkable finely illustrated manuscript is believed to come from Iceland, and was made in the early 14th century; here 'The army of Alexander attacks a castle garrisoned by demons'. The horse which pulls a 'chariot' full of soldiers has the full harness of a knight's destrier. The foot soldiers attacking the castle include an armoured crossbowman, a light infantryman with a javelin, and a miner with a pick. (Badische Landesbibliothek, Karlsruhe, Germany)



The Swedish royal castle at Kalmar as it is believed to have appeared c.1400. This central part of the fortress has since been greatly enlarged and surrounded by massive outer walls and bastions dating from later centuries. Construction began in the late 13th century and reflected strong German influence. The main keep and inner bailey stood on a small peninsula cut off from the mainland by a moat, beyond which was an outer bailey. (After Olsson)

1369 Sinking of the 'Greenland *knorr*, a ship specially commissioned for trade between Scandinavia and Greenland; she is not replaced.

1370 Peace of Stralsund obliges Denmark to renew the commercial privileges of Lubeck and its partners in the Hanseatic League, also granting four strategic castles to Lubeck for 15 years.

1371 Agreement between the rival rulers and parties brings peace to Sweden.

1374 Death of King Magnus Eriksson of Sweden; Albrecht of Mecklenburg remains as sole ruler.

1375 Death of King Valdemar of Denmark; succeeded by his grandson Olav (aged four), son of the King of Norway.

1377 Death of Bishop Alfr, last incumbent bishop of Greenland.

1379 Eighteen Scandinavians killed in clash between hunting party and *'Skraelings'* (Inuit/Eskimoes) in Greenland.

1380 King Olav of Denmark succeeds his father as King of Norway as well, creating joint Kingdom of Denmark and Norway.

1387 Death of the youthful King Olav of Denmark and Norway; his mother Margaret is invited to lead a faction of Swedish noblemen against their German king, Albrecht of Mecklenburg.

1389 Swedish forces loyal to Margaret of Denmark decisively defeat those of Albrecht of Mecklenburg and take Albrecht prisoner.

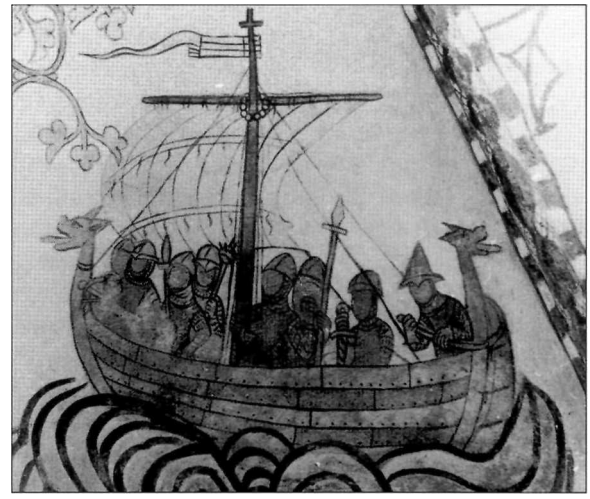
1389 Margaret's nephew Erik of Pomerania is elected King of Norway, but Margaret remains regent of the Scandinavian kingdoms until her death in 1412.

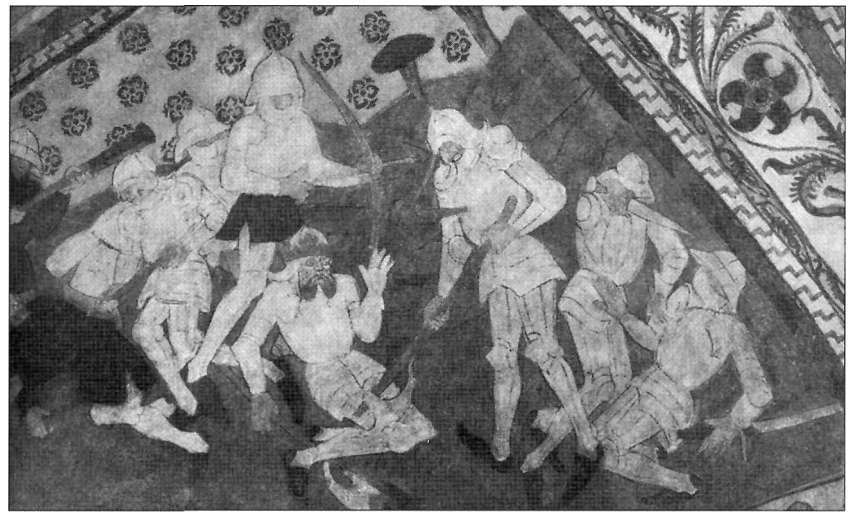
1396 Erik of Pomerania, King of Norway, also becomes King of Denmark and Sweden.

1397 Agreement under the Union of Kalmar officially unites the three kingdoms of Scandinavia and their overseas territories (Faeroe Islands, Iceland and the Greenland colonies).

1406 A Norwegian ship heading for Iceland is blown off course and lands in Greenland; the castaways remain in Greenland for four years.

An episode from 'The Story of St Olaf' on a late 14th century Danish wall painting. A ship which looks like a late version of a Viking vessel pursues another (not illustrated here). Most of the soldiers wear broad-brimmed chapels-de-fer; they are armed with swords, a 'winged' spear and a spiked mace, and at the bow is a cross-bowman. *(in situ* church at Skamstrup, Denmark)





`The Death of St Olaf as illustrated on a Swedish wall painting dating from the second half of the 15th century. By this date the arms and armour given to the protagonists included complete 'white harness' of steel plate; however, it is interesting to note that a longbow archer is still shown (centre), along with an early hand-gunner (far left). (*in situ* Church of Heliga Trefaldighet, Uppsala, Sweden)

1408 Last recorded wedding celebration in Hvalsey church in the Greenland colony.

1412 Death of Margaret of Denmark. Continuing attempts by King Erik to become the dominant power in the Baltic region arouse the hostility of the Hanseatic League and his attempts to dominate Holstein fail.

1420-30 Attacks by English fishing fleets on coastal settlements in Faeroe Islands, Iceland, northern Norway and probably the Greenland colonies.

1432 Anglo-Danish treaty stipulates that people abducted by English pirates from Scandinavian outposts in the northern Atlantic be returned to their homes.

1434 Rebellion against Union of Kalmar in the mining district of Dalarna, led by Engelbrekt Engelbrektsson.

1436 Swedish nobility take over leadership of Dalarna rebellion; Engelbrekt Engelbrektsson is murdered and his leading lieutenants executed.

1438 Karl Knutsson, a Swedish nobleman, is chosen as Captain of the Realm, leader of the Swedish rebels who now dominate most of the country.

1439 King Erik is deposed; Danes choose Erik's nephew, Christopher of Bavaria, as king (as titular King of the Union of Kalmar).

1441 King Christopher of Denmark is also recognised as King of Sweden, but power largely remains in the aristocratic councils of both kingdoms.

1448 Death of King Christopher of the Union of Kalmar; Sweden elects Karl Knutsson as king; Denmark and Norway eventually select Christian of Oldenburg as their king. Plea for help from the Greenland colonies prompts the Pope to urge the titular bishop of Gardar, actually living in Trondheim, to send them priests.

1450 Councils of Sweden and Denmark agree at the Council of Halmstad that after King Karl and King Christian die the Union of Kalmar will select a single successor; this does not take place.

1468-69 King Christian of Denmark and Norway mortgages the Orkney and Shetland Islands to the Kingdom of Scotland.

One of the remarkable drawings made by the German mercenary soldier Paul Dolnstein in 1502 illustrated a battle between the Swedish militia army seen here, and a force of Germans; see also page 45. The Swedish front rank consists of crossbowmen; behind them stand a phalanx of pikemen, halberdiers and some additional crossbowmen. A great variety of helmets is visible among the Swedes who, as part-time soldiers, would have used whatever military equipment they could obtain. (City Archives, Weimar, Germany)

1471 King Christian of Denmark and Norway defeated by Swedish forces under the regent Sten Sture at the battle of Brunkenberg near Stockholm.

1480 Death of King Christian of Denmark and Norway, succeeded by his son Hans. Latest archaeological evidence for a Scandinavian-European population in the Greenland colonies.

1490 Another treaty is agreed by England and Denmark to control piracy in the north Atlantic; one group of Danish privateers, excluded from the general amnesty, withdraws to Greenland.

1497 King Hans of Denmark and Norway also recognised as King of Sweden (until 1501).

1501-02 Revolt of Norwegian nobleman Knut Alvsson against Danish domination.

c.1510 Probable disappearance of last Scandinavian colonists in Greenland.

1523 Sweden secedes from the Union of Kalmar, having effectively been independent for some time.

14th CENTURY MILITARY EQUIPMENT

Unlike the situation in the preceding 12th and 13th centuries, Scandinavia was catching up with the rest of Europe in terms of military equipment from the start of the 14th century. Improved trade across the Baltic to northern Germany and with Flanders helped this process. At the same time Scandinavia was brought closer to continental ideas and fashions by the increasing number of travellers going to and from Germany and elsewhere. The employment of continental mercenaries also brought new ideas for local armourers, as well as providing a direct source for various items of equipment.

For example, in the early part of the 14th century we find the first evidence for pieces of **plate armour** being attached or added to mail armour. This influence clearly came from the continent and was soon widespread amongst the Scandinavian nobility. Initially it was in the form of coats-of-plates which provided additional protection for the torso. These coats-of-plates came in a variety of different kinds, as seen in the remarkable material from the grave-pits at Korsbetningen, Visby, which date from 1361. Next came additional protection for the shoulders and upper arms as well as for the legs. Some of the original ideas may actually have been oriental (Russian, Islamic or even Central Asian) and made use of pieces of hardened leather. Such armour was primarily intended for mounted knights, as added protection to their exposed legs and to cover their arms during attack or defence.

We also see the introduction of the plated **gauntlet** which initially consisted of many small pieces of plate riveted together or held in place by tiny leather straps. These were an improvement on the old mail mittens, but were still rather weak. Consequently, later gauntlets were made of larger and fewer rigid pieces which spread an impact over a larger area. On the other hand they were less flexible, which proved a distinct disadvantage for the horsemen for whom they were originally intended.

The *Codex Hardenbergianus* is an early 14th century list of laws. Though made in Denmark, some of its illustrations include armed men equipped in ways more typical of northern Scandinavia. Here, the figure on the left with his round-topped 'great helm' and separate mail mittens looks very German; the central figure with a close-fitting bascinet could be found almost anywhere in western Europe; but the axe-wielding soldier in the prow has the brimmed chapel-de-fer with substantial cheek pieces which is more commonly seen in Norwegian art. (Present whereabouts unknown)

Missile and hand weapons

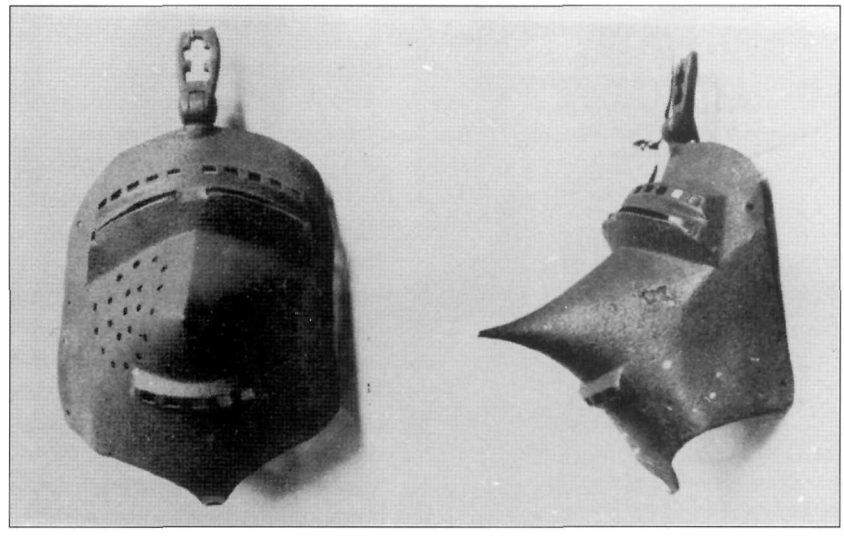
The use and development of plate armour was stimulated by the increased effectiveness of infantry weapons rather than those of mounted knights, who still used much the same tools of war as had their 11th and 12th century predecessors. In contrast, the military equipment of the foot soldier had developed considerably, even in Scandinavia. Once little more than a peasant with a round shield and a spear, the infantryman now wore mail, a 'kettle'-shaped helmet or *chapel-de-fer* over a mail coif, carried a shield and wielded various forms of pole arm. In addition he might also be armed with a crossbow as well as a sword or an axe.

We can perhaps best understand the development of plate armour by looking at the

development of the crossbow and pole arms. These became the primary weapons used in Scandinavia as well as continental Europe during the 14th century, and their continued development throughout the 15th century was felt in Scandinavia just as it was elsewhere. Because the nobility were rather few in numbers, foreign mercenaries were frequently employed for both field campaigns and garrison duty. Such troops often had their own good quality equipment; if they lost a battle, this up-to-date war gear would be taken by the winners who, in Scandinavia, usually consisted of peasant militias and small groups of mounted noblemen. Partly as a result, we find that during the first half of the 15th century the peasant militias in Scandinavia (and particularly in Sweden) were often equipped in the same manner as a good German mercenary. This was considerably better than the Swedish militiaman's continental counterparts, who now played a smaller role due to the greater numbers and wealth of the continental nobility.

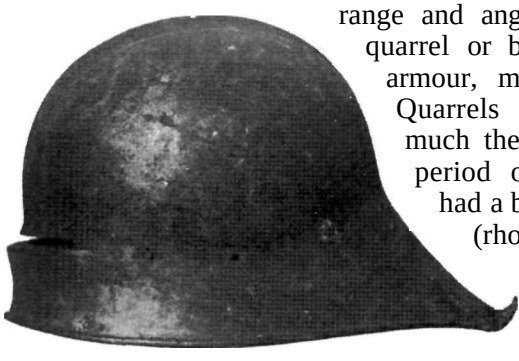
A typical Scandinavian form of narrow-brimmed iron chapel-de-fer, this example from Estonia. This type of helmet was very popular in the Baltic regions and Scandinavia in both the 14th and 15th centuries. See Plate A. (Museum of Estonian History)

The preferred weapons of Scandinavian militias during the 14th century were the crossbow or longbow, the axe and some sort of pole arm. However, the household guards or retainers of kings and noblemen would have had a different armoury which included swords, falchions, maces, lances and axes. The crossbow and the bow, either long or short, had several local advantages. Most of the land mass of Scandinavia was still wilderness, and hunting wild animals for fur formed an important element in local trade. Consequently such weapons doubled as work tools; large numbers of people were probably adept at using bows or crossbows, without having to train at the butts as English archers and Italian crossbowmen needed to do.

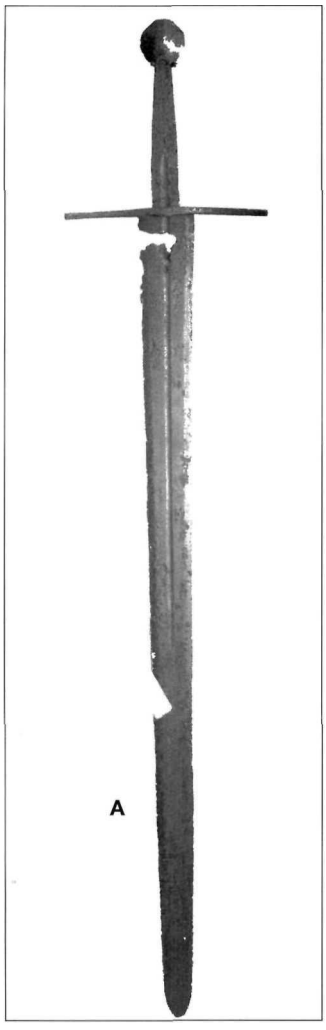


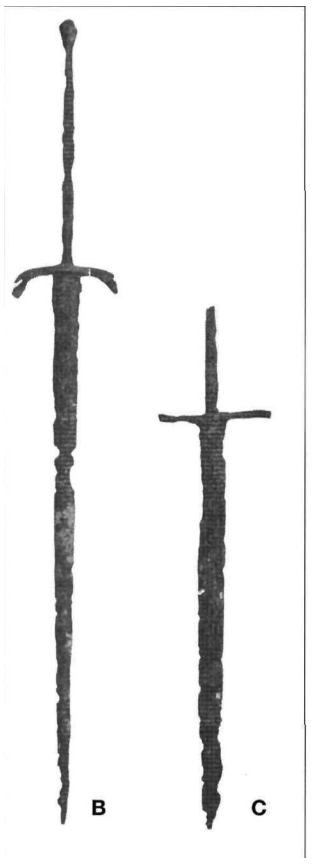
Front and side-views of a 'houndskull' or 'dog-faced' visor, from Boekkenjoelm, Denmark. Dating from the mid-14th century, it would have been used with a bascinet helmet, and was probably made in Germany. (National Museum, Copenhagen)

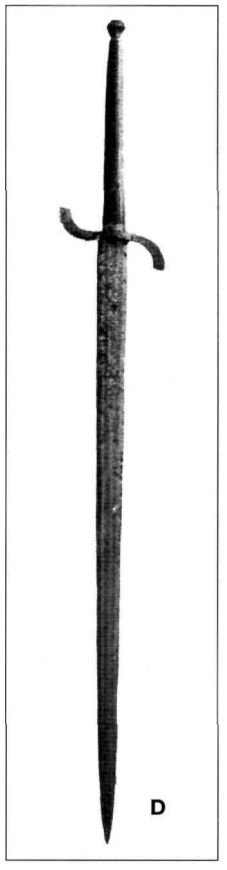
These **missile weapons** were exceptionally efficient and could, without difficulty, shoot a knight out of his saddle. Depending upon range and angle of strike the crossbow quarrel or bolt could penetrate plate armour, mail, gambeson and flesh. Quarrels for crossbows look very much the same, regardless of exact period or locality; they normally had a basically square or diamond (rhomboid) section point. The next development was similarly almost universal, resulting in the

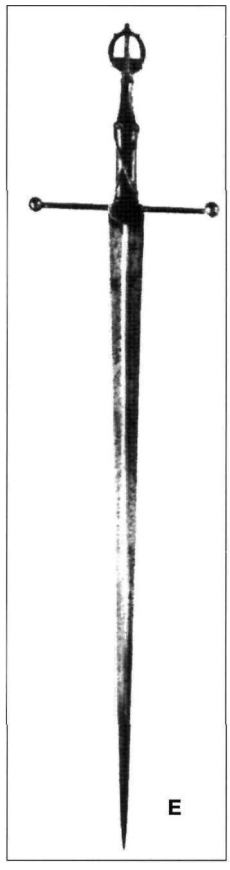


LEFT The so-called 'Helmet of St Olaf is in reality a sallet dating from the second half of the 15th century. It was for a long time in Trondheim, Norway, and is again likely to have been imported from Germany. See Plate H. (Historical Museum, Stockholm)









(A) A somewhat old-fashioned Scandinavian sword of the 13th or 14th century. (Malmohus Museum, Sweden)
(B) 14th century longsword from Norway. (Private collection)
(C) Typical 14th century sword from Norway. (Private collection)
(D) Late 14th or 15th century sword from Norway, with unusual S-shaped quillons. (Private collection)
(E) 15th century longsword from Denmark, with a style of hilt normally associated with late medieval Ireland. (Private collection)

tip of the bolt becoming more rhomboid and longer by the late Middle Ages. This gave the head more weight and lent support to the quarrel as it struck. The strength of an ordinary crossbow with a wooden or composite stave was considerable, but was not as great as the larger forms with steel staves spanned by a windlass that appeared in the 16th century.

The hand-bow was an ancient weapon in Scandinavia, having been used in hunting and war since time immemorial. Unlike crossbow bolts, the arrows shot from hand-bows included a remarkable variety of different types; unfortunately, few medieval specimens have been found in Scandinavia when compared to the rich material from England and France. However, it does seem that the ordinary bodkin-tipped arrow was used for war, perhaps with additional variations such as the leaf-headed point. Clearly, if a man only had the (often barbed) arrows used for hunting, he would use these same missiles in war.

Various forms of **pole arms** had been popular since the dawn of history, and in the later Middle Ages several types began to develop from the original simple spear. This development had, in fact, begun earlier but was particularly rapid in the 14th and 15th centuries. In Scandinavia the halberd, poleaxe, glaive and bardische were very popular. In addition various sorts of spears continued to be used, but the increasing efficiency of the halberd and poleaxe made their adoption nearly universal. Such weapons were simple to use, easy and cheap to make, and were almost unbreakable - a highly desirable military combination.

Only the poleaxe seems to have been seen in a rather different light, being regarded as a knightly weapon and unsuitable for peasants.

Other simple weapons remained in use in very large numbers, most notably the **axe** and various forms of **mace.** A distinctly Scandinavian version of the axe can, in fact, be seen in several wall paintings dating from the 14th and 15th centuries, indicating that it continued to be used. Such a large part of the population lived in forested terrain that an axe would have been in almost everyday use. The mace was normally a weapon of the nobility, and was used against heavily armoured foes rather than against lightly armoured infantrymen. One weapon which was specifically designed to counter the increasingly effective plate armour of the 15th century was *the* newly introduced **war-hammer.** Such a weapon was mainly used by mounted knights, squires and men-at-arms. A larger version intended for use on foot, which was seen in various parts of continental Europe, was not apparently employed in Scandinavia.

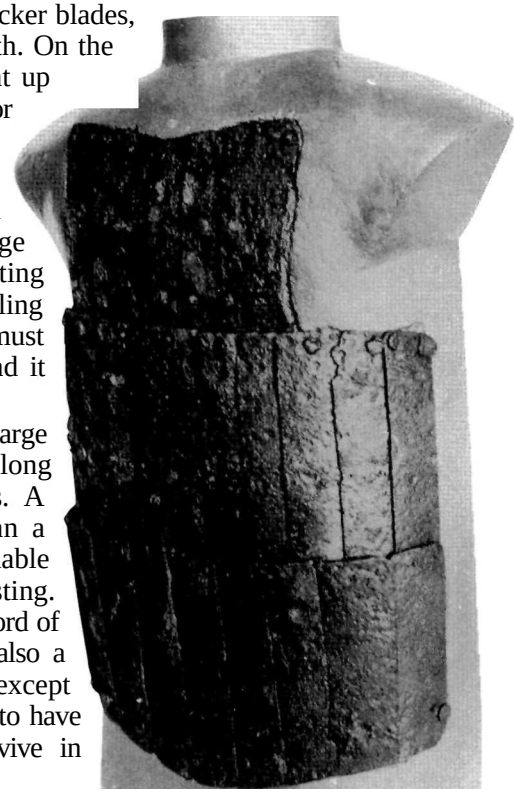
The **sword** remained a very important weapon; in fact, in many ways it increased in importance, because the expansion of production in continental Europe made good quality blades more readily available, and increased trade made them cheaper as a result of increased commercial competition. The sword is seen in paintings and illuminations in ever greater numbers, even being worn as a sidearm by common soldiers. Either as a consequence of developments in armour, or themselves being the reason for such developments, sword blades generally became more rigid. They were now designed for improved thrusting capabilities as well as for increased cleaving power. This resulted in thicker blades, more often with ridges rather than grooves down their length. On the other hand grooves or 'fullers' continued to be used right up to modern times. The result was a rigid blade suitable for thrusting at the joints in armour.

Apart from the classic sword there are several 14th century Scandinavian illustrations showing falchions, which were essentially heavy bladed swords with a single edge providing tremendous cutting power but virtually no thrusting capacity. The falchion was a weapon well suited to dealing with lighter armour or mail, but not plate armour. This must surely have been the reason for the decline in its use, and it rarely appears in 15th century illustrations.

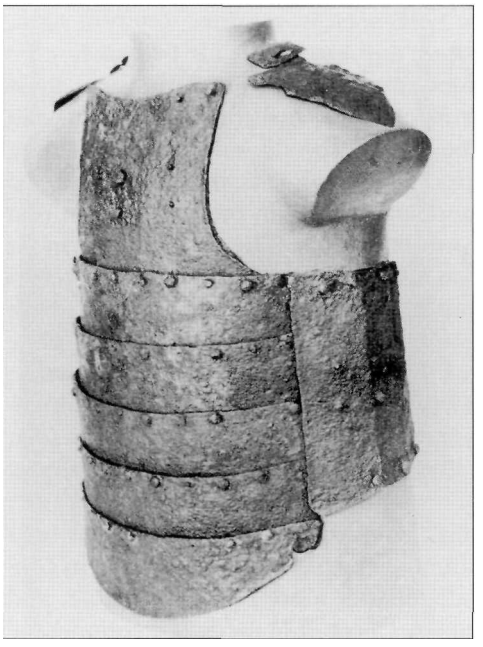
Swords also increased in size, although there had been large swords wielded with two hands at an earlier date. The new long swords or hand-and-a-half swords were now of two kinds. A lighter and more refined version weighed little more than a single-handed sword but had an acute point and reasonable rigidity, which made it suitable for both cutting and thrusting. The second type was a development of the earlier heavy 'sword of war'. It again had a point suitable for thrusting, but was also a massive cutting weapon capable of destroying anything except solid plate armour. The larger hand-and-a-half swords seem to have been popular in Scandinavia, since several of them survive in museums and private collections.

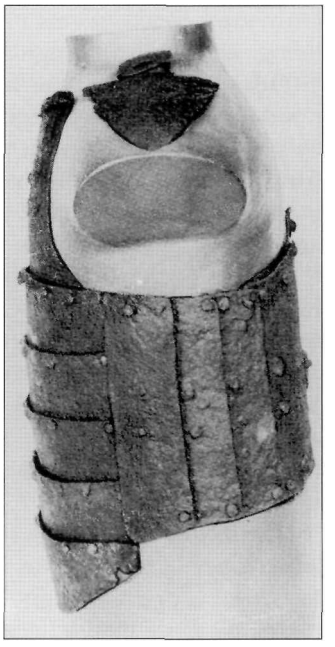
It is doubtful that there was any significant local production of swords prior to the late 15th or early 16th century. There was a wide-

A large number of varied coats-of-plates were found in the grave-pits resulting from the battle of Visby on the Swedish island of Gotland in July 1361. This is one of a number which were made of vertical splints riveted together and originally having an outer fabric covering. In some the iron splints also extended around the wearer's back, though this example only protected the front of the body. (Visby Armour No.20, National Historical Museum, Stockholm, Sweden)



The front and left side of another coat-of-plates from the grave-pits at Visby. This example does include some protection for the sides and back, consisting of riveted vertical splints, while the front of the lower chest and abdomen is protected by horizontal half-hoops, below vertical plates for the upper chest. There are also separate plates on top of the shoulders. The whole armour would have been held together by a fabric covering, perhaps also with a fabric or leather lining. (Visby Armour No.1, National Historical Museum, Stockholm, Sweden)



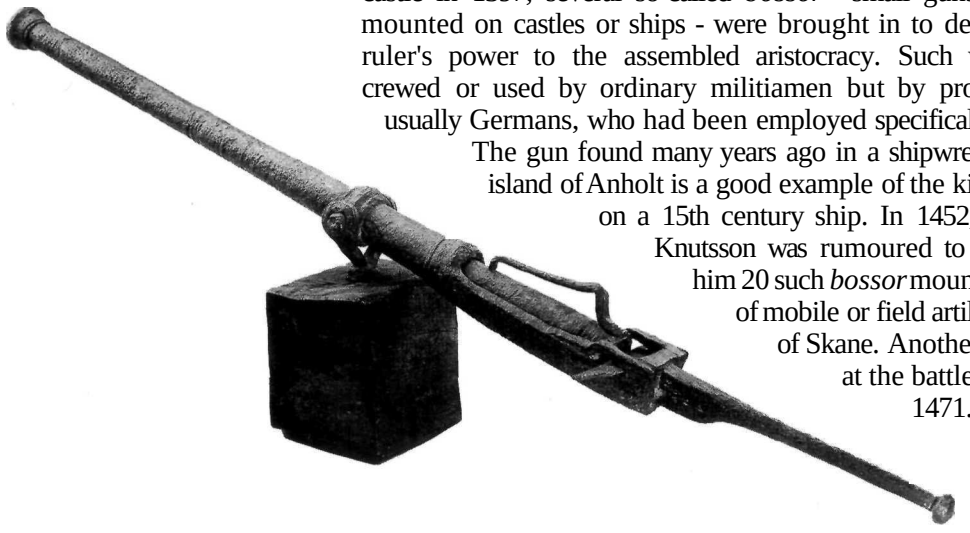


spread import trade from the large manufacturing centres in Germany, and in fact most of the swords now in Scandinavian collections can be identified as coming from one or other region of Germany. A very distinctive form of crossguard was, however, used in Scandinavia and perhaps also in northern Germany. It takes the form of an open ring, looking rather like a pretzel, and is found on large hand-and-a-half swords whose guards bear some resemblance to later *katzbalger* guards, though with more twists to them.

Firearms

The 14th century saw the introduction of gunpowder to Scandinavia, as it did elsewhere in Europe. Not yet an item of major military significance in the 14th century, gunpowder weapons were nevertheless seen as a symbol of power. In fact during the coronation of King Erik at Kalmar castle in 1397, several so-called *bossor* - small guns of the type often mounted on castles or ships - were brought in to demonstrate the new ruler's power to the assembled aristocracy. Such weapons were not crewed or used by ordinary militiamen but by professional gunners, usually Germans, who had been employed specifically for this purpose. The gun found many years ago in a shipwreck near the Danish island of Anholt is a good example of the kind of gun mounted on a 15th century ship. In 1452, for example, Karl Knutsson was rumoured to have brought with him 20 such *bossor* mounted on carts as a sort of mobile or field artillery for his invasion of Skane. Another example was seen at the battle of Brunkenberg in 1471. Here the Danish-German forces and their Swedish

A 15th century breech-loading light cannon, recovered from a shipwreck near the Danish island of Anholt in the middle of the Kattegat straits between present-day Denmark and Sweden. Comparable guns would also have been used on land, especially in siege warfare. (Present whereabouts unknown)



supporters were entrenched on high ground behind defence works supposedly lined with over 200 guns, though this claimed figure is likely to have been a gross exaggeration.

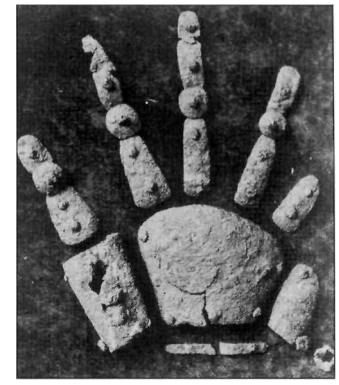
Gunpowder was also used in smaller guns such as those seen on a mural at Heliga Trefaldighet church in Sweden. These small guns had a short, fat barrel and a long wooden stave that was held tightly beneath the arm when the weapon was fired. Accuracy was clearly not good, but the gun did make a lot of noise and smoke. At Brunkeberg the Danish are said to have lost because the Danish king was hit in the mouth by a ball from such a small handgun and had to leave the battlefield. Where accuracy was concerned there was clearly no contest between these primitive handguns and the crossbow and longbow, at least not for another hundred years.

* * *

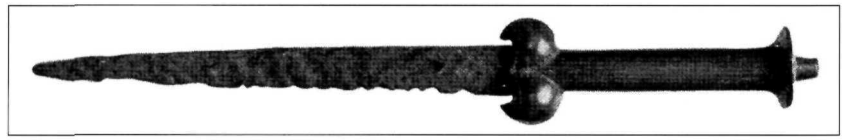
Armour similarly developed, and the closing years of the 13th century had already seen the introduction of the coat-of-plates and the plastron as well as the introduction of additional protection in the form of plates on the shoulders, knees, elbows and lower legs. These developments took place on the continent and were introduced into Scandinavia via Denmark and by continental mercenaries who served in other areas. The primary reason for their introduction was an increasing use of high quality equipment by the infantry. During the 14th century the mounted knight was clearly reminded that it did not necessarily take a knight to defeat him: a number of foot soldiers working together, with adequate protection and pole arms, were even more effective.

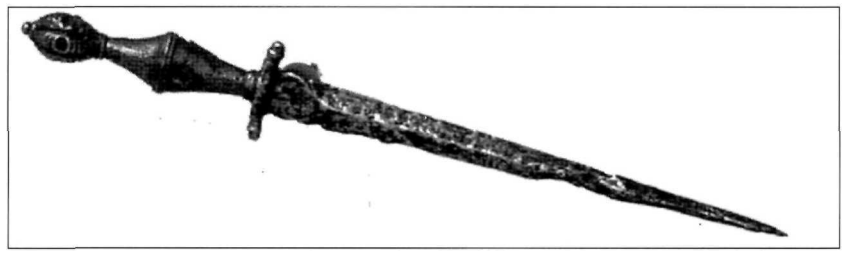
One result of this increased use of pole arms was a reduction in the military significance of the mounted knight and thus of the nobility's importance to the monarchy. This was particularly clear in Sweden and Norway, where the nobility had never played a dominant role in warfare by providing a hard hitting elite force. A further decrease in their importance was reflected in the fact that, during several rebellions in 15th century Sweden, the primary aim was to muster farmers, mountain dwellers and urban burghers in support of the rebels, while little effort was made to enlist the support of the aristocracy. Those who did take part did so because they either supported or opposed the rebellion for political reasons. Furthermore, several insurrections were led or initiated by commoners, who then sought the support of local peasant militias. The latter could clearly stand their ground against mounted professional troops, at least when they were able to use the terrain to their advantage. Of course, this was easier in Sweden and Norway where most of the geography does not lend itself to cavalry battles.

Interestingly enough, the dagger appears in several contemporary illustrations of battle scenes. It is also the most common of all weapons found at archaeological excavations, being an essential everyday item as well as a tool of war. One development which occurred during the 14th century was the change from an earlier single-edged knife which served as a general utility tool as well as a weapon. This early form was much like a simple woodcarving knife and was suitable for cutting rather than thrusting. One specialised 14th century weapon was the 'ballock dagger', so-called from the shape of the hilt and guard, which had a triangular blade and came in two versions. In one type the blade narrowed symmetrically, and this is the one normally found in a civilian



Three gauntlets found in the grave-pits of the battle of Visby, 1361. The surviving metal elements would originally have either been attached to, or secured between the layers of, larger fabric or leather gauntlets. (National Historical Museum, Stockholm, Sweden)





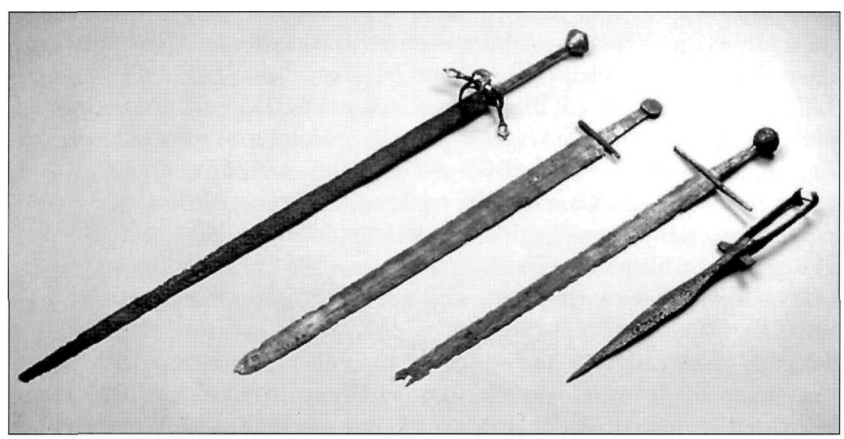
TOP Dagger from Denmark which appears to be a version of the rondel type, 15th century- (Private collection) CENTRE Scandinavian 'ballock dagger' - the so-called 'Testikeldolk' type - 15th century. (Private collection) BOTTOM Dagger from Denmark, 15th century, with a decorated all-bronze hilt. (Private collection)

setting. The blade of a second, military version narrows into a bodkin-shaped point about three centimetres from the tip; this was designed to penetrate armour, both plate and mail (modern reproductions have been able to pierce 2mm thick steel plates). This type of dagger was carried as a universal sidearm in battle and was used at close quarters, where a dagger was considerably more efficient than a sword or pole arm.

The importance of the dagger, and of wrestling skills, can be seen in the fact that later 15th century combat manuals almost always include dagger fighting and wrestling. However, the dagger was not considered a knightly weapon in the sense of being restricted to a single social class. Dagger fighting techniques relied upon thrusting attacks since the edges of such daggers were seldom sharpened; the broad angles of the edges of such blades made sharpening them virtually impossible. Attacks would aim at the eye slits, armpits, groin or neck where armour was weakest or might even be lacking.

* * *

Undoubtedly the 14th century knight was the most heavily armed warrior in European history. He often wore a padded undergarment, as



A considerable variety of swords were used in Scandinavia during the later medieval period. Those seen here include (left to right) a late 15th century longsword, and two 14th-15th century swords in an archaic style, photographed with a typical medieval spearhead. (Private collection)

well as mail and plate protections for his body and limbs. The final item for a mounted knight and for foot soldiers was a **shield.** Cavalry shields had been considerably reduced in size since the 11th century, and the 14th century saw this trend continued. The shield now became quite small with a flat top and a semicircular lower part, being slightly curved in section and covering a rider's body only from the shoulder to the waist. Such a shield was meant to be used actively rather than being hung passively, as had been the case with older styles. This development was again made possible by improved armour.

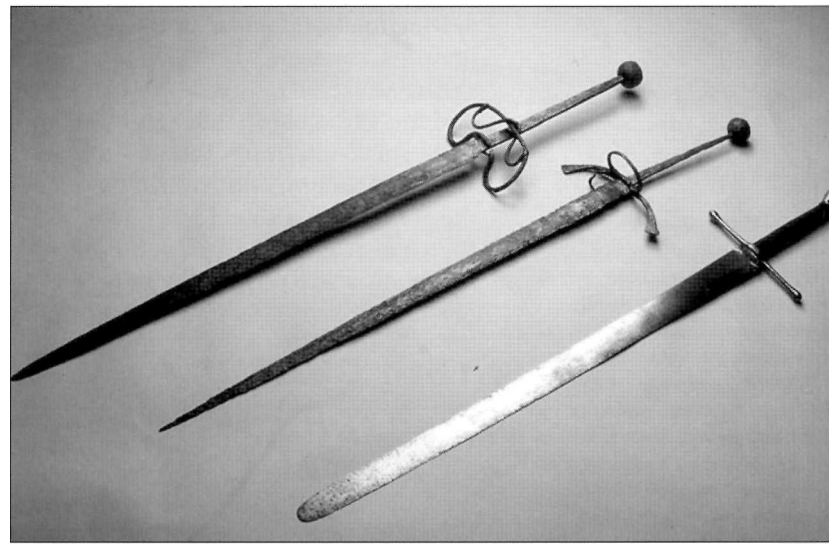
15th CENTURY MILITARY EQUIPMENT

Weapons developed little further during this century, and there was a decline in some of the older forms. Although the axe can still be seen on 15th century wall paintings in Sweden it seems to have lost favour elsewhere in Scandinavia, other than in the Baltic states. The large form of round shield was also discontinued, though it remained as a small buckler and perhaps some mid-sized *target* shields. Fighting with sword and buckler continued until the mid-17th century, and the target was used in Scotland even later than that. A decreased use and often a total absence of the shield in all illustrations from the 15th century was bound up with the continued development of plate armour; the only exceptions were some forms of tournament shield.

Two soldiers equipped in typical Danish style, from the first half of the 15th century. Both have large, broad-brimmed chapels-de-fer, probably padded and mail-covered neck protections, and solid iron or steel breast-plates, probably with back-plates. Their arms are protected by mail hauberks and heavy gauntlets, and the figure on the left also has full plate leg armour, (*in situ* local church, Kvislemarks, Denmark)

The *bascinet* helmet which had been prominent during the 14th century remained in use, but the new German or Italian *sallet* helmets were increasingly popular. These came in several versions, including those without face protection, which were common amongst archers. The *armet* or *dose-helm* survived into the 16th century and provided ample protection for the whole head. It is worth noting that several 15th century knights preferred to use helmets without face covering in order to breathe more easily. The *beuor* was a throat and chin guard covering part of the lower face, and in combination with the sallet or chapel-de-fer it provided efficient protection.

Armour during the 15th century can be divided into two basic categories: those made as whole suits, and those made as individual pieces (usually for infantry). The latter was generally limited to helmets, breast- and back-plates, and arm protections; leg protection seems to have been less common among foot soldiers. In fact by the late 1490s and early 16th century we see German mercenaries often wearing no armour at all. The increased effectiveness of pole arms and missile weapons meant that only the heaviest



LEFT TO RIGHT 15th century longsword from Sweden, probably with a later guard; a 15th century longsword; and a broadsword from the end of the 15th or start of the 16th century. (Private collection)

armour could protect a man, and this was exhaustingly heavy for men on foot. The close fighting style with swords seen in the earlier Middle Ages was now replaced by fighting with longer weapons at longer distances, usually relying on downwards blows. This meant that cumbersome leg protection was of little practical value. Leg armour was, of course, retained by the mounted men whose legs were more exposed in battle.

The so-called *brigandine* was a much cheaper alternative to plate armour for both torso and abdomen. It was lighter but offered less protection, especially against crossbows, being made by attaching several small plates to the inside of a tightly fitting waist-length sleeveless jerkin. Nevertheless, when worn over some form of padded *jack* or *gambeson* it offered good protection against most attacks. The brigandine was a development of the earlier coat-of-plates, and had perhaps been influenced by certain originally Mongol styles of armour from the East.

Mail continued to be used under plate protection, or to cover openings at the armpits and elbows. However, the comparative ease of making plate armour rendered the use of mail less attractive; in fact new

Two 15th century war-hammers from Skane in southern Sweden. The war-hammer was developed as a weapon specifically to pierce or break the increasingly strong plate armour being worn by elite troops in the later medieval period. On its own it would probably have killed an opponent only rarely, but it could either have caused incapacitating injury or have opened up armour so that the wearer became vulnerable to other weapons. (Historical Museum, Malmo, Sweden)

production seems to have been limited, and instead older pieces were reused or reshaped. In Scandinavia various older pieces of armour survived for a remarkably long time. In Paul Dolnstein's drawings dating from 1502 we see Swedes armed with pole arms and crossbows while still wearing quaint old armour, and even some archaic onion-shaped 14th century bascinets.

The dagger saw further development, one example being the *rondel* dagger. This was a very large thrusting weapon with a rhomboid blade, usually made with a flaring bodkin point to ease penetration. These were not normally worn in a sheath on the belt but were attached to a chain and allowed to hang loose, or tucked into a sword belt for easy access.

MILITARY ORGANISATION

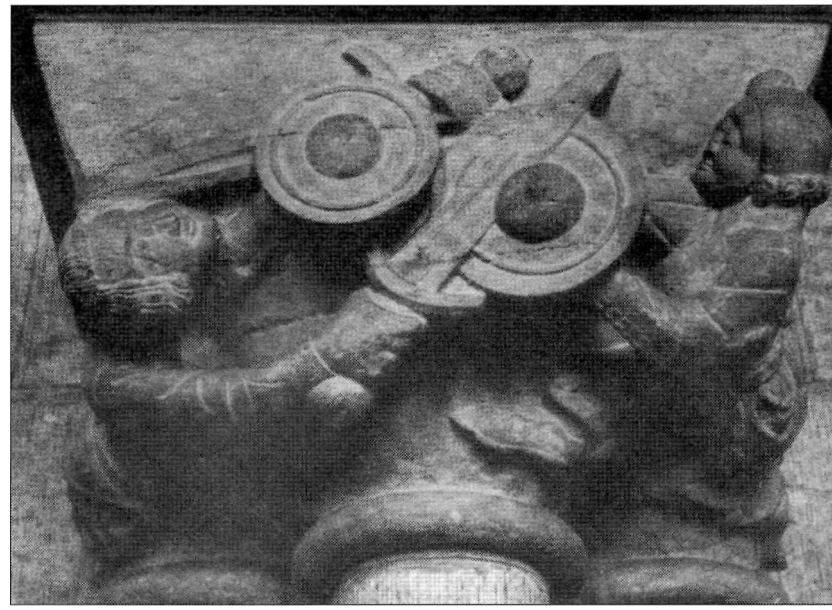
During the early 14th century military organisation was essentially the same as that seen before: armies consisting of mounted knights and local levies or militias. Changes during the 14th century can best be seen as an increase in the numbers of men able to muster fully armed, and of mounted men-at-arms. As in continental European wars it became important to raise new men to the nobility, and for the nobility to fill gaps in their ranks.

The 15th century saw the coming of age of the peasant militia. Hardened by a century of almost constant warfare, it would prove a match even for the German mercenary armies of the early 16th century. Meanwhile noble families formed the backbone of such armies, providing the only troops who were guaranteed to possess good weapons and armour. The aristocracy also supplied armoured cavalry, and wealthy nobles or churchmen could also muster additional troops, attached to their households or retained as mercenaries. In turn, these nobles were tied by feudal obligations to their lords. In reality one man could have several different and simultaneous ties, sometimes even owing service to both sides during a conflict.

Ordinary people seem to have had a reasonable level of military skill, since large bodies of men could be fielded with adequate weaponry. During the 15th century the crossbow and pole arms such as poleaxes or halberds became their most common weapons, backed up with swords or axes for closer combat. When drawn up in tight formation these militia troops were highly effective, as long as their morale did not collapse and they did not come under excessive pressure.

In Norway the older *Hird* system survived for longer than elsewhere; there the *Kongshirden* 'Royal Hird' was supposed to protect and serve the monarch. In Denmark and Sweden, however, this older system had been supplanted in the mid-14th century by professional soldiers paid in cash. Mercenaries were regarded as more reliable then the nobility, whose primary allegiance was to their families rather than to their king.

Scandinavia was, and is, substantially dependent upon the sea for transportation and commerce, and during the high and late Middle Ages it was even more so. For example, during Albrecht of Mecklenburg's struggle for the crown, control over the Baltic became a primary concern for all involved. Indeed, some of Albrecht's supporters, called *Vitalianer*, continued to harass trade and even stopped



A carved capital, c.1340, showing two unarmoured men fighting with swords and bucklers with large domed bosses - this form of fencing was widespread across western Europe. The man on the right wears a simple non-protective linen coif on his head and a garment with puffed upper sleeves and closely buttoned lower sleeves; this may have been a form of 'soft' armour, *(in situ* Cathedral, Uppsala, Sweden)

it for some time, using the island of Gotland as their naval base. During the 14th and 15th centuries naval warfare developed from simply using longships as fighting platforms to erecting platforms or 'fighting castles' for archers, adopting cannon, and developing ships with higher hulls which made them sturdier and capable of holding more men. These vessels remained fighting platforms; but the fighting itself now relied to a significant extent upon missile weapons, sometimes shot from a considerable distance.

STRATEGY & TACTICS

During the 14th century tactical organisation resembled that of the 13th century, with small bodies of mounted knights and well-armed squires forming the core of an army. Such men were bound by feudal ties to the monarch, as in continental Europe; but unlike their continental counterparts, they enjoyed a greater degree of autonomy when choosing sides in civil wars. It was accepted that an individual's primary loyalty was to his immediate overlord; and many older families were not brought under the crown's full control until the reign of Gustav Vasa in the 16th century.

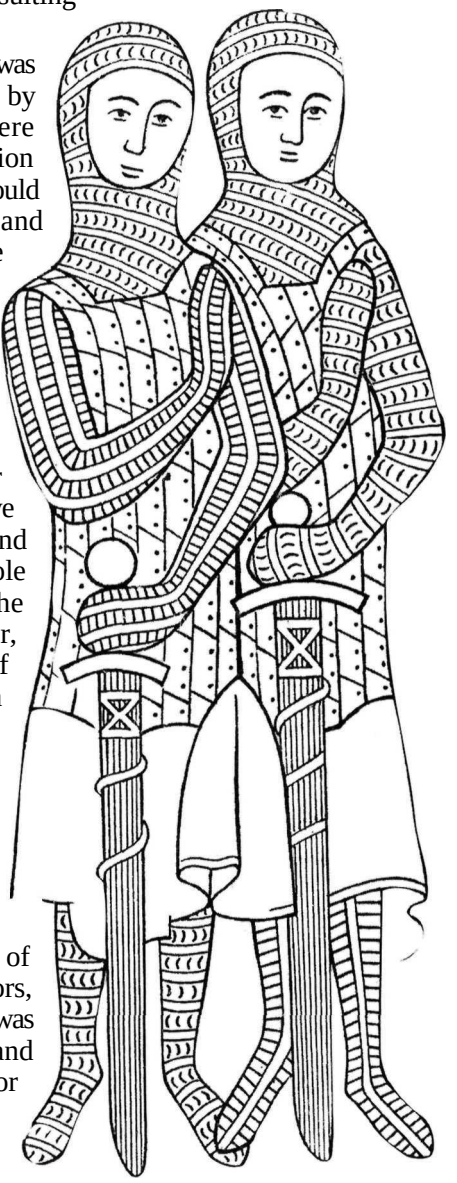
The 15th century saw an increasing use of continental mercenaries in the conflicts that raged within Sweden, the Baltic and the southern parts of Denmark. Here tactics differed depending on which side you were on. For example, the Danish monarchy relied largely upon professional German mercenaries, a trend that began during the 14th century and was encouraged by the close proximity of 'mercenary markets' in northern Germany. This alluring option allowed increased stability within the country, since a contribution to war could be made with money rather than personal service. Personal attendance was not considered essential for the Danish nobility, and the commanders of such units were often minor German princes, dukes or counts. A

significant disadvantage for the Danish crown was the cost of such troops; if the cash to pay them ran out, the mercenaries either went home or started plundering the king's own holdings. In Sweden the situation was different, largely as a result of its weaker economy. Here the nobility were likely to serve in person, and the large scale use of foreign mercenaries only appeared during the time of Gustav Vasa.

Militia tactics were much as before. Where possible they tried to ambush an enemy by using *bratar* - sturdy roadblock barriers erected at the worst possible place for an advancing enemy. This was often easy to accomplish due to the small number of usable roads, which often led through heavily wooded areas, and the tactic worked well in summer. In winter, when most invasions occurred, it was relatively easy to bypass areas where such resistance was expected. On the other hand the local population were probably aware of this fact, and could smash the ice of the frozen rivers which were often used as routes of advance. These fissures could then be obscured by overnight frost, resulting in weak places where men and horses could fall through.

At the end of the 15th century medieval cavalry warfare was a thing of the past, since the horsemen were easily defeated by well -trained and well-equipped infantry. Consequently there was new pressure upon the aristocracy to justify their exemption from taxes or their payment of reduced taxes. Salvation would come in the form of the larger government bureaucracies and standing professional armies that came into existence during the 16th century.

A drawing of a damaged Swedish wall painting from the local church in Bjorsater, showing what is believed to have been its original apparance in the third quarter of the 14th century. Both the identically equipped soldiers have mail hauberks, chausses and coifs, plus splinted coats-of-plates. Such armour was very out of date by this period, as was the laced method of attaching the sword scabbard to the belt.



Propaganda

A novelty in the strategic arsenal was an extensive use of propaganda writings. These usually took the form of letters to be read in church or at the *Ting* - the gatherings of the local population to make common decisions, administer justice or listen to the king and nobles. Clearly it was important to have the support of the local population, especially in Sweden and Norway; in Denmark the nobility played a more dominant role in power rivalries and wars. In Sweden letters were often sent to the different regions to emphasize the goodwill of the sender, to embrace the population and hold out the prospect of returning things to what they had been in 'the good old days' - a term used as frequently then as it is today.

Statements by religious authorities were also important, especially in the 14th and early 15th centuries. Later there was a greater tendency to ignore the Church and its opinions, except when its money was needed. However, local populations tended to see the Church as a link to 'the good old days', so its opinion mattered when dealing with local peasant militias.

In both Denmark and Sweden, from the reign of Albrecht of Mecklenburg onwards, a large number of officials, mayors, leading merchants, bailiffs and soldiers were German. This was widely disliked, though more so in Sweden than Denmark; and the removal of such foreigners became an important factor in the competing rhetoric broadcast by rival parties in the 15th century.

A marginal illustration in a Swedish manuscript from the second half of the 14th century, illustrating combat with longswords using a two-handed technique. A third man has apparently been trying to stop the fight, losing his own right hand in the process. (*Landslag of Magnus Eriksson,* Riksarkivet, Stockholm, Sweden)

FORTIFICATIONS

Early 14th century Scandinavian fortifications largely depended upon the monarch constructing what was, by continental standards, a small stone castle. Private interests normally settled for defences of timber and earth, perhaps enclosing a stone manorhouse. During the 14th century there was an increased use of stone in those fortifications constructed by the monarchy, as the rulers of Denmark, Sweden and Norway sought to establish strong castles at strategic locations; there was also an increase in the construction of larger private manorhouses of stone. Many were a combination of a keep and a dwelling place; these continued to be built during the 15th and early 16th century, Glimmingehus in Sweden being a good example. Such later constructions might, like Glimmingehus, have a moat and auxiliary buildings, or might stand alone.

Nevertheless, kings continued to rely on wooden castles for many of their smaller strongpoints. With its stronger economy, Denmark differed to some extent; its rulers were also more powerful at an earlier date, and by the High Middle Ages were in a position to construct several large stone castles. In Norway, however, Akkershus remained the foremost castle for a very long time, though several smaller castles were constructed by secular and Church leaders.

Most Scandinavian castles consisted of a ring wall with towers and a smaller central tower or keep. Only in Denmark and at Akkershus in Norway did they resemble the more formidable castles of continental Europe. As elsewhere the 15th century marked the beginning of the use of gunpowder artillery in serious numbers, and this was reflected in the design of fortifications. However, the designs generally tended to be old-fashioned, since there was little need in Scandinavia for the kind of fortifications that could **withstand** prolonged sieges using the heaviest siege engines.

(continued on page 33)


THE EARLY 14TH CENTURY
1: Norwegian knight
2: Swedish nobleman
3: Danish crossbowman
1
2
3
Angus McBride


LAST STAND OF THE GOTLAND MILITIA; VISBY, 27 JULY 1361
1: Gotland rural nobleman
2: Gotland merchant militiaman
3: Gotland peasant footsoldier
4: Danish nobleman
5: Danish knight
6: German mercenary infantryman
4
5
6

B

C


SWEDISH FINLAND, MID-15TH CENTURY
1: Swedish man-at-arms
2: Swedish crossbowman
3: Finnish auxiliary, c.1475
3
2
1


THE BATTLE OF BRUNKENBERG, 10 OCTOBER 1471
1: Danish man-at-arms
2: Danish hand-gunner
3: Danish militia crossbowman
1
2
3
Angus McBride 03


NORTHERN SWEDEN, 15TH-EARLY 16TH CENTURY
1: Swedish militiaman, end of 15th century
2: Swedish longbowman, end of 15th century
3: Lapp hunter, 16th century
4: Lapp woman, 16th century
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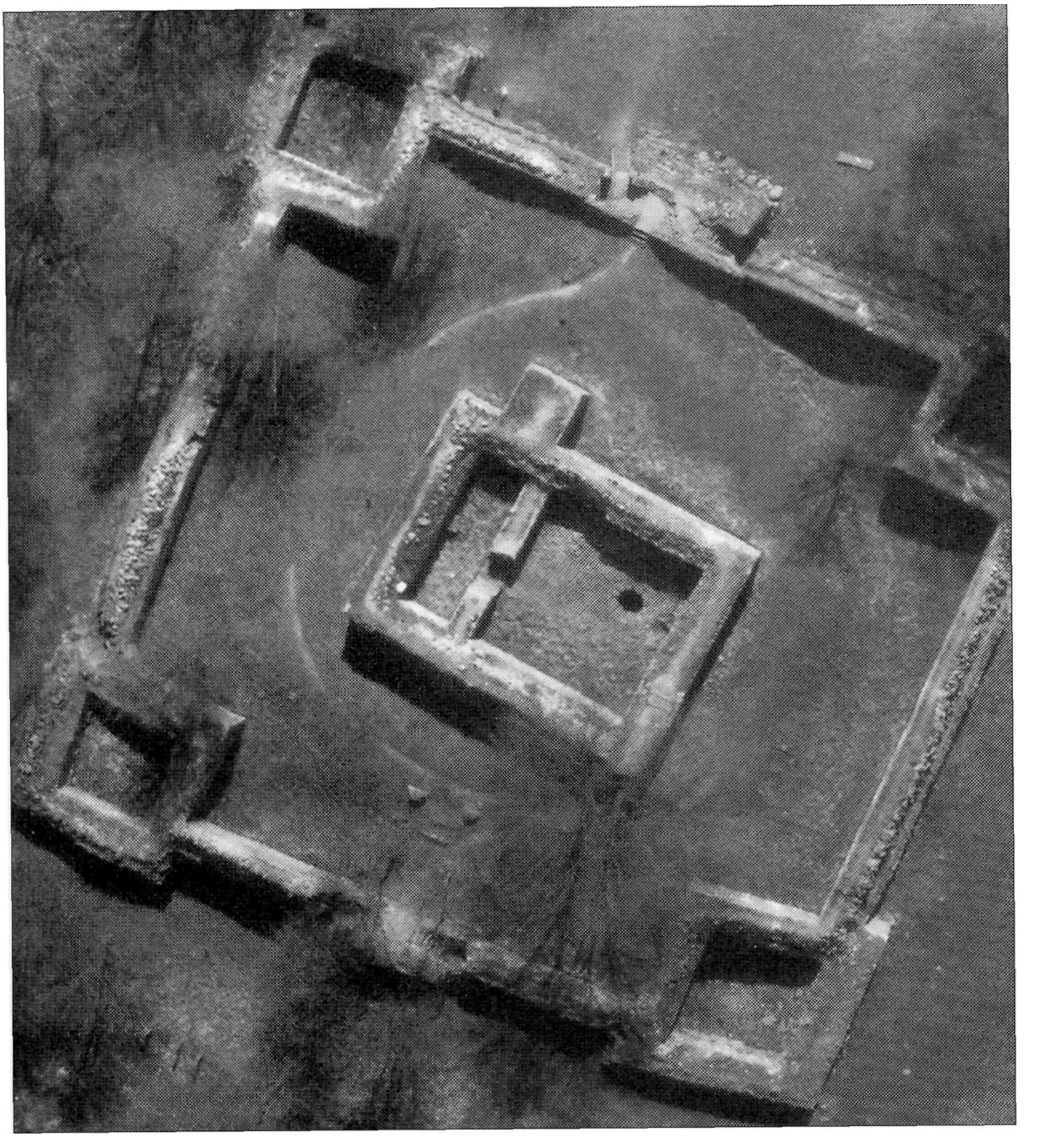
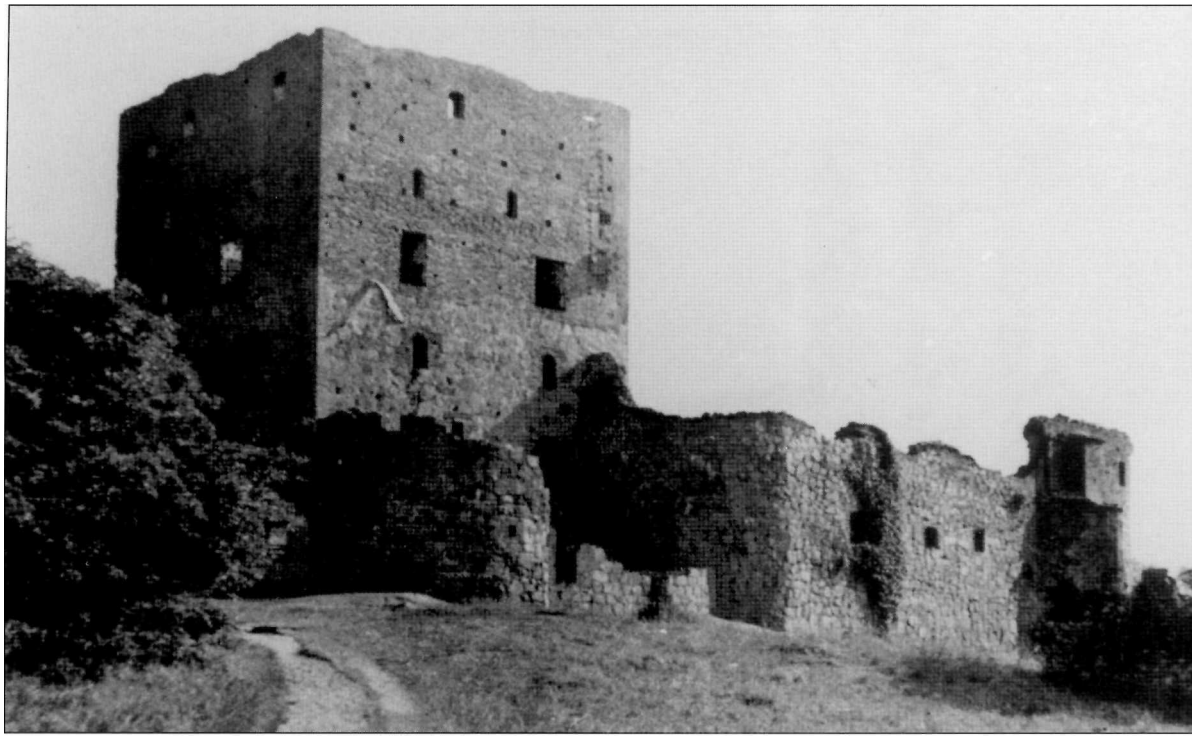
4



An aerial view of the ruins of Gurre Castle in Denmark. Built in the mid-14th century, this typical rectangular castle with corner towers and a central keep was one of the main fortifications in central Denmark during the reign of King Valdemar Attertag.

The weakest point remained the gate, and there is no real evidence of efforts to improve this situation before newer types of fortifications were built in the 16th century. Generally speaking Scandinavian castles and strongpoints continued to resemble 12th and 13th century constructions, the major change being that more were now built of stone instead of wood and earth. A significant development was, however, the fortification of the increasingly important cities. This had begun in the Viking Age, and was continued as existing walls and towers were improved in various ways.



Hammerhus Castle on the cliffs of the Danish island of Bornholm dates from several periods. The oldest part is this massive residential tower, the lower part of which seems to date from the 13th century; most of the rest dates from the next century. (A.Tuulse photograph)

One possible reason for the limited construction of major castles in Scandinavia was the *Nykopings Recess* of 1413, in which the formidable Queen Margareta prohibited all fortifications which did not belong to the crown. As a result several existing fortifications were demolished as a sign that the monarchy would not accept any major military building plans - even among its own allies. A second major cause was the fact that although Scandinavia was rich in building materials it lacked the money and, perhaps most importantly, the manpower for the type of major projects seen in continental Europe and Britain.

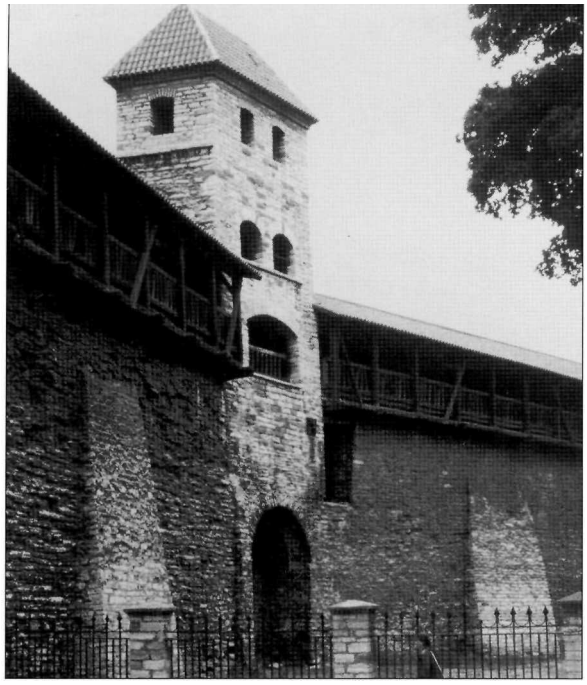
Demographical density is a factor often overlooked when discussing the construction of large defensive sites, especially those undertaken by a private interest. Without the people and the money there was neither the need nor the possibility to carry through large constructions, except when such programmes were initiated by the crown. Even these royal works remained dependent upon the assembly of sufficient numbers of local farmers, woodsmen and other labourers, let alone the stonemasons upon whom the actual building depended.

Siege warfare

Unrest in 14th century Sweden resulted in the razing of many of the earlier wood and earth castles which had served as local royal strongpoints. Increased trade and wealth in Denmark and Norway led to an increase in the construction of large stone castles and fortified manorhouses. Subsequently in Sweden the crown and the nobility began to replace weak earlier fortifications with others of stone or brick. Most were, however, more like large houses than great castles.

Glimmingehus Castle in Skane was a fortified manorhouse, and is one of the best preserved of the many such small fortifications built in Scandinavia during the 14th and 15th centuries. At the time when it was built this part of what is now southern Sweden formed part of the kingdom of Denmark, and remained so until 1658. The Glimmingehus was built in 1499 by Adam von Dueren, a master builder from the Lower Rhineland in Germany.

Because many Scandinavian fortifications were still of timber, fire was the most common weapon brought against them. A garrison were usually offered the chance to surrender, but if the commander or the local officials were particularly disliked they might be slaughtered on sight. Another interesting feature in such siege warfare was that Scandinavian fortifications did not develop strongly defended gates until well into the 16th century. Consequently the burning of a gate remained a viable option even after the castles themselves were built of stone. Dry or water-filled moats were used where possible. Other castles were located on small islands or rocky outcrops next to water. Nevertheless, the sophisticated fortifications developed in continental Europe and Britain took a long time to reach Scandinavia, being seen in Denmark before Sweden or Norway.



The interior of the city walls and towers of the Estonian capital city of Tallinn; this section is between the Nun's Tower and the Kuldjala (Golden Leg) Tower, on the western side of the medieval city. The small tower in the centre of the photograph is, however, apparently unnamed. (D.Nicolle photograph)

Siege engines were mentioned during the 14th and 15th centuries, being used in both attack and defence. Siege artillery included the so-called *blidor,* which was a smaller version of the stone-throwing *trebuchet.* Siege towers were also known, and could be modified for specific situations: some were mounted on large rafts to cross a moat or a narrow expanse of water such as a lake. Another device was the *fascine,* - a large bundle of straw and brushwood that served as cover from missile weapons during the approach and, if soaked in oil or tar, could also be used to burn a gate.

The introduction of gunpowder and the larger guns capable of battering walls and towers made the old strategy of awaiting a surrender less necessary. Until then the normal practice was blockade, and if the besieged had not received relief from their liege lord after two to four weeks they would usually surrender and go free. If they chose not to surrender and their position was then taken by assault, they might be slaughtered to the last man, in accordance with the normal practice throughout Europe.

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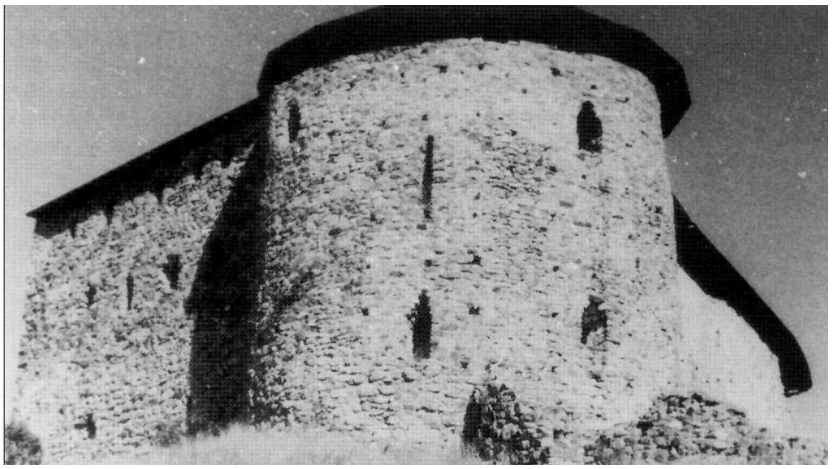

The castle of Raseborg in Finland was built to defend the southern coast of what was then the kingdom of Sweden. It stands on a rocky peninsula to the west of Helsinki (then called Helsingfors); the neighbouring coves served as significant naval outposts near the entrance to the Gulf of Finland.

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THE PLATES

A: THE EARLY 14th CENTURY

A1: Norwegian knight

In addition to a brimmed *chapel-de-fer* form of helmet this man wears a mail *coif* inside what appears to be a separate and padded mail *colliere;* the coif is laced at the back of the head, while the mail colliere is worn inside the *surcoat.* The leather-covered wooden shield, of a quite modern form, is here slung on the man's back on its leather *guige.* A simple and rather old-fashioned mail *hauberk* has long sleeves but no mittens. Beneath his hauberk he has a padded soft armour or *gambeson* and a darker coloured woolen tunic. Over his linen surcoat the knight has a rope-like waist cord from which hangs the sheath of a substantial dagger with an iron guard and bar-like pommel. Because he is armed with a heavy, single-edged *falchion* he does not wear a sword belt. His legs are protected by mail *chausses,* as worn by A2.

A2: Swedish nobleman

This man's German 'great helm' has a slightly pointed top plate which is considerably thicker than the side plates and also has a ventilation or plume-hole at the top. Over a linen shirt he has a new-style mail coif, here shown lying on his shoulders; a leather draw cord would tighten the coif around his head, and there was probably a padded arming cap sewn or laced to the inside. The long-sleeved mail hauberk has integral mail mittens with laces to tighten the mail around the wrists; they are shown here hanging off his hands, which protrude through slits in their kid leather palms. The nobleman's surcoat is permanently riveted to an early form of coat-of-plates beneath. The plates only protect his chest, abdomen and lower back; they are secured to the surcoat by gilded rivet heads, and there is also what appears to be a pattern in gold thread embroidery over the junctions of the corners of the plates - perhaps to inhibit wear or fraying. The narrow leather waist belt has a gilded buckle while the broader sword belt also has a large gilded buckle, buckle plate and bar-like stiffeners. The fact that the hem of the surcoat is slit at the sides rather than the front and back seems to indicate German influence. The mail chausses which protect his legs only go over the tops of his feet, these mail flaps being laced to the woollen hose beneath. The method of lacing the sword belt to the scabbard is also rather German; typically the wooden scabbard would be covered with colour-stained leather, with gilded reinforcements and a gilded chape, and the sword has a gilded pommel and quillons. The leather-covered interior of the wooden shield has a notably complex system of straps, buckles and of course a leather guige.

A3: **Danish crossbowman**

Here a segmented and broad-brimmed iron 'kettle' helmet is worn over a smaller, close-fitting iron *cervelliere.* Beneath both there is a mail coif with leather laces at the back, which is itself worn over a thickly padded colliere or *spaulder* which protects the neck and shoulders. Over a mail hauberk with three-quarter-length sleeves he wears a cloth-covered coat-of-plates. Here each of the internal plates is apparently secured by a pair of small bronze or gilded rivet-heads. The dull coloured tunic beneath the mail hauberk is probably of wool. The plain leather sword-belt has an iron buckle but is attached to the scabbard by a new system of two D-rings on the sides of a metallic band around the scabbard; this is of plain leather-covered wood with an iron chape, while the short, barely tapering sword has an iron hilt and leather-covered grip. Instead of a full sized shield this man has a small leather-covered wooden buckler with a large domed iron boss plus narrow riveted iron reinforcements. Dipping below the sword belt is a broad leather spanning belt for his crossbow, supporting a double iron spanning hook attached by rawhide thongs. A plain leather quiver for crossbow bolts would hang behind his right hip, attached to the sword belt. The large crossbow has a wooden stock, iron trigger and stirrup, and a parchment-covered stave of composite construction.

B/C: LAST STAND OF THE GOTLAND MILITIA; VISBY, 27 JULY 1361

This scene shows Danish knights of King Valdemar IV's army closing in on the last Swedish defenders outside the walls of Visby on the island of Gotland, where the excavated grave-pits have revealed a remarkable amount of armour.

B/C1: Gotland rural nobleman

The *bascinet* form of helmet worn by this wealthy and influential leader has a hole above the temples on each side of the skull where the swivels for a visor would be attached. There is a band of leather beneath the protruding iron *vervelles* or staples; through these a coloured cord is threaded to secure the mail *aventail,* which covers the man's neck, chin and shoulders. Over the shoulders of the aventail he has a fabric-covered coat-of-plates whose very large internal iron plates are secured by rivets; it is secured by four buckled straps up the back. Beneath this he wears a long-sleeved mail hauberk, and his hands are protected by mail-covered and thickly padded gauntlets. The leather-covered wooden shield is supported by a leather guige. The broad colour-stained leather sword belt has a gilded buckle, buckle plate, strap end, and disc-shaped stiffeners, while the scabbard is attached to the belt by rings. The coloured leather-covered wooden scabbard has a gilded chape, and the tapering sword has gilded quillons and pommel. A linen shirt or tunic is worn beneath the mail hauberk. Over the thighs and knees are soft padded leather *cuisses,* with domed iron *poleyns* riveted to the knees. His *greaves* consist of long, narrow iron strips riveted to thick, brightly coloured 'stockings' over the legs but not over the feet. The iron *sabatons* only cover the tops of his feet, each lame being riveted to the next, and laced to mail chausses beneath by leather thongs. These mail chausses actually cover both feet and legs beneath the greaves.

B/C2: Gotland merchant militiaman

Although apparently a prosperous man, his military equipment is old-fashioned. The segmented helmet with its broad nasal is particularly archaic; beneath this he has a simple mail coif to protect neck and shoulders. Seemingly most old-fashioned of all is the large round wooden shield hung on his back by a broad leather guige; the leather covering on its face is secured by small iron nails around the rim. The long-sleeved mail hauberk is again in a simple, archaic style; the way it is cut away at the back of the hem suggests that it might even date from the late 12th century. Beneath the hauberk is a padded gambeson over a plain woollen tunic; his legs and feet are protected by mail chausses, his hands by mail-covered and thickly padded gauntlets. The coat-of-plates is a very interesting item, which

may have been remade from a laced lamellar cuirass. The elements or *lamellae* are, however, now attached to each other with iron rivets rather than leather lacing. The upper rows overlap downwards, while the lower three rows overlap upwards, leaving a narrower row just above waist-height which is overlapped from above and below. The lowest two rows also extend around the front and sides of the body only, not the back. Broad buckled straps support the coat-of-plates on the shoulders, and there are scale-shaped iron flaps around most of the edge of the arm holes, again secured by iron rivets. This coat-of-plates opens fully down the front, where a substantial overlap is closed by iron-buckled straps on all the rows of lamellae except the lowest. Finally, the man is armed with a very substantial war-axe.

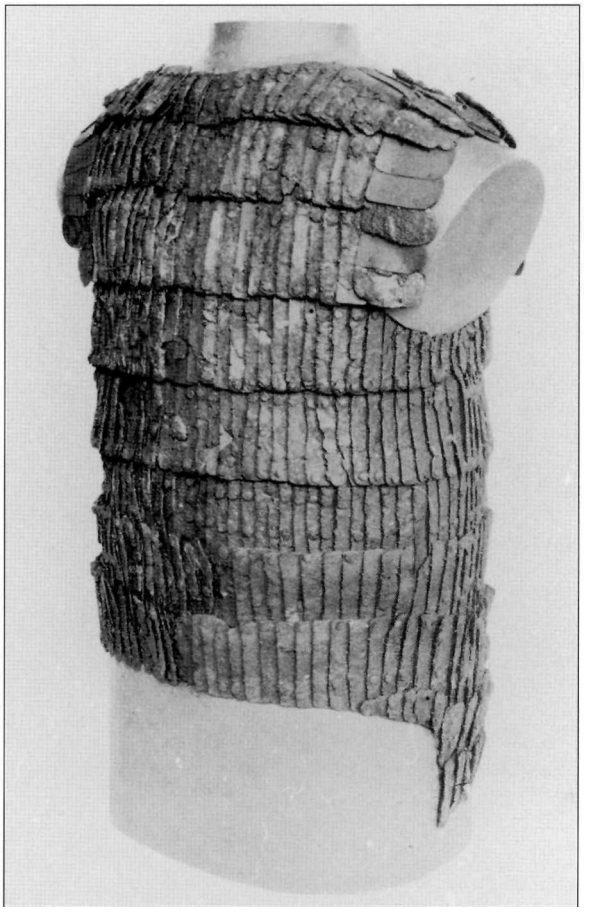
B/C3: Gotland peasant footsoldier

The substantial cheek pieces attached to this man's brimmed chapel-de-fer were a distinctively Scandinavian style. Otherwise the rest of this ordinary peasant militiaman's equipment is simple, old-fashioned, and probably shows signs of wear over several generations. It consists of a mail coif, a thickly padded mail-covered colliere or spaulder to protect his neck and shoulders, an old mail hauberk with integral mail mittens, a linen-covered quilted gambeson, and mail chausses which are here worn inside his shoes. The wrists of the hauberk are again tightened with leather laces. The great bearskin coat with flap-like sleeves, secured at the front by a rawhide loop and horn toggle, may also have provided additional protection. The plain leather-covered scabbard with iron chape is simply thrust into a plain belt with an iron buckle; the sword has an undecorated iron pommel and quillons and leather-covered grip. The large-bladed iron spear has 'winged' extensions from the socket. The flat wooden buckler with a large iron boss over the fist-grip bar has a single iron reinforcement ring nailed to the front.

B/C4: Danish nobleman

In contrast to the old-fashioned arms and armour of the Gotland militia, the invading Danes were led by a knightly elite equipped in a more up-to-date and largely German style; yet even here there are some features indicating that Denmark was a little behind the times. The rim of the bascinet goes low around the neck; a mail aventail is secured inside the lower part of the helmet by leather lacing

Among the armours found in the grave-pits of victims of the battle of Visby, 1361, is one lamellar cuirass of eastern origin, and some coats-of-plates which look as if they may have been reconstructed using the elements of what had originally been a lamellar cuirass. It is also possible that these latter armours, one of which is shown here from the front and back, were inspired or strongly influenced by eastern European lamellar armour but were not actually 'remade'. See Plate B/C2. (Visby Armour No.24, National Historical Museum, Stockholm, Sweden)

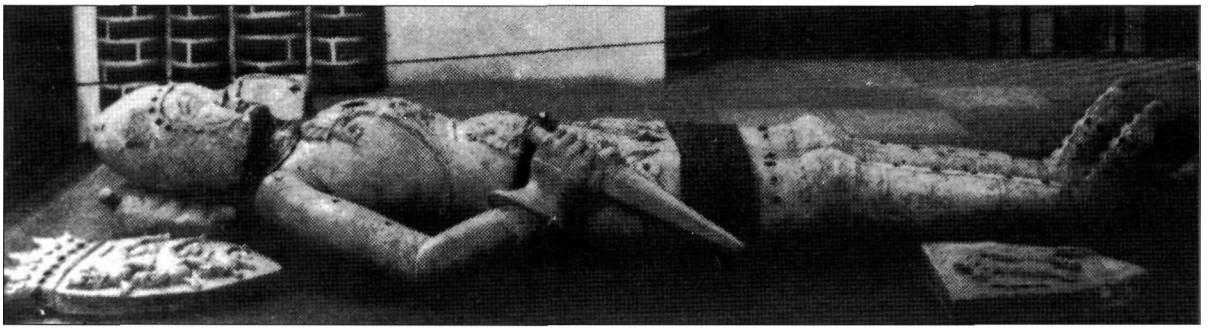


through holes in the rim. There is also a tumbuckle above the forehead to secure a visor. Hardened leather shoulder pieces are just visible, attached to an unseen coat-of-plates beneath the tight-fitting surcoat. Very simple iron *rerebraces* cover the outsides of the upper arms, where they are secured by buckled straps. An unusually limited form of hinged and buckled iron *vambrace* protects most of the lower arms; these do not reach the wrists, although they do overlap the rerebraces at the elbows. (Some sources show vambraces with linings which extend as decoratively scallopped fringes around their lower ends.) The iron gauntlets incorporate soft leather gloves. Beneath the plated arm defences and the coat-of-plates is a long-sleeved mail hauberk. The tight-fitting surcoat is decorated with embroidered heraldic dragons; three iron chains emerge from slits in the chest, one leading to the dagger, one to the sword, and one being currently unused. A broad and highly decorated sword belt sits low around the hips. Attached to this is a colour-stained leather-covered wooden scabbard for a sword with gilded pommel and quillons. A 'ballock' dagger with gilded hilt mounts is carried in a dark leather sheath with a gilded chape. The scale-lined cuisses over the thighs are covered in brightly coloured fabric with a decorative scalloped fringe, and gilded rivets secure the internal scales. The domed poleyns are made of hardened leather and their upper edges pass beneath the cuisses. The brightly coloured greaves are similarly made of hardened leather, reinforced with gilded iron straps down the front and around the sides but not the rear of the leg; there is a scalloped fringe at the ankles. Iron sabatons protect the tops of his feet while mail chausses cover both feet and legs beneath the sabatons and greaves. Invisible here, the leather-covered wooden cantle and pommel of the saddle would reflect the nobleman's heraldic insignia. Note that the reins are partly of leather covered with coloured fabric and partly of 'weapons proof iron chains.

B/C5: Danish knight

This Danish knight appears even more German in style than the nobleman. His tall and slightly pointed bascinet is worn over a mail coif which passes inside his surcoat. The parchment-covered wooden *ailettes* laced to the hardened leather shoulder pieces of his coat-of-plates are, of course, only for heraldic identification purposes and serve no protective function. Most of the coat-of-plates is covered with brightly coloured fabric while gilded rivet-heads secure the internal iron lames or scales. It is mostly obscured by the tight-fitting surcoat in matching colour with similar scalloped hems, which is laced down the sides of the body - note that the back is much longer than the front.

He also wears two mail hauberks or shirts, the outer one being short-sleeved and short-hemmed. On the upper arms, between these two mail armours, are hardened leather rerebraces held by buckled straps. The gauntlets are largely covered with iron plates. An off-white quilted *aketon* beneath



the coat-of-plates and mail shirts has the hem slit at the sides rather than front and back. A sword belt emerges from beneath the surcoat, supporting the scabbarded sword; this is not being used at the moment because the knight wields a heavy falchion. His legs are protected by domed iron poleyns secured by buckled straps around the backs of his knees, plus fabric-covered, scale-lined cuisses with gilded rivet heads. The iron greaves cover the fronts of his legs only, but beneath them are mail chausses, while the sabatons consist of riveted iron lames. The gilded rowel spurs have coloured leather straps with gilded buckles. The cloth *caparison* covering the body and neck of the horse is purely decorative and contains no protective layers; beneath the head part there is, however, a hardened leather *chamfron.*

B/C6: German mercenary infantryman

Compared with his Danish employers, this German professional soldier is equipped in the latest style for close combat. A bulbous form of chapel-de-fer is worn over a small iron bascinet with a mail aventail attached by vervelles. Just visible is an iron pin-and-loops fastening attached to a stiff leather patch, which enabled his coat-of-plates to be opened at the right shoulder only. This coat-of-plates has a

OPPOSITE Top and side views of the effigy of Duke Christopher of Denmark, who died in 1363; cf Plate B/C4. Some aspects of the armour are quite modern, including a bascinet helmet which could have had a 'dog-faced' visor attached at the brow. Beneath a tight-fitting surcoat the duke has a coat-of-plates or perhaps breast- and back-plates. The leg armour is also typical of this period, but the arm defences lack couters for the elbows and appear rather simple, if not old-fashioned. (*in situ* Cathedral, Roskilde, Denmark)

A wall painting of King Valdemar Atterdag of Denmark, made in 1375. The king wears a deep form of bascinet, also widely popular in neighbouring Germany, with a mail aventail. Beneath his tight-fitting surcoat with its wide, elbow-length sleeves he would have had a plate cuirass or perhaps a late form of coat-of-plates, and beneath this a mail hauberk. There appears to be plate armour on at least the outsides of his arms, on his knees and lower legs. Note the 'ballock dagger' at his hip. (*in situ* Church of St Peter, Naestved, Denmark)

simple cloth covering with visible iron rivet heads and polished bronze washers to secure the internal splints or lames. Beneath this is a short-sleeved mail shirt over a long-sleeved mail hauberk. Iron plates are riveted to substantial leather gloves to form simple gauntlets. The plain leather belt with an iron buckle supports a large form of *basilard* dagger with bronze plates riveted to the cross bars of its H-shaped hilt; its darkened leather sheath is secured behind a leather pouch. The fabric-covered cuisses are lined with iron scales secured by rivets; iron poleyns are strapped over the knees; iron greaves cover the fronts of his legs and iron sabatons the tops of his feet, over mail chausses. The soldier carries no shield but is armed with a large-bladed *guisarme.*

D: ICELAND, LATE 14th CENTURY

D1: Norwegian royal official

This representative of the crown has arrived in Iceland to collect taxes. Beneath a flat-topped fur hat with a large brooch and decorative feather, as seen in some Scandinavian art of this period, is a very ordinary off-white linen coif. A mail spaulder around his neck and shoulders has a white fabric lining which probably indicates some element of padding. The short-sleeved and otherwise close-fitting surcoat is decorated with embroidered heraldic shields and bands of cloth-of-gold. The shape of the chest probably indicates that a thickly padded jupon is worn beneath, rather than any form of rigid body armour. The man does, however, have a long-sleeved mail hauberk with iron couters buckled around the elbows, plus fur-lined leather gloves. The coloured leather sword belt low on his hips has numerous enamelled bronze medallions as stiffeners, and a heraldically enamelled buckle cover at the front. The scabbard is hung from coloured cord loops; the sword has a leather-covered grip, gilded pommel and quillons, and a leather rain flap from the grip which covers the top of the scabbard. Hidden by the hauberk are cloth-covered, scale-lined cuisses with gilded rivets; below these are mail chausses covered by iron poleyns, iron greaves over the fronts of his legs, and iron sabatons with gilded rowel spurs. Despite his rather magnificent attire, the royal representative has today been obliged to ride a small Icelandic pony with undecorated harness.

D2: Icelandic infantryman, c.1370

The late 14th century Icelandic manuscript known as the *Flateyjarbok* illustrates several soldiers with remarkably tall and pointed forms of bulbous chapel-de-fer helmets - they look almost more Russian than Scandinavian. Here such a helmet is worn over a separate mail coif, which itself overlaps the upper part of a cloth-covered coat-of-plates. The internal vertical iron splints of the latter, secured by iron rivets, protect only the front and sides of the body, not the back. Between the coat-of-plates and a long-sleeved mail hauberk with integral mail mittens is a very thick woollen coat, almost reaching the ankles and with long, broad sleeves. Mail chausses protect his legs and feet. His shield is a flat wooden buckler with a large iron boss and iron reinforcements riveted to the front. The old-fashioned sword with an iron pommel and quillons is in a plain leather-covered scabbard with an iron chape.

D3: Icelandic peasant

Archaeological evidence from Greenland and artistic evidence from Iceland indicate that the inhabitants of these far-flung outposts of medieval European civilization wore essentially the same styles of clothes as the people of the European heartlands. They were, of course, usually behind the times when it came to fashion, but not usually more than a few years. For example the farmer/hunter shown here has a thick woollen hood terminating in a fashionable *liripipe.* His guarnache-style coat with its elbow-length sleeves is also very full around his body, in a style which would have provided additional warmth in the harsh climate of the North Atlantic. The puffed sleeves of the tunic beneath this outer garment would have served a similar purpose. His iron-bladed axe is a work tool rather than a weapon.

D4: Icelandic child

The simple woollen tunic given to this child is based upon a slightly later example found by archaeologists in a Scandinavian grave in Greenland.

Some of the armed men illustrated in the late 14th century Icelandic *Flateyjarbok,* a collection of sagas about the Scandinavian kings written around 1390. As in so much 14th century Scandinavian art, the soldiers wear broad-brimmed chapels-de-fer; in addition to swords and spears, many are also armed with large war-axes, just as their Viking forebears had been. Cf Plate D2. Held in the Royal Library of Copenhagen for several centuries, the *Flateyjarbok* and another unique manuscript were ceremonially returned to Iceland in 1971; many other Icelandic manuscripts followed. (Manuscript Institute, GKS 1005 Fol., Col. 130, Reykjavik, Iceland)

E: SWEDEN, EARLY 15th CENTURY

E1: Swedish militia crossbowman, early 15th century

Swedish militiamen are depicted defending a *brate* field fortification on a forest path against a Danish force. The helmet, with a broad brim dipping to points at front and back, also has a strengthening strip riveted across the skull from front to back. Beneath it the mail coif has an integral padded lining, especially across the shoulders, which appear rather bulky. The fabric covering of the breast plate is glued to the surface of the iron as well as showing numerous small brass rivet heads; it is closed by straps and buckles at the sides. The four iron hoops or lames around and below the waist form a slightly flexible *fauld,* and are again covered with a layer of cloth. Three holes on the right breast of the breastplate show where a lance-rest was originally riveted. The man has no further armour, but wears a woollen tunic and the loose-fitting woollen trousers which became a distinguishing feature of northern Scandinavian peasant costume. Around the waist is a very broad leather belt for the double-pronged iron spanning hook which hangs from a broad leather loop at the front. Beneath this is a plain leather sword belt with an iron buckle. The leather-covered wooden scabbard with its iron chape sits in a simple leather loop on the left side of the sword belt. The sword has a spherical iron pommel, iron quillons and a leather-covered grip. Behind the bowman's right hip a plain leather quiver for crossbow bolts hangs by rawhide thongs to the sword belt. A flat wooden buckler with a large iron boss again has an iron reinforcement ring near the edge. The crossbow is a normal form with a parchment-covered composite stave, wooden stock, iron trigger and stirrup, the latter secured by the same bunches of rawhide thongs that fasten the bow to the stock.

E2: Swedish man-at-arms, first half 15th century

This knight or professional cavalryman has full plate armour or 'white harness', though for some reason the laminated steel fauld below his breast- and back-plates has been removed. This armour is not in the latest style, and might be considered old-fashioned further south. The bascinet is of a normal pointed style, but lacks both a visor and a mail aventail; the large swivel rivet head where a visor would be attached can be seen on the side, as can the iron vervelles for an aventail. On the other hand he does have a padded mail colliere beneath the cuirass, closed at the throat by short buckled straps. The breast- and back-plates have buckled straps at the sides; note a raised iron bar riveted to the upper chest, to stop a lance point sliding up into the wearer's throat, and two holes in the right breast where a lance-rest could be attached. The long, brightly coloured, decorative scalloped 'fringes' emerging from the arm holes of the cuirass may come from another otherwise unseen padded jupon or an early form of arming doublet. Beneath this a short-sleeved and short-hemmed mail shirt is worn over a thickly quilted gambeson. The complete iron plate arm harness includes rerebraces, couters and vambraces plus iron gauntlets with integral leather gloves. A narrow, loose-fitting sword belt with gilded buckle and numerous gilded, enamelled decorative lozenges supports a blackened leather-covered wooden scabbard with a gilded chape, hung by means of rings set on two off-set gilded bands. The sword is a long-bladed, long-hilted 'hand-and-a-half weapon with

Wall painting showing Bengt Jonsson made in 1437. Here the Scandinavian nobleman wears full plate armour and a mail hauberk, though he lacks his helmet. Although the drawing is simple in its execution, the armour seems to be in German style; most of the best armour used in Scandinavia was in fact imported from Germany, though simpler or lower quality items were also manufactured locally. Note the scalloped fabric strips at the shoulders - cf Plate E2. *(in situ* local church, Tensta, Sweden)

a gilded pommel and quillons and a leather-covered grip. On the front of the right hip a ballock dagger with a gilded guard and pommel sits in a leather sheath with a gilded chape, suspended from the belt by a buckled strap. Over ordinary mail chausses the man-at-arms has plate iron leg harness, but only for the front of his legs and tops of his feet and secured by buckled straps around the back of the legs.

E3: Danish man-at-arms, early 15th century

Once again a Danish soldier is armed in a more modern style than his Swedish opponents. His equipment includes a large one-piece iron chapel-de-fer with a deep brim, probably imported from Germany. This is worn over a mail coif which also covers his shoulders. Over the lower part of this coif are the broad leather shoulder straps which connect the breast- and back-plates of his cuirass. The iron breast-plate was originally made for a mounted man-at-arms, and has a throat-protecting bar riveted to the upper part of the chest. It is worn with an additional steel plate *plackart* over the abdomen, plus a laminated fauld around the hips. This in turn is worn over a mail hauberk with three-quarter-length sleeves and 'dagged' edging to the sleeves and skirt. His hands are protected by simple but substantial iron-plated gauntlets. In contrast to the substantial body armour, this man's lea harness consists of iron plates for the fronts of his

thighs and poleyns for his knees and upper shins, worn over woollen hose. A dagger with an all-iron hilt is carried in a leather sheath from a strap to the leather waist belt. His primary weapon is, of course, an iron halberd with an additional thrusting spear point; the wooden haft was at one time painted red.

F: SWEDISH FINLAND, MID-15th CENTURY

F1: Swedish man-at-arms

One of the defenders of a Swedish frontier castle in Finland, under bombardment by Russian artillery, this man has arms and armour indicating either a person of considerable wealth and prestige, or that he had served in Burgundy where he had purchased a full suit of the latest armour. This includes a notably deep form of *sallet* with an eye slit, and a fixed *bevor* to protect his throat and lower face, this being secured by a buckled strap around the back of his neck. The bevor did not, of course, move when he turned his head from side to side, being secured by an iron pin through an iron loop on the breast-plate. Beneath the bevor is a mail colliere. The outer plate or plackart of his breast-plate is partially fluted at the front and, like the breast- and back-plates beneath, is hinged on the left side while being buckled at the right. Both the inner breast-plate and the outer plackart have a slightly forwards-thrust profile. The iron fauld of this cuirass consists of five lames which are again hinged down the left side and buckled down the right. Beneath the steel cuirass is an ordinary mail hauberk whose sleeves are worn inside the plate arm defences. Between the laminated spaulders and fluted roundels on his shoulders, however, there appear the shorter and much broader sleeves of another whole or partial mail garment. The plate arm defences again consist of rerebrace, very large couters with wings to protect the fronts of the elbows, vambraces for the lower arms, and gauntlets with elongated 'cuffs' up the outsides of the arms. His leg harness is similarly complete and includes sabatons made of numerous narrow lames across the feet plus fluted toe-caps, with leather shoes worn inside. The dark leather sword belt passes twice around the body; this would stop it slipping, and also enabled the scabbard to be attached at two alternative points depending on whether the man was on foot or on horseback. The scabbard itself has a pair of soft leather sleeves beneath the leather loop straps which connect to the belt. The sword has a long grip, a remarkably small iron pommel, and S-shaped flattened iron quillons.

'Guard at the Holy Sepulchre' on a Finnish wall painting dating from the second half of the 15th century. Most of present-day Finland formed part of the kingdom of Sweden during the later Middle Ages. Despite being on the far north-eastern corner of medieval western European civilisation, its art and its military equipment were in essentially the same tradition as the rest of the continent. Here a fully armoured foot soldier has a brimmed chapel-de-fer with an eye slit cut into the front of the brim. His armour consists of a breast-plate, plate arm defences, tassets for his thighs and greaves for his legs. This appears to be worn over a mail hauberk and perhaps mail chausses. His weapon is a massive halberd with a cutting blade, thrusting point and hook. See Plate F3. *{in situ* local church, Rimito, Finland)

F2: Swedish crossbowman

The tall, pointed, one-piece 'onion-dome' helmet has a relatively flat brim, which seems to have become a typical Scandinavian feature. The white fabric lining of his padded mail colliere is visible around the neck, this piece of armour being worn with the buckles down the back rather than the front. A short-sleeved mail hauberk is worn beneath a *brigandine,* though the latter is his primary protection. Under the hauberk there appears to be a fur-lined garment, perhaps reflecting the local climate. The cloth-covered brigandine itself consists of numerous small internal scales each secured by three small brass rivets, plus a pair of larger plates on the chest. This armour opened down the front where it was secured by buckled straps. As usual the arm harness consists of rerebraces, coulters and vambraces. The narrow leather belt seems to have no function apart from keeping the brigandine tightly closed. A broader leather sword belt passes through slits in a leather sleeve around the scabbard. The sword, though apparently simple, is actually very advanced, having a horizontal iron finger-protecting ring on one side of its iron quillons. A broad leather spanning belt has a large iron ring at the front to

which the rope of a small spanning pulley is attached. The pulley has an 8-shaped iron ring at the end, which would be placed over the iron 'plug' at the butt end of the crossbow stock; running along the rawhide rope is a simple iron pulley with a substantial iron hook. This large form of crossbow was used in siege warfare; the iron stirrup is large enough for two feet, and the stave is of solid wood rather than composite construction.

F3: Finnish auxiliary, c.1475

Pictorial evidence suggests that at least some of the troops stationed in Swedish-ruled late medieval Finland were equipped in up-to-date styles. This infantryman has the very deep form of chapel-de-fer helmet with an eye slit cut into the front of the brim. He also has the usual padded mail colliere beneath a full plate cuirass. In addition to a short-sleeved mail hauberk beneath the other armour, he wears plate iron spaulders or shoulder armour which are different for each arm. The rest of the arm defences are, however, symmetrical, consisting of rerebraces, couters (with the wings removed for some reason), vambraces, and rather massive iron gauntlets. Though he has the breast- and back-plates of an iron cuirass, held up by broad leather shoulder-straps, the laminated fauld and plackart of this armour have been removed. His plate leg harness only covers the front of the legs; the tops of his feet, hidden here, are protected only by flaps of mail rather than laminated sabatons. His weapon is a singularly massive iron halberd with a cutting blade, a thrusting point, and a hook to pull cavalry from their horses.

G: THE BATTLE OF BRUNKENBERG, 10 OCTOBER 1471

At this battle King Christian of Denmark and Norway was defeated by Swedish forces under the regent Sten Sture.

G1: Danish man-at-arms

Here a visored form of sallet helmet has the visor lowered; there is no bevor, but the man's throat is protected by a cloth-lined and padded mail colliere which also covers his shoulders. The upper edge of his breast-plate is just visible at the neck. However, German or even Central European fashionable influence is indicated by the loose-fitting garment with very puffed sleeves which is worn between the breast-plate and the outer plackart; this spectacular garment would probably be of velvet and has gold thread embroidery around the neck. The steel plate plackart outside the velvet 'jacket' is hinged on the left side and has buckled straps on the right, as is the laminated steel fauld around the abdomen and hips. Steel tassets on buckled straps hang from the fauld to protect the upper thighs. Steel mittens with mail over the outsides of the thumbs and fingers have integral leather gloves. Beneath all the other armour there is a mail hauberk. The man-at-arms' full steel leg harness incorporates mail flaps from beneath the knee and upper shin protections, and there are leather shoes inside his sabatons. A simple rondel dagger, with gilt mounts and a polished wood grip, sits in a dark leather sheath on a leather strap to the upper circuit of the doubled sword belt. The sword belt goes twice around the waist and hips, and has a gilded buckle. The scabbard hangs from the upper circuit of the sword-belt because the

A combat between a Swedish peasant militiaman (left) and a German mercenary. This remarkable drawing was made in 1502 by Paul Dolnstein, who had himself fought as a mercenary soldier in Scandinavia. The Swede - cf Plate H - wears straight, baggy trousers and a brimmed chapel-de-fer, perhaps a mail coif or colliere, and a fluted breastplate with the upper lames of a fauld around his hips. Note his odd-looking pike-like weapon with S-shaped 'quillons' like a sword. On his left hip is a longbow, and the large bag on his back might contain arrows. (City Archives, Weimar, Germany)

man is on foot; leather straps from the belt pass around rawhide sleeves on the leather-covered scabbard. The sword has a leather covered grip, gilded quillons, and a gilded pommel in the form of an open ring (which recalls some Irish swords of a similar period).

G2: Danish hand-gunner

In additional to a simple form of brimmed iron chapel-de-fer this soldier has a conventional padded mail colliere around his neck and shoulders, though on this occasion the buckled opening is at the back. A thickly quilted linen-covered, long-sleeved gambeson is worn over an unseen brigandine or breast-plate. Beneath this he wears a mail hauberk. Though he has no other apparent arm protection, he wears almost complete leg armour consisting of cuisses for the front of the thighs, poleyns for the knees, and hinged and buckled greaves which wrap around the entire lower legs; he has no sabatons, and the mail chausses beneath his plate leg armour end just below his ankles. A plain leather belt with an iron buckle supports a large leather bag on looped straps to contain powder, shot and other necessities. The handgun may have been imported from Germany or somewhere else in Central Europe; the barrel is secured by a nailed strap around the massive wooden stock. His only defensive weapon appears to be an iron-headed war-hammer on a wooden haft with a leather wrist-loop.

G3: Danish militia crossbowman

Here another, much deeper version of the chapel-de-fer has a steeply sloped brim with two eye holes at the front; these are surrounded by a raised lip to stop enemy weapons sliding into the eye slits. A mail coif over his head and neck is worn beneath a mail colliere with cloth lining and padding, which covers most of the shoulders. Laminated iron spaulders or shoulder armour are probably fastened to the shoulders of the brigandine and are clearly secured by buckled straps beneath the arms and armpits. Beneath these the bowman wears a three-quarter-sleeved mail hauberk over plate iron or steel vambraces for his lower arms; there are appararently no couters to protect the elbows. Interestingly, the lower hem of the hauberk is slit at the sides rather than the front and back. A fabric-covered brigandine has numerous sets of triple rivets to secure its internal scales. Over this there is a steel-plate plackart to protect the wearer's abdomen and back, hinged on the left side and buckled on the right. A plain leather sword belt supports a scabbard which is attached at three points. The scabbard itself is of leather-covered wood with an iron chape, while the strongly tapering sword has a round iron pommel and straight quillons. Iron leg armour covers the fronts of the thighs, knees and upper shins only; it is secured by buckled straps over quilted chausses and close-fitting woollen hose. The rather floppy leather boots suggest that this soldier expects to ride rather than to walk very far. A leather-covered, wood-reinforced quiver for crossbow bolts is attached to the right hip of his leather belt by rawhide thongs. The large and very up-to-date form of crossbow incorporates a parchment-covered composite stave; it is spanned with a lever-operated steel 'crow's-foot'.

H: NORTHERN SWEDEN, 15th-EARLY 16th CENTURY

H1: Swedish militiaman, end of 15th century

Soldiers from a northern outpost or town are questioning a nomadic Lapp family. Once again a Swedish soldier's military equipment betrays clear German influence, particularly apparent in the blackened steel sallet, which is here tipped back on the head for clearer vision; note the upswept rear point. The usual padded mail colliere has its buckled fastening at the front and is worn over a short-sleeved mail *haubergeon.* Over these is a blackened cuirass, hinged on the left side and buckled on the right; blackened steel tassets for the fronts of hips and upper thighs are attached by buckled straps to a single-lame fauld which is itself riveted outside the lower edge of the breast-plate. The man's dark woollen tunic is presumably tucked into his trousers as it is not visible around the thighs. His very loose and crumpled trousers are worn beneath blackened steel greaves, resulting in a bloused effect below his knees. His weapons consist of a ballock dagger with a bronze grip, in a leather sheath hung from a leather strap to a plain leather belt with an iron buckle. The primary staff weapon looks almost as if it has been made of a short sword thrust into the end of a stout pole. Leather binding close around the top and base of this pole is also wound in a more extended manner around the rest of the shaft.

H2: Swedish longbowman, end of 15th century

Another distinctive version of the deep-brimmed iron chapel-de-fer with eye holes cut into the front of its brim appears in a remarkable series of drawings made by a German mercenary who fought in Sweden around the year 1500. Once again a mail colliere is buckled at the front of the throat and is worn beneath a plackart or a limited form of breast- and back-plates. The latter are joined by sturdy leather straps across the shoulders and are partially fluted. The three lames of a hip-protecting fauld only appear at the front of the body, not over the lower back or buttocks. A loose-fitting woollen shirt is again tucked into typically Swedish thick, loose-fitting woollen trousers. The soft leather moccassin-like overshoes worn on top of ordinary leather shoes may be another characteristic element of northern Scandinavian costume. A wooden water bottle hangs from a plain leather belt by rawhide thongs and seems to be made like a flattened barrel. The very large canvas-covered pack on his back may actually contain arrows for his longbow. The latter is itself carried in a long canvas bag with the top end folded over, the whole apparently being thrust through or looped from the waist belt.

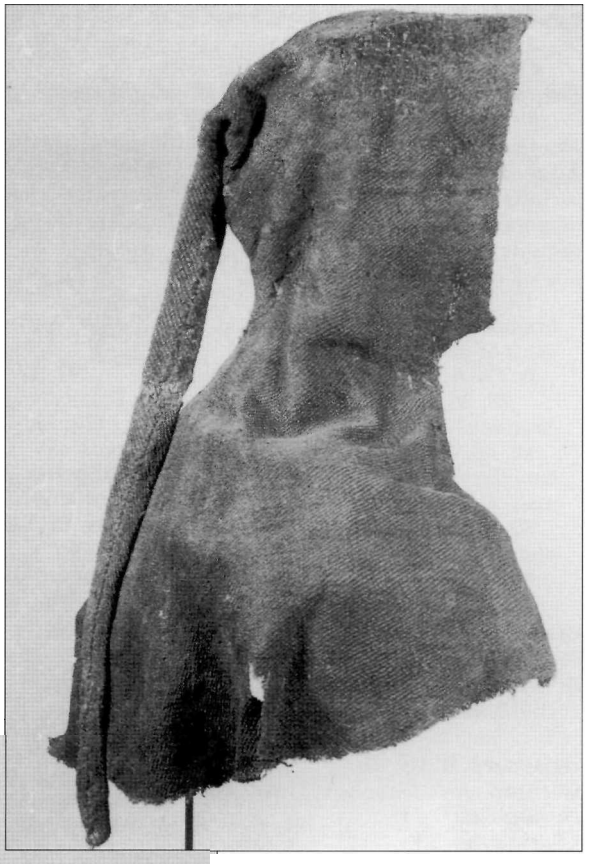
H3: Lapp hunter, 16th century

Pictorial representations of the people of the far north of Scandinavia apparently made from verbal descriptions in the 15th and early 16th centuries are not reliable, but do include certain elements in common with more accurate 17th century illustrations. Given the highly traditional nature of nomadic Lapp culture, in which much the same costumes were still being worn in late 19th and early 20th century photographs, it is fair to assume that 16th century Lapps looked similar to those shown in the 17th century sources. Here, for example, a Lapp man wears a very distinctive tall but slightly floppy hat made from sewn sections of animal skin with the fur inside. The version of the traditional Lapp animal-skin coat which had a tall standing collar generally went out of style in later centuries. However, the very full 'skirts' of such fur-lined tunics remained, as did the animal-skin mittens, trousers and soft moccassin-style shoes.

Archaeological evidence fortunately helps where the crossbows of these northern hunters were concerned. The form shown here is released when a wooden peg is thrust upwards through the stock by the wooden trigger, thus pushing the bowstring out of a slot in the top of the stock. The bow itself consists of a simple wooden stave, though this has a flattened section, rather like the so-called 'flat bows' which were also used by the people of the Arctic north in earlier years.

H4: Lapp woman, 16th century

A comparable degree of continuity was apparent in Lapp female costume. Most clothing was, of course, again made of animal-skins worn with the fur inside. The main difference was that a woman's traditional coat or tunic reached her ankles whereas that worn by men only reached a little below the knees. The reindeer carrying the baby and the family's tent poles is again based upon 17th century sources. Two sets of four poles are attached, one on each side, over the distinctive 'saddle pad' and wooden 'saddle boards'. The latter are joined by rawhide thongs above the animal's back. The almost boat-shaped leather-covered cradle, also tied to one of the saddle boards, continued to be used, with only minor variations, until modern times.



Clothes found in almost perfect condition in a grave dating from around 1400 at Herjolfsnes, Greenland. The Greenland colonies were in steep decline by this time and would disappear entirely shortly before the Italian explorer Christopher Columbus 'discovered' America in 1492. However, these clothes - including a woollen hood with a liripipe, and three woollen tunics, one of them for a child - show a continuing connection with continental European styles. (National Museum, Copenhagen, Denmark)

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