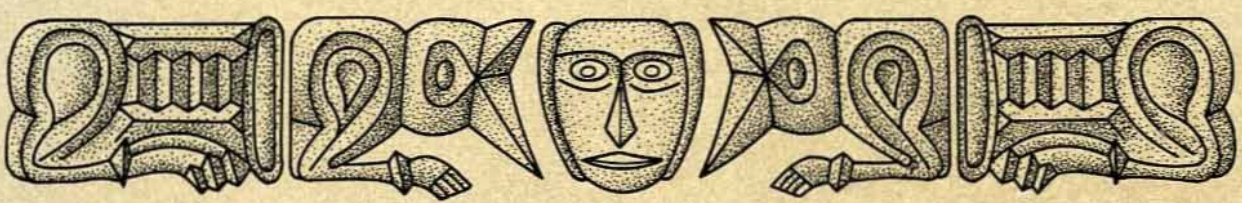
ARCHAEOLOGY and ENVIRONMENT 13
HÖGOM PART I

HÖGOM



The excavations 1949–1984

By
Per H. Ramqvist

ARCHAEOLOGY and ENVIRONMENT 13

HÖGOM PART I

Till Lennart
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Department of Archaeology
University of Umeå
S-901 87 Umeå

Central Board of National Antiquities
Box 5405
S-118 84 Stockholm

Department of Pre- and Protohistory
University of Kiel
D-2300 Kiel

Per H. Ramqvist

Högom Part I
The excavations 1949–1984

Abstract

This volume includes the study and analysis of the many important finds recovered in the course of the total of five excavation periods at the Högom grave-field in the parish of Selånger in the county of Medelpad, North Sweden. In all, three large mounds, two small mounds, two house foundations and an area with ard marks were investigated. The site has been dated to the period from about 200/300 to the 6th century AD.

Two of the investigated objects in particular are of unusually great international significance in view of the finds which they yielded. These are the chambered tomb contained in large mound No. 2 and the house foundation beneath mound No. 3. The very well-preserved chambered tomb was a richly outfitted man's grave with an abundance of weapons, two bridles, a saddle, and a "laid table" including *inter alia* two glass beakers, bronze vessel, pails, four wooden plates, ceramic and wrapped vessels, and a bronze washing bowl with an associated elegant comb. Gold objects in the form of finger rings, pendants, small gold bars and an obole were found on the deceased. Scandinavia's largest collected number of clasp buttons was found in position on the clothing of the deceased.

The excellent state of preservation of the finds, their abundance, their international character and the detailed documentation mean that we are dealing here with a grave which, in an extraordinary fashion, illustrates the rôle of the regional chieftain or petty king and contacts in Central Norrland during the Migration Period.

One of the house foundations discovered here is almost identical with a contemporary foundation at Gene in Northern Ångermanland. The second house foundation at Högom, on the other hand, is entirely lacking known parallels in Scandinavia, which, at this time, is characterized by the large three-aisled houses. In terms of its construction and content, it may be interpreted as a meeting hall with socio-political significance for quite a large surrounding area.

The analysis of the data includes comparative studies of the most important groups of materials and detailed reconstructions of series of objects and paraphernalia, which, in many cases, could be developed very much further than for other contemporary data. These comparative studies show that the upper social stratum of the time had considerable political interaction with areas in both East and West Europe as well as with West and East Scandinavia.

Key words: Roman Iron Age, Migration Period, large mounds, petty kingdoms, interregional contacts, chamber grave, weapons, horse trappings, clasp buttons, Salin's Style I, gold, containers, dress, belt, long-houses, ard marks.

Per H. Ramqvist, Department of Archaeology, University of Umeå, S-901 87 Umeå, Sweden.

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Per H. Ramqvist

University of Umeå
Department of Archaeology
Riksantikvarieämbetet
University of Kiel
Department of Pre- and Protohistory

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All drawings, when nothing else is said, are drawn by Andrzej Link, Institut für Ur- und Frühgeschichte, Christian-Albrechts-Universität, Kiel, and reproduced in scale 1:1. All photographs, when nothing else is said, are stored by ATA, Stockholm.

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FOREWORD

During a period of more than ten years, from 1949 to 1960 the Central Board of National Antiquities (raä) was responsible for the excavation of three of the large mounds and a number of smaller features at the monumental Högom grave-field. The investigations, which were founded by Judge Gustaf Velander and his wife, produced an exceptionally rich and, in certain respects, almost sensational yield. The remarkable grave of a chieftain and the comprehensive remains of an Iron Age farm beneath the burial mounds provided a new point of departure for archaeological research, not least as far as archaeology in the Norrland region of Sweden is concerned. They also created an entirely new wave of interest in the prehistoric period in Central Norrland, and were to be the decisive factor which led to the establishment of a modern museum in Sundsvall.

Processing of the results of the investigations and the abundant finds took a long time, which has made it difficult for researchers to obtain access to the results. I am extremely pleased, therefore, to be able to report that the long-awaited publication of the scientific findings of the Högom investigations is now complete. A first part, by Margareta Nockert, entitled *The Högom find and other Migration Period textiles and costumes in Scandinavia,* was published in the winter of 1991. The present volume covers the investigations themselves, the structures which were discovered, and the other finds.

The long delay was not intentional. The advances made in the area of Iron Age research over the last few decades has made it possible to situate the Högom grave-field within a wider context, in an entirely different manner from previously. The processing work was also able to draw on the active research being done by the University of Umeå into Iron Age settlement along the coast of Norrland.

I should like to express my thanks, both on behalf of the Central Board of National Antiquities and personally, to the University of Umeå and to Per Ramqvist for the initiative shown in processing the data from the Högom investigations once more, for the tenacity in collating and interpreting all the material, and for the successful outcome of the project.

It is also a pleasure for me, in conjunction with this scientific publication, to extend thanks to the Velander family, whose interest and support over the years have been essential to both the implementation of the investigations and the publication of the findings. Special thanks are due to Director Jan Velander and his wife Astrid Velander who, through their generous donations, have enable the Central Board of National Antiquities and the author to prepare the necessary documentation and analyses for the processing work and to meet the cost of the translation of the texts which have now been published.

Margareta Biörnstad
Custodian of National Antiquities

PREFACE

In 1960 I moved from the small industrial community of Hofors in the county of Gästrikland to Sundsvall, which was then, as now, the most expansive and industrially the strongest city in Norrland. The city is famous for many things, including the previously large number of sawmills, many of which have been transformed into paper and pulp mills, and also as a very beautiful stone-built city which was constructed after the unfortunate fire on Midsummer's Day 1888. The stone city itself was a sign of the times for well-being and industrial strength, and is also an indicator of major social conflicts. The city burned down on precisely the same day as Umeå. The latter city, which has a much more administrative character and is neither as rich nor as full of conflicts, was reconstructed in wood and fell victim during the 1960s and 70s to the hugely unimaginative architecture of the time. Regrettably, this was to be the fate of many of Sweden's cities, although the centre of Sundsvall was not affected to any degree worth mentioning.

There was thus a very considerable difference between Umeå and Sundsvall, and class conflicts at the end of the previous century were greater than ever before in the Sundsvall region. In other words, the difference in the architecture of the two cities directly reflected socio-economic reality. A wealthy and conflict-ridden Sundsvall was the setting, in 1878–79, for the largest strike experienced in Sweden up to that time. There was a clear need on the part of the burghers to demonstrate and consolidate their power by means of monumental buildings. This is a pattern which we can also observe in the material from the Migration Period, which is very much the theme of this volume.

Although the buildings in Sundsvall were an expression of class conflict, the beauty radiated by the city is irresistible. However, this was not the main impression left on a 10-year-old. In fact, Skvadern, Sundsvall's famous hybrid between a capercailzie and a hare, and the highly stimulating chambered tomb at Högom were some of the images which I encountered large-eyed in my new city of Sundsvall. The highly original and sensational reconstruction of the burial chamber in the old museum at Sundsvall, together with the fine environment of ancient monuments at Högom, left marked impressions, in spite of the fact that I had no appreciation at the time of the meaning of prehistory and archaeology (if, in fact, I do even now). In spite of that, I was attracted time after time to the burial chamber inside its glass case in the old museum at Sundsvall, and my imagination ran wild about the chieftain who had once been laid to rest in this fantastic grave. Little did I imagine that I would be the one, some 25 years later, who would conduct the first scientific study into these finds.

I am now both pleased and relieved to deliver this manuscript to the printers. After slightly more than 40 years, the abundant Högom material has now come to the attention of a wider audience. I felt a particular need to highlight the important material in this expansive period of Norrland archaeology. I have also concentrated a good deal on the artefacts, and on their description and illustration.

Thanks to a very generous offer from Professor Michael Müller-Wille of the *Institut für Ur- und Frühgeschichte at the Christian-Albrechts-Universität in Kiel*, it was possible to have drawings and fair copies made of large parts of the find material and field maps. For this I owe my sincere thanks to Andrzej Link in Kiel, who for more than a year devoted his skills as an illustrator and graphic artist to illustrating the finds and drawing plans and maps; he was my best partner in this work, and I found great encouragement in the positive and patient approach which he showed. I also wish to thank the rest of the staff and students of the *Institut*

für Ur- und Frühgeschichte at the Christian-Albrechts-Universität in Kiel, for all their help and for all the positive discussions which we had over the years. My stay in Germany began in 1984, and I spent a total of just over two years at the department in Kiel. I must also thank the Alexander von Humboldt Foundation, which made this possible through initial research fellowships.

Working with the Högom material was not easy, for example because the most significant artefacts during 1985–1992 were kept at the National Historical Museum in Stockholm, although certain items were in Kiel for drawing and on exhibition in Frankfurt and Nürnberg. Here in Umeå, I had access to only a very small part of the material. This naturally caused a considerable loss of time and inefficiency, over which I had no control. Even greater problems were involved in collecting together all the written documentation, in particular that which relates to the documentation of the rich grave no. 2. No complete report was available, and many of the scattered notes which Dagmar Selling made in the course of the indoor investigations in 1951 and thereafter have been collected together over a lengthy period by Margareta Nockert. Not everything has yet been found, and as late as in April 1990, a tightly wrapped roll containing some of the most important plans was discovered standing in a corner of the ATA (Antiquarian-Topographical Archive). Amongst other things, this roll contained the actual plan of the burial chamber, bearing Selling's find numbers. This plan had been known to exist for some time, although it had still not been found at the time of publication of the volume on Högom with wide popular appeal (Ramqvist 1990a). I should like to express my thanks at this point to the ATA, and in particular to Andrea Browall and Agneta Qvist, who have been helpful and positive at all times in all their efforts to dispel the uncertainties surrounding actual or imagined Högom documents.

The considerable interest and commitment shown by Sverker Janson, in particular with regard to the popular Högom book, was a source of considerable encouragement to me, and his commitment also played a major part in encouraging me to complete the present work. My thanks are due to Margareta Biörnstad for her expressions of support and confidence over many years in her capacity as project leader and the person charged with financial responsibility for the project. In addition, Margareta Biörnstad, Rolf Petré from Lund, and Björn Ambrosiani from Stockholm, all of whom led investigations at Högom, have written very useful reports and readily answered questions and provided information about their own investigations.

Attendance at various conferences and visits to archaeological institutions have provided me with an opportunity to discuss the material with a number of colleagues. I am particularly grateful in this respect to Karl Hauck, Münster, Dafydd Kidd, London, Jan-Peder Lamm, Stockholm, Lars Liedgren, Umeå, Wilfried Menghin, Berlin, Michael Müller-Wille, Kiel, Ulf Näsman, Århus, Egon Wamers, Frankfurt a.M., and David Wilson, London, as well as for their fruitful exchanges of views.

I have also visited museums and libraries, and I wish to thank the following individuals for their great readiness to be of assistance: Anders Holmstedt, Hudiksvalls Museum, Lena Häger and Astrid Linder-Rissén, Sundsvalls Museum, Elsie Lindström and Lena Thunmark-Nylén, National Historical Museum, and Siegmar von Schnurbein and Uta von Freeden, Römisch-Germanische Kommission, Frankfurt a.M.

I would also like to thank Roger Littleboy, York, for completing his English translation to such a tight deadline.

Last, but not least, I wish to thank Anna-Karin and Lina for their patience and support during these testing "Högom years".

Umeå, 15 April 1992
Per H. Ramqvist

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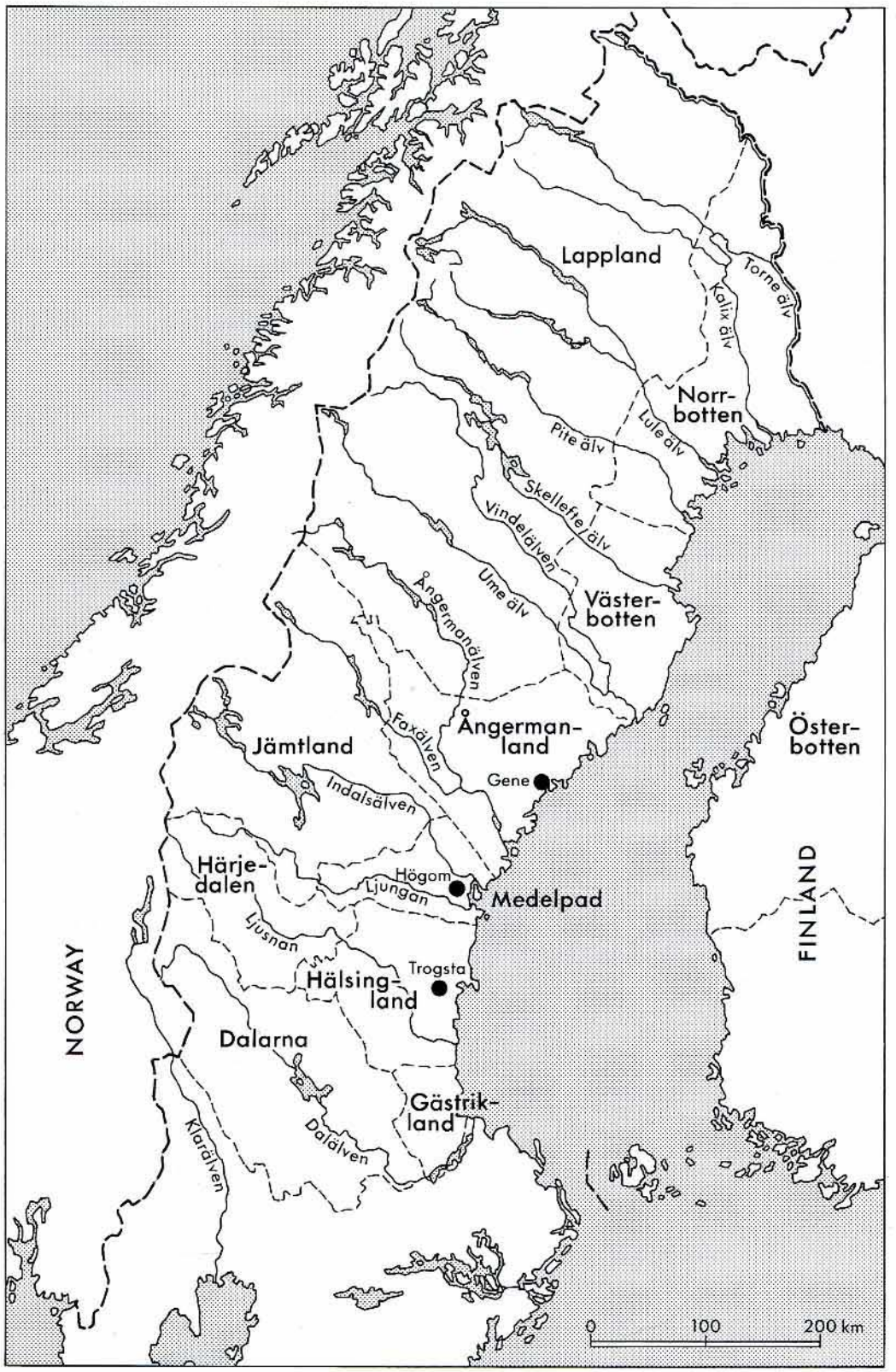


Fig. 1. Map of Norrland, showing the counties, mountain rivers, and the investigated ancient Iron Age farms at Trogsta, Högom and Gene.

1. INTRODUCTION

1.1. AIMS AND OBJECTIVES

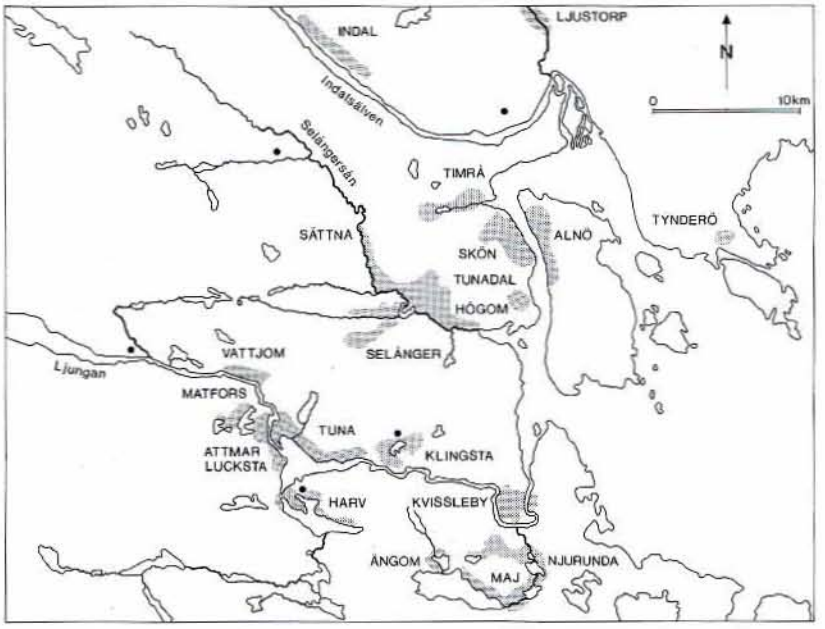
Högom is situated close to the present-day town of Sundsvall in the Swedish county of Medelpad (Figs. 1–2). The site, which is in the parish of Selånger, is one of the most well-documented grave-fields in the Norrland region, due to the apparently ordered grouping of its large mounds and its obvious monumentality. Because of the finds which it contains and its high concentration of large mounds, this archaeological site is of great importance to our understanding of the socio-political structure which characterized Central Norrland society during the Early Iron Age (c. 1–600 AD). It is quite clear that the site enjoyed a special position, especially during the Migration Period and perhaps even earlier. By studying the finds and the combinations of finds and not least the remains of settlements which have also been found at Högom, these can be set in relation to phenomena on a local, regional and inter-regional level to provide a kind of positional determination of this site.

The Department of Archaeology at the University of Umeå, under Professor Evert Baudou, has made a conscious effort since the beginning of 1975 to investigate settlements in Central Norrland dating from the first millennium AD. The outcome of this work is that we now have a good idea of the underlying economic conditions during the Early Iron Age (e. g. Liedgren 1981, 1984, 1992; Engelmark 1981; Ramqvist 1983; Wennberg 1985; Lindqvist 1989; Viklund 1989). Lately, also Late Iron Age (c. 600–1100 AD) settlements have been investigated (Ramqvist 1989, 1991b). On the other hand, little effort has been paid to the analysis of the social structure of this society. Some work has been done, however (e.g. Ramqvist 1987a, 1990a, 1991a; Baudou 1989).

My ambition in compiling this paper is, at this initial stage, to present data which, better than any other in Central Norrland and, I venture to claim, better than any other in Fenno-Scandinavia, point clearly to a social stratum in the society of the Migration Period which, on the one hand, was small and exclusive in terms of the number of individuals and, on the other hand, reveals that an individual member of it was equipped in this particular instance with well preserved and abundant material. It is important that these data should be published, therefore, in order to improve our understanding of the social and political structure of the societies of the Migration Period.

1.2. CHANGES IN THE GRAVE-FIELD

The present-day appearance of the grave-field (Figs. 3–4) can be attributed to the thorough conservation work carried out by the riksantikvarieämbetet (= Central Board of National Antiquities; raä) during the 1940s and 1950s (Gustawsson 1965; Janson 1990). In 1943, when the 9 confirmed and the 2 or 3 unconfirmed grave features on the grave-field were described and mapped by G. Ekelund and S. Magnusson (Fig. 5), it was in a neglected state and was situated on the land belonging to two farms. Large mounds 2 and 4 and small mound 5 were in a particularly sorry state. In fact, these were the first mounds to be investigated on the site during the 1950s (see below). The extent of the damage which had been caused to the grave-field before the 1943 mapping exercise can be appreciated from an old map of the Högom grave-field, on which at least 16 features can be identified (Fig. 6). This tells us something of the destruction which had occurred on the grave-field. The destruction can be explained mainly by cultivation and other soil preparation activities, and perhaps also by earlier "archaeological" investigations. One historical record which relates that Eric Teet, a District Judge with an interest in ancient



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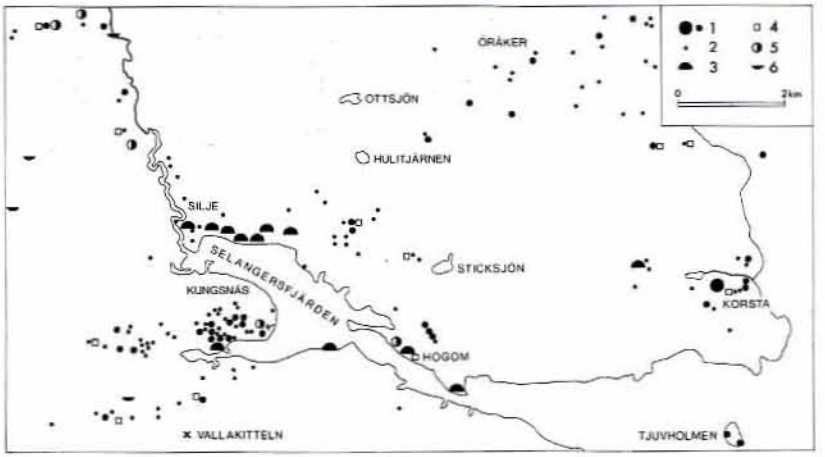


b

Fig. 2. a) Map over the coastal area of Medelpad. Hatched areas mark concentrations of Iron Age settlements. Black dots = hillforts. *b*) The Selånger basin and the Högom grave-field in relation to the 10-metre-contour-line, with an indication of archaeological remains in the surrounding area. In the lower left part the find place of the Valla-cauldron is marked (x). 1 = Large (10 or more graves) and small (5–10 graves) grave-fields, 2 = single graves or grave groups (2–4 graves), 3 = site with one or more large mounds, 4 = dwelling site/house foundation terrace, 5 = rune stone, 6 = hunting pit.

monuments, had excavated one of the large mounds in 1680, indicates that such activities had occurred over a long period. More often than not the traces of such excavations take the form of craters at the top of the mounds, although the smaller features may also have been largely obliterated. No evidence has been found to suggest that Teet successfully excavated one of the large mounds at Högom, since all three large mounds to be investigated were completely free from interference in the important lower layers. As stated by Janson below (Sect. 4.2), however, Teet probably managed to dig down as far as the central cairn in mound 2. It is possible that a copper coin dating from 1634, found in what was the outer surface layer of the mound in the course of the 1984 excavation, points to some form of archaeological activity, although the coin may also have found its way there by pure chance.

1.3. THE HÖGOM PROJECT

It is now more than 40 years since the start of the archaeological investigation of the grave-field at Högom. The work of excavating large mound No. 2 in the summer of 1949 was undertaken by the Statens Historiska Museer (Museum of National Antiquities, Stockholm; SHM) and the raä under the leadership of Dagmar Selling and Sverker Janson. The work continued

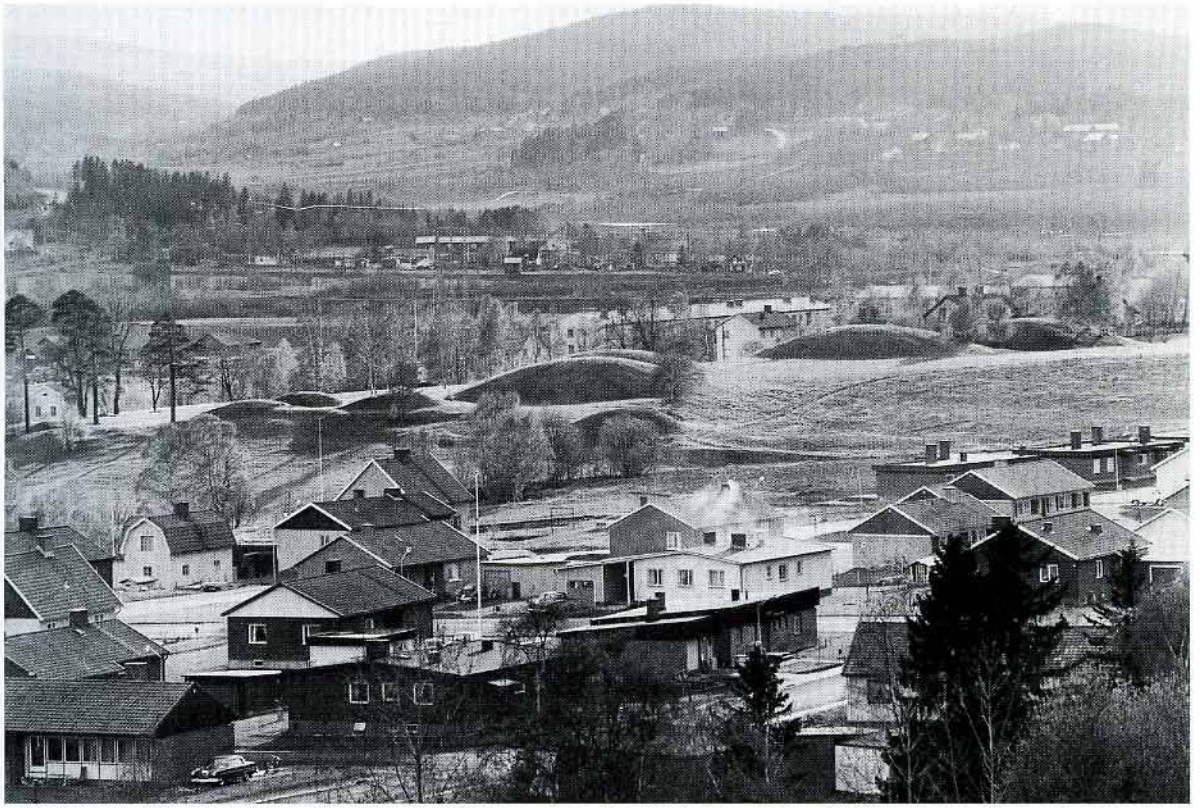


Fig. 3. Photograph of the grave-field at Högom. From the east. (Photo: S. Hallgren).

in 1950, and the investigations were completed in 1951 with the removal of the large burial chamber encased in plaster to Stockholm, where the final examination could be carried out indoors.

In 1954 the raä investigated two small burial mounds, Nos. 5 and 11, under the leadership of Björn Ambrosiani, when the opportunity was also taken to sink a number of exploratory trenches outside the graves.

The raä continued the investigations in 1956 with the investigation of large mound No. 4 under the leadership of Margareta Biörnstad.

In 1960 the most recent of the raä's investigations was led by Rolf Petré and involved large mound No. 3.

These four investigations were included in the programme of conservation organized by the raä for the Högom grave-field, parts of which had been completely obliterated through settlement and agricultural activities over the years.

In 1984 the Department of Archaeology of the University of Umeå, under the leadership of the author, carried out an investigation into the old level of the ground beneath mound No. 2 with the aim of uncovering the remains of the settlement layer. A phosphate and soil types mapping exercise was carried out at the same time.

In view of the fact that practically none of this detailed material had been published, the Department of Archaeology decided to embark on its publication jointly with the raä. Professor Michael Müller-Wille, of the *Institut für Ur- und Frühgeschichte* at the University of Kiel, was invited to join the project because of the invaluable contribution which he was able to make to the realization of the project through his detailed knowledge of the comparative material available at an international level (Müller-Wille 1982, 1983, 1992).

It is planned to publish the material and the findings as follows:

An *introductory volume* with a popular appeal, which gives a broad description of the finds and the archaeological remains and which situates them in a cultural historical context (Published by Ramqvist 1990a).

Volume 1. A presentation of Högom and its material. The main emphasis will be placed on a description of the finds and the features, and parallels will be drawn only in respect of the most important phenomena (Ramqvist, this volume).

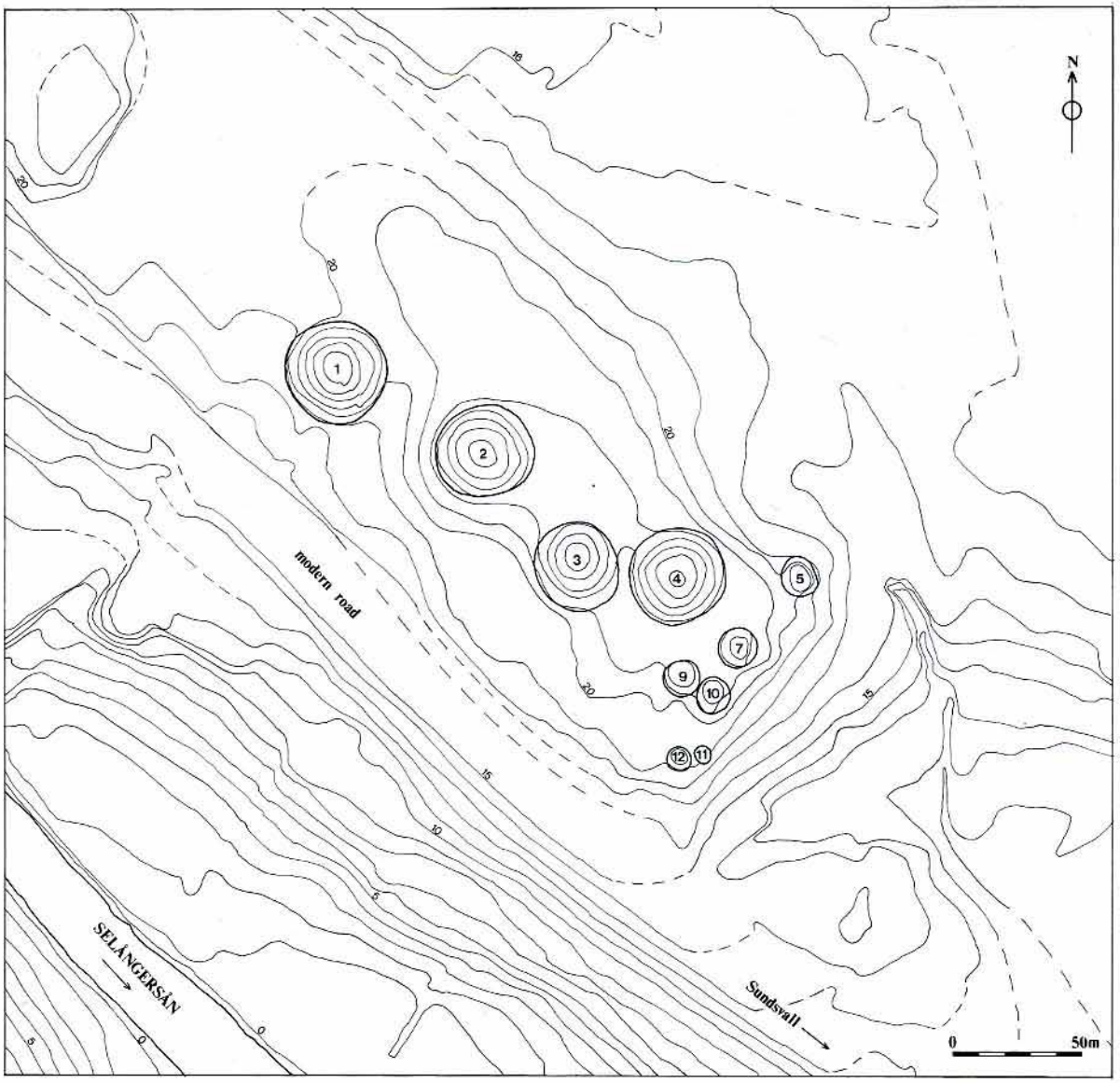


Fig. 4. Plan of the Högom grave-field today. Prepared by the Sundsvall local authority. One metre equidistance.

Volume 2. Presentation and analysis of the textiles (published by Margareta Nockert 1991).
Volume 3. Högom in an international perspective (Michael Müller-Wille & Per H. Ramqvist).
Volume 4. Technical and scientific observations and findings relating to the Högom material (several authors).

The leaders of each of the investigations were contacted before making a start on the work of publication, which was naturally to prove extremely useful. Of particularly great significance was the fact that the leaders of the complicated and incompletely reported investigation of the chambered tomb in mound No. 2 were also able to participate. Sverker Janson also made an important contribution to this volume (Sect. 4.2.). Dagmar Selling was responsible for the documentation of the indoor examination, and a meeting with her had been arranged for May 1984. Fate was to determine otherwise, however, and a tragic cerebral haemorrhage was to leave her incapacitated until her death on 19th of July 1987. This was a double tragedy, since Selling had not yet completed all her observations. Most of the material was in the *Antikvarisk-Topografiska Arkivet* (= Antiquarian-Topographical Archive; ATA) in Stockholm, although some important documents were missing and no one knew precisely where this material was to be found. One of the most important missing

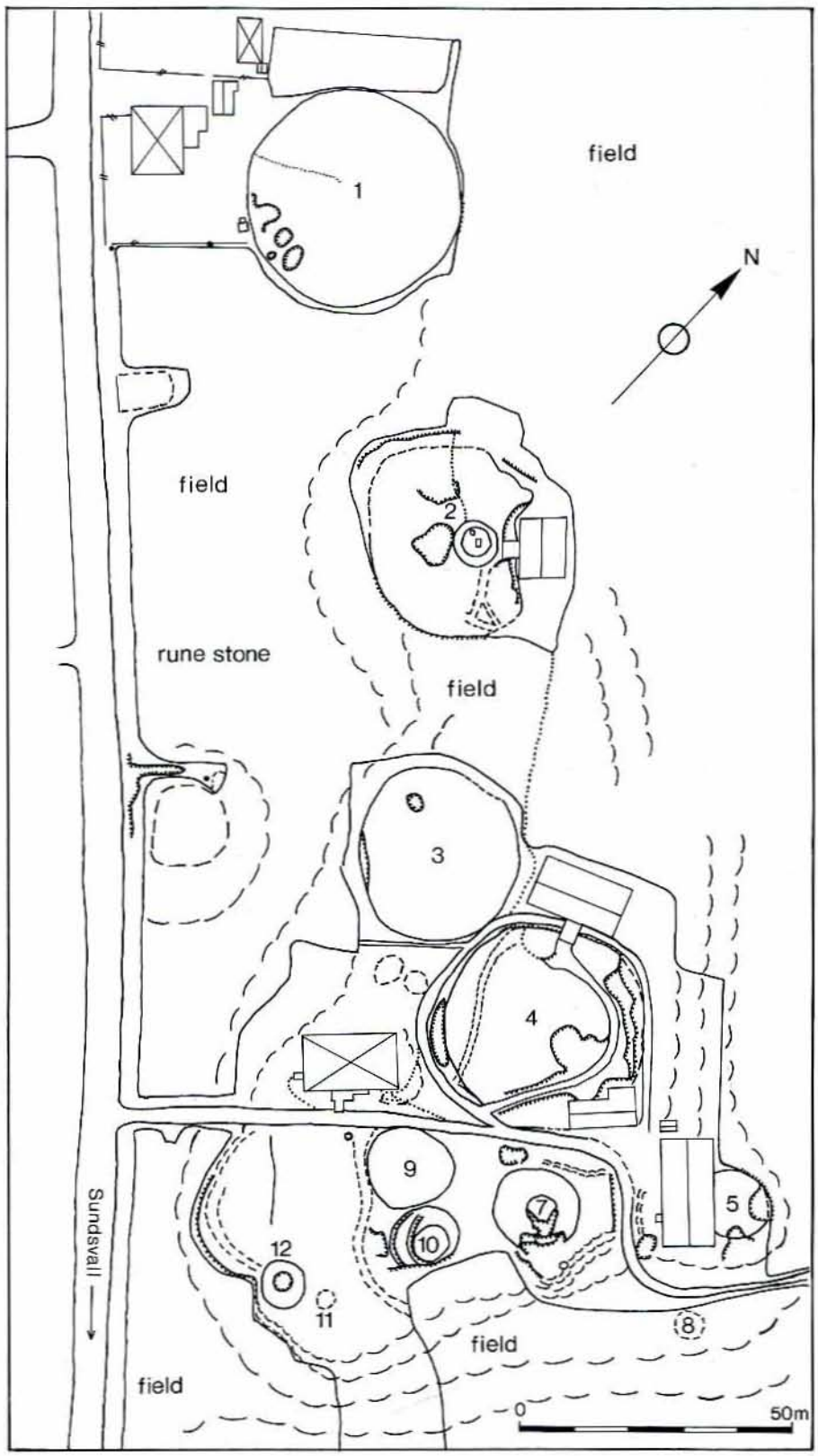


Fig. 5. Plan of the Högom grave-field in 1943, showing settlements and interference. The current position of the rune stone is also marked. (Drawing: Ekelund & Magnusson).

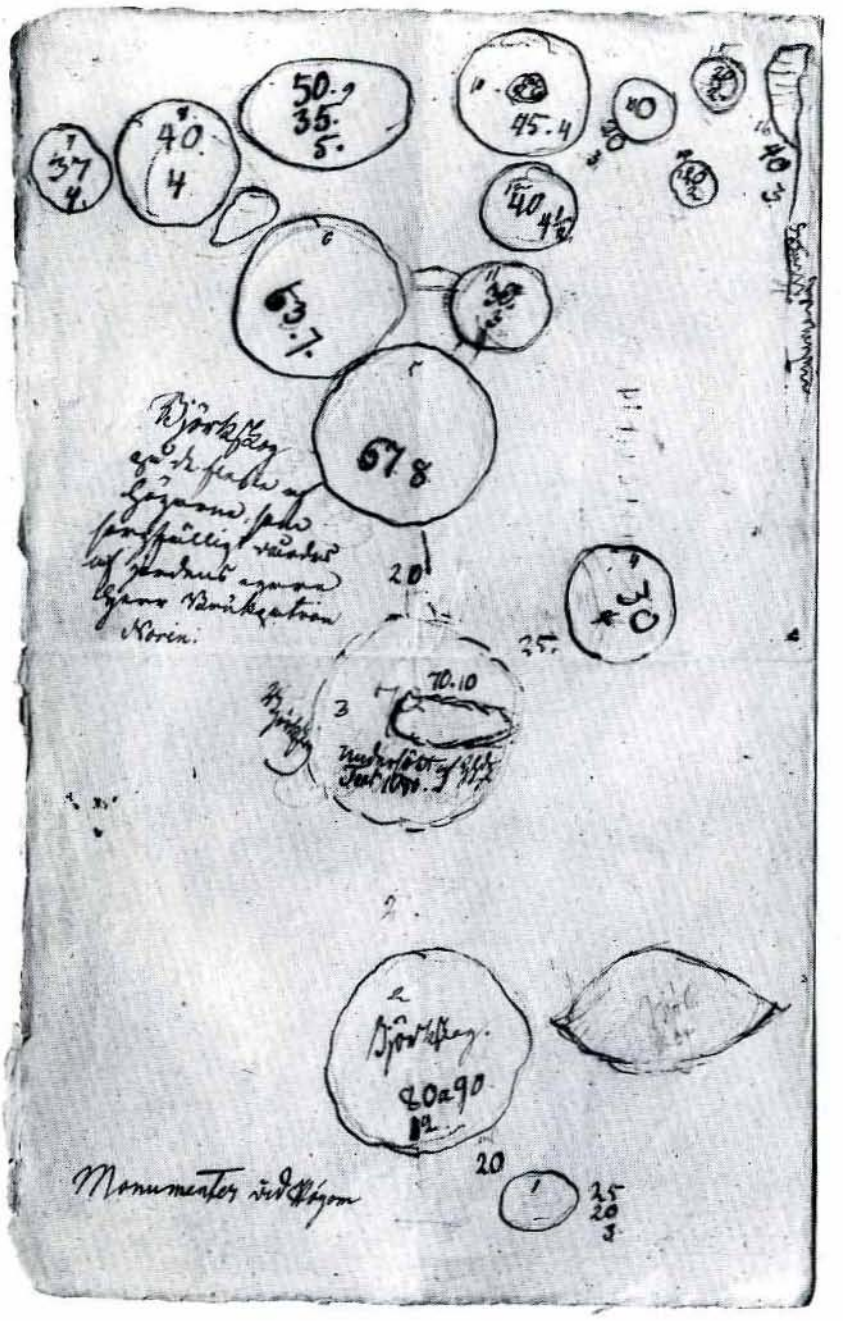


Fig. 6. Plan of the Högom grave-field drawn by N. J. Ekdahl, 1827–30.

documents was the detailed grave plan which had been drawn by Selling as the excavation progressed. There was no doubt as to its existence, because Selling had constantly made reference in her descriptions of the artefacts to numbers and their position on the plan. X-ray photographs had already been taken of the whole of the burial chamber (Fig. 28), and it had been exhibited in the Sundsvall Museum with the artefacts lying in their intact positions (Fig. 29). It was thus possible, in spite of the setback, to reconstruct most of the grave plan. There was still a number of intriguing gaps (parts of which still remain to this day) relating to the organic material, etc. A further consideration is the renumbering of the finds in conjunction with the re-

conservation, in relation to Selling's original numbering. This is never desirable, and finds almost invariably become mixed up and their identification is unnecessarily complicated.

A considerable quantity of documents was subsequently found in Selling's home, and these were handed over to the project in 1987. The grave plan remained missing until April 1990, however, i.e. when a large proportion of the project was complete and one volume had already been published (Ramqvist 1990a). The plan was found in a corner of the ATA, together with several other drawings from the investigation, tightly rolled up and taped and bearing the clearly written text, "Högom, Selånger socken, Medelpad, grav 2". The drawings had presumably been rolled up and sealed on completion of the 1951 or 1952 excavations, and then, perhaps due to their awkward size, had been moved from place to place inside the ATA.

Access to the plan was to solve a number of problems relating to the position of a certain amount of the organic material and various find numbers which were not previously clear, etc. It was established that the grave plan which had been prepared from the X-ray photographs was free from major errors. The most sensational aspect of the new (old) plan, however, was that Selling had documented an item of furniture resembling a bed, on which the deceased had been laid. This discovery enabled me to return to the photographic record of the excavation, where I also found photographs of the remains of the bed during the excavation. There are many excellent photographs of the indoor excavation, but unfortunately no inventory of what was actually photographed. It is nevertheless possible in most cases to reconstruct what they represent, although even here certain photographs are and remain impossible to interpret.

2. CULTURAL AND NATURAL FACTORS

2.1. CULTURAL BOUNDARY OF CENTRAL NORRLAND

Before embarking on a discussion of the finds and the archaeological remains at Högom, it is necessary to touch briefly on the cultural and physical geographical relationships of the area. As will be appreciated, it is possible to define specific boundaries between this area and those which surround it from both points of view.

During the period with which we are concerned here, the Early Iron Age (c. 1–600 AD), the area in some respects represented a uniform whole. Attitudes vary as to the appropriate name for such a unit. The question has been discussed by many archaeologists, and the choice of expression is dependent on the approach and the objectives of the different archaeologists. The names range from neutral expressions such as *region* (Hyenstrand 1979), via more interpretative concepts such as *cultural province* (Baudou 1986), to terms such as *petty kingdoms* which are indicative of the structure (Ramqvist 1987a, 1991a). Nor is it a matter of any great significance what designation is applied to the unit if the social structure within a limited social unit could not be understood or was not actually the subject of analysis. The important feature of research over recent decades has, of course, been to establish that we were actually dealing with cultural entities. Recent years have also seen the social structure as such become the subject of analysis through the work of *inter alia* Selinge (1979, 1983), Magnusson (1986, 1987) and Ramqvist (1987a, 1991a). The resulting interpretations are not unanimous, however. Further analyses of this kind will naturally bring about a more lively discussion and a sharpening of the manner in which the expressions are arrived at. For my part, I propose to use the expression petty kingdom throughout this volume, and according to my hypothesis Högom had a decisive rôle to play in this respect for perhaps one century, between c. AD 450 and 550, as the seat of the leading political dynasty in the petty kingdom of Central Norrland (Fig. 7).

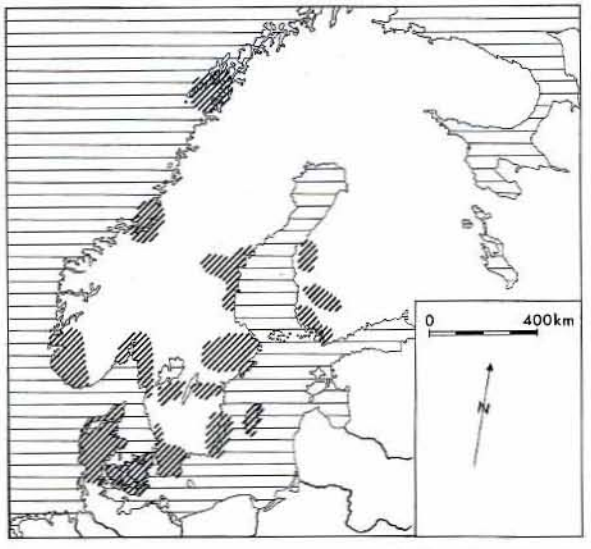


Fig. 7. Schematic drawing showing the Fenno-Scandinavian petty kingdoms around AD 500.

No overall synthesis of Iron Age settlement in Central Norrland exists at this time, and the findings made in the different parts of the area vary in nature. Unfortunately, there are no material publications in the true sense. As far as the presentation and analysis of the archaeological material is concerned, the work of Selinge (1977) is fundamental to our appreciation of the landscape of Medelpad and Ångermanland as it appeared in 1977. The work carried out by *inter alia* the Department of Archaeology of the University of Umeå occurred after this date, with most of the excavations taking place in Ångermanland (Ramqvist 1983, 1984; Lindqvist 1989) and in Hälsingland (Westfal 1978; Liedgren 1984, 1989, 1992). In addition, an inventory

of the whole of the coastline of Central Norrland was compiled for a second time by the raä, which means that the catalogue of archaeological remains recorded by Selinge (1977) is no longer up-to-date. The preliminary results of these inventories indicate that nothing new was found to change the previously known pattern of settlement in the general sense, although the number of archaeological remains was larger (Flink 1990:200).

Work of the kind carried out by Selinge has still not been done for Hälsingland, although some small-scale summaries have been produced, *inter alia* by Baudou (1974). A major work on the Iron Age in Hälsingland has been done by Lars Liedgren, who has discussed the Early Iron Age in Hälsingland in a number of papers (*inter alia* 1981, 1984, 1987) and recently also in his dissertation (1992).

As far as Jämtland is concerned, there are earlier summaries by, amongst others, Slomann (1950, which also includes Medelpad) and Biörnstad (1962), alongside which mention must also be made of the important work by Magnusson (1986) on Iron Age settlement in Jämtland and the production of iron there. A large number of other papers concerning Central Norrland has been published, of course, and a list of those published between 1981 and 1985 has been compiled and commented on by Ramqvist (1987b).

Norrland in no way represents a cultural entity from a prehistorical and historical point of view. This is in marked contrast to the two other major regions of Sweden, Svealand and Götaland, which were already being referred to by classical authors as coherent wholes. It is thus appropriate at this stage to make a brief differentiation of the large area known as Norrland (see Ramqvist 1987b). The part of Norrland with which we are concerned here is referred to as *Central Norrland* and includes the present-day counties of Hälsingland, Medelpad, Ångermanland and Jämtland (Fig. 1). These counties together formed a relatively homogeneous whole during the Iron Age as far as the archaeological source material is concerned, i.e. archaeological remains and finds. To the south of this area the county of Gästrikland forms *Southern Norrland* and is connected geographically and archaeologically with the Mälar Valley. *Northern Norrland* is made up of Västerbotten and Norrbotten, which constitute a system of their own from a cultural historical point of view, in particular with associations in an easterly direction. *Lappland*, the inland area of Västerbotten and Norrbotten, similarly represents a separate area inhabited by groups of hunters of Saami ethnicity. It is thus possible, on the basis of the archaeological material, to sub-divide Norrland into four areas which are completely different in terms of their social characteristics. The boundaries between these four areas have not remained totally fixed, and the present-day county designations should only be regarded as markers for the areas. What this means, for example, is that it was the coastal areas in particular within the counties mentioned that were settled by farmers, whereas the hinterland was used largely as an area of exploitation by the inhabitants of the coast and, as mentioned above, as the principal area inhabited by the Lapps.

As far as the boundaries between these four systems are concerned, these are totally clear in a couple of cases. The clearest boundary is that between Central Norrland and Northern Norrland, which can be generally situated at Nordmaling (an old-fashioned name applied to a large forest area in the North). The typical farm grave-fields, ancient fortresses, long-houses, hoards of iron and silver and, not least, important place names with the *-sta* suffix (e.g. Ramqvist 1983; Fries 1984; Baudou 1986), are found to the south of this boundary. None of these phenomena are found to the north of Nordmaling, and the system of place names there is perhaps most frequently characterized by a slightly younger group of place names with the *-mark* suffix. As far as we are aware, the archaeological remains from the Early Iron Age along the coastal strip of Northern Norrland consist entirely of graves of the cairn type, similar to those which totally predominate in *inter alia* Österbotten (Meinander 1977). The aforementioned phenomena indicate that Central Norrland and Northern Norrland represented different systems for the whole of the first millennium AD and into the Early Medieval period.

As far as the southern boundary of Central Norrland is concerned, this can be situated at Ödmården, i.e. the forest area between the present-day counties of Gästrikland and Hälsingland. However, since our knowledge of the archaeological remains dating from the Early Iron Age in Gästrikland is poor, it is difficult to assess the cultural affiliation for this period. One pointer to the fact that Gästrikland should be considered in conjunction with the Mälar Valley is that the very common place names with the suffix *-inge* in the Mälar Valley are found all the way up into Gästrikland, whereas no reliable instances have been found further north (Baudou 1986:17, Fig. 2).

The line of the western boundary of Central Norrland is also problematical. The settled area in Medelpad during the Iron Age runs more or less continuously for c. 100 km along the river Ljungan, and for a rather shorter distance along the river Indalsälven valley (Selinge 1977). The settled area in Jämtland begins around lake Storsjön. There is thus a break of about 100 km in archaeological remains, before the settlement around lake Storsjön begins. If, however, one includes the iron production sites of the older type reported by Magnusson (1986), for example, clear contacts will be seen to have existed between the two

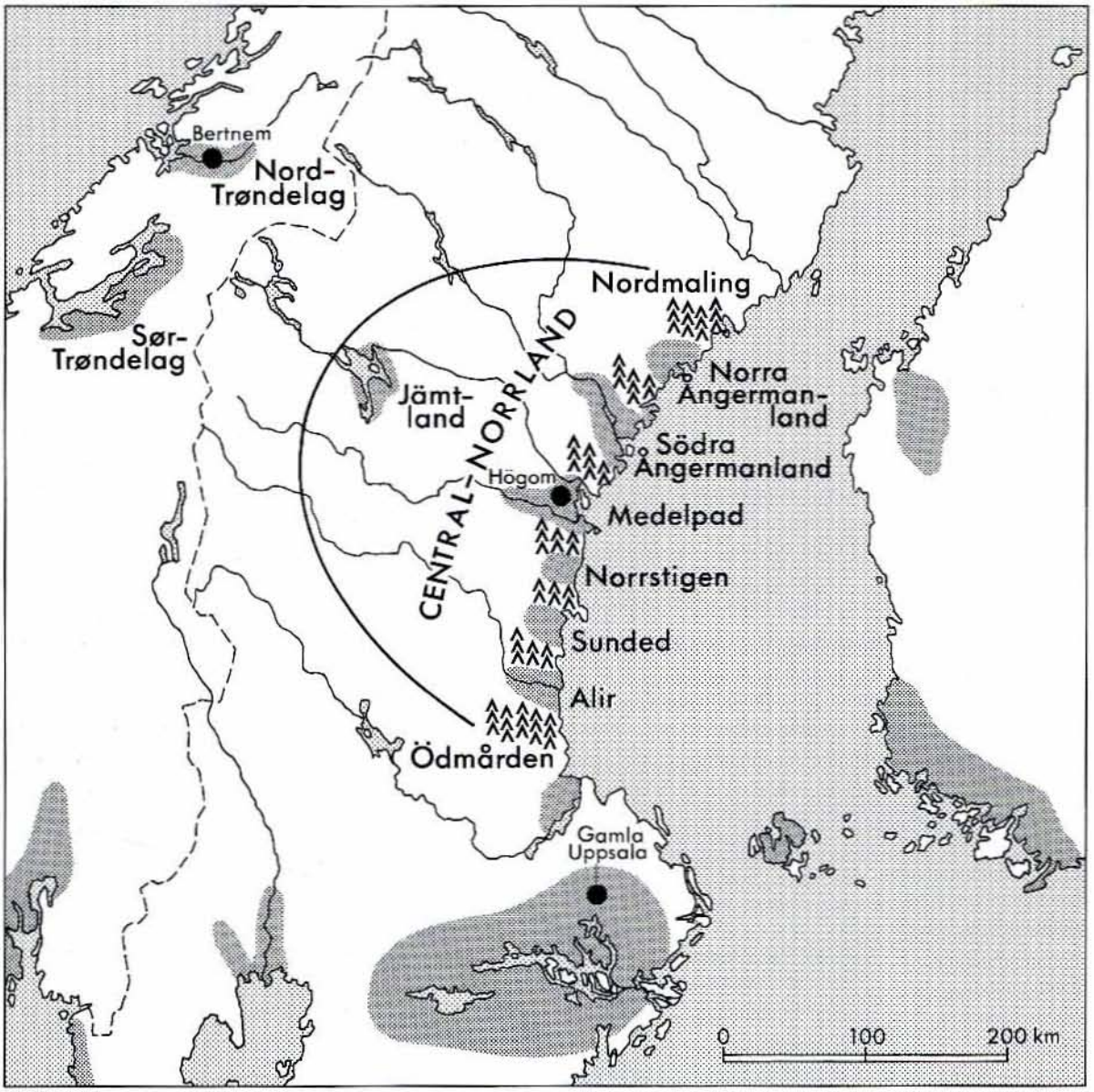


Fig. 8. Drawing of Central Norrland and its settlement areas, with a rough indication of adjacent regions.

areas, especially along the river Ljungan and its tributary valleys (Ramqvist 1991a: Fig. 4). Archaeological remains and finds thus indicate that Jämtland is best considered in conjunction with the coastal area of Central Norrland.

My own belief (Ramqvist 1987a, 1991a) is that about 15 petty kingdoms existed in Fenno-Scandinavia during the period which concerns us, and that these were independent societies with varying degrees of mutual contact (Fig. 7). The problem of identifying their territories is far from easy in every respect and is a matter for future research. The problem is especially challenging along the Norwegian coast, where deep fjords and steep cliffs led to a far wider geographical distribution of settlement than in many other places. The work of identifying such territories has been done, in fact and excellent examples are provided by the work of Särlvik (1982) in Western Sweden and Myhre (1987) in South and South West Norway. The hatched areas shown in Fig. 7 should nevertheless be regarded as provisional territories, and only as representative of the core areas.

It may be interesting at this point to recall what Prokopius (1903:123) had to say about the Thule to which the Herules returned at the start of the sixth century in order to take a new leader from an ancient royal dyna-

sty. Thule was reached after passing through the land of the Danes, and it is described as being for the most part empty and deserted, and ten times larger than Britain. The inhabited part of Thule was populated by thirteen populous tribes, each of which had a king. If we now examine Fig. 7, and if we ignore the Danish and Scanian areas, the remaining areas number thirteen, which may very well correspond to those mentioned by Prokopius. The reference by Jordanes to almost thirty separate population groups itself suggests, if we ignore the evident duplication which has occurred, the existence within Prokopius' tribes of sub-divisions or units to which the *folkland* mentioned below possibly corresponded.

Six agglomerations containing archaeological remains are known to exist along the coast of my own area of interest, Central Norrland. These are separated by tracts of forest, which are empty from an archaeological point of view, and the designation *folkland* can be applied to the areas of concentrated settlement (Ramqvist 1987a; Ramqvist & Müller-Wille 1988). There are six defined *folklands* of this kind running along the coast, from the south: Alir, Sunded, Nordanstig, Medelpad, Södra Ångermanland and Norra Ångermanland (Fig. 8). As already mentioned above, Jämtland should also be included with these. A similar sub-division has been undertaken in SW Norway by Myhre (1987), where it is clear that a similar structure can be found, although Myhre does not make the direct assumption that the whole of SW Norway constituted a single unit (petty kingdom).

The *folklands* should probably be regarded as the most important units in this context, although it may be presumed that links existed between the various *folklands*, that certain of the social functions were common and that the leaders of the various *folklands* met regularly and between them appointed or elected various political and religious representatives. These social functions were thus interchangeable and were not fixed, at least not for as long as the society was in a state of political equilibrium (for details of a socio-political model, cf. Ramqvist 1991a).

An interesting difference can be identified for the seven Central Norrland *folklands*, for example between the archaeological remains from the peripheral *folklands* compared with those from the central *folklands*. There is a distinct concentration of archaeological remains in Medelpad and Sunded, whereas their number is smaller in the southern Alir, the northern Norra Ångermanland and the western Jämtland. There is also less variation in the material in the peripheral areas from a qualitative point of view, *inter alia* in respect of ancient fortresses and large mounds. It is probable, therefore, that centrally situated *folklands* had the largest population and as such on the whole enjoyed greater political importance. The situation of Högom is interesting from this point of view; the site is, in fact, centrally situated in Central Norrland and lies at a major intersection between inland routes which lead *inter alia* to the iron-producing county of Jämtland and to the Gulf of Bothnia.

2.2. NATURAL GEOGRAPHY IN CENTRAL NORRLAND

As a point of departure, and in order to provide an understanding of the cultural determination of the Central Norrland area, it is important to have some appreciation of the climatic and geomorphological background. If one looks at the findings of the analyses conducted by the Nordiska ministerrådet (1977) into the natural geographical regions found in the Nordic area, it is amazing what great similarities exist between the natural geographical region and the region arrived at through Iron Age monuments and finds (see below). This geographical region is called "the hilly lands of the southern Boreal region", and its limits, as well as the

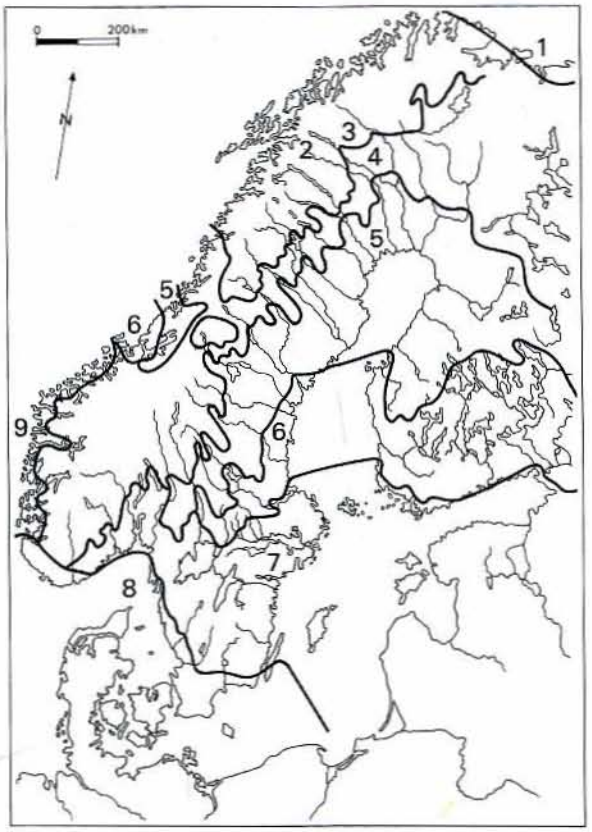


Fig. 9. Phytogeographical sub-division of Norrland. 4 = the northern taiga, 5 = the intermediate taiga, 6 = the southern taiga. (After Sjörs 1967).

borders of Sjörs' (1967) region No. 6 (Fig. 9), coincides perfectly with the area of the typically "Germanic" or "Scandinavian" form of Iron Age monuments, artefacts and place names. The southern limit of this region coincides with the so-called *limes Norrlandicus*.

The region in question could be divided in the coastal area and in the inland area, with the former being the most important with regard to Iron Age settlement. The coastal area in this case embraces the often deep river valleys which normally run from the Gulf of Bothnia towards the NW. The best agricultural land is to be found along the coast and in the valleys, because of the glacial and post-glacial sediments there. There are extensive areas of moraine between the valleys, which are not very suitable for agricultural purposes. By comparison with other northern regions, this region is relatively sparsely provided with bogs and peat moors, which could be of great value to our understanding of where iron production took place and might have taken place. Significantly more bogs are found in region No. 5 (Fig. 9), especially in the Cambro-Silurian area of Jämtland, where a large number of iron production sites dating from the Early Iron Age have also been found (Magnusson 1986).

From a geomorphological point of view, our region is characterized by hilly terrain in which a relative height of more than 100 metres, i.e. the difference between the mountain peaks and the valley floors, predominates (Rudberg 1962). In the landscapes of Medelpad and Ångermanland this relative height also reaches directly out to the coastline, and the area is accordingly known as the High Coast. The coastal areas of Hälsingland are usually a little more flat. It is significant that the highest island in Sweden (Mjältön, 236 m a.s.l.) and the Swedish river valley with the greatest difference in relative height (Indalsälven) are situated in our region.

These very important river valleys are characterized by two types, namely the larger mountain rivers and, between them, the smaller forest rivers. The mountain rivers in our region are, starting from the south, the rivers Ljusnan, Ljungan, Indalsälven and Ångermanälven. These four rivers and their tributaries all drain the high mountain areas running along the border between Norway and Sweden. All these rivers played a major rôle from the view point of Iron Age settlement, although the very high relative level of the river Indalsälven probably restricted the opportunities for settlement and communication. The mouths of the other three rivers, on the other hand, are very wide and relatively flat, features which make them ideally suited to settlement and communication, especially in the case of the rivers Ljungan and Ångermanälven.

The smaller forest rivers, the mouths of which can be as large as those of the mountain rivers in some cases, never reach as far inland as the high mountain regions, and have their sources in the inland forest areas. The course of practically all the rivers, whether mountain or forest rivers, is from NW to SE, which is also true of the rest of the Norrland rivers to the north of our area. Many of the forest rivers were also important; mention can be made here of the river Selångersån, for example, at which mouth Högom is situated, and the river Moälven in Northern Ångermanland, at the mouth of which the Gene settlement (Ramqvist 1983; Lindqvist 1989) is situated.

Regarding the vegetation zones in our area, it can be noted that a region almost identical with the cultural region was identified by Sjörs (1967) in the form of his southern Boreal zone (Fig. 9). These boundaries tell us that the region in question has homogeneous climatic and geological conditions.

One important factor for the understanding of the distribution of the sediments in our area is the land upheaval process (Renberg & Segerström 1981; Miller 1982). The northern part of Central Norrland lies in the zone of the maximum rate of land uplift. This means that the landscape has been subject to continuous topographical and geomorphological change. At its highest, the coastline was c. 280–290 m a.s.l. in Ångermanland, and c. 200 m a.s.l. in Hälsingland, which means that most of the agriculturally significant sediments are found below these levels. This is also true of the glacio-fluvial delta areas which consist mainly of sand sediments, and of the post-glacial sediments which represent the silt/clay sediments.

The overall speed of the shoreline displacement is determined by the interaction between the actual land uplift and fluctuations in the level of the world's oceans, i.e. the eustatic conditions. The speed also varies in time and space, however, and the process has not been linear. The maximum speed corresponds to the ice-sheet centre, which was probably situated in the vicinity of the Gulf of Bothnia and the northern part of Central Norrland. Our region is thus one of those which have undergone the greatest changes in this respect. The rate of uplift of the land was at its highest directly after the melting of the ice sheet; it slowed down subsequently, although it has always taken place in a stepped fashion (Miller 1982). The average uplift over last two millennia has been a little less than 10 mm/year in the northern part of Central Norrland and about 7 mm/year in the southern parts of Hälsingland.

2.3. LOCAL GEOMORPHOLOGY AT HÖGOM

Högom is situated only a few km to the west of the town of Sundsvall, on the river Selångersån, one of the smaller rivers found along the coast of Norrland. It is

smaller than the true forest rivers, although its mouth is in the form of a large, wide river valley on a par with those of the mountain rivers. The river flows for 20–30 km in a northeasterly direction and provides access to a relatively large inland area through various branches and links with the system of lakes. Of equal significance is the fact that a small stream, the Tövabäcken, marks the line of a valley which runs in a WSW direction from the bay at Selångersfjärden. This valley runs directly across to Vattjom and Rude, which lie adjacent to the valley of the river Ljungan, a large mountain river. The valley of the river Ljungan was densely populated during the Iron Age, at least as far up as lake Stödesjön (Selinge 1979).

Running along the northern side of the river Selångersån is a sand and gravel ridge (Fig. 10), parts of which have now been removed through commercial exploitation, but which presumably played a major rôle for settlement and communication during the Iron Age. It is upon this ridge that the Högom site and grave field are situated (Pl. 1).

At the start of our own chronology, the water level in the Sundsvall region was c. 16–18 metres higher than it is today (Fig. 12), which means that Högom at the time lay on the northern shore of a sea inlet (although it is doubtful whether the settlement was really established so early; see discussion in Chapter 8). This sea inlet was at its narrowest at a point c. 1 km to the east, where another large mound happens to be situated (Fig. 2b), although the inlet was c. 400 metres wide at the grave-field and widened to about 1–1.5 km at the present-day Selångersfjärden bay.

The soil type analyses (Fig. 11) carried out in 1984 (Ramqvist 1988) revealed that the surface material of the ridge consists of coarse to medium sand, and that the houses and graves are situated on this part. A hollow characterized by finer soil types, including silt and clay, starts to the northeast of the mounds. Fine sand

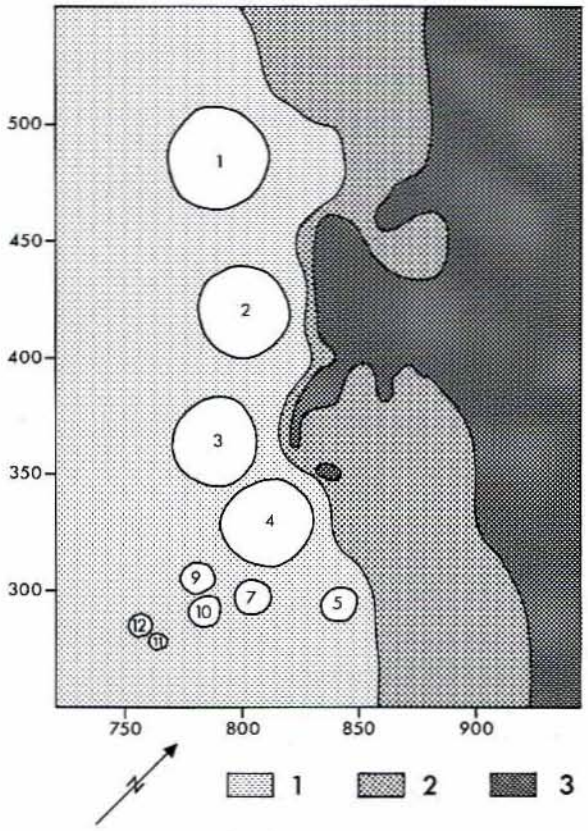


Fig. 11. Soil types at the Högom grave-field. 1 = sand, 2 = silt, 3 = clay.

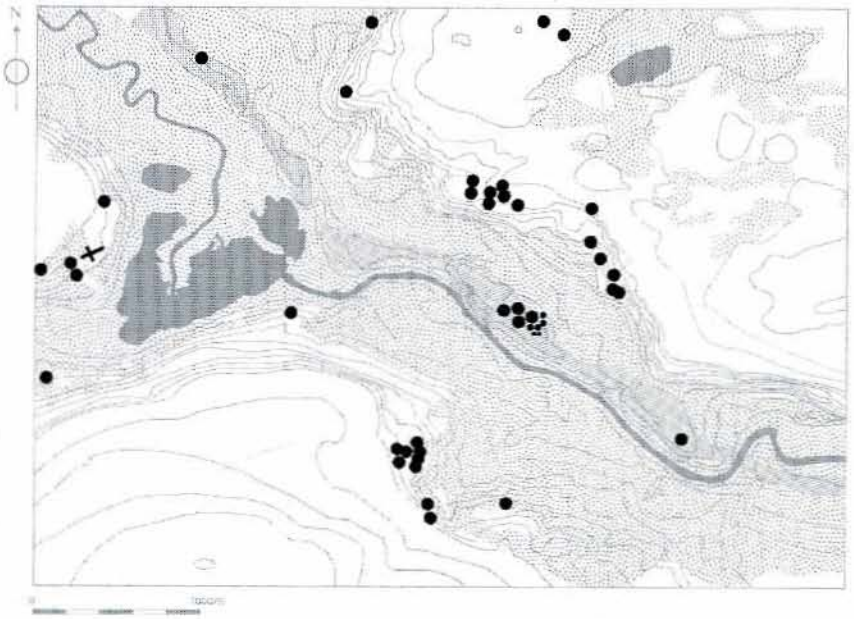


Fig. 10. Soil-type map of the lower part of the Selångersån ridge, showing the positions of the archaeological remains. Open pattern = morain, coarse pattern = fine-grained soils, fine pattern = Selångersån ridge, consisting of sand and gravel.

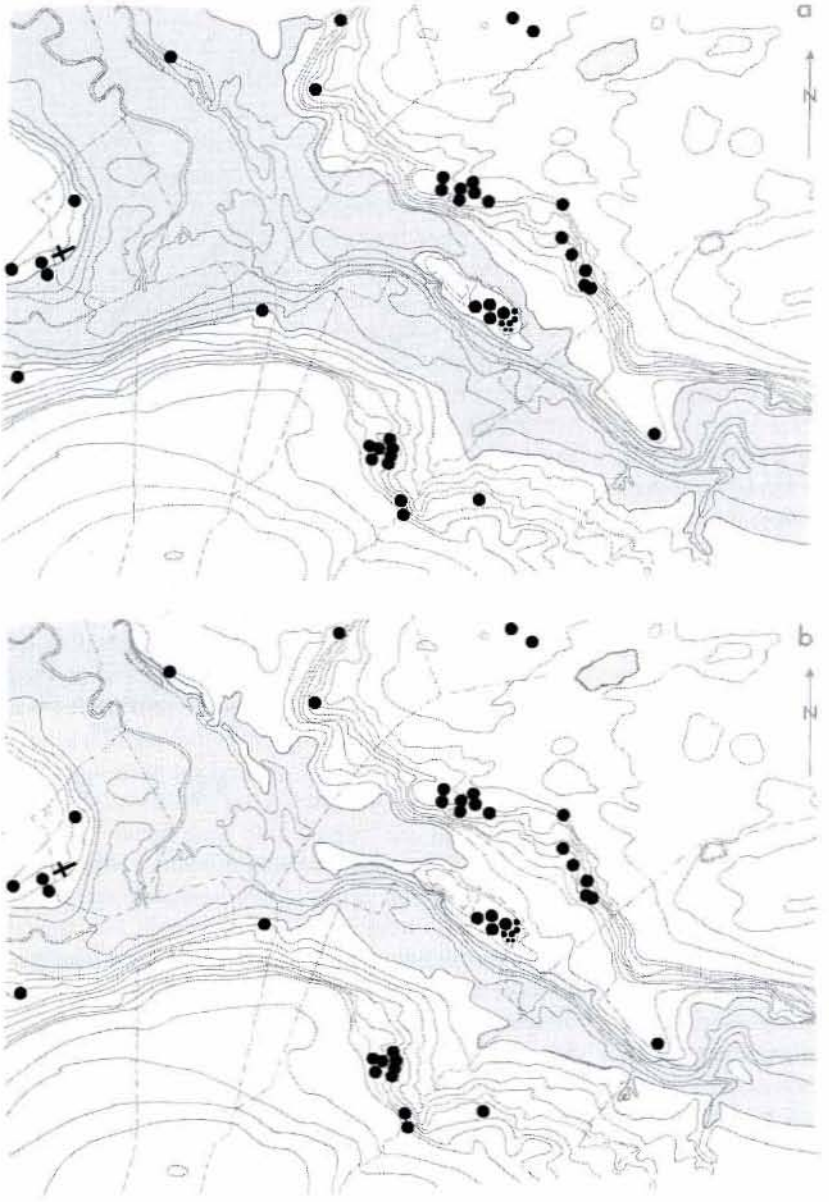


Fig. 12. Land elevation maps of the lower reaches of the Selångersån. *a*) 15-metre-contour-line. *b*) 10-metre-contour-line.

and silt are found in a transitional zone along the northern edge of the mounds. This area has been ploughed in modern times, which probably explains why the successive transition from sandy fractions on the ridge to silt/clay fractions in the hollow has now disappeared to a certain extent. The slope down towards the river Selångersån is relatively marked to the southwest of the grave field, and the area which has been mapped out down as far as the road (Fig. 4) is itself characterized by sandy fractions.

We are thus able to establish that the situation of the settlement is characterized by a large number of favourable economic and communicative factors. A variety of soil types occurs within a small area, with fine fractions suitable for cultivation, pasture and fodder crop production and coarser fractions suitable for settlement. The closeness to the sea provided excellent fishing facilities and opportunities to trap seals, as well as direct links with routes of communication with the inland areas, via both rivers and valleys. The position of the settlement shares a number of common denominators with the settlement at Gene (Ramqvist 1983:14).

3. PHOSPHATE MAPPING

3.1. PURPOSE AND METHOD

An area of c. 250 x 200 metres (NW-SE) was analyzed in respect of its phosphate content in order to identify or shed light on the settlement on the esker associated with the mounds. The analysis was carried out in 1984 in conjunction with a small-scale excavation below the intact parts of mound No. 2 (Ramqvist 1988). The land surrounding the cemetery was used until recently as arable land, and two farms were in operation in the mapped area until as late as the 1950s (see Fig. 5). These activities naturally had an influence on the phosphate content of the soil. Since the whole area exhibited a brown-earth profile with a mixed A and B layer, the samples were taken at a point below the recently disturbed layers. The depth of the brown-earth horizon varied a great deal (see below), and consequently the sampling level also varied. At some sampling points there was an intact occupation layer below the brown-earth horizon and in such cases the phosphate sample was taken there.

The field sampling exercise also included the description of profiles, the determination of soil types and fractions and the recording of observations relating to finds. The samples were collected by means of a 28 mm diameter earth core. The sampling interval was 10 metres at the centre of the cemetery, and 20 metres in the peripheral parts (Fig. 13). The laboratory work was carried out by Maria Lindström and Robert Olsson, of the Department of Archaeology at the University of Umeå. The phosphate was extracted using citric acid and was given the value P°, where 1 P° = 10 mg P/kg of dry soil.

3.2. RESULTS

A total of 238 samples was analyzed and gave a mean value of 89.7 P° with a range of variation from 41 to 449 P°. The standard deviation was 50.4. The distribution of phosphate on the site (Fig. 14) clearly shows the close correlation between the large mounds and the high phosphate content. The concentration is most obvious to the west of mound No. 2, although small

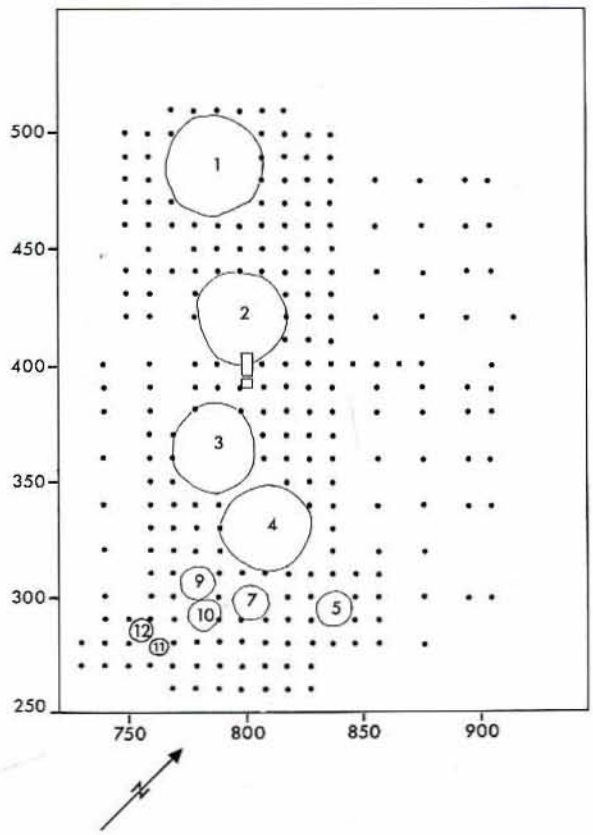


Fig. 13. Position of the phosphate sampling points in relation to the graves on the grave-field at Högom. The 1984 trial shaft in mound 2 is marked (see Sect. 4.7.)

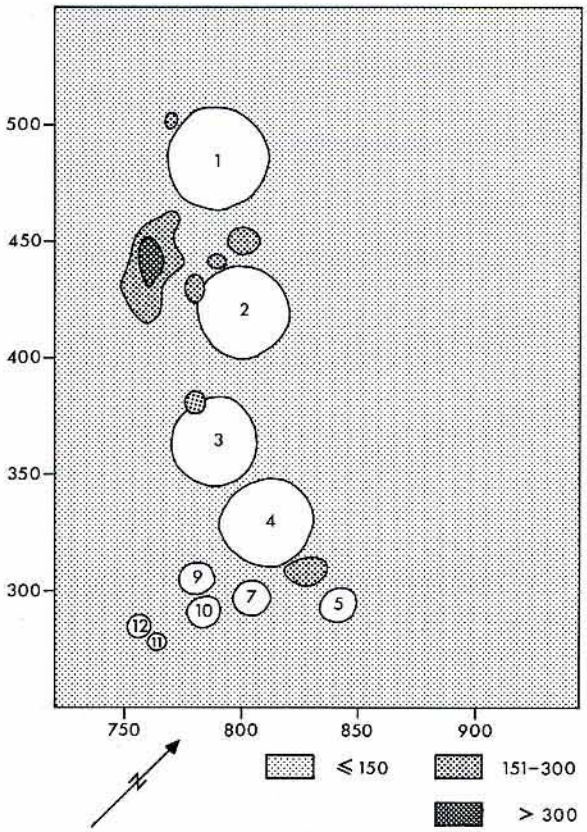


Fig. 14. Phosphate map of the Högom site.

concentrations also occur beside mounds 1, 3 and 4. On the other hand, a higher correlation exists between the presence of occupation layers containing finds and a high phosphate content. There are thus grounds to believe that the phosphate map actually points to Early Iron Age settlement.

Many of the traces of settlement were, of course, destroyed during the Early Iron Age, when the mounds were constructed. This situation is clearly illustrated by the settlement layers noted in the three excavated large mounds. However, more or less intact settlement layers can still be found outside the mounds. One such location is the area immediately to the west of mound No. 2, where several indications were found in the course of the sampling work. Firstly, there is a high phosphate content there, with values of up to 449 P°, which are extremely high for this site. Secondly, distinct and intact occupation layers were found there, which in one case (thirdly) contained a fragment of calcinated bone and substantial amounts of charcoal. An observation of a topographical nature should also be added to these other observations. It is now possible to see that this area was not touched upon by the Early Iron Age grave-builders. This small ridge is so distinct that it even appears on the contour map (Fig. 4).

A phosphate map (Fig. 9b) of the area excavated in 1984 was also drawn (see Sect. 4.7). A total of 36 samples was analyzed, and the samples were taken every metre within the 5-metre square X40 Y80. Neither clear concentrations nor a high mean value were observed. The mean value of 85.7 P° was close to that for the esker as a whole. The phosphate content was slightly higher in association with the post holes in the south corner of the square. It has thus emerged clearly, once again, that settlement traces do not necessarily produce much phosphate (Ramqvist 1983:110, 159). Of course, the small area analyzed here is not representative of the structures which once possibly existed here.

4. MOUND No. 2

4.1. INTRODUCTION

This chapter begins with a report by Sverker Janson (Sect. 4.2.), who led the investigations into mound No. 2 jointly with Dagmar Selling, on the progress made by the investigations and the underlying assumptions. This is followed by the descriptive elements of the very comprehensive find material. I have attached the greatest importance in these sections to the presentation of a varied account, both verbally and pictorially, of the finds which were made. The reason for this is the fact that the site represents one of the richest and, above all, most thoroughly investigated finds dating from the Migration Period in Fenno-Scandinavia. In addition the chamber has not suffered from something which has affected many other important graves, i.e. plundering.

The only true failing with regard to Högom is the delay which occurred in the publication of the findings. This could have been compensated for to a certain degree if the person who led the day-to-day indoor investigations in 1951, Dagmar Selling, had actually been able, as intended, to involve herself in the processing and publication work. A great deal of information was lost with her death, in spite of the application of very good excavation techniques and the use of high-quality documentation. Some of the difficulties encountered in the following presentation can also be attributed to this circumstance. On the one hand the artefacts which we have are exceptionally well-kept and conserved, and yet on the other hand we lack important information as to where these artefacts were actually found. Indeed, Selling left both descriptions of artefacts and their positions on a map, which unfortunately remained missing until April 1990, although masses of observations which Selling doubtless made were never written down. Several examples of this are given in the following text.

For example, it is inconceivable that Selling would have overlooked the three small clasps, probably made of silver, which are clearly visible in the X-ray photographs and were found in conjunction with the belt. Not a single word has been written about these or the actual finds, however, and there is no photographic record. Fortunately, they appear on the X-ray photographs. The X-ray photographs are of no help, however, when it comes to the groups of organic materials. The following account thus contains the occasional uncertainty, in particular with regard to the organic material, which itself has not undergone detailed analysis. Most of the wooden material recovered originates from the burial chamber and may possibly be of future interest in a dendrochronological context. Few, if any, constructional details of the wooden chamber could be found in this material, a point also made by Janson and Selling. Some pieces of timber containing constructional details were found, however, although these cannot be included in this paper, the reader is referred to one or other of the subsequent Högom publications for details of this material.

Having described the artefacts, I decided to attempt to place them in some kind of cultural historical perspective by making reference to parallels or, where these do not exist, by discussing the significance or the function of the individual artefact in question. The emphasis was placed on those artefacts which have something to say about chronological, chorological, social or symbolic circumstances. Not all the artefacts were subjected to such a comparative analysis.

For the purposes of the description, I grouped the artefacts together into what might be referred to as functional units, and they are reported under the following headings; weapons; horse trappings; dress and accessories; belt; personal items; cups, cauldrons and

containers, and other finds. This is the sub-division used on the whole by Selling, and it is an excellent basis upon which to structure the material.

Mound No. 2 was to be the first in a series of investigations of the Högom grave-field. This is because the grave in question was amongst those which had suffered the greatest damage (Fig. 5) and was thus most urgently in need of investigation. The feature is described as follows in the mapping exercise carried out in 1943 by G. Ekelund and S. Magnusson:

A mound, c. 4–5 metres in height (NNW-S). Severe damage by digging at the foot of the mound, especially in the N-NE-E, where a barn has been erected next to the mound. A partially refilled pit, c. 1 metre in depth, in the SSW part of the crown. The foot of the mound is indistinct to the W. On the crown of the mound there was a threshing place, from where a ramp leads to the hay-loft of the barn. A number of birches and several bushes are growing on the mound.

The diameter of its base has been measured at c. 40 metres in the NW-SE sense, which also corresponds quite closely to the original size.

In spite of the fact that very little of the material from Högom has actually been published, the site is frequently discussed in the literature, especially the finds from grave No. 2. A number of archaeologists are already familiar with much of the contents of the site from the details published by the excavators Selling (1952) and Janson & Selling (1955), and in the review by Stenberger (1964:565ff.), and because the find could at least be viewed in the "glass case" in the Sundsvall Museum (Fig. 29). Apart from in the work by Ramqvist (1990a), parts of this find have been discussed previously in a number of more important works, including the glassware (Ekholm 1967; Näsman 1984; Lund Hansen 1987; Straume 1987), the sword (Selling 1952; Menghin 1983; Ramqvist & Müller-Wille 1988), the clasp buttons (K. Lamm 1972; Ramqvist & Müller-Wille 1988), the Style I-motif on the mouth piece of the sword scabbard (Haseloff 1981:183), the technique applied to the mouth piece (Arrhenius 1981), and the golden obole (Silvén 1956; A-S. Gräslund 1966), etc. Thus, in spite of the quite comprehensive literature, only the sword and the clasp buttons with the Style I-motif have received more detailed attention in the published literature.

4.2. THE EXCAVATION, 1949–1951
(Sect. 4.2. by S. Janson)

The investigation of mound No. 2 began in the summer of 1949 and continued in the summer of 1950 (Figs. 15–16). It became clear at this time that the chamber which had been discovered could not be investigated successfully outdoors. Following a technically difficult and vast operation, the chamber was raised from the grave and transported to the SHM in Stockholm, where the investigation continued in 1950 and 1951.

4.2.1. EXCAVATION OF THE MOUND

The mound was c. 40 m in diameter and 4 m high before the excavation. Like most of the other mounds, it had been badly damaged in recent times. A barn had been built at its NE part, with a threshing place on top of the mound, which had been flattened for that purpose. In conjunction with this a filling had been constructed against the barn, and an irregular supporting wall had been built in the resulting slope. There was also a large, filled pit or trench running towards the centre of the mound. It was uncertain, therefore, to what extent these features might have damaged the grave and its contents.

It is interesting to note in this connection that the topographer Abraham Hülpers (1771–1791) writes that Eric Teet, a District Judge with an interest in ancient monuments, had investigated "a number of barrows at Granlo and Högom, where he had found urns with large bones, teeth and spurs, etc., which he had sent to the Antiquitets Collegium in about 1680".

The priest and historian Nils Ekdahl repeats this information in a travel report from 1883, but writes the following about Teet's excavation: "The result of this investigation is unknown to me." No finds from the reputed excavation have been found at the SHM. It is possible, however, that the large pit in the mound could have originated from this archaeological excavation in the seventeenth century, even in the absence of proof.

At the start of the investigation it was first necessary to establish the extent of the damage to the mound. The old erosion notch by the barn was exposed, and various trenches were sunk in order *inter alia* to gain an impression of the extent of the pit. It was found that an old trench had been dug towards the centre of the mound from the SSW down to a depth of c. 2.5 m. Could this have been from Teet's excavation? After the trench had caved in, the pit had been used for rubbish and refuse.

Further remains of shoring of more recent date were found in the NE part of the pit. The pit had then been filled over the years with a large amount of refuse and rubbish, stove pipes, rusty horse bits, halters, sheet metal vessels, knives, a skate dating from the end of the nineteenth century, and a selection of other broken artefacts. All the items were waste and rubbish from the farm.

Fig. 15. Mound 2 in the course of excavation in 1949. Photograph taken from the SE.

Fig. 16. The male contingent of the 1949 excavation team. Sverker Janson, second from left, is wearing a beret.

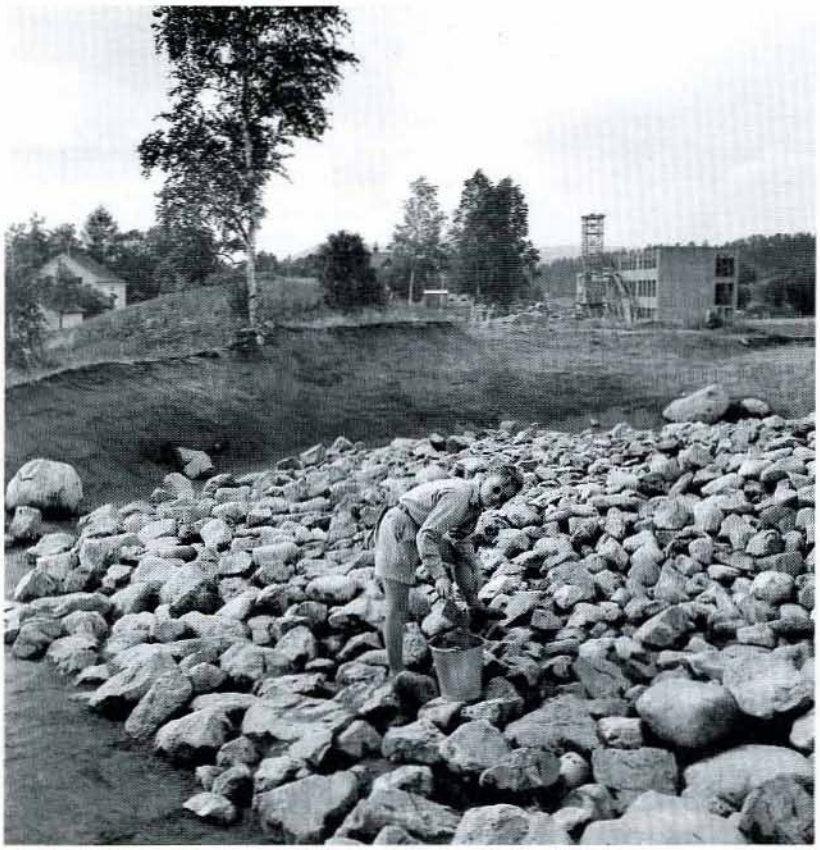


Fig. 17. Dagmar Selling excavating the central cairn in mound 2, 1949.

Fig. 18. Sverker Janson excavating the central cairn in mound 2, 1949.

Layers of a coarser, greyish sand could be seen in the sections, and in most cases these exhibited a more or less steep angle of inclination away from the central part of the mound and outwards towards the periphery. This sequence of layers must derive from the successive construction of the mound. Dark-coloured, interrupted layers with the approximate width of a blade tip, clearly the remains of the settlement layer from which part of the mound had been built, were found as the depth increased.

4.2.2. EXCAVATION OF THE CAIRN

A large, flat cairn of c. 19 m in diameter, with c. 1.5 m height over original ground surface at its centre, was exposed at a depth of c. 3 m below the crown of the mound (Figs. 17–18). Lying just a short distance outside the cairn was a row of large, irregularly distributed stone blocks, which may possibly indicate that an outer stone ring had been planned.

There were two depressions in the cairn to either side of the raised stone, the larger of which was c. 2 x 1.5 m (Figs. 19–20). Immediately adjacent to and to the NE of the hollows, there was a small opening in the cairn which formed a pit of c. 1.2 m in diameter. This contained *inter alia* fragments of hand-made bricks in the so-called "monastery" form. Could these, too, be traces of Eric Teet's digging?

The northern half of the cairn included a number of burnt patches which also contained a number of unburnt bones, *inter alia* fragments of the upper jaw of cattle and fish bones. These may be the remains of burial meals. The only other artefacts to be found were an iron knife and a quartzite whetstone. These were lying some distance apart, between the large stones on the northern edge of the cairn.

What is remarkable is how extraordinarily well-built the cairn was, with stones of equal size forming its shell, and with a floor which has been levelled with small stones. The precise form, the selected material and the careful execution all point to the burial cairn having been a professional stone construction, possibly executed by specialist grave builders.

The cairn had been fully uncovered and cleaned by the end of the excavation season in the autumn of 1949. It was by then inconceivable to continue the excavation during the autumn. The cairn was carefully covered and insulated from the winter. Any remaining trench walls were lined with boards to protect them.

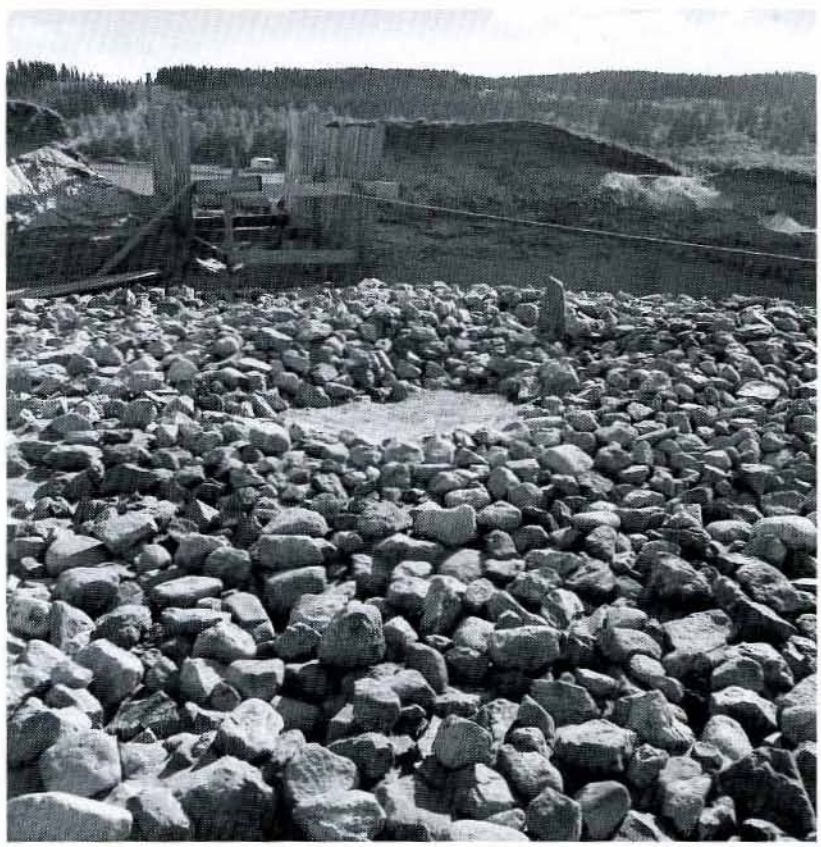


Fig. 19. The raised stone on the central cairn in mound 2.

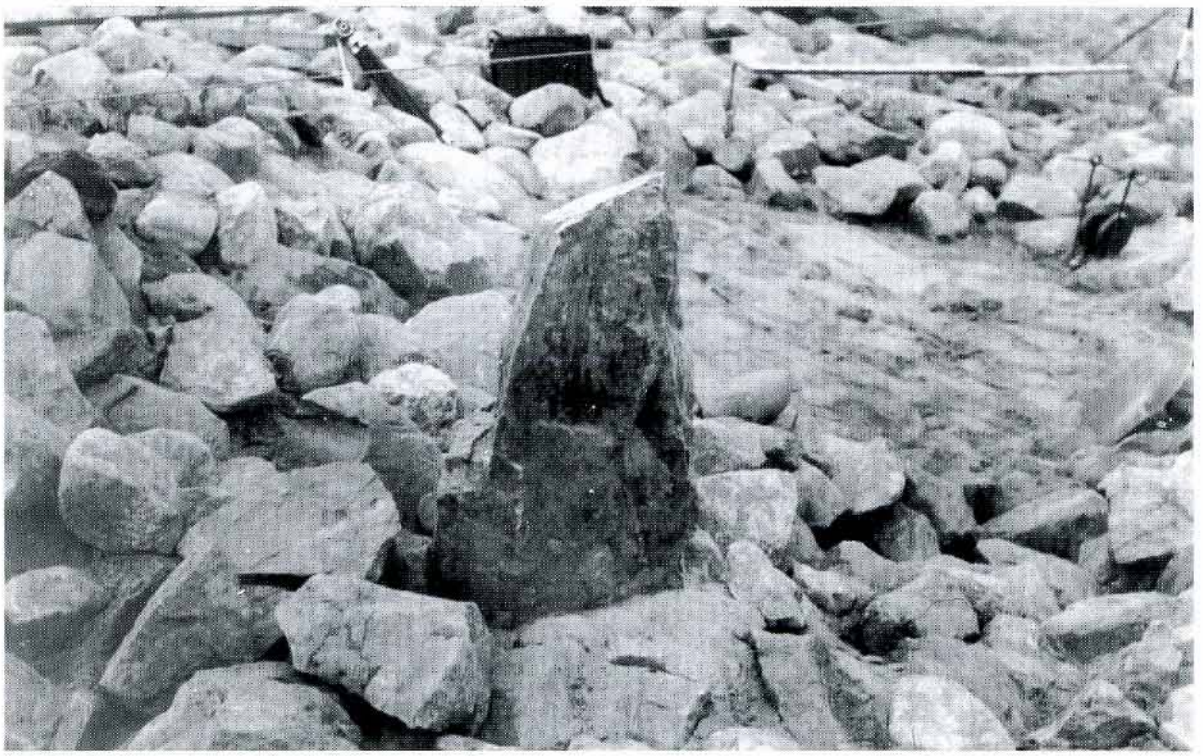


Fig. 20. Close-up view of the raised stone in mound 2.

4.2.3. EXCAVATION OF THE BURIAL CHAMBER

The investigation continued during the summer of 1950. The cairn was now removed. It was found to extend deeper and deeper beneath the original surface of the ground towards the centre, corresponding to the depressions in the surface of the cairn. It became clear that we were dealing with a chamber burial.

A rectangular, filled stone pit, which was also found to lie directly above a compressed burial chamber, was discovered directly beneath the raised stone in the course of the work.

Once the stone material had been thoroughly removed, it was found that a room had been dug out below the level of the ground in conjunction with the burial (Figs. 21–23). Logs had then been used to construct a burial chamber measuring c. 5 m x 2 m inside the room, which had then been covered with a roof, also constructed from a double layer of logs. The roof had then been carefully insulated with birch-bark, a common insulating material at that time. The cairn and the large mound had then been built. The great weight imposed by the cairn and the filling material of the mound had caused the roof of the chamber to be compressed with time, and this was now lying like a heavy lid over the floor of the chamber. This pressing down of the roof had naturally taken place very slowly, with the result that the stone material had been gradually forced downwards, but without collapsing.

One interesting observation was made in this respect. Through a process of saturation in conjunction with the pressure to which the wood had been subjected for a long time, the roof had formed itself so closely and flexibly to the contents of the grave that small distinct bulges, indicating the presence of grave contents below, were discernible in the covering wooden material in certain places (Fig. 24). The clasp buttons of the trousers and one of the glass beakers were also lying beneath one such small protuberance. The artefacts had withstood the pressure, and the roof had adopted the shape of the artefact as it was forced downwards.

There are many unanswered questions here concerning both the chamber and its construction, which can be attributed in part to a lack of information and resources with which to carry out a more detailed investigation. The age of the corner-connected timbers is one question which remains unanswered. The possibility of identifying the method of construction and joining of the walls was thus of considerable interest.

However, the timber in the logs had lost its structure to such an extent that all the joints between the individual component parts had disappeared completely and could not be analyzed in more detail by visual inspection. The same was true of the roof. The birch-bark

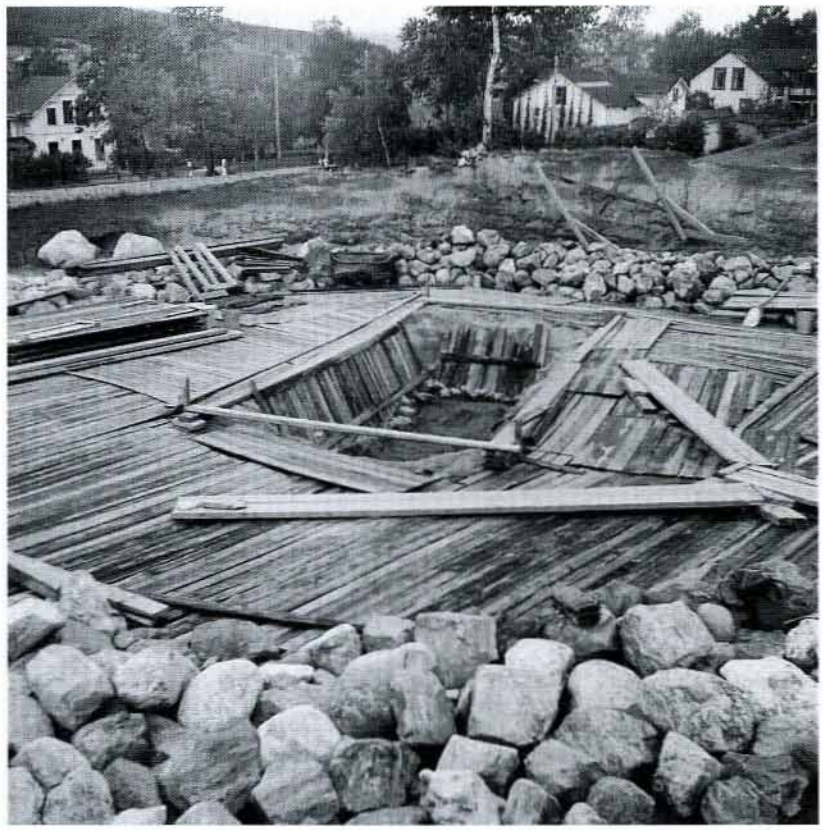


Fig. 21. The burial chamber in mound 2 exposed. Photograph taken from ENE.

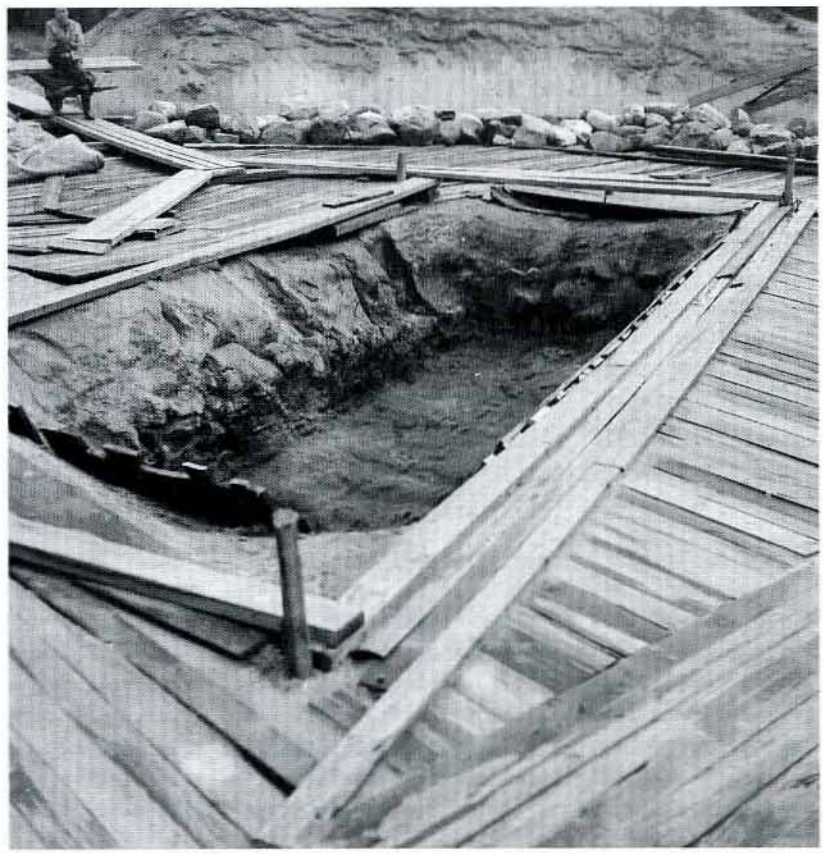


Fig. 22. The burial chamber in mound 2 exposed. Photograph taken from ENE.

Fig. 23. The burial chamber in mound 2 exposed. Photograph taken from E.

covering was so fragmentary and, in addition, more than paper-thin, that it proved impossible to lift and recover. There is no doubt that entirely different results could have been achieved here if present-day methods had been applied.

It was now also to emerge that the covering layer of wood could not be detached or removed successfully in order to reveal the contents of the grave. The grave contents were compressed so tightly with the roof timbers that parts of the grave contents were broken at every attempt to separate the wooden layer. The investigation had now reached a critical stage.

4.2.4. THE CHAMBER IS RAISED FROM THE MOUND

A successful attempt in 1935 to encase in plaster and raise the large jawbone of a whale during the excavation of a Stone Age settlement in Bohuslän gave birth to the idea that it might also be possible to apply the same technique here, and to raise the whole of the burial chamber, so that it could then be examined indoors. This was without any doubt a much larger and a much more difficult challenge and if there was to be any point in proceeding with the attempt, it had to be capable of being carried out without disturbing or losing any of the artefacts. A conservation specialist who had been called in from Stockholm expressed the view that the project would not succeed.

Assistance was to be received from the Hallström & Nisses building company in Sundsvall, however. After studying the project and the essential stipulations relating to the actual excavation, a method for raising the chamber was worked out.

A wide, deep trench was dug around the burial chamber, on the one hand in order to allow decisions to be taken with the guidance of the profile and the soil structure beneath the chamber, and on the other hand in order to provide sufficient room for the technical equipment.

A box-like structure was then built around the burial chamber. After various initial problems, iron pipes were finally driven in horizontally beneath the find layers and were joined together on both sides with girders. Screw jacks were then used to force a number of iron plates into position above the iron pipes, forming a base (Fig. 25). The plates and the pipes were forced into position beneath the chamber, sliding on a speci-

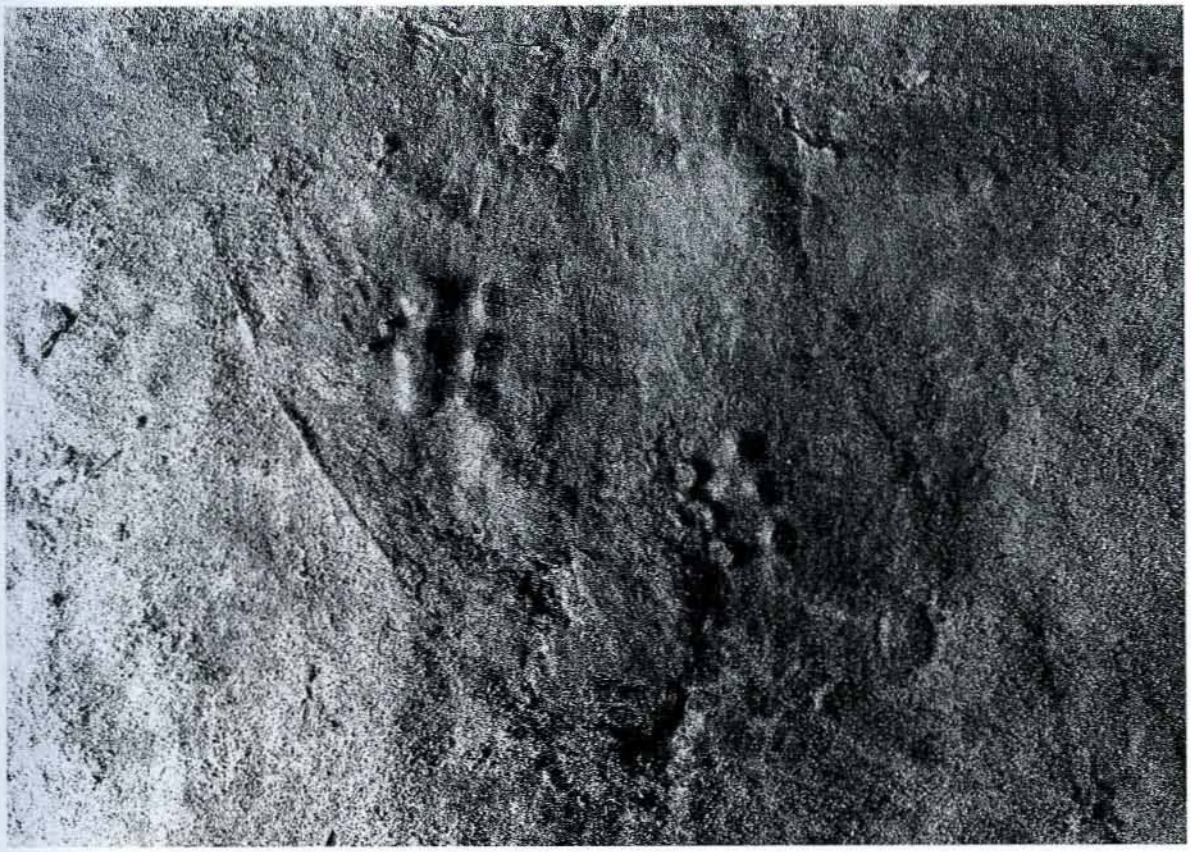


Fig. 24. The clasp buttons on the leggings formed protuberances in the compressed roof of the chamber.

ally constructed framework, so that the pipe/plate assembly could be guided horizontally. The sand of which the ground consisted allowed the operation to proceed without major mishap. All the spaces inside the box structure were then filled with a plaster mix. A heavy cover was placed over the box, which was then strengthened with iron girders.

The packaged burial chamber could then be winched up from its place to a sufficient height to allow a lorry to drive under the box on a specially constructed ramp. Encased in plaster inside a box weighing 9 tons, the Högom man was then driven to the SHM in Stockholm (Fig. 26).

4.2.5. EXCAVATION INDOORS

The indoor excavation could now be planned. The box was completely inverted as it was being unloaded, so that the rest of the investigation could take place "from below", with the original roof at the bottom (Fig. 27). This avoided the need to work through the relatively thick and hard timbers in the roof in order to reach the find layer. One question which had to remain unanswered, of course, was whether the chamber had a timbered floor which was equally difficult to penetrate as the roof. It was to emerge, however, that the burial inside the chamber had taken place directly onto the underlying ground.

As the investigation progressed, it was found that the grave contents had not been disturbed or displaced in the slightest during the raising or transport operations. One of the base plates had clearly been deflected upwards when it encountered a stone as it was being forced into position. It did not travel so far up, however, as to reach the find layer. There can be no doubt that many fortunate circumstances contributed to the outcome.

4.2.6. X-RAY PHOTOGRAPHY

Once the compressed burial chamber was safely indoors, this provided an ideal opportunity to take X-ray photographs of the grave. This is a procedure which is as desirable as it is impossible in the field. The task was performed free of charge by *AB Tekniska Röntgencentralen* of Stockholm. The whole of the burial chamber

Fig. 25. Mound 2. It proved impossible to excavate the chamber on-site without damaging the contents. The building company Hallström & Nisses carried out the technically challenging task of raising the chamber from the grave. Iron plates were forced into place with a jack to form the bottom of a box constructed around the chamber. The plates slide on top of steel pipes lying beneath them.

Fig. 26. The encased burial chamber is unloaded at the SHM in Stockholm.

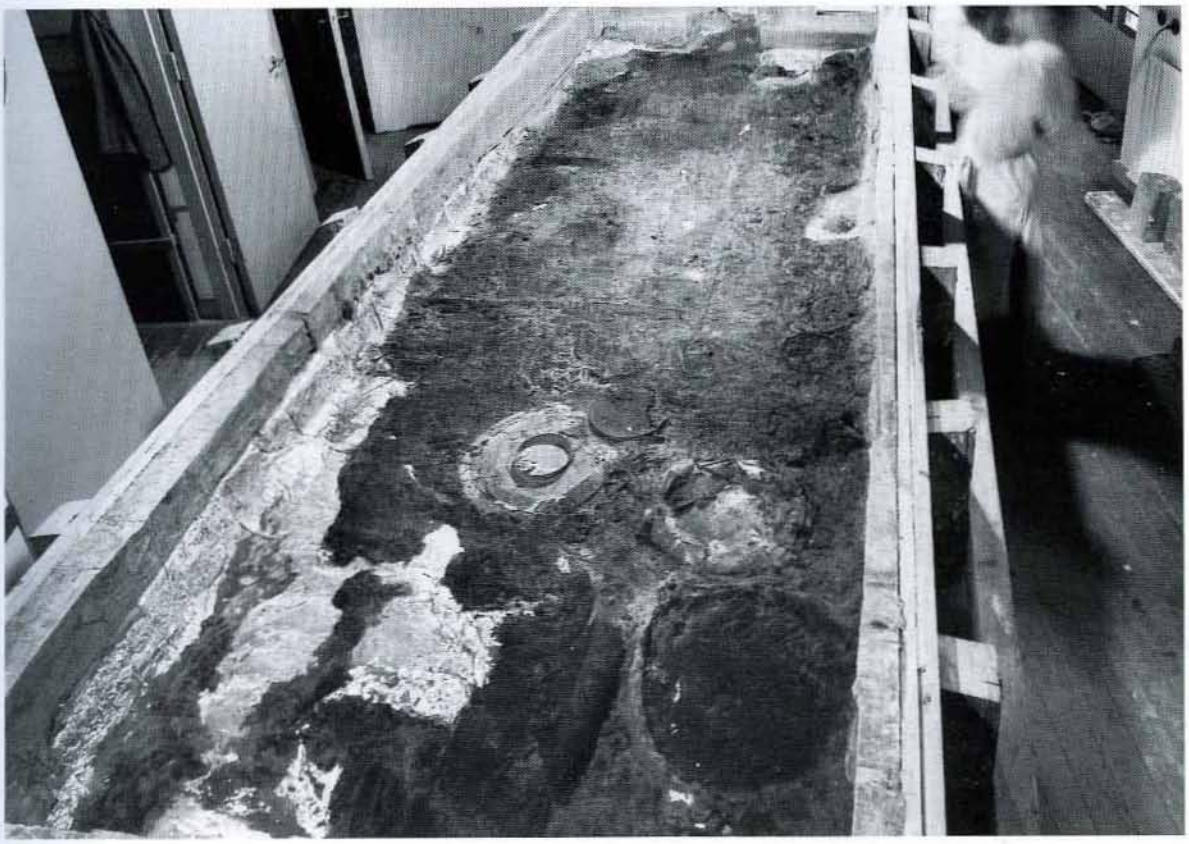


Fig. 27. A view of the indoor excavation once the chamber had been turned upside down. The photograph shows the investigation of the eastern part of the chamber, including the bronze dish, wooden dish, the Vestland cauldron and the tub.

was covered by a total of almost one hundred X-ray plates (Figs. 28–29).

As the plates began to be developed and brought up to the light for viewing, it was soon seen that the grave which had been raised at such great expense and brought to Stockholm was not empty of finds. A broad outline of the contents concealed within the burial chamber was gradually built up. Before a start was made on the actual work of excavation, a grave plan gradually emerged, on which the finds were shown in their natural size and in their precise positions inside the chamber. This allowed the excavation work to be programmed in advance in a logical fashion.

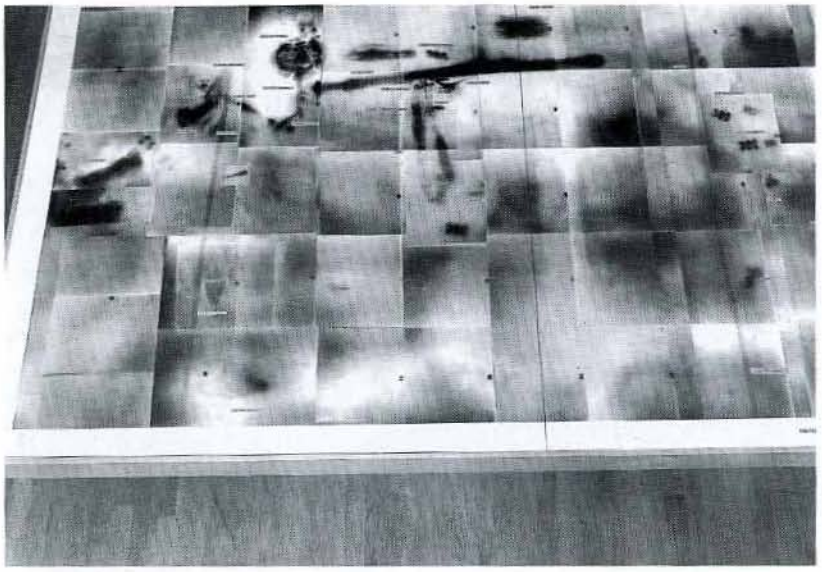
Of course, the X-ray plates did not record every find, and they were unable to represent all the finds equally clearly. The metals could be seen very easily, and the "dense" metals easiest of all. Many artefacts only came to light as the preparatory work proceeded. Taking account of all the circumstances, however, the use of X-ray photography in combination with the indoor excavation provided an entirely new point of departure for this work.

4.2.7. REFILLING THE BURIAL MOUND

The large mound was restored to its former condition after the investigation. The foot of the mound was left undisturbed during the excavation. It was not investigated. Whether this was the correct approach is, of course, open to discussion. The decision was taken primarily for reasons of cost and on the basis of the observations which had been made during the excavation, which had pointed to a very homogeneous structure for the mound.

An examination of the original surface of the ground which had been exposed beneath and around the cairn before refilling revealed the presence here and there of black, strip-like staining, which could not be explained at the time.

As the investigation of other mounds on the grave field continued, it was to emerge that distinct dark streaks were present in the original surface of the ground beneath the mounds. There was no doubt that these had originated from ploughing with an ard.



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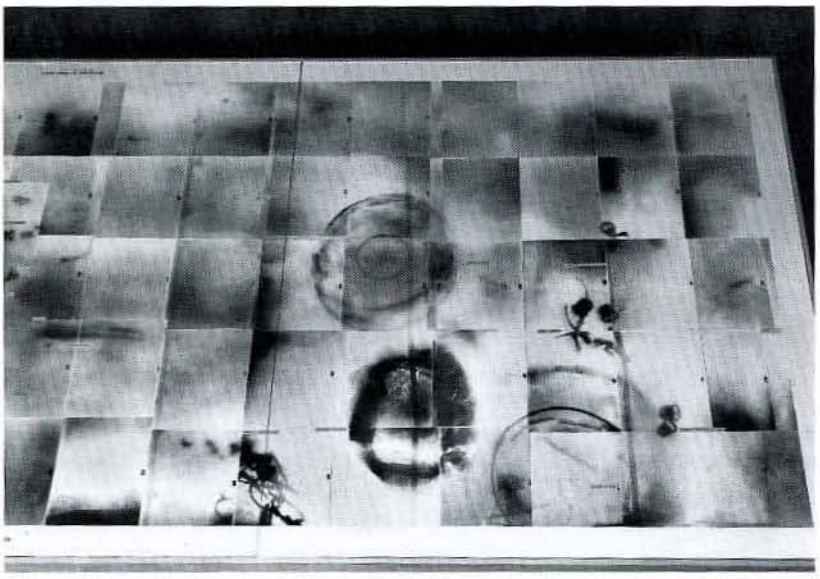


b

Fig. 28. The chamber after X-ray, with the X-ray images spread out in position. *a*) the western part of the chamber, where the deceased was lying with his weapons and belt. *b*) the eastern part of the chamber, with the horse trappings and the large vessels.

4.3. NOTES ON EXCAVATION TECHNIQUE

Brief mention should be made at this stage that the excavation has suffered from its own historical and internal problems.

Firstly, the whole monument was not excavated. Only the central part, where the cairn was situated, was investigated. The rest was left untouched, which means that c. 10 m of the periphery around the mound was not investigated, apart from on the NE side where the trench started (Fig. 15).

Secondly, sieving was done only in what were considered to be "cremation layers" and the like, i.e. the refuse of a more concentrated nature from the settlement, which imposes a heavy bias on the detection of the small finds in the filling. This loss is compensated for only to a very small degree by the fact that no machinery was used.

Thirdly, in view of the major problems associated with rescuing the chamber at the end of the 1950 season, every effort was devoted to that task, and an investigation of the settlement traces below the mound never took place.

As described above by Janson (Sect. 4.2.), the chamber was encased in plaster and transported to Stockholm for indoor investigation. The investigation was carried out in the laboratory; this was an unusually advanced technique for its time and, for that matter,

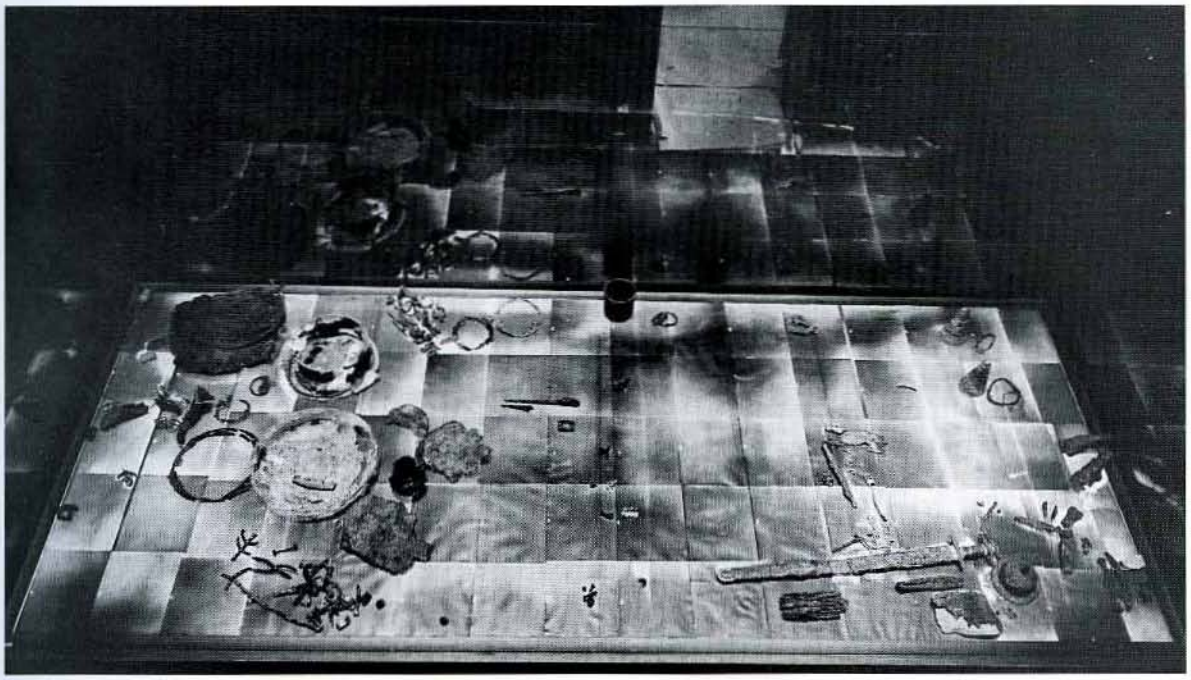


Fig. 29. The burial chamber as it was exhibited at the Sundsvall Museum from 1954–1986. Most of the objects were shown lying in their original positions on the X-ray plates.

remains so to this day, especially when combined with X-ray photography. This has made a significant contribution to the enormous amount of information which has come to light, and of which use can continue to made in the future. A highly successful and astute tactic was to excavate the grave from below, i.e. from the sandy side, and not from the top side which had been compressed into a very hard and compact wood layer. In one sense the investigation of mound No. 2 thus presents a paradox; on the one hand, the 1951 indoor excavation of the chamber represented a highly advanced approach and, on the other hand, the outdoor excavation in 1949–50 was a very traditional operation in keeping with the times. Those parts which were documented are far from incomplete, although a methodical system of coordinates and a trench plan which can be related to the burial mound itself are both missing. The parts which were in fact investigated are known only from photographs which were taken for purposes other than illustrating the precise extent of the excavation. On the other hand, it is possible to maintain that it is a good thing that the excavation did not destroy the monument in its entirety and that the whole of the undamaged outer part of the mound outside the actual centre of the cairn, i.e. a ring of c. 10 m in width running around the mound, has been saved. We were able to investigate part of this ring at a later date for other purposes, in 1984 (Sect. 4.7.).

4.4. FILLING OF THE MOUND

4.4.1. CHARACTER OF THE FILLING

As mentioned above, only a very small part of the filling material was sieved and there are consequently very few finds from these layers. The old excavation pit from the late seventeenth century made by District Judge Eric Teet was probably identified by the excavators, however. They arrived at the conclusion that the old excavation had at most reached the top of the central cairn and had not penetrated the chamber. A great deal of material had been dumped in the pit over the preceding three centuries.

Diary entries for the year 1949 give the clear impression that the filling in this mound, like that in mounds 3 and 4, for the most part contained material of the same type which makes up the surrounding ridge, i.e. a yellowish sand, together with not insignificant remains of cleared settlement layers. The distribution of these settlement remains is not homogeneous, however, and they are encountered in more or less large concentrations. These concentrations have been described by the excavators variously as patches of dark soil with the admixture in part of pieces of carbon, fire layers or fire-stained areas. A further symptomatic feature is that the concentrations often contain artefacts (Tab. 1). By their nature they may very much resemble the

secondary graves of the type encountered in mound No. 4 (Sect. 6.4.1.). The question of secondary graves probably did not arise in mound No. 2, in spite of the fact that one of the fire-stained areas contained a larger than normal quantity of artefacts (Tab. 1), although there was not a single instance of burnt human bones (according to the diary notes) or other finds of the kind which are commonly encountered in cremation graves.

Table 1. Finds made during the preparatory work on the central cairn of mound No. 2 in 1949 and 1950. The table was compiled from the field diaries kept by Selling and Janson, and includes only those artefacts which are probably contemporaneous with or older than the burial mound.

NO.	TYPE	COMMENTS
FOUND IN 1949		
1	Burnt clay with wood impression	
2	Fragment of whetstone, red sandstone	12x2.5x6-3.5 cm, interspersed with yellowish parts
3	Burnt bones, individual	In fire layers in the SW part of the main trench
4	Band-shaped iron mounts	In fire layers in the SW part of the main trench
5	Fragment of whetstone, gey schist	Long and narrow, four-sided
6	Flat iron fragment	Selling, find 5
7	Burnt bones	
8	Iron nail	
9	Iron staple	
10	Burnt bones	
11	Glass slag	Small clumps, with burnt-in sand particles
12	Iron nail	Selling, find 9
13	Iron nail	Selling, find 11
14	Iron slag with burnt clay	
15	Burnt clay	Contains grains of quartz
16	Burnt bones	
17	Lump of slag	In a fire-stained area on line F
18	Unburnt bone, including a horse's jaw	In fire layer 1.6x0.75x0.05 m
19	Fish scales	Together with No. 18
20	A few fish bones	Together with No. 18
21	Burnt bones	Together with No. 18
22	Small lump of slag	Together with No. 18
FOUND IN 1950		
23	Burnt clay	Selling, find 23
24	Clasp button, gilded silver	In a fire-stained area on the NW quadrant of the cairn
25	Lumps of slag (glass?)	Together with No. 24
26	Burnt clay	Together with No. 24
27	Bones of mammals and fish	Together with No. 24
28	Egg-shaped crucible	Together with No. 24
29	Lumps of slag	Together with No. 24
30	Birch-bark	Together with No. 24
31	Cow(?)horn	Together with No. 24
32	Band-shaped iron sheet	Together with No. 24
33	Iron fragment	Together with No. 24
34	Burnt and unburnt bones	Together with No. 24

An interesting discovery was also made in the course of exposing the central cairn of the mound on 29 August 1949, in the form of a darker, humus-like soil with a depth of a couple of centimetres, which occurred in waves and had been deposited directly on top of the stones of the central cairn. This dark soil was probably, according to the excavators, turf that had protected the above lying filling to fall down between the stones of the cairn.

It is also clear from the diary entries that the mound is lying on an undisturbed settlement layer, although the excavators did not arrive at this conclusion. In a number of places in the diary the appearance of the subjacent layer is described as being like the spots of a leopard and quite pitted. Details of the original surface of the ground are also recorded, with a note to the effect that this lowest dark layer is 0.2 metres thick. It is thus fully clear that traces of settlement layers were observed beneath practically the whole of the investigated part of the mound, i.e. beneath and a little way outside the central cairn.

It can thus be stated by way of conclusion that the filling of the mound very probably originates from the immediate vicinity of the burial mound. It can also be established, even at this very early stage, that most of the material appears to have been taken from the sandy parts of the ridge, in actual fact directly from the crest or from its SW slopes (see Sect. 8.1. for more detail).

4.4.2. FINDS IN THE FILLING

Several finds of recent date were made in the dumping pit; these were readily distinguishable from the others, and need not be discussed here. Drawings have also been made of a number of these, although they have not been published in this connection.

In the course of the excavation, however, a number of finds were made from the old settlement layer, which was originally situated adjacent to the mound and still is present below it (Sect. 4.7.). A complete inventory of the finds made in the filling was never drawn up, unfortunately, and a number of these finds have not been traced in the store. It is necessary, therefore, to examine the diaries kept by Dagmar Selling and Sverker Janson for the 1949–1950 seasons. The following list of finds (Tab. 1) was compiled from these diaries, i.e. artefacts which probably belong to the original filling material.

Table 1 can be seen to contain a couple of surprising finds; these are the crucible No. 28 and the clasp button No. 24. It is generally true to say that the material is on the whole representative of what one might expect from a setlement layer, i.e. burnt clay, bones, slag material and miscellaneous fragments of iron and nails. The material contains some useful information, however, in respect of the burnt and unburnt bones, which had already been clearly identified in the field, in that both fish and horse are represented.

As far as the clasp button is concerned, I was unable to trace this item in the store; in this case we must rely on Selling's description and a photograph of a quality which leaves something to be desired (Pl. 65:2). Selling writes about the button as follows:

> A dress button, gilded silver, diameter 0.9 cm, depth 0.45 cm, with relief decoration in a circular central area recessed to a depth of c. 2 mm, a densely cross-hatched upper edge, with profiled sides to the button (two horizontal grooves to either side of broader fluting). There is a centrally positioned pin in the centre of the underside.

An entry in the diary for Tuesday 13 June 1950 also mentions that the button exhibits similar profiling to the button illustrated by Nerman (1935:Pl. 51:536), and there is accordingly no doubt as to the appearance of the button.

The crucible, No. 28, referred to above (Pl. 2) is an extremely important find as far as the subjacent site is concerned (Sect. 4.7.). This was described by Selling as "a clay lamp (or crucible?)" and was exhibited for a long time at the Sundsvall Museum, where it was described as a clay lamp. There can be no doubt, however, that it is a crucible of the same kind as those discovered *inter alia* on Helgö (K. Lamm 1977) and at Gene (Ramqvist 1983:8ff, where the crucible is also illustrated and described). The discoveries of the remains of metal casting activities on Helgö had not yet been made at the time when the Högom crucible was found and it is for this reason that Selling's belief that this is perhaps a crucible may be regarded as well-founded.

The crucible is egg-shaped, measuring 65 x 60 x 37 mm and has a rounded, almost rectangular handle on the top. As is usual, the crucible consists of one upper part and one lower part, although in this case the joint between the two halves is clearly visible, which is not usually the case. This can be explained by the fact that it has not been exposed to such high temperatures that its surface has been fully sintered, causing the two parts to fuse together. The low degree of sintering also explains the marked appearance of the severe quartz tempering. The under part of the mouth of the crucible is almost intact and has a uniformly rounded edge, whereas the mouth part of the upper part has been damaged or broken off.

This find indicates that metal casting activities had taken place in the vicinity of grave No. 2, although regrettably no fragments of casting moulds could be found. The individual pieces of burnt clay which are said to have been found may, of course, be the remains of casting moulds, but may equally be the remains of clay daub, furnace linings or, for example, hearth clay. I have been unable to identify any of this material with any certainty in the store.

The grave filling also yielded a quantity of bones, both burnt and unburnt (Tab. 1), which were identified by Gejvall (1956). The following species are represented in those layers in the filling which can be reliably attributed to cleared site layers or other occupation layers:

domestic cattle
horse
sheep/goat
pig
bird
fish

The larger species, i.e. the domestic cattle, horses, pigs and sheep/goats, are represented almost exclusively by parts of the jaw, teeth, skull and/or extremities, and not infrequently by young animals. The species of bird, which cannot be identified in more detail, is also represented by an extremity bone. A concentration of domestic cattle bones found in what the excavators referred to as a fire-stained area, i.e. a cleared occupation layer, included the right-hand half of an upper jaw, a few parts of the skull, and some rib fragments, several with traces of hacking or cutting. Apart from pieces of teeth, ribs and parts of the extremities, the horn-core of an individual of the shorthorn breed was also found amongst the bones of domestic cattle in another fire-stained area. The fish bones which were found included fragments of gill, scales and rib bones, etc., and a few individual fish could be identified as belonging to the carp family *(Cyprinus).*

These species are certainly associated with the period before or contemporaneous with the construction of the mound, as they occur in cleared site remains. One interpretation which is sometimes suggested is that these bones and fire-stained areas relate to special sacrifices which were made while the construction of the mound was proceeding, although such an interpretation has not found support in other contexts, since the fire-stained areas as a general rule also contain ordinary material from the site. It must be accepted as obvious, therefore, that the fire-stained areas are simply layers which contain material cleared from the site more or less at random. It is, of course, possible that unusually intensive sacrificing and ceremonial food preparation activities took place on the old site before a start was made on building the mound, from which

particularly large numbers of jaw, tooth and extremity parts were recovered. This was established for mound No. 3, for example (Sect. 5.6.3.).

It is also possible in this context to name the individual bones which were found on the original surface of the ground or in the bottom layer directly beneath the mound. These were identified by Gejvall (1951), when they were found to be, first, a part of the left-hand lower jaw of a calf aged between 2 and 2¼ years and, second, the left-hand lower jaw of a sheep probably aged 2½ years. The bottom layer was also found to contain (Gejvall 1956) *inter alia* milk teeth from the upper jaw of a domestic cow. It should thus be possible to accept these latter finds, which had not been disturbed by the building of the mound, as evidence of ceremonial meals having taken place before a start was made on building the mound. They may also be representative of a typical selection of non-recovered bones for a site, something which it is not easy for us to verify elsewhere due to the rapid decay of the artefacts. Comparatively good preservation conditions would have existed, of course, beneath a large mound such as this, which may distort the picture.

4.5. GRAVE CONSTRUCTION

4.5.1. MOUND

The mound measured c. 40 metres in width and 4.5 metres in height, giving it a total volume of around 3200 m^3. A cairn measuring 19 metres in diameter and 1.5 metres in height had been erected at the centre of the mound. A layer of sand up to 3 metres in thickness had been laid above the cairn. The material contained in the layer was described by Janson & Selling (1955:64) as "fine silt". However, the fraction which is visible on some of the excavation photographs and is also mentioned occasionally in the diary is sand, which also dominates the immediate surroundings.

The cairn was well built and was constructed from specially selected stones (Pl. 3–5). It can be seen from the photograph (Pl. 3) that there is an outer band of larger stones, some 2–3 metres in width, while the centre of the cairn contains mainly smaller stones. Positioned approximately at the centre of the cairn was an upright stone, which rose c. 0.6 m above the top of the cairn (Figs. 19–20). This stone had been covered completely by the soil filling of the grave, however, and thus had no communicative value once the grave monument was finished.

Before describing the finds, it may be appropriate at this stage to quantify the burial mound as a monument. A burial mound which is 40 metres in diameter and 4.5 metres high has a total volume of c. 3200 m^3. Of this volume, c. 800 m^3 are taken up by selected stones in the form of a well constructed central cairn. The stones were collected from a location at least 500 metres to the north of the grave field (Fig. 10). However, the soil used for filling the mound, approximately 2400 m^3 in all, was taken from the immediate vicinity of the mound. If we assume that a maximum of 1 m^3 of soil can be moved by one man in a single day (Ringstad 1987:19), then this means that the soil covering alone above the central cairn would have required 2400 man-days to construct.

It is more difficult to estimate the time taken to collect the stones and construct the cairn. It would not be an overestimate, however, to assume that this took at least three times as long per unit of volume compared with moving the soil, and probably considerably longer. This in turn means that the cairn also took c. 2400 man-days to complete. According to this calculation example, the total construction time would have been at least 4800 man-days. To put it another way, it would have taken one person 13 years to build the monument. If we assume that the burial mound was built over a period of two (snow-free) months, for example, then 80 men working full-time would have been required. This figure tells us a great deal about the social position occupied in the community by the interred person.

4.5.2. CHAMBER (Pl. 6–10)

Two partially connected hollows which indicated that the inside of the grave, the chamber, had been compressed, were observed relatively centrally in the central cairn to either side of the raised stone. A chamber measuring c. 5 x 2 metres and lying in an E-W direction was found; it was also established that this had been dug down c. 0.7 metre into the original surface of the ground (Figs. 21–23). It is not known whether and to what extent, the chamber extended above the surface of the ground.

It was not possible to investigate how the chamber had been constructed in detail in the course of the excavation (Pl. 6–9). All that could be established was that the walls consisted of horizontal logs and/or coarse planks. It may have been corner-connected or, more likely, built as a timber-framed timber wall, although no remains could be found of corner joints or corner posts. The roof consisted of a double layer of logs which had been carefully covered with at least two layers of birch-bark (Fig. 30).

Different kinds of fur were found in several places in the chamber, most abundantly though around and underneath the deceased. These have proved to be of bear, reindeer or roedeer, beaver, marten, sable, pole-

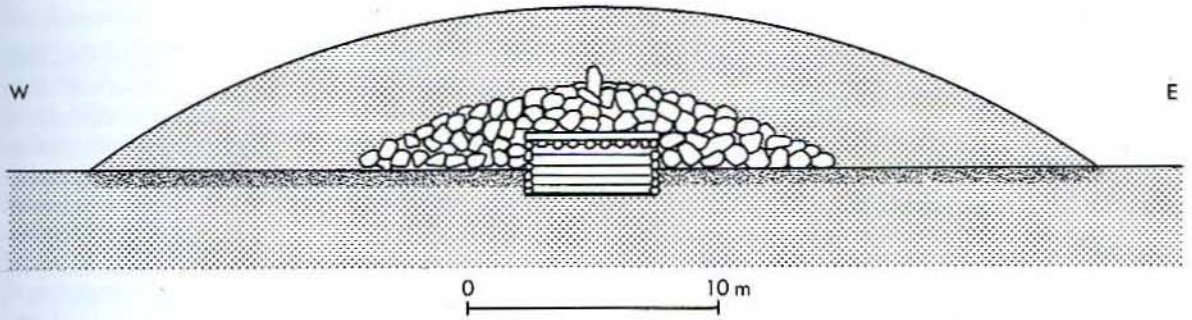


Fig. 30. Schematic drawing showing a section through mound 2 with its soil covering, central cairn and burial chamber. (Drawing: P. H. Ramqvist).

cat and pinniped or musquash (Nockert 1991:31, prel. determinations by E. Lundvall, raä). Most common is the bear fur, which is found in both the E and W parts of the chamber, indicating that most of the chamber floor and bed was covered with bear furs. It is also clear that the deceased was covered by one or more bear furs (Nockert 1991:31). The rest of the furs occur around the deceased and could partly be explained as parts of garments or linings to the woollen garments on the deceased. However, more detailed conclusions must wait until more specific analyses have been conducted. For example, it is of the utmost importance to determine whether or not it is a reindeer fur in the chamber. If that should be the case, it will give us a valuable piece of evidence to the question of the interaction between the inland and coastal areas of Central Norrland.

It is hard to say how representative the many fur species are in the Nordic material, because of the scarcity of the finds. But, as we know from many cremation graves from the Roman Iron Age and Migration Period, bear furs were relatively common in many areas (Petré 1980 and Sect. 6.4.5.). Occasionally finds of other animal furs are indicated in the material from this period, for example hare at Evebø (Nockert 1991:106) and squirrel at Vågsnäs in Ångermanland (Ramqvist 1984). It was probably common to have additional furs on the garments, but because of the bad preservation possibilities, we only find a minor part of what was originally used.

Some of the textile fragments of a coarse twill, indicate that a blanket or similar had probably been put above the bear furs (Nockert 1991:35).

4.5.3. BED (Pl. 12–13)

4.5.3.1. Observations during and after excavation

Janson & Selling (1955:74) state that the deceased had been placed on a bunk or similar. A more detailed analysis could not be carried out before April 1990, however, when the original plans drawn up by Selling in conjunction with the excavation were discovered. Selling had drawn on the plans the laths which are clearly visible in the photograph (Pl. 12) in relation to other finds, which makes it quite clear that the deceased had been laid on a bed-like item of furniture. Now that the relative positions are clear, the plan and the photograph can be interpreted as follows. The item of furniture consists of two longitudinal (E-W) pieces of wood and seven transverse, clearly wooden planks positioned at a relatively uniform distance apart.

Selling's scale drawings show that the bed was at least 2.3 metres long and 1 metre wide. On none of the plans, however, had Selling shown the second transverse plank from the eastern end, although it appears quite clearly in the photograph (Pl. 12). If this plank is included, the distance between the planks is relatively even, although this is not true in Selling's case. The distance between the transverse planks nevertheless varies from 22 to 40 cm. The smallest distance is between planks 3 and 4 from the eastern end and the greatest distance is between the two westernmost planks.

The end of the bed appears to be quite clear in the east, where the southern longitudinal board exhibits a slightly rounded end and projects by about 8 cm beyond the easternmost transverse board. The southern board, which can be followed for some distance, is completely straight and appears to be pretty much intact, which leads us to assume that it still corresponds to its original size, i.e. 3–4 cm. This is probably a 3–4 cm thick board of unknown width standing on edge, on which the transverse boards were laid and attached by means of pegs or wedges. No traces remain of the northern longitudinal board. Its position must have coincided precisely with the northern wall of the chamber, and it probably could not be distinguished from the compacted layer of wood which remained of the chamber.

The seven transverse planks vary in width between 3 and 10 cm, and the narrowest of these is the one at the eastern end; this, like the southern longitudinal

board, was probably a coarse board standing on edge. The longitudinal planks and the two transverse planks probably formed a frame consisting of boards standing on edge. The other transverse planks appear to have been c. 10 cm in width. It is difficult to establish the appearance of the western end of the bed, i.e. the head end, although there are a couple of indications which suggest that it may have been an eighth transverse board. In this case it would have been the length of timber with three iron rivets (*F1* in Selling's plan; Pl. 10) shown lying at an angle in the plan (Pl. 10–11). Its width of 3–4 cm corresponds to that of the other frame boards. Its oblique position may be taken to indicate that there had been a special, perhaps raised construction at the head end, which, when the chamber collapsed, had been affected in a different way from the rest of the level bed construction. The presence of the three rivets also points to there having been some special form of construction at the head end.

If we also include this western board, this means that the bed would have been c. 2.6 m in overall length and 1 m wide, with a special construction at the head end. The frame was made of four 3–4 cm thick boards, joined together standing on their edges after six horizontally arranged boards of c. 10 cm in width had been secured between the two longitudinal planks with a distance of 22–40 cm between them.

4.5.3.2. Finds associated with the bed construction (Pl. 13–15)

Several artefacts for which no logical explanation has been offered were found in the chamber. This relates mainly to the nails and rivets which were found. However, once it became clear that the interred person was lying on some kind of bed, comparable material for other similar beds (Sect. 4.5.3.3.) shows them to have been equipped with iron mounts, rivets and nails of various kinds. It is reasonable, therefore, to suppose that the iron mounts found in direct association with the bed in the Högom chamber also served some kind of function on the bed. The following artefacts probably belonged to the bed construction:

F70. Iron loop (43b on Selling's plan, Pl. 10a)

This is of the same type as F71a below, although it is a little smaller. There is no intact inner hole. The external dimensions of the loop are 28 x 24 x 13 mm. It was forged from a single piece of iron of rectangular cross-section c. 9 x 7 mm. The terminations, i.e. the feet, are bent to an angle of c. 90 degrees, flat-hammered, and have a trapezoidal form with a maximum breadth of 19 mm. One of the terminations is intact, c. 20 mm long, and with no visible rivet hole on the front side. On the rear side, however, where wooden fibres are present running in the same direction as in F71, there is evidence of a rivet hole c. 8 mm in diameter.

F71. Three iron artefacts (43e)

a) An iron loop with flattened and right-angled terminations. This is similar to F70, but was forged from round iron blanks of c. 8 mm cross-section. The terminations were also made in the same way as F70, with a maximum breadth of c. 20 mm. One of the terminations seems to be intact, with a length of 23 mm, and has a nail with a head of 9 mm in diameter passing through it. Wood with fibres running at right-angles to the longitudinal axis of the termination is present on the rear side of the termination. The loop is oval, with external dimensions of 31 x 25 x 10 mm, and with an inner hole measuring 10 x 7 mm.
b) An iron nail, fragmentary, with a slightly spherical (?) head 18 mm in diameter. Length = 30 mm.
c) An iron fragment with a wood fragment on one side, measuring 20 x 18 x 15 mm.
This group a–c probably makes an iron loop with two rivets.

F72. Iron nail (43f)

Round, flat head, 22 mm in diameter and 4 mm thick. The shaft is c. 7 mm thick. Length = 56 mm.

F73. Iron loop (43c)

This has not been traced, and it was neither drawn nor described in detail by Dagmar Selling, in spite of being clearly visible in the X-ray photographs of the chamber. It is an iron eye of the same kind as F70 and F71, i.e. an eye with two associated iron rivets.

F74. Iron loop (43a)

With flattened terminations (one intact). A similar loop to F70, 71 and 73, although in this case the terminations are straight. Present on the flat parts of the terminations, up to where the loop begins, are fragments of wood associated with a nail which originally passed through the terminations. The fibres run at right-angles to the longitudinal axis of the object. The other termination of the oval-shaped loop measures 38 x 33 x 13 mm, and the hole is 12 x 5 mm. The total length is 70 mm.

F75 a + b. Two mount parts of an iron rivet

Both head and washer are squarish, with a side length of 19 mm and a thickness of 3 mm. Traces of worked (?) wood are present on the rear side of both head and washer, the fibres of which run in the same direction. Length 73 mm.

F97 a–e. Fragments of iron rivets

These five fragments are clearly visible on the X-ray photographs to the west of the axes. They are in a poor state of preservation, however, although the three heads have relatively highly worked, almost pyramidal heads, c. 2 cm wide and 1 cm high. All have traces of wood under the head.

4.5.3.3. Comments on the bed

It is no exaggeration to state that this is a rare find, and, as far as I am aware, this is the first time in the whole of

the Scandinavian Migration Period that it has been established that a deceased individual was placed on a base which, in its construction, very closely resembled a bed, although other concepts may well be applicable in this context. The generally accepted view relating to the beds, benches and similar constructions dating from the Iron Age is that they were attached to the walls inside the houses; they are thus incapable of definition as items of furniture, i.e. as movable fittings (Thunmark-Nylén 1981). In view of its highly perishable nature, it is extremely difficult to comment on the frequency with which furniture may have been present in Iron Age graves and dwellings. Taking account of all the circumstances, movable beds of the type represented at Högom and in England (see below) are unlikely to have been common objects. These beds are in fact characterized by their eye-shaped and other mounts which, at least as far as I am aware, do not occur in the bases of Iron Age houses. It may perhaps be necessary in this case to carry out a fresh examination of what are apparently insignificant iron mounts, in order to obtain a thorough appreciation of the situation. The so-called *Wurtensiedlungen* along the southern North Sea coast are one type of site remain which exhibits outstanding characteristics from the point of view of preservation. A series of furniture details has also been discovered at *inter alia* Feddersen Wierde (Haarnagel 1979: Taf. 16–45). For the most part, these are details which are difficult to interpret, although Grodde (1989) lists *inter alia* the remains of seats (most probably milking stools), parts of a bench, and the legs of chairs or beds. The finds indicate that furniture was common in this area, although in spite of that the range and functions remain uncertain.

As far as the presence of beds in graves is concerned, it can be said that they are extremely rare, although we do have some idea from a few Continental and English finds. In a recent dissertation (1989), Grodde reports on actual finds in Central and Northern Europe. She lists a small number of what are, in my own view, doubtful occurrences dating from the Early Iron Age. No mention is made of Högom, and the Gödåker chamber, for example, is referred to as a bed, although it is simply a chamber which was never intended to be anything other than a permanent burial place for a deceased person, and not as any kind of mobile bed. Other finds mentioned by Grodde, Leuna Grave No. 2 in Thüringen and Pilgramsdorf in East Prussia, are similarly highly uncertain and ought really to be considered as burial chambers.

The picture improves somewhat during the Merovingian Age, for which nine finds are listed. Most prominent amongst these, of course, is the unusually well-preserved grave field at Oberflacht in Germany (Grodde 1989:323ff.) and the finds from the boy's grave beneath Cologne Cathedral (Doppelfeld & Weyres 1980:320ff.). These graves benefit from optimum preservation conditions and provide us with a clear picture of what the rich inhumation graves of the Migration Period may have contained.

The unusually high ground water table at Oberflacht, in conjunction with the fine-grained soil there, has resulted in more than 50 of the at least 220 graves which have been investigated on the *Reihengräberfelder* being found to contain preserved wooden furniture. No fewer than about 30 of the graves contained the more or less readily identifiable remains of beds or bed-like constructions. These finds also indicate how subtle is the difference between a bed and a coffin.

It is not possible to claim the direct existence of any clear parallels with the Högom bed, and of any presumed original finds, in spite of the fact that the practice of burying the deceased person in a bed has been known at least since the Hallstatt Period (Grodde 1989).

A study of corresponding finds from an Anglo-Saxon viewpoint has recently also been made in England (Speake 1989). Speake mentions six reliably identified graves in all, which contain a base resembling a bed. The graves have been dated to the seventh century in every case, and the presence of a bed is not generally demonstrated through the remains of wooden slats, etc., as at Högom, but rather through the existence of various types of iron mounts. The best example comes from Swallowcliffe Down in Wiltshire, where almost two hundred iron mounts and nails were found in positions indicating that there had once been a bed measuring 1.83 x 0.84 m here (Speake 1989:94).

The most interesting aspect of the iron mounts is the loop-shaped eyelets which are present in two sizes at Swallowcliffe. 14 examples of a larger type of 32–54 mm in height, and 32 examples of a smaller type of 23–24 mm in height, were found. These eyelets had all been driven through a plank, and had then been bent back on the rear side, giving them their characteristic form. The use of rivets to secure the eyelets was avoided in this way. On the other hand, the two loops with angled legs found at Högom exhibit flattened ends, through each of which a rivet had been driven. The method of fixing the eyelets to the wooden planks may have differed, although the process can be said to be identical from a purely functional point of view.

In the reconstruction of the Swallowcliffe bed (Speake 1989:96ff), the larger eyelets are arranged horizontally along the long side of the bed, with the loop facing inwards, for the purpose of supporting the double flooring of the bed by means of ropes or leather straps, so that it was suspended from these loops. The smaller eyelets, on the other hand, are arranged vertically along the edges of the double flooring of the bed

and are positioned in the form of rivets where the planks of the double flooring intersect. The eyelets face upwards and are believed to have been used to steady the leather-bound or textile-bound bolster of the bed. Thin leather thongs were passed through the eyelets and then tied tightly both along and across the bolster. Speake (1989:97) compares the construction to a button-backed sofa.

What is interesting here is that these loop-shaped iron mounts (eyelets) are also encountered in a number of the other reliable or less reliable bed graves in England. This is true of grave 4 at *Cherry Hinton*, in Cambridgeshire, where 11 large eyelets were found distributed in a relatively consistent fashion along the long sides of the bed (Speake 1989:103). Large eyelets have also been found in the weapon grave at *Lawping Hill*, in Derbyshire, in this case, too, along the two long sides of the bed. Two of the eyelets have straight shanks, like F74 above. Three eyelets with straight shanks were found in a grave at *Winkelbury Hill*, in Wiltshire, and two eyelets of this kind were found in a female grave at *Woodyates*, in Dorset.

It can thus be appreciated, in spite of the fact that the majority of the graves has already been excavated in earlier times, that loop-shaped mounts often occur, but that their number and detailed execution can vary. Other types of mounts also occur in English beds. The Högom bed thus fits into the picture very well, and it probably belongs to the same tradition as the English beds. The bed graves are also believed to have been reserved for a higher social stratum, which not infrequently exhibits proto-Christian traits such as the positioning of the head towards the west, in conjunction with heathen or totally Christian symbols. Both female and male bed graves occur with equal frequency. It is of relevance to note that all the English equivalents have been dated to the seventh century, and not infrequently to its later part (Speake 1989:124). The Högom bed is thus at least one century older. Speake (1989:114) arrives at the conclusion, following a brief comparison with the Continental beds at *inter alia* Oberflacht and Cologne Cathedral, that the English beds probably represent a different tradition. The Continental beds seldom have iron mounts, for example, and are purely wooden products which only exceptionally have metal mounts, which even then are only of an ornamental character.

Yet another interesting phenomenon is noted by Speake in conjunction with the distribution of these finds in England. They do not occur in wealthy Kent, but only in Anglia and Wessex. This may, of course, represent a gap in our knowledge, although bearing in mind the areas in which the South Scandinavian and Saxon immigrant population settled in the latter part of the fifth century (Böhme 1986), the logical conclusion is that this bed tradition is Scandinavian, and that its northern offshoots could be identified at Högom through pure chance and very good find conditions. It would not be surprising if an examination of earlier material from excavations of richer Scandinavian inhumation graves were to reveal mounts similar to those discussed here in areas further to the south and dating from the Roman Iron Age. This is an analysis which extends beyond the framework of the present work, however.

4.6. FINDS

As stated before, the artefacts in the chamber are very rich and belong to the very few Migration Period graves that have not been robbed. This, together with the good excavation conditions in the laboratory, allowed a number of exclusive observations to be recorded. The artefacts are grouped together in the following sections according to their function in the groups: weapons, horse trappings, dress and accessories, personal items, tools, household equipment and other finds.

4.6.1. WEAPONS

The deceased person in the chamber was equipped with what is said to be a full set of arms. This means *spatha*, shield, spear points, arrows in a quiver (?) with a bow (?), two axes and, on the belt, a large battle knife (small saxe). The last-mentioned item is discussed together with the other belt accessories in Sect. 4.6.4.

4.6.1.1. Sword, F1 (Pl. 16–25)

The sword is of the type known as a *spatha*, i.e. a long-sword with two cutting edges, a handle with an upper and lower hilt, a scabbard with mounts at the mouth for the baldric, and a U-shaped ferrule at the bottom end.

The overall length of the sword is 0.95 m, with a maximum width of 60 mm and a maximum thickness of 25 mm. The latter two dimensions include the almost intact wooden scabbard. The grip, including the lower hilt and the sword pommel, measures 140 mm.

The pyramidal *pommel* is made of gilded silver and decorated with niello. All five surfaces are decorated. The front and rear surfaces bear a deep relief pattern of spiral ornamentation. The poorly preserved smooth concave side surfaces have a triangular framework with unidentified inner ornamentation. The flat, square top surface of the pommel has a slightly star-like, rhombic niello figure. The pommel is attached to the upper hilt with two small nails on each side.

The hilts are made of some kind of horn material (Törnquist 1989), although we do not know from what species it comes. Similar examples have been shown to be from a walrus tusk (Slomann 1948:25). Viewed from above, the hilts have a lenticular shape with rounded terminations. Both of the hilts are of

Fig. 31. The sword in the course of excavation.

the same size, 125 mm in length, and were originally 15 mm thick in the middle. They have profiled front and rear surfaces, with a 3 mm wide ridge in the middle, accompanied on each side by three small grooves. A hand measuring 9 cm across the knuckles fits the hilt perfectly.

The grip is made of deciduous wood. It has a six-edged section, and in the middle there are three 5 mm broad lamellae occurring at an interval of about a finger's width (Fig. 31). The flat tops of the lamellae exhibit slight traces of ornamentation. The central lamella has an incised pattern of two horizontal lines connected by several vertical lines. The other two lamellae both exhibit slight traces of a zig-zag pattern in relief. Gilded silver mounts which run all the way round are connected to both hilts. The lower hilt is badly damaged, but obviously bore the same decoration as the upper hilt, the frontal part of which is divided into four counter-sunk fields containing gilded spiral decoration in relief. Each field is enclosed within a surrounding niello border. The central vertical border has a

zig-zag line of niello, while the other vertical edges are decorated with straight niello lines. All the vertical borders of the lower mount have two parallel niello lines, however, between which horizontal niello grooves run.

The rear sides of the *hilt mounts* are rather more simple and are totally lacking in relief ornamentation. Here the mounts are divided into three flat, gilded surfaces which are filled with horizontally arranged rows of incised points. Running around the gilded surfaces are a groove of V-shaped cross-section and a border similar to that on the front part of the mounts. Each surface on the rear side of the upper mount has two horizontal rows of incised points, and the vertical dividing silver borders bear two parallel niello lines. The surrounding silver border has only a single niello line, however. The rear side of the lower mount is similar to that of the upper mount, the only difference here being that the surfaces are filled with three horizontal rows of incised points. Ornamentation in the form of niello lines is also present on the edge parts of both mounts. The upper mount bears a straight line, and three lines form an acute-angled triangle on the lower mount.

The scabbard is made of deciduous wood and was originally covered with leather, fragments of which still remain. There were, according to Selling, slight traces of the leather seam on the rear side of the sword. The scabbard has a mouth piece, side mounts for the baldric and a ferrule. Large parts of the ornamentation still remain on the front side of the scabbard. A set of relief borders runs along each of its edges, from the mouth piece down as far as the ferrule. Situated between these, at 2, 6, 12 and 60 cm respectively from the lower edge of the mouth piece, are four sets of intersecting borders. A set of vertical relief borders remains from the first of these, i.e. at the middle of the scabbard. These diverge at a point 11 cm lower into three parts, of which the middle one continues straight down, and the left and right ones connect with the edge relief borders. The lower part of the scabbard is difficult to interpret in this case, however. The middle set of relief borders is raised by c. 4 mm from its upper point down as far as the point of divergence some 11 cm further down, and forms a bridge in line with the two baldric mounts on the edge of the scabbard. The bridge is to accommodate the baldric, which runs beneath it.

The baldric mounts on the scabbard are 65 mm long and have a U-shaped cross-section (Pl. 24). They are cast in silver and are highly profiled with gilded grooves and niello on the ridges. Analyses have revealed that the edges, too, were gilded originally (Törnquist 1989). The silver frame around the mount is also decorated with niello. An area 15 mm wide with no ornamentation or gilding is present at the centre of both mounts. This is the place at which the baldric was fastened, with two rivets on either side. Only one of the rivets is intact, however, and is a gilded silver rivet with a conical cavity on top of the head and with a profiled edge. The cavity in the head is gilded, and it also contained a dark substance, possibly for securing a stone or the like (Törnquist 1989). The head is 6 mm in diameter. Parts of the baldric are preserved on the mounts and on the back of the scabbard.

The mouth piece of the scabbard is one of the most elaborate pieces in the whole chamber (Pl. 22a). Various craft techniques were used on the mount, including: casting, gilding, niello, pressed gold foil, filigree, granulation, engraving and garnet jewellery. Most of these occur on a 46 x 19 mm area on the front side of the mount. This front part is divided into two horizontal rectangles. The upper rectangle measures 41 x 6 mm and is surrounded by a 2 mm wide silver rim, the flat top of which bears a zig-zag line in niello. The bottom of the rectangle is covered with gold foil, on and in which the ornamentation was applied. Three even sized and symmetrically positioned garnets are surrounded by filigree and granulation ornamentation. The garnets are flat and triangular and are secured in openings in the gold foil. Once the stones were put in their places, the edges of the gold foil were bent against the stones, securing them in this way (for details of this technique, see Arrhenius 1981, 1985:77ff). A small hammer was used, evidently to stabilize the fastening, and finally a border of pearled filigree was applied. It has not been possible to establish whether any fastening substance was used beneath the stones.

One of the stones is complete, one is half-complete, and the third is missing. The position for the missing stone, in the middle of the mounting, has a hole containing parts of one of the three nails used to fasten the mount to the scabbard. The position of the right-hand nail is also clearly visible, because the missing nail head exposes the nail hole bordered by pearled filigree. The left-hand nail is intact, and its place is revealed by the battered golden nail head. The granulation situated immediately to the right is also battered, which points either to poor precision on the part of the craftsman, or to the existence here of two fastening rivets. The attachment points for the mount must be regarded as being very well concealed in the assembly. Of special interest here is the middle fastening, beneath the garnet, which indicates that the garnets were applied to the mount after the mount was fastened to the scabbard.

The area between the garnets is filled with filigree, arranged in the shape of spirals (i.e. having the same basic form as the relief ornamentation on the sword pommel and hilt) and granulation surrounded by filigree. The three individual elements of the ornamentation, i.e. the filigree spiral surmounted by a granulate, the granulate surrounded by filigree, and the filigree string, were probably all meant to resemble one another. The terminations of the filigree spirals surmounted by a granulate are always bent towards one another, and a small granulate is situated where the spirals meet. The granulate is missing from three of the total of 12 spiral ornaments, and in one case it is placed a little off-centre. Of the total of 14 individual granulates surrounded by filigree, only two differ slightly; these are the two aforementioned rivet heads to the right and left of the ornament. They are slightly larger than the others, and in actual fact they are not granulates, but are gold rivet heads surrounded by filigree, i.e. imitations of the element itself. Horizontal strings of filigree divide the area into three rows. The upper row, with one exception, contains only spirals. The middle row, which includes the right and left fastening rivets, contains only granulates surrounded by filigree strings. The lower row contains respectively a spiral and a granulate surrounded by filigree.

The lower part of the mouth piece is a familiar relief motif, in the form of a human face mask between two four-footed animals. This part is cast in silver and gilded. Four vertical bands with straight niello lines divide the panel into three parts. This division could be said to intrude upon the motif itself, since the two central bands also divide the animals. The

mask and the forelegs of the animals are situated in the middle, and the bodies and hind legs of the animals are situated in the respective flanking parts. There is no lower terminating band. The lower central part of the motif, including half the mask and the front claws of the animals, are heavily corroded.

The corrosion passes through to the rear surface of the upper left side of the mount, and there is heavy corrosion on the right side. The mount is profiled horizontally in this area with five ridges and four interjacent grooves. The tops of the ridges bear niello decoration, and the grooves are gilded. The central, upper and lower ridge each has a horizontal line, while the two ridges closest to the central ridge were decorated with short vertical niello lines.

The rear surface of the mouth piece is flat, and a small silver ring 10 mm in diameter is attached to the lower part of the mount. Thanks to careful conservation work (Törnquist 1986, 1989), a fine engraved square pattern was discovered on parts of the rear surface of the mount (Pl. 25b). Traces of soldering material was found on the rear side of the mouth piece, showing that some kind of detail originally was soldered there.

The U-shaped *ferrule* is made of silver and is 48 mm high, 52 mm wide and 8 mm thick (Pl. 17; 23a). Only very slight traces of engraving can be found on the ferrule, and it was not possible to reach any conclusions as to the possible appearance of the pattern (Törnquist 1989). The ferrule is secured by two nails with spherical heads situated respectively 10 mm below the upper edge. A silver mount with a length of 140 mm was subsequently attached on the left-hand side. Its lower edge has been filed to fit under the ferrule, and it is fastened with a nail on its upper part. After the mount had been fixed in position, the ferrule was clearly struck with a hammer, the marks left by which are visible (Pl. 23c). The long silver mount is probably a repair or reinforcement of the scabbard (Törnquist 1989).

A. Comments on the sword

The sword is the subject of a separate paper by Selling (1952), where it is stated *inter alia* that the sword was worn on a baldric over the right shoulder (Fig. 32). In the course of her investigations, Selling had noted the remains of a strap running upwards at an angle from the point on the sword scabbard to which the baldric had been attached. The belt around the waist of the deceased was situated approximately one decimetre lower down. However, no buckle or clasp has been found which might have been attached to the baldric.

Surprisingly enough, Selling found no traces of the attachment of the mouth piece to the sword scabbard, in spite of the fact that at least two of the three pins are clearly visible in the photographs published by her. Whereas she was able to identify the pin beneath the stones, she interprets its function as a fixing pin for the gold plate to which the three garnets and the filigree ornamentation were applied. The rivets probably served this function, too, at the same time as they were securing pins for the whole mouth piece.

Moreover, Selling attributes the relief ornamentation on the sword pommel and the hilt mounts to the Sjörup style, and compares the filigree work on the mouth piece to that of the Scanian Grönby clasp. In spite of this, she finds the best parallels in the Norwegian region, especially in the finds from Evebø and Snartemo. The conclusion at which she arrives is similar to that of Hougen (1935) in respect of the Snartemo 5 sword, i.e. it is a piece of south-west Norwegian work of half-Scandinavian character, but with certain Continental features. This universal approach to the problem illustrates in a nutshell the difficulties associated with any attempt to establish a typology and a system of classification for such complicated objects as this sword during this period, which often have an individual character of their own. As far as the combination of elements and styles is concerned, we are faced by an enormous choice of possibilities; for example, the blade may have been made in the Roman region, the hilt in the Norwegian region, the mounts in the South Scandinavian region, and the scabbard locally, and all the details may then have been applied to the sword on a single occasion, or may have been replaced successively, etc.

In order to illustrate the complexity of the sword, brief reference may be made here to the paper by Menghin (1983) on Germanic long-swords. His analysis, which covers the swords from the fifth to the seventh centuries, also includes the Högom sword and a further 150 more or less complete swords, plus a further number of incomplete settings of sword applications. These are subdivided in turn into chronological strata A–F, of which the earliest two, A (c. 450–480) and B (c. 480–520), are the most important in this context. These time blocks include 55 finds. The Högom sword is put in time group A, and 35 other finds are reported from this period, although only 5 are from Scandinavia. The major concentrations lie along the river Rhine and in the Germanic region, as well as in England. Apart from Högom, the Scandinavian finds include Lovö in the Mälar Valley (Lamm 1973), Evebø, Sogn and Fjordarne (Gustafson 1890; Schetelig 1912), and the two finds made in graves 2 and 5 at Snartemo (Hougen 1935). This distribution pattern naturally presents a distorted picture of the original distribution of the long-sword during the period with which we are concerned here, although these finds, apart from the Lovö find, are the most complete sword settings in Scandinavia.

In spite of the major difficulties associated with the classification of the swords by type, Menghin (1983: 152ff) nevertheless makes an attempt at this and quite arbitrarily selects a number of determining factors. The determining factor for the type attribution is the combination of at least two characteristic hilt and

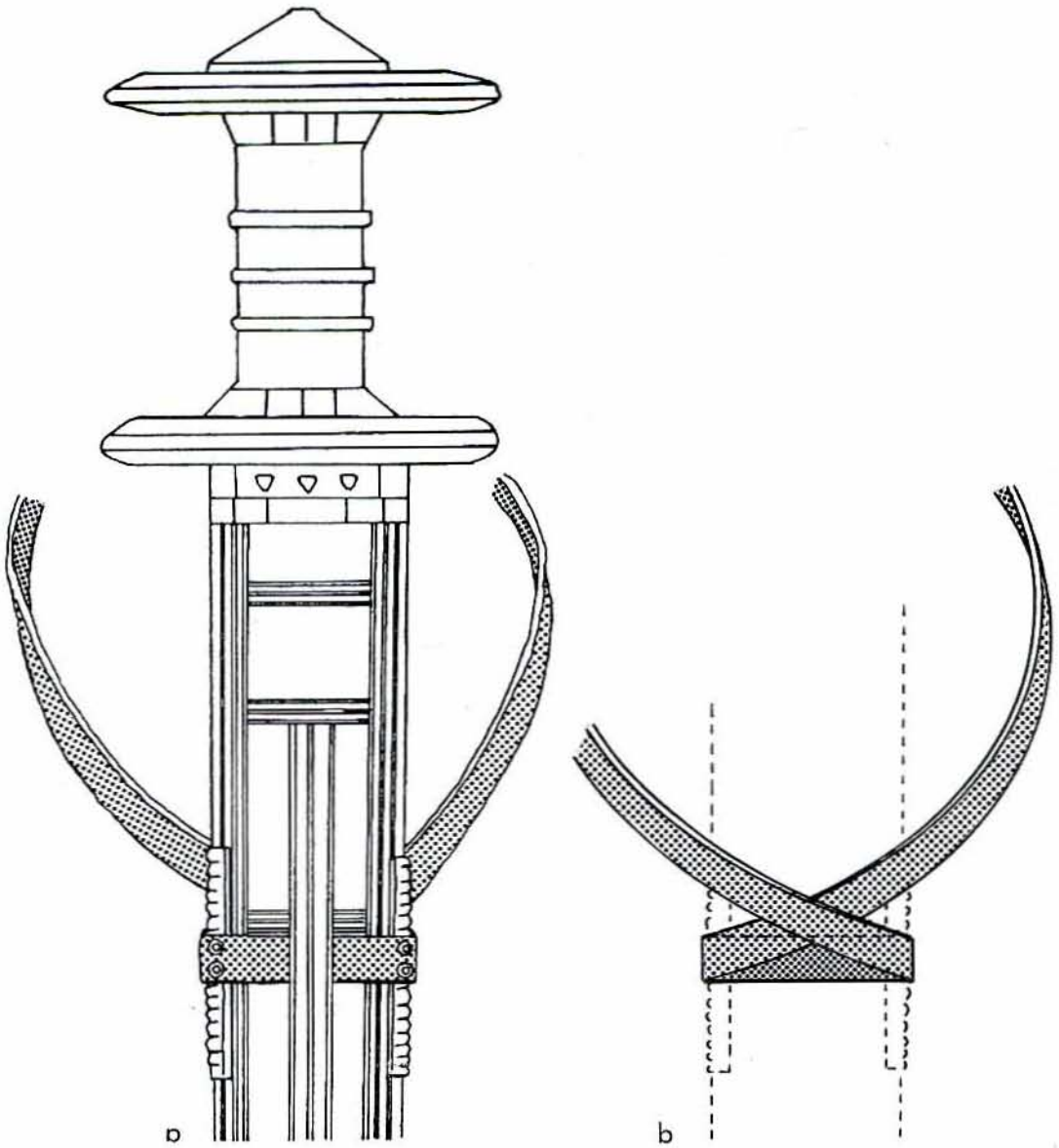


Fig. 32. Reconstruction of the attachment of the baldric to the sheath. *a*) front side. *b*) rear side. (Drawing: P. H. Ramqvist).

scabbard mounts. This gives rise to five different types (I–V), and a total of 13 variants is formed including the sub-groups. The relevant group in this context is referred to by him as "Snartemo-Fairford-Högom", or Type 1a.

The scabbard mounts in this group consist of edge mounts with pofiled rivets, mouth pieces with one or two friezes on the front surface, and U-shaped ferrules. The twelve swords in this group range in length from 85 to 96.2 cm, and the width of the blade ranges from 5.2 to 5.6 cm. The prototype is considered to be the sword from Snartemo 5. The group established by Menghin in this way, whilst it can be said to exhibit a pattern of distribution, occurs only in Scandinavia and England (Fig. 33).

A more complex picture emerges (Fig. 34) if the different parts of the swords are separated and compared one with the other. The distribution map for the sword types (Fig. 33) includes both the Mälar Valley and the island of Gotland, although these areas are represented only by fragmentary material, primarily with simple, U-shaped ferrules with broad shanks and with or without decoration. This type of ferrule is, as will be appreciated from Fig. 34, relatively restricted to the Scandi-

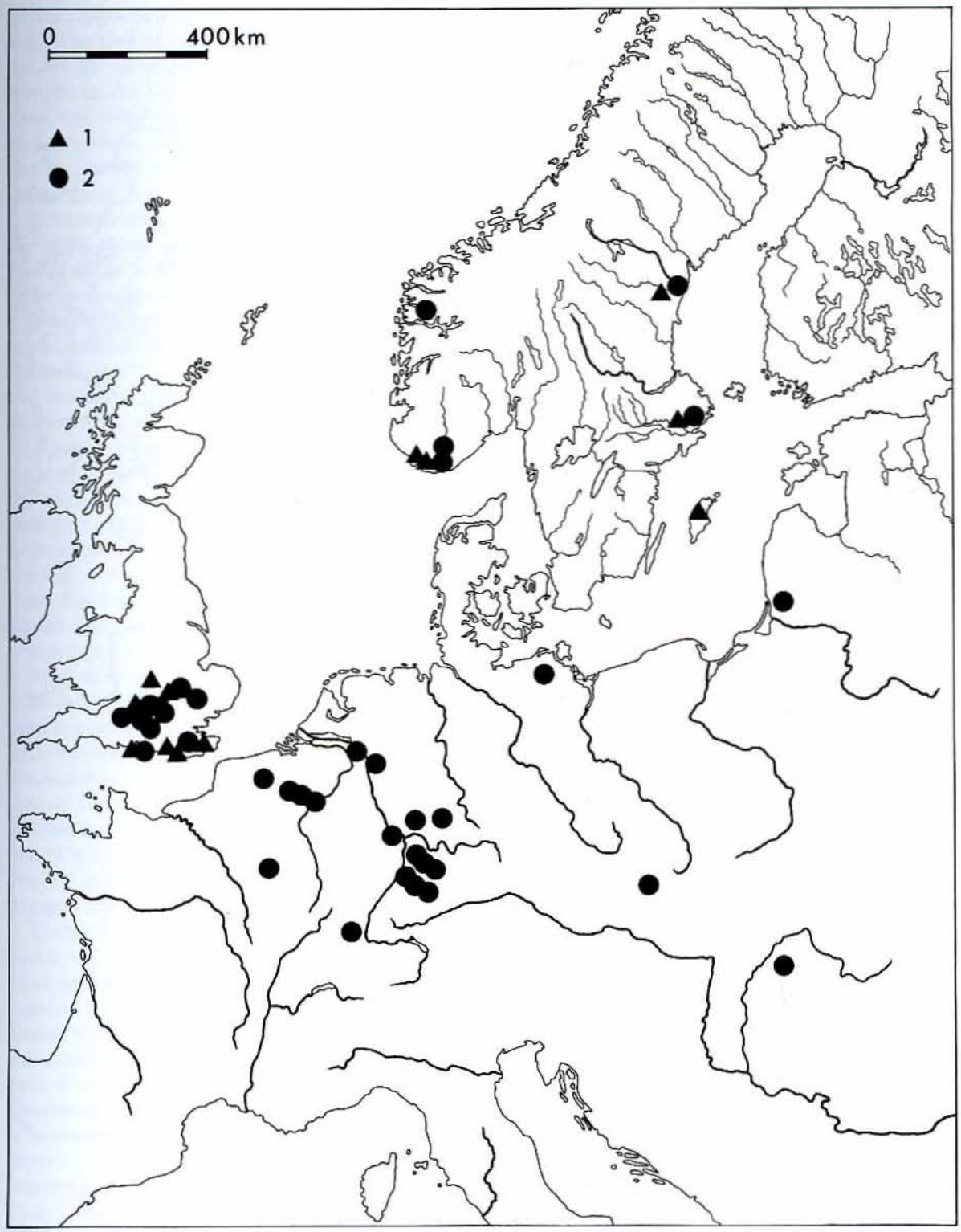


Fig. 33. Distribution of *spatha* swords. 1 = type 1a, 2 = swords dated to phase A (c. AD 450–480). (After Menghin 1983).

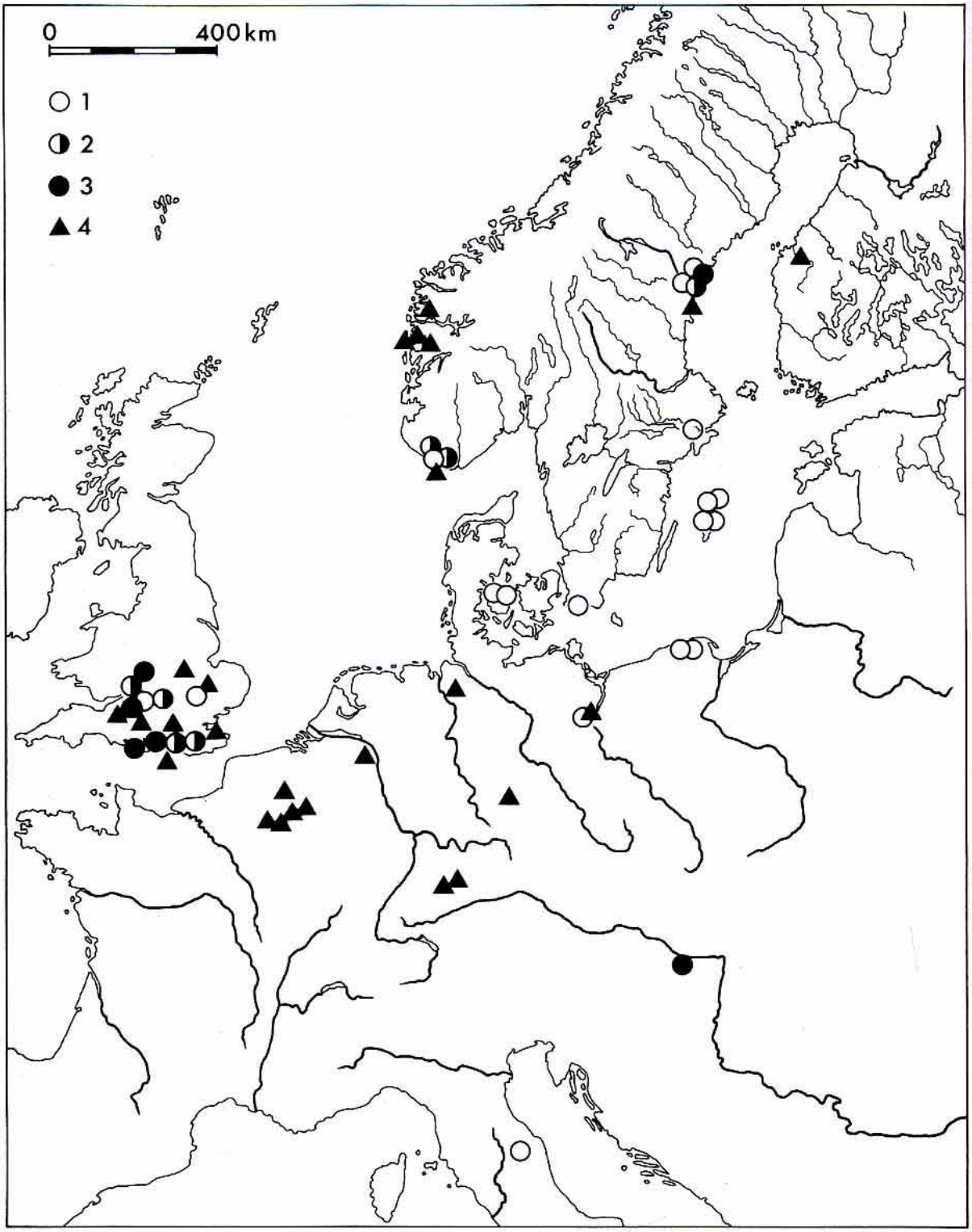


Fig. 34. Distribution of different sword accessories of types similar to those on the Högom sword. 1 = U-shaped ferrule, 2 = edge mount on the scabbard, 3 = mouth piece with two friezes, 4 = triangular pommel. (After Menghin 1983).

navian region, with a couple of occurrences in England. If we then examine the distribution of the edge mounts on the scabbards (Fig. 34), referred to by Menghin as the "Brighthampton-Högom" type, it is these that predominate in England, where there are four occurrences, whereas the Scandinavian contribution is restricted to Högom and to the two Snartemo graves, 2 and 5.

Perhaps the most interesting group in this context is the mouth pieces, given that these are a complicated item made up of several variable elements (Fig. 34). The type which is attached to the scabbard of the Högom sword, i.e. with a front surface divided into two friezes, the upper with geometrical ornamentation and the lower with style I ornamentation, finds its closest and best parallel in grave No. 1 at *Selmeston*, Sussex (Evison 1976; Menghin 1983:66, Fig. 30). Here the front surface of the panel is divided into two friezes; the upper frieze is set with three triangular garnets, and the lower frieze has a style I motif in the form of two animals to either side of a human mask. In the case of Selmeston, the animals face away from the mask, whereas in the case of Högom they look towards the mask. The upper frieze at Selmeston has no filigree decoration, but only horizontal grooves similar to those which flank the upper frieze at Högom.

Apart from the triangular garnets, there are three other mouth pieces from the English region which are directly associated both stylistically and compositionally with the Högom piece. These are from *Baginton*, Warwickshire (Evison 1976:311f, Fig. 4, Taf. 65e), *Chessel Down*, Isle of Wight (Evison 1976:114, Fig. 11), and the mouth piece from *Pewsey*, Wiltshire (Evison 1976:312). To the total of five mouth pieces there can now be added a further piece from *Felpéc*, Györ in Hungary (Bóna 1976: Fig. 41).

There is very considerable similarity between the six pieces with regard to the sub-division of the mouth piece into an upper frieze with incised geometrical decoration or filigree, and a lower frieze with an animal-human motif in Style I. How is such a distribution to be interpreted, then? Were the mounts made in England, where most of the finds are situated, or should one instead consider the general population of Style I phenomena which are at their most numerous in Scandinavia, which accordingly could also be the area of production for these artefacts with their characteristic Style I ornamentation? Further complications arise if one studies the style of the aforementioned mounts. One arrives at the conclusion that the English mounts exhibit the greatest mutual similarity, whereas those from Högom and Felpéc firstly differ from one another and, secondly, do not agree with the English mounts. The conclusion at which one may thus arrive is that the three societies in question, Southern England, the Langobards and Central Norrland, were in contact with one another in one form or another and gained inspiration for this precise type of mouth piece, and that they proceeded to manufacture the pieces at home incorporating a touch of the local perception of Style I. The link with the Hungarian find is, in fact, strengthened by the relationship with Nordic Style I-B and with the Langobard style demonstrated by Haseloff (1981) (see the discussion of Style I in Sect. 4.6.8.3.). It is also probable that the function of the mouth piece was symbolic at this time, and that it gave expression to military social status, so that the cultural associations may be presumed not to be excessively unrealistic. I only propose to remind the reader here that the close links between Angeln, Schwansen, Saxony, Jutland and England have been clearly demonstrated in recent works (Böhme 1986; Willroth 1992), and that the long-discussed link between Scandinavia and the Herules probably had an historical background for as long as we are able to identify connections in the archaeological artefacts.

Although Chadwick Hawkes & Page (1967:13ff) maintain that the mouth piece from Chessel Down is Scandinavian, this need not necessarily be the case. It may equally well be the product of local craftsmanship. Nor need the runic inscription on the rear of the mouth piece point to Scandinavian manufacture, not even if the runes can be interpreted as Nordic in origin, as claimed by Odenstedt (1984). We know little about the use of runes during the Migration Period, and they may well have been cut by a Scandinavian "officer" on the mouth piece of an English colleague as a token of friendship, etc. The runes themselves thus need not have anything at all to do with the mouth piece.

The reader is referred to the discussion in Sect. 4.6.8. below for details of the Style I motif on the mouth piece.

4.6.1.2. Shield, F6 (Pl. 26–27)

The shield was positioned to the left of, and slightly above the deceased. Relatively few organic remains are preserved, although the positions of the mounts and the shield boss indicate that the shield was discovered in its original position and that, for example, it had not stood against the wall of the chamber, but had been laid with the centre of the shield a little way to the left of the deceased.

A. Shield boss

The shield boss is 162 mm in diameter and 105 mm high. The rim is weakly inclined and 25 mm wide. The outer edge of the rim bears only weak visible traces of three groups of rivets, with three rivets in each. These are situated at equal distances around the rim. The rivet heads may possibly have been

domed, a characteristic exhibited by some of the rivets. The rivets are severely corroded, however.

The spherical part of the boss, i.e. the part designed to fit the clenched fist, is c. 110 mm in diameter and 50 mm deep. Very few traces of wood remain on the underside of the rim and, in this particular case, only on its outermost 10 mm.

B. Part of the handle

Most of this is preserved, with an attachment and a handle made of iron. The total length is 182 mm, and the handle has a uniform width of 24 mm, with a convex upper side and a concave lower side. Remains of cross-laid wood (?) show that the metal grip was fixed to a thicker, more easily held wooden base, as indicated by the finds at *inter alia* Thorsbjerg (Engelhardt 1863:32, Pl. 8).

C. Part of edge mounts

In the form of a strip, 230 mm long, and made from 18 x 8 mm material. Close to one end is an irregular projection facing towards the centre of the shield, measuring 45 x 45 mm at its largest point. The maximum thickness of the material is 5 mm. According to the description by Selling, the shield mount (D below) was applied as a direct extension of the projection.

Two rivets are clearly preserved on the edge mount, one of these in direct association with the projection. No rivet head is visible, although the shaft has a rectangular hole with a cross-section of 7 x 5 mm. The other rivet is fragmentary and lies close to the fracture on one edge.

The edge mount has a flat underside and a slightly arched upper side.

D. Shield mounts

Fragmentary, slightly more than half is preserved. Consists of two fragments, respectively 110 mm and 40 mm in length. The mount was originally c. 180 mm long and c. 9 mm thick, with the ends and the middle forged into almost round plates. At their broadest points, these measure 39 mm at the middle and 30 mm and 33 mm respectively at the ends. The narrow part of the preserved piece measures 14 mm at its narrowest point. The underside of the wide part of the larger mount bears traces of organic material which are quite yellowish in parts (skeletal remains ?). The smaller fragment, too, is covered by organic material, possibly leather (?).

E. Iron mounts

Slightly curved and 112 mm long. Severely corroded, but originally rectangular with a cross-section of 12 x 5 mm, i.e. considerably more delicate than the strong edge mounts. This was probably attached to the left-hand extension of the handle. The mount has no visible rivets.

F. Bronze rivets

Five practically identical rivet heads made of bronze in the form of truncated cones, 13 mm high, with a base diameter of 13–14 mm and with a top diameter of 8–9 mm.

Remains of the wooden shield are preserved on two of the rivets. One in particular indicates that the shield was at least 8 mm thick, and that it had been faced on the outside with leather, which is 2 mm thick in its preserved state. The leather is present between the rivet head and the wooden shield. The shafts of the rivets were made of iron. The lower edges of the rivet heads bear slight traces of silver and, in some cases, gold, which are probably the remains of inlays (Törnquist 1989).

G. Reconstruction of the shield

Most of the preserved parts of the shield appear to be lying in their original position. The only exception is the iron grip which, when viewed from above, appears to have moved somewhat to the right of the shield boss. The left-hand mount directly to the left of the shield boss has also moved slightly upwards. A number of points are critical when calculating the diameter of the shield. These include the position in which the strong edge mount was found directly above the shield boss and its position relative to the shield boss (Pl. 10–11). This distance is c. 45 cm, which means that the diameter of the shield was c. 90 cm. The preserved wood on the rivets indicates that the shield was at least 8 mm thick and was faced with 2 mm thick leather. The exact positions of the five rivets are uncertain, although Selling states that they were used to attach the handle, in which case they would have been positioned two to either side of the shield boss, with the fifth further out to the left on the shield, viewed from above (Fig. 35). This also means that a metal rail, perhaps attached to the handle, continued for quite some distance to the left; this probably resembles *F6E* above.

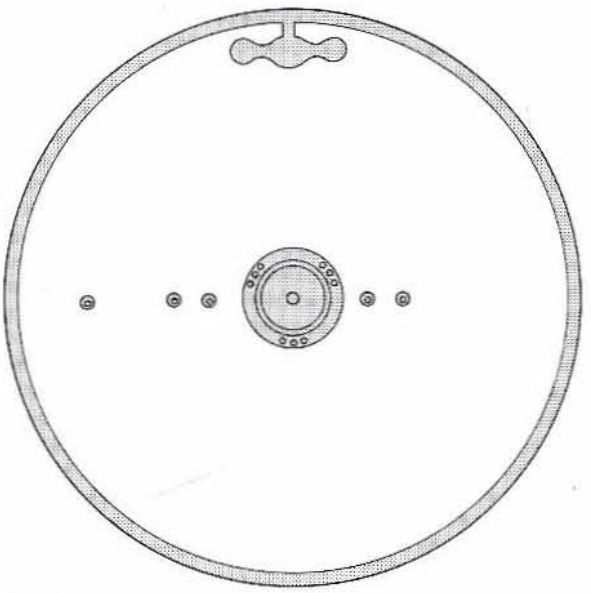


Fig. 35. Reconstruction drawing of the shield. Metal mounts and rivets marked with grey.

Not all the rivets have corresponding rivet holes in the handle parts, and the reconstruction is uncertain in this respect.

A comparison with the remains of a shield from Thorsbjerg (Engelhardt 1863:Pl. 8) shows that the thickness of the board in that case, 6–8 mm, agrees closely with the thickness observed at Högom (8 mm). It can also be noted *inter alia* that the shape of the mounts which were applied horizontally to the front side of the shield (Engelhardt 1863:Pl. 8, Fig. 3) matches the *F6D* mount above. Shield mounts with a similar shape also occur after the Migration Period, for example in Vendel (Stolpe & Arne 1912: Taf. 30) and Valsgärde (e.g. Arwidsson 1954: Taf. 10).

4.6.1.3. Lance, F2 (Pl. 28–29)

Made of iron and 285 mm in length. Heavily corroded. Four-cornered cross-section, with one preserved wing at the base. The blade becomes progressively wider towards the base, where it measures 19 x 17 mm. The rounded central ridge is clearly visible on the top side of the blade, where it is 3–7 mm wide (widest at the base). Approximately 50 mm from the tip, the four-cornered cross-section changes to an almost round cross-section. The central ridge is significantly sharper on the underside (i.e. the surface between the edges and the central ridge is considerably less concave, whereas it is steeply concave on the upper side). The lowest part of the tip differs structurally from the rest of the tip. Organic remains of the shaft and attachment are actually intermixed with the iron at this point. Parallel, horizontal wires, or the impressions left by them (Pl. 29), also occur on at least three stained areas. These are probably the remains of the lashing with which the iron tip was secured to the wooden shaft.

Only one of the original two opposing wings or flanges is preserved. This is flat, widest at the top, and projects for 12 mm at an obtuse angle of c. 110° from the longitudinal sense of the lance. The wing is 5 mm thick and converges with the tip after c. 40 mm.

The binding is present only above and below or on the very lowest part of the wing, and the means of attachment may have been as illustrated in Fig. 36.

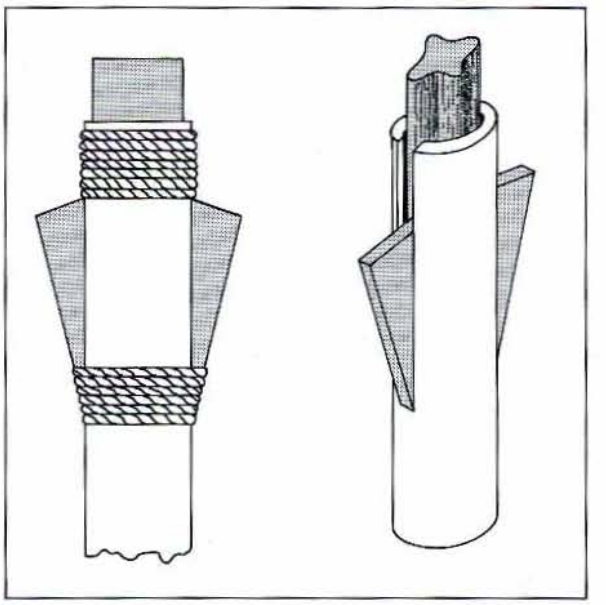


Fig. 36. Drawing of the suggested attachment of the lance tip to the shaft. (Drawing: P. H. Ramqvist).

A. Comments on type of lance

The lance head is a special type which falls within Series V, Species T, as defined by Fett (1938–39:3ff), which is characterized *inter alia* by short sockets and projecting wings (flanges). The socket is missing in this case, however, which is also the case *inter alia* in the rich grave at Øvsthus in Norway (Straume 1987:105f, Taf. 81:6). This is not a homogeneous group, and it can be said that no clear parallels have been found with the shape of the wing and the cross-section. One close example is known from Onbacken, in the south of Hälsingland (Liedgren 1985), although even in this case, as in the Norwegian cases, such steeply outward-angled flanges are not encountered, and there is frequently a notch above the flanges, a feature which is not present in the Högom lance. Also, the flange projections on the Högom lance are considerably sharper than on other examples, which immediately reminds one of the Frankish-inspired lance heads dating from the Late Vendel Period (e.g. Gaustad 1966:117, Fig. 12).

The list of lance heads drawn up by Fett (1938-39:32f) points to this having been a south or south-west Scandinavian type, but with occurrences also recorded in Hälsingland, Medelpad and Gästrikland, like many other groups of finds. This means that it exhibits more or less the same pattern of distribution as the cruciform brooches and the bucket-shaped pottery, etc.

4.6.1.4. Spear, F3

The spearhead is made of iron and its preserved length is 124 mm, although it is not intact. The top 70 mm of the head have a rhombic cross-section, and the head is flattened below that point. It is also possible to discern the incipient sub-division of the spearhead at that point, where two "embryo" barbs begin to take form, although these are not otherwise preserved.

A. Comments on the spear

Together with the lance described above, these weapons represent the classical setting during the Roman Iron Age and the Migration Period, with a barbed spear intended to be thrown, and a lance used *inter alia* for fighting on horseback, i.e. a pointed weapon without barbs which does not easily become caught in the opponent's equipment or clothing.

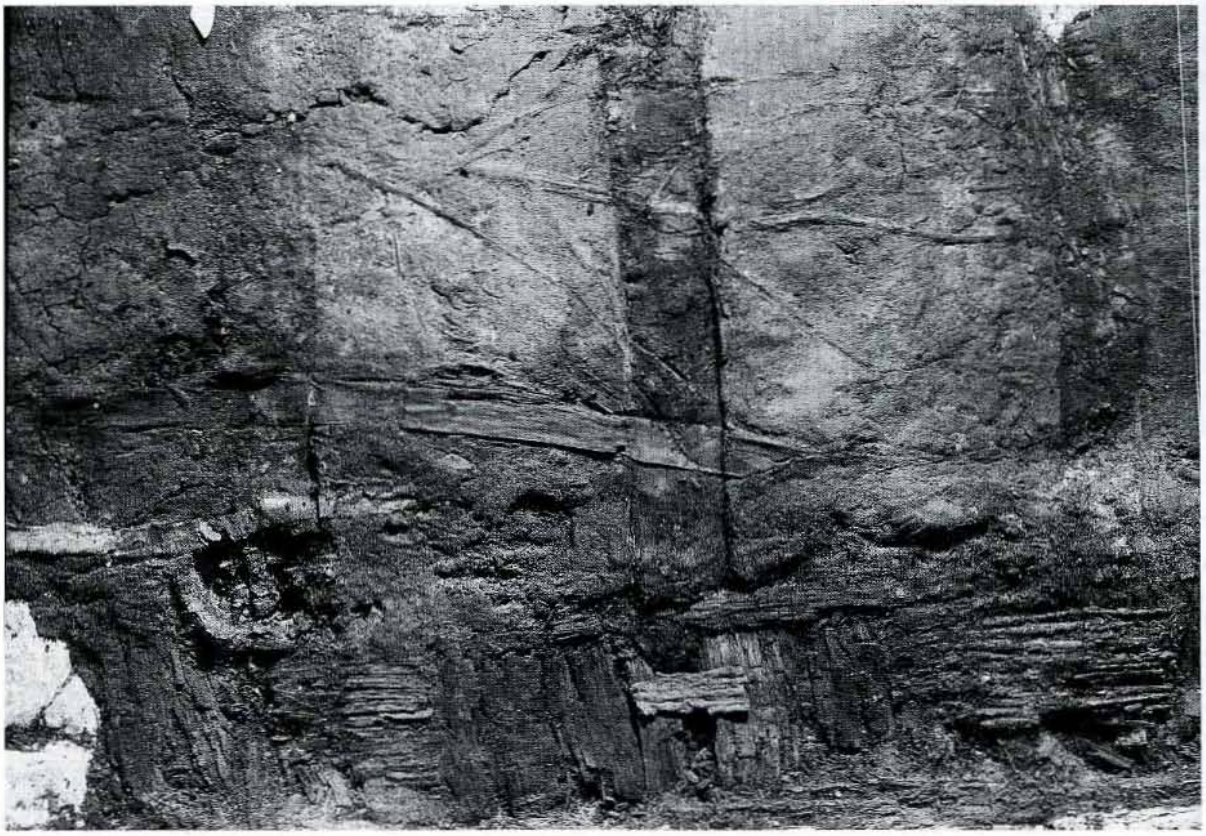


Fig. 37. The arrows in the course of excavation. The arrow points are seen to the lower right. Note that the length of the arrows could be measured.

4.6.1.5. Archery accessories (Pl. 28–29)

A. Arrows, F4

The iron arrow points were lying close together in a "packet" measuring c. 200 x 90 mm to the left of the deceased (Figs. 37–38). They were probably contained in a quiver, although this has not been preserved (see below for details of a possible quiver on the other side of the deceased). According to Selling, the arrows were 80 cm long (c. 31 inches) and painted red, at least in part, an observation confirmed by the latest conservation (Törnquist 1989). The shafts were uniformly rounded, made of deciduous wood, and 8 mm in diameter. The remains of strips of birch bark, which were clearly used to secure the feathers to the shaft, were noted at a point 13–14 cm along the shaft from the notched end of the arrows. The total number of arrows could not be established accurately due to the total disintegration of the points through rusting, although it is believed that there were 36 arrows in total, i.e. three dozen. Only 15 of the arrow points could be measured (Tab. 2) and details recorded in a satisfactory fashion. The majority had a three-lobed cross-section, while one certainly and a second possibly had a triangular cross-section, although corrosion damage makes observations difficult in this case.

The length of the points ranges from 135–170 mm, apart from the shortest one, No. 4, which is 107 mm. The latter is the only reliably identified point with a triangular cross-section, and thus differs in respect not only of its shape, but also of its size, and, as far as can be established, it is the only one with an inclined termination of the socket. The average length

Table 2. Measurable arrow points in mound No. 2 at Högom. Point No. 4 is not included in the mean value shown below.

Arrow	Length (mm)	Cross-section
1	155	three-lobed
2	≈ 165	three-lobed
3	145	three-lobed
4	107	triangular
5	135	three-lobed
6	≈ 135	three-lobed
7	≈ 135	three-lobed
8	> 146	three-lobed
9	160	three-lobed
10	145	three-lobed
11	160	triangular (?)
12	170	three-lobed
13	≈ 140	three-lobed
14	140	three-lobed
15	≈ 150	three-lobed
Mean length	= 149	

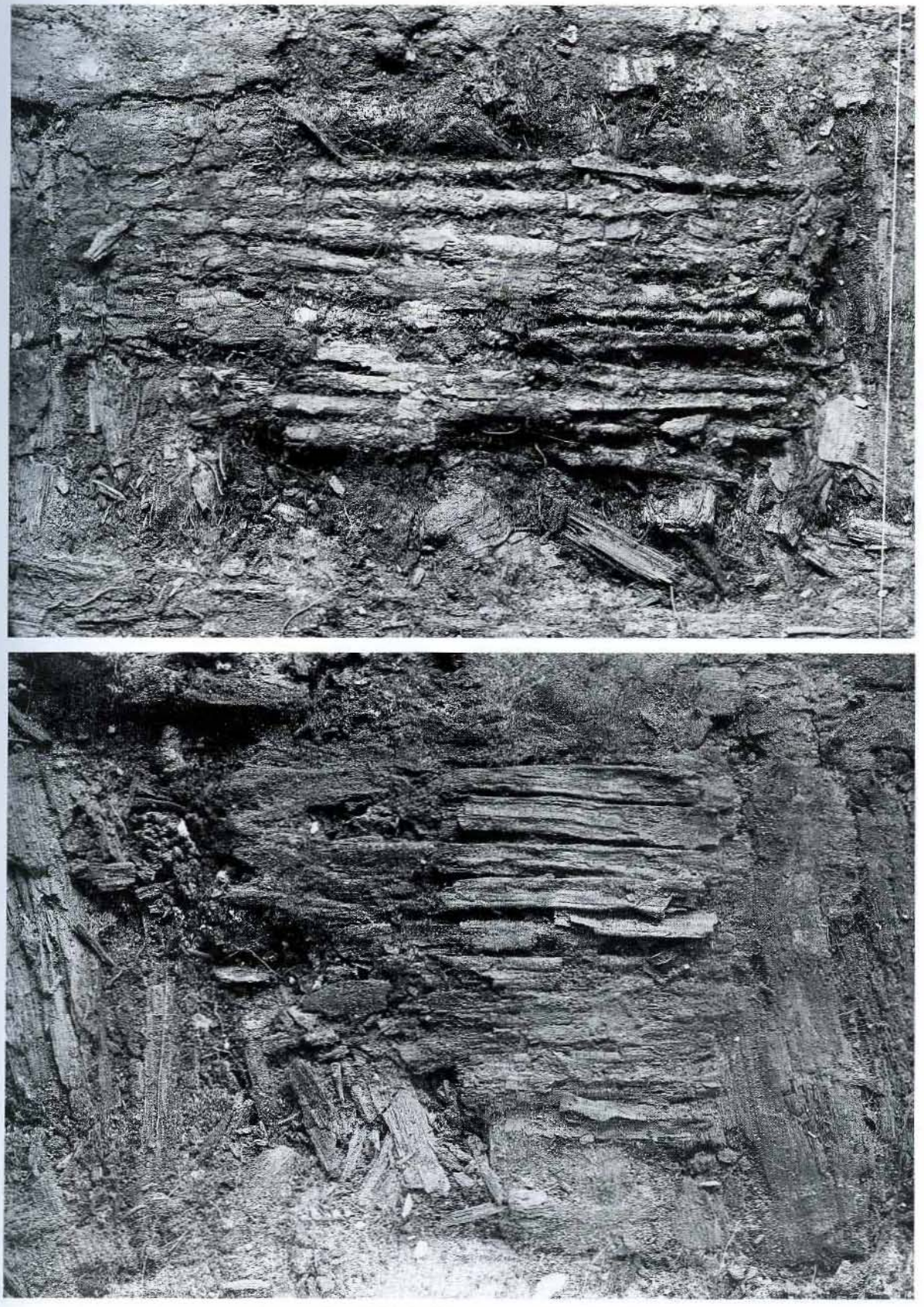


Fig. 38. The arrows in the course of excavation. a) detail of the arrow points. b) remains of the arrow shafts.

of the other arrows is 149 mm. The largest width is 12 mm, although the width could only be measured on a small number of points. Nevertheless, the mean value of the width appears to be of the order of 10 mm.

B. Quiver (?) made of birch-bark, F91 (Pl. 102)

The preserved part consists of a practically rectangular, compressed and doubled piece of birch-bark measuring c. 280 x 90 mm. It thus exhibits exactly the same width as the "pack" of arrow points referred to above. The doubled birch-bark is sewn together along one long side with slanting double stitches spaced approximately 7 mm apart. A further two pieces of birch-bark were sewn on top of the doubled birch-bark. The upper one is 45 mm wide and is secured with irregular double stitching on three sides. There are also two rows of stitches around the edge running directly across the quiver, and one vertical row of stitching which matches the vertical row of stitching on the large piece of birch bark. The rows of stitches running across the quiver do not pass through both layers of the doubled birch-bark, but are attached only to the large piece of birch-bark, probably to its immediately adjacent surface.

A further piece of sewn-on birch-bark begins at a point c. 80 mm below the upper sewn-on piece of birch-bark. This is c. 115 mm wide and goes all the way down to the bottom of the artefact, where it is sewn in place using the same row of stitching which closes the case. This piece of birch-bark is also sewn in place along the vertical edge, which is not folded over. There are indications of a row of stitching along the top edge, although these are not as distinct as those on the upper large piece of birch-bark. A couple of stitches are also present on the top edge of the rear surface.

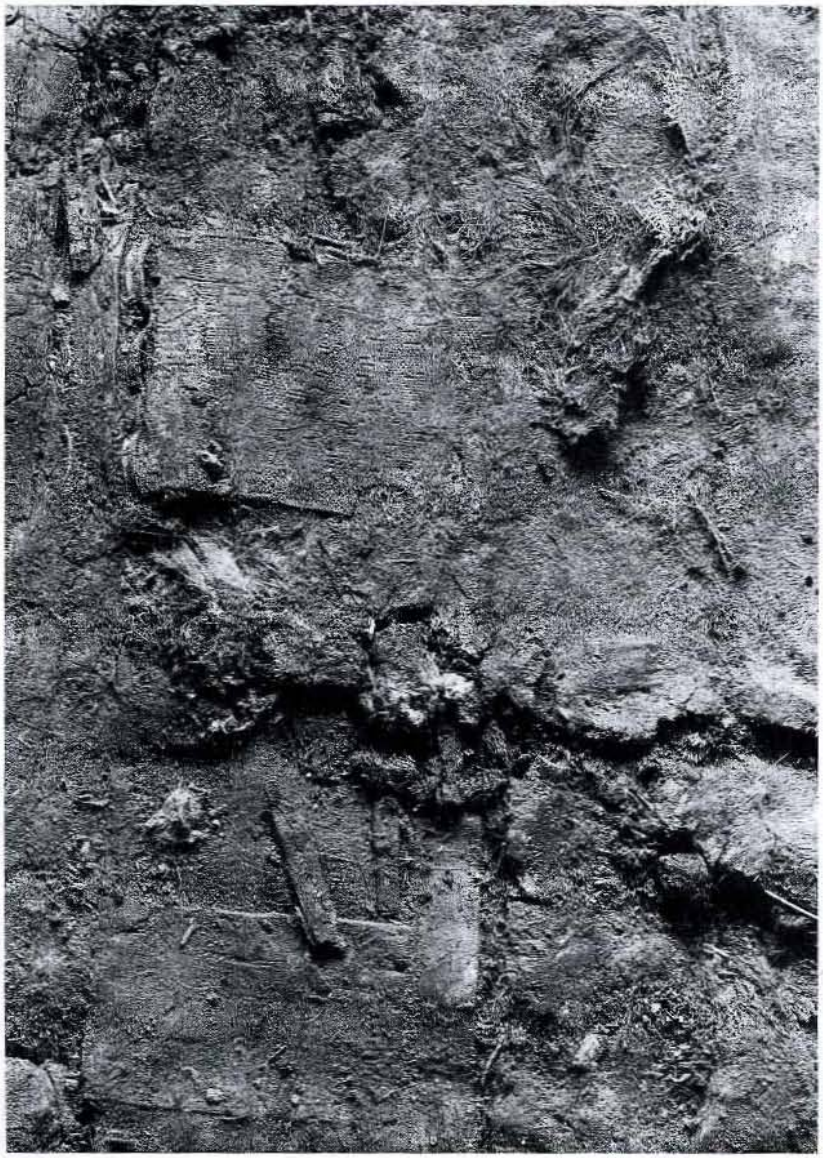


Fig. 39. The birch-bark object *F91* in the course of excavation. The remains of animal fur can be seen in the picture above the arm of the tunic, and the birch-bark object can be discerned beneath it on the bottom edge of the picture.

A 6-8 mm wide strip of birch-bark is sewn onto that side of the birch-bark which was lying face-down in the grave (the rear surface of the artefact). Its starting point, where it is intact, is c. 35 mm above the bottom edge of the artefact, and it runs diagonally upwards over the case for c. 23 cm. It is not preserved for its entire length, and c. 4.5 cm are missing in the middle. The strip is secured with slanting double stitches applied with the customary spacing of 8 mm.

A tongue-shaped piece of birch-bark projects for a distance of 40 mm more or less at the centre of the rear side of the piece, and probably continues beneath the lower sewn-on large piece of birch-bark. The tongue is sewn in place with slanting double stitches applied with a spacing of 5 mm. The stitching runs along the whole of the visible part of the tongue, and the stitches do not pass through both layers of birch-bark. The tongue is gently rounded in shape at the top and is c. 10 mm wide at that point. The width is 15 mm where it disappears beneath the lower, sewn-on large piece of birch-bark.

The remains of textile material, which probably originates from the sleeve of the tunic worn by the deceased, are preserved on an area of c. 85 x 30 mm on the rear side of the birch-bark artefact.

The excavation plan drawn by Selling (Pl. 10), which did not come to light until 1990, shows where this birch-bark artefact was found. It was not lying with the arrow points, as one might have imagined, but on top of the right arm of the deceased, i.e. on the opposite side in relation to the arrows. One photograph taken from above (Fig. 39), reveals the presence of a fur, followed by a wrist band with clasp buttons and, beneath these, the birch bark artefact *F91*. In view of the fact that the grave was excavated from below, the correct sequence is the reverse, i.e. a fur at the bottom, then the arm of the deceased, and on top of it the birch bark artefact. The joint in the birch-bark case which can be seen in the photograph corresponds to the narrower, sewn-on part on the upper part of the preserved birch-bark artefact. This part is situated slightly more than 9 cm below the lowest edge of the wrist band, and the birch-bark continues downwards for just less than 25 cm towards the foot end. It is not possible, however, to determine precisely how large the artefact was. In her excavation plans (Pl. 10), however, Selling drew its length as c. 60–70 cm, which may be taken to indicate that more of the artefact than could be recovered was observed during the excavation.

It is not, in fact, clear what interpretation to place on this artefact, and one such interpretation which need not be regarded as correct is that it was an arrow quiver which had been placed separately and empty of arrows on the right arm of the deceased, without being in contact with the group of arrows lying to the left of the deceased. This interpretation is supported by the fact that the present size of the "pack of arrows" agrees very closely with the width of the birch-bark artefact, and that the length of the birch-bark artefact as drawn by Selling also represents the ideal length for a quiver for 31-inch-arrows. What is so strange, however, is that the arrows were so closely associated with one another at the time when they were discovered, which really gives the impression that they had actually been lying in a quiver. There are naturally many different interpretations for the find, and the possibility cannot be excluded that the birch-bark artefact had an entirely different function. The only reference made by the excavators to the possible existence of a quiver is that there was a collection of arrows "certainly originally contained in a quiver" (Janson & Selling 1955:74).

C. Comments on the archery accessories

The dimensions of the arrow points indicate that they were long and slender and suitable for use in battle (Wegreus 1973). They fit conveniently into the picture of contemporary arrow points with their three-lobed or triangular cross-section. Fett (1938–39:38f) mentions 18 finds of this kind from West Norway and Trøndelag, and dates them to the sixth century. He maintains that these points belonged to a higher social stratum than, for example, the double-edged arrow points, since they occur often amongst the weapons in the richer finds. He also draws a distinction between a broad and a narrow variant of the three-lobed point, and believes that the narrower variant occurs at an earlier stage of the sixth century, and the broader variant later during the same century. No dimensions are quoted, although it is clear from the illustrations that the narrower point was usually about 10 mm wide, and the broader point about 13 mm wide. The narrower point also has rather sharper angles. As already mentioned above, the maximum width of the arrow points in the chamber tomb varied between 10 and 12 mm, although the usual dimension was c. 10 mm. It appears, therefore, that the points belonged to Fett's older group, which also accords closely with the dating of the grave (Chap. 8). It is otherwise necessary to be extremely critical in this respect when indicating the dimensions of such easily rusting phenomena as arrow points. This uncertainty can also be clearly appreciated from the fact that it is an extremely rare occurrence to be able to determine how long the arrow point was. Fett (1938–39:38) also mentions this and adds that the points measure about 10 cm, although it has been noted from a comparison with the well preserved points at Högom that this measurement may be as much as 50% out, given that those points are on average c. 15 cm long. The longest is in fact 17 cm. The most likely explanation is that the outermost, presumably extremely thin and finely forged, extremity of the socket of an arrow point of this type rusts away very quickly and drastically reduces the length of the arrow point. The fact that the extremity of the socket was particularly finely forged has to do with the need for it to have a gentle transition to the wooden shaft.

As far as the arrows are concerned, it was possible to establish that they were coloured red, and it may also be presumed that perhaps other colours and possibly symbols, etc., were present on the arrows. The interesting observation made by Selling in the course of the investigation, to the effect that birch-bark was present at the flight ends of the arrows, indicates a previously

unfamiliar method of securing the feathers. The most common method in an ethnographical context was to use thread (for example, made of sinews) for the attachment of the two or three fletchings at the notch end of the arrow. We also know from the Danish bog finds, for example at Vimose (Engelhardt 1869: Pl. 14), that a method similar to that described above was in use during the Roman Iron Age, since shallow grooves intended to accommodate various threads were found to have been made in the arrow shafts there.

The length of the arrows was, as mentioned, about 80 cm (i.e. 31 inches), of which a draw length of 28 inches remains if one deducts c. 3 inches, since the extreme end of the arrow point with its projecting barbs is not included in the draw length. This corresponds to the draw length of a normal-sized present-day male archer. It is not possible to make a direct comparison between the present-day bowman and his equivalent during the Migration Period, although the length of the arrow still tells us that the draw did not in any case extend past the mouth/cheek, and as such was probably more or less identical with today's so-called instinctive shooting technique, in which the drawing hand is placed against the cheek.

Unfortunately no reliable evidence of a bow was found in the grave. It may be assumed, however, that a bow was lying along the left side of the deceased, to judge from the wooden fragments which are visible in the excavation photograph in Fig. 70. This was also the case in the grave at Veiem, Nord-Trøndelag (Farbregd 1980:37), which resembles the Högom grave very closely.

Rausing (1967:56 ff) shows that the dominant type of bow in Scandinavia was the so-called longbow. This non-composite bow is essentially a (West) European type, whereas the short, flat bow and the composite bow are respectively northern, northeastern and eastern (Rausing 1967:150). There are no hard and fast rules for these distributions, and accordingly indications are found of *inter alia* Scandinavian composite bows dating from the Bronze Age. During the period with which we are concerned here, there were many eastern contacts via the Huns, for example, and it is known that Roman soldiers from the eastern provinces brought such bows westwards with them. It is not a foregone conclusion, however, given the interregional character of the grave goods, that a longbow was present in the Högom chamber; it may well have been a composite bow. This is where other interpretations fall down, since we actually know far too little about the archery of the period. A delicate relationship exists, in fact, between bow type, arrow type, fletching, weights, lengths, thicknesses, choice of materials, etc. Not all combinations are, in fact, possible, and there is a need for experiments to be conducted into these questions in order, for example, to be better able to interpret and understand the large prehistoric arrow point material.

It is interesting to note that the deceased appears to have been given 36 arrows, which tends to lead one's thoughts to the fact that this corresponds to three dozen (Sw. *tolfter*), and that the concept of the *tolft* was thus already alive during the Migration Period. It was, in fact, very common during the Late Middle Ages to count arrows in *tolfter* (Jansson 1936:37). It thus appears likely that there was some continuity in the use of the concept. It is quite remarkable that the arrows which accompanied the deceased at Högom are apparently in a set consisting of three *tolfter*, and that none had been lost, and perhaps may not have been used at all. Once again, this interpretation points to the symbolic character of the weapon setting.

4.6.1.6. Axes (Pl. 30–33)

A. Smaller iron axe, with parts of shaft, F29

Severely corroded with rust, with a present length of 185 mm. Close to the edge the axe has a truncated, lenticular cross-section, which is 2 cm thick at its thickest point and scarcely 7 cm wide, whereas its upper parts which are adjacent to the shaft are of oval or almost oval form. The neck has a diameter of just less than 3 cm. The axe was of the adze type, and the angle with the shaft was less than 90 degrees. Remains of leather with a seam are still present where the shaft and the axe meet. The shaft is completely compressed, with a present-day upper diameter of c. 3 cm; it was made of deciduous wood.

B. Larger iron axe, with parts of shaft, F30

Severely corroded with rust, with a number of rust swellings which prevent the more detailed study of the form. Its present-day length is 232 mm, although it was originally about 190 mm. The neck of the axe has a round to oval cross-section of c. 30 mm in diameter, in which remains of the socketed wooden shaft are also present. Close to the edge the axe has a slightly hollow-edged cross-section, 65 mm broad and 20 cm thick. C. 110 mm of the socket of the shaft (which probably corresponds to most of it), together with a 50 mm long part of the wooden shaft projecting from it almost at right-angles, are preserved. The shaft was 35 mm wide, and the socket in the part intended to engage with the neck of the axe was c. 40 mm wide. Also remaining on the outside of the socket are a number of layers of *inter alia* a leather strap, which was probably used to secure the axe to the shaft. This leather strap was c. 13 mm wide.

A chemical analysis of material from the outermost part of the axe shaft indicates the presence there of remains of mineralized horn (Werner & Norgren 1990), which must be associated with the fact that the shaft of the axe consisted of a combination of wood and horn.

Significant quantities of textile material are also preserved, both on the wooden shaft and on one side of the axe. This is identified by Selling as a coarse, Z-spun woven twill material, and it is significant for the reconstruction of the attachment of the axe to the shaft. The textile served as the base in this case, and as such was attached to that side of the shafted axe which

lay directly against the base (Pl. 33). The position of these textile remains, and the fit between the axe and the shaft, indicate that at least one, and possibly both, were of the adze type.

4.6.1.7. Comments on the weapon setting

It is not unusual in Northern Europe to find weapon graves dating from the Roman Iron Age and the Migration Period. A number of researchers have concerned themselves with the function of, and the changes relating to weapons and weapon settings (*inter alia* Schetelig 1917; Fett 1938–39; Behmer 1939; Gaustad 1966; Steuer 1970; Menghin 1983). The customary weapon setting with a sword, a shield, a lance and a spear already occurs during the Roman Iron Age and does not really undergo any dramatic changes before the sixth and seventh centuries, when *inter alia* the two-edged sword was replaced in large parts of Northern Europe by the single-edged scramasax, at the same time as the Frankish battleaxe, the helmet and the coat of mail were becoming more common. Generally speaking, common features can thus be observed over quite large geographical areas in the development of the weapon setting, although it should be clearly understood that the weapons were, perhaps above all else, symbols of power, socio-political status and function in the societies of the Migration Period. Not all types of weapons were the right of every man, and it is doubtful whether we are really in a position to make particularly far-reaching comments, based on occurrences in graves, about the military strength of a people's defence force or similar. The most likely explanation for this period is, of course, that the grave materials tell us only about the leading stratum of the group which, to a large part, concerned itself with defence, attack, guarding and similar tasks within the societies. The material can thus be regarded as misleading from the start.

In spite of this, it is nevertheless important for the sake of comparison to touch briefly upon the various weapon settings in a number of Germanic areas on the Continent as they are encountered in the grave material during the fifth, sixth and seventh centuries as described by Steuer (1970:359ff). The *Franks* had a *spatha*, a lance and a shield or a lance or an axe, a combination which occurs regularly, albeit relatively infrequently, in the weapon graves. The Frankish grave field at Krefeld-Gellep has revealed that the *spatha*, saxe, lance and axe occur in the richer weapon graves up to about 550. Other graves contain only a saxe , and a third group is made up of graves with an axe and a bow. It is thus possible to distinguish here between different social strata of warriors and leaders. The axe and the bow disappear at the beginning of the seventh century, to be replaced by the saxe.

The *spatha*, saxe, lance and shield also dominate in the region of the *Alemanni*, although they occur here much more frequently than in the Frankish region and account for c. 1/3 of all known weapon graves. In addition there is a large group of graves with only a saxe, which is fully comparable with the equivalent in the Frankish area. The seventh century witnesses the arrival of a combination of weapons which is totally absent in the Frankish region, however, that is a setting consisting of the saxe and bow. There is thus a large group here with the *spatha*, saxe and lance, and another larger group with the saxe and bow.

Within the *Bajuvarian* region, both the number of weapon graves and the number of weapons per grave are much lower than for the Franks and the Alemanni, in addition to which they are not readily combined. However, weapons of the same types as in the other regions are found, although the bow appears to have played a more significant rôle here.

In *Thuringia* the *spatha* and the lance, the axe and the lance, or the axe and the bow occur. There are thus different types of settings here, too. The *spatha* was replaced by the saxe during the seventh century.

From the *Saxon* region the cremation burial custom presents major difficulties when it comes to generalizing on the composition of the weapons. The *spatha* is encountered, however, as are examples of the axe and bow combination. Conditions are rather better during the seventh century, when a couple of examples of the saxe, lance and shield combination occur.

It can thus be stated, on the whole, that, as far as the weapon setting in the Högom grave is concerned, it bears distinct inter-regional characteristics and in actual fact goes far beyond an "ordinary" warrior's grave. There is some question as to whether the Högom man, if in fact he was mounted, which the saddle and bridle (below) would suggest, could actually manage all these weapons. The weapon setting would appear to be far removed from actual battle equipment, for which reason we may also venture to suggest from a quantitative point of view that the weapons have a symbolic, demonstrative function rather than a practical, battle-related function. This is yet a further argument in support of the weapon setting being representative not so much of functional fighting forces, but rather of symbolic and prestige-related values.

The lance, spear, sword and shield, or combinations of these, are not the sole weapon setting in Scandinavia, and in parallel with them there is a simpler variant consisting simply of the bow, which in the grave context is represented by arrow points. It is a not infrequent occurrence for bone arrow points to occur as the sole type of weapon in the cremation graves in the Norwegian and, for example, the Central Norrland region.

The use of weapons has generally been interpreted from a functional point of view, i.e. from the point of view of fighting forces, although certain weapons or combinations should, as mentioned above, be regarded from a symbolic point of view. Approaches such as these have also been proposed by various researchers (Gaustad 1966; Steuer 1970, 1986). Gaustad (1966) considers that the richly ornamented swords were intended first and foremost as symbols and were not particularly well suited to use in battle. As an example of this, he quotes the two-edged swords from Vendel and Valsgärde. These richly decorated swords occur in parallel with the simpler saxes, which are considerably better suited to use in battle; the latter is the dominant type of sword generally during the Vendel Period. The two-edged swords thus have a symbolic meaning, and probably in this case, too, serve as an indication of a socio-political tradition dating from the Roman Iron Age and the Migration Period. It is also in this light that the Högom sword should be regarded as a pointer to the fact that the owner of the sword occupied a prominent military/political position. There is also a clear positive correlation between ornamental swords (i.e. those which are less suitable for use in battle) and otherwise rich grave goods.

4.6.2. HORSE TRAPPINGS

Two bridles, a saddle and two spurs were found (Pl. 10–11) in the eastern part of the chamber together with vessels and other containers. One of the two bridles was more elaborately worked than the other and is described here as a battle bridle (*F7*). It was lying close to the northern wall of the chamber and a short distance away from other objects (Fig. 40). The other bridle (*F8*) was situated close to the southern wall between a swept vessel (*F50*) and the Vestland cauldron (*F41*). Both bridles may originally have hung on the chamber walls. The saddle was found at the centre of the easternmost part of the chamber, in close contact with the large swept vessel (*F53*) and the wooden bucket (*F42*). This area also contains two smaller swept vessels (*F51–52*), iron mounts (*F63, F76*) and fragments of wood, including the sculpted pole termination (*F62*).

4.6.2.1. Battle bridle, F7 (Pl. 34–43)

In the following description, the numbers of the individual components (i.e. *F7:1–27*) and all the expressions which denote position, such as right – left, up – down,

Fig. 40. Battle bridle *F7* in the course of excavation.

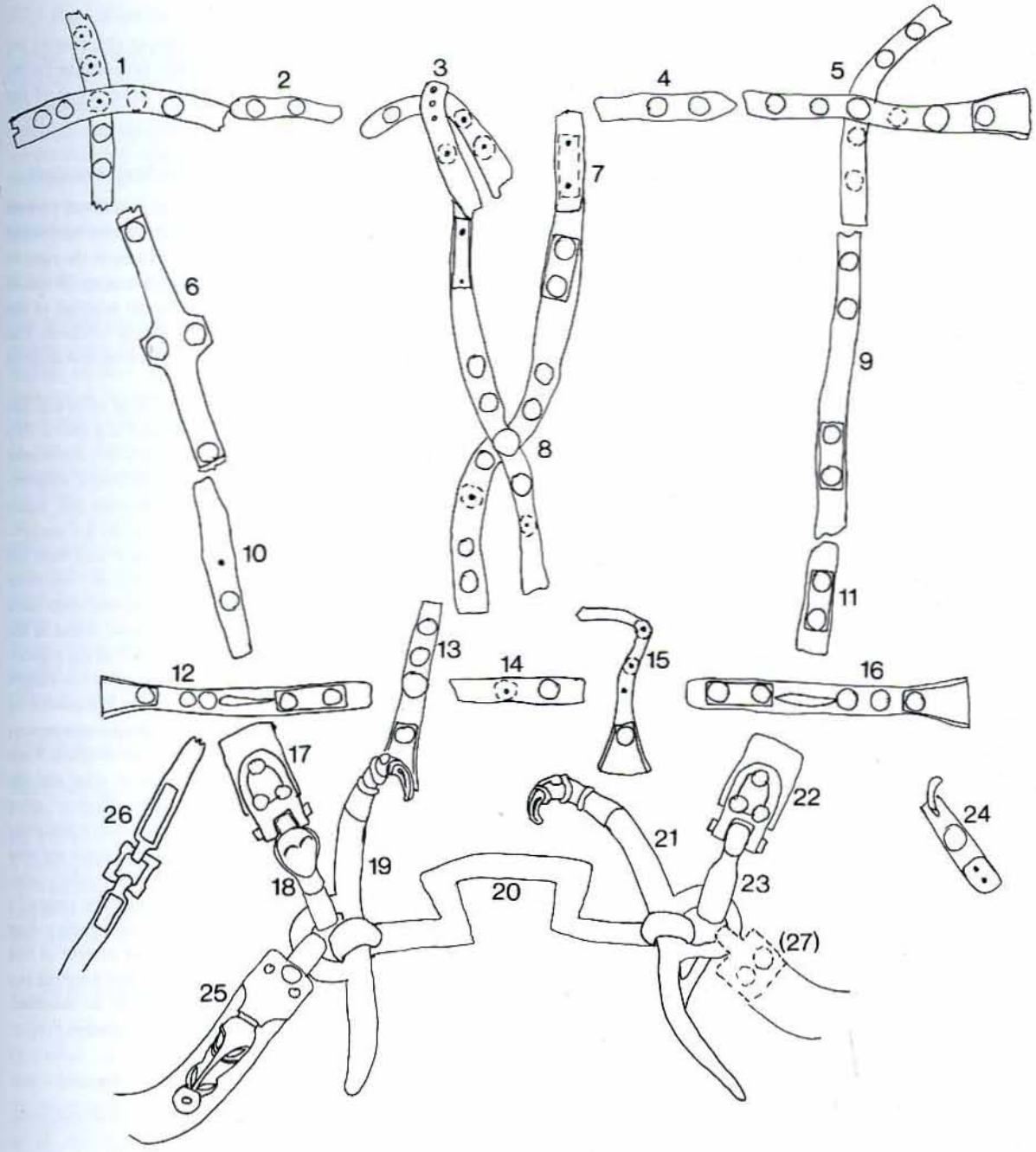


Fig. 41. Numbered parts of the battle bridle. The arrangement is made according to the interpretation of its design shown in Figs. 43–44. (Drawing: P. H. Ramqvist).

horizontal – vertical, etc., relate to the positions shown in Fig. 41. All the straps share a number of common features, except where stated otherwise. Their width is c. 10 mm, and they consist of two leather straps each of 2–3 mm in thickness riveted and sewn together, which means that the total strap is 4–6 mm thick, although the thickness is usually 5 mm. The straps have longitudinal rows of stitching spaced 4 mm apart and usually situated at a distance of 2 mm to either side of the centre line of the straps. The rivets are grouped in a 2 + 2 arrangement with a spacing of 10–18 mm between them, usually c. 15 mm. They are made of bronze with domed heads covered with silver, and for this reason called silver rivets. The heads are 7 mm in diameter as

a rule and have rhombic or square counterwashers made of bronze with a length of side of 4–6 mm. Where two straps cross one another (strap intersection), however, it is customary to use a rather large bronze rivet with a flat head as the connecting element.

F7:1 Strap intersection, leather

The horizontal part is 95 mm long, and the vertical part 85 mm long. All four ends exhibit fracture surfaces. At the intersection the longer arm is recessed into the lower part of the strap, and the shorter arm is recessed into the upper part, and both parts were then riveted together with a stronger rivet. This is missing, although from the clear impression which remains, it can be seen that it was 10 mm in diameter and had a round counterwasher of c. 7 mm in diameter. This rivet was probably made of bronze and was flat, like the other rivets with the same function. Five silver rivets are intact, and there are impressions of a further three. The left-hand fracture on the horizontal strap is practically at right-angles, which may be associated with an adjacent, but not preserved or found, trapeziform bronze mount of the same type as in *inter alia* strap intersection *F7:5* (see below). The lower part of the strap in the vertical strap is joined.

F7:2 Part of leather strap

Slightly curved, 62 mm long. Fracture surfaces at both ends. Two preserved, yet severely corroded silver rivets. The upper part of the strap is joined to the left of the left-hand rivet. The counterwasher is missing from the underside of the strap, although the impression indicates that its size was 20 x 7 mm. Both silver rivets thus used the same washer, which was probably made of bronze.

F7:3 Strap intersection, leather

The horizontal part is strongly curved and c. 87 mm long. The vertical part is 62 mm long. Three of the four ends exhibit fracture surfaces. The upper end of the vertical strap is intact and uniformly rounded. The small part which continues above the intersection is also simple. A small rivet of 4 mm in diameter sat directly at the end. A rivet was present at the point where the straps cross one another, although this was not the large flat bronze rivet which is typical of other strap intersections. Instead a small rivet, also of 4 mm diameter, was present here. The impression is slightly damaged, however, and the dimension is not altogether reliable. A further rivet was also present just below the above-mentioned rivet, although this can be described as one of the typical silver rivets, albeit rather smaller. Apart from that, there is a further impression of a silver rivet further down on the vertical strap. One silver rivet is preserved on the left of the horizontal strap, whereas there are two clear impressions left by silver rivets on the right. The upper part of the vertical strap lies above a lower part, which consequently has corresponding recesses in the upper part of the strap.

This strap fragment is not, therefore, a strap intersection in the true sense, but only a meeting point between two straps. The vertical strap exhibits an end in association with the intersection and does not continue upwards.

F7:4 Part of a leather strap

The length is 56 mm. Two largely preserved silver rivets are present. The lower strap is joined directly between the rivets, so that the left-hand rivet joins together three layers of the strap.

F7:5 Strap intersection, leather with bronze mounts

The horizontal frame is 111 mm long, and the curved vertical frame is 95 mm long. The right-hand end of the horizontal strap is intact, and it broadens out progressively to the right to reach a greatest width of 17 mm at its end. The outer 24 mm of the strap are provided with a bronze mount adapted to the form of the leather strap; the mount is heavily oxidized. The mount has been bent around the end of the strap and secured on the left-hand edge with a silver rivet.

The horizontal strap passes over the vertical strap and has recesses in accordance with the principle outlined above. The straps are riveted together at the intersection with a flat bronze rivet 10 mm in diameter, and with a round bronze counterwasher of 8 mm in diameter which has now been lost. Apart from the aforementioned rivets, two silver rivets are preserved on each of the vertical and horizontal straps, and there are the marks left by two more on the vertical strap and one more on the horizontal strap. In addition, the horizontal strap has a flat bronze rivet, of the type which is otherwise found at the strap intersections, at a point 15 mm to the left of the trapeziform bronze mount. This is 9 mm in diameter and has a slight impression of a round counterwasher of 7 mm in diameter on its underside. The impression of a crossing strap is also present in conjunction with the impression of the counterwasher. I can offer no explanation for this, since the type of rivet and the strap impression indicate a strap intersection. However, since neither the recess in the horizontal strap nor any other strap included in the material appears to fit there, I cannot see how this could be anything other than a rivet in a secondary position, which, perhaps by mistake, came to occupy the place of a silver rivet. To judge from the groupings of other leather strap components, a silver rivet should have been present at this point. The impression of the strap may also have occurred as a secondary process due to the pressure exerted by the chamber. Pure chance would be my own preferred explanation.

F7:6 Leather strap with bronze and iron mounts

The strap fragment is 111 mm long and consists of three component parts of identical form but different materials. At the top is a relatively well preserved bronze mount with a length of 99 mm, and with a width of 10 mm at the ends and 26 mm at the centre. The centre part consists of two opposing, gently outward-curved flaps with straight-cut ends. An accurately cut edging line runs along the edges of the mount.

The middle layer consists of leather which is cut precisely to the form of the bronze mount, or vice versa. This is double, like other straps, and in this case is 6 mm thick. There is no possibility of examining seams.

At the bottom is a severely rusted iron mount, which also exhibits the same form as the strap and the bronze mount. The iron mount is 2–3 mm thick. The three layers are held together respectively at the ends and on the flaps by a total of four silver rivets of the usual type.

F7:7 Part of leather strap

Curved, c. 44 mm long. No rivets are preserved, although the holes left by two are visible. The top side of the strap also bears the impression of a rectangular mount measuring 23 x 7 mm, probably of bronze, and the underside bears the impression of a corresponding, although rather shorter, bronze mount. This indicates the same type of riveting used on straps *F7:8, 9, 12* and *16* (see below), i.e. in which two rivets are connected with a bronze plate, on both the upper and lower surfaces.

F7:8 Strap intersection, leather

A preferable designation would be strap cross, since the intersecting straps form an angle of c. 30°. All four ends exhibit fracture surfaces. The upper part, starting from the point of intersection, has longer ends. Both straps are 170 mm long and are connected by a heavy bronze rivet with a flat, round head 11 mm in diameter. The counterwasher on the underside is circular and measures 8 mm in diameter. One strap has 7 silver rivets, 3 of which are intact, and the other has 8 silver rivets, 5 of which are intact, 2 are severely corroded, and the position of one is indicated by a rivet hole in the strap. The top two rivets on each strap are connected on both the upper and lower surfaces by means of a rectangular bronze plate. These plates (only two of which are in anything like a good degree of preservation) measure 25 x 8 mm and have a line running all around the edge. Both straps are joined at these plates. Both straps are also joined immediately below the crossing point.

F7:9 Part of leather strap

120 mm long. Fracture surfaces at both ends. Four preserved rivets, in two pairs. The upper pair is relatively badly damaged. The lower pair is connected on the upper side by means of a rectangular bronze plate measuring 23 x 8 mm, and has a corresponding 23 x 7 mm bronze plate on the underside. The two bronze plates are heavily oxidized, but had a decoration line running all round the edge.

F7:10 Part of leather strap

Slightly curved, 72 mm long. Fracture surfaces at both ends. One silver rivet is relatively well preserved, although only the hole remains for the other. Both the front and rear sides bear the impression of bronze plates of identical size, measuring 22 x 8 mm. A narrow, thin fragment of leather was attached at a point c. 5 mm below the centre of the fragment, probably in a secondary position.

F7:11 Part of leather strap

Straight, 50 mm long. Fracture surfaces at both ends. One silver rivet is preserved, and there is an impression of a second. None of the small, square bronze plates is preserved.

F7:12 Strap connecting piece, leather with bronze mounts

Straight, 103 mm long. The top double strap is terminated to the right of a folded, trapeziform bronze mount, only fragments of which are preserved, but which is c. 23 mm long and 9–19 mm wide, and is secured at its narrowest part with a silver rivet of the customary type. The mount has a decoration line running all around the edge. The two rivets to the right of the mount secure the lower strap, which is meant to continue to the left, where it also has a fracture surface. This lower strap has a single thickness, but is rather heavier than the other straps, with a width of 12 mm and a thickness of 4 mm. The counterwasher on the rear side was made of iron, measuring c. 22 x 8 mm, but has rusted away almost completely. The right-hand edge of the lower strap is accurately cut at the precise point at which a longitudinal, 20 mm long slot starts in the upper strap. There are two silver rivets to the right of the slot, and these are connected at the top and bottom by means of rectangular bronze plates, only fragments of which are preserved, but which measured c. 23 x 7–8 mm and were probably decorated with lines running around the edge. The strap part has a fracture surface to the right. The rivet furthest to the right secures a joint in the lower half of the strap.

F7:13 Strap end, leather and bronze mount

Quite straight, 77 mm long. Fracture surface at the top end. Probably part of a strap intersection similar to *F7:1, 5* and *15*. A vertical strap part is missing here, however, although its former position is marked by a flat, round bronze rivet of 8 mm in diameter. Only indistinct impressions are present on the rear side, which suggest that the counterwasher was not present there, but rather beneath a crossing strap part which has now disappeared. The strap is wider at the lower end and is enclosed by a trapeziform bronze mount, 23 mm long and 7–17 mm wide, and decorated with an edge line. The mount is secured with a silver rivet at its narrowest part. There is no counterwasher, and the end of the rivet shaft is closed up to a size of 5 x 3 mm. Above the flat bronze rivet are two silver rivets, with two rhombic counterwashers made of silver on the underside.

F7:14 Part of leather strap

Straight, 50 mm long. Fracture surfaces at both ends. One silver rivet is preserved, and there is the impression left by another. None of the square bronze plates is preserved.

F7:15 Strap end, leather and bronze mounts

Curved, 105 mm long. Probably part of a strap intersection of the same type as *F7:13*, although much less well preserved and distinctly curved at the top part. There is a relatively well preserved trapeziform bronze strap end mount at the lower end. The mount is 23 mm long and 9–19 mm wide. It is decorated with a line around the edge and is attached with a silver rivet which has been closed up on the rear side. At a point 12 mm above the bronze mount is a hole left by what was probably a flat, round bronze rivet, although no impressions at all are visible either on the top or the bottom side. On the other hand, the four sides of the strap exhibit a lighter brown colour here for a distance of 15 mm, which may be associated with a crossing strap part which has now disappeared. Above this possible intersection are two silver rivets, of which one is in the form of an impression. The other is in a poor state of preservation.

F7:16 Strap connecting piece, leather with bronze mounts

Straight, 105 mm long, and identical with *F7:12*, although in a better state of preservation. The two rivets on the right secure a lower strap which continues to the right, although this has been lost. This lower strap is double, unlike in the case of *F7:12*, and clear signs of a rectangular iron counterwasher measuring c. 22 x 8 mm are also visible here. The trapeziform bronze mount on the right is rather larger than the corresponding item in *F7:12*, and is in fact 24 mm long and 10–21 mm wide. In this strap connecting piece, too, the two rivets closest to the fracture, i.e. to the left of the strap in this case, are connected by means of a bronze plate of identical size on both the top and bottom sides. It also has a joint in the lower strap part, although on this occasion the joint is directly between the rivets, so that none of the rivets passes through three layers of leather. A longitudinal slot of c. 20 mm in length is present between the two pairs of rivets at approximately a central point on the strap.

F7:17 Leather strap and strap end with hinge mount

Practically identical with *F7:22* (below). Approximately 40 mm of the leather strap are preserved. It is 22 mm wide and consists of two layers, each c. 4 mm thick. Above the intact end of the leather strap a bronze mount is riveted in place with three bronze rivets with domed heads, 7–8 mm in diameter, and covered with silver. These are the rivets which also hold together the two layers of leather, since these are not believed to have been sewn together in this fragment.

The fixing plate for the bronze mount is rounded along the leather strap and is 3 mm thick. The hinge eyes extend for a distance of 9 mm from the rest of the mount and from the leather strap. The eyes are cast, 10 mm in diameter, and are of cylindrical form with a central hole of 3 mm in diameter. The distance between the two eyes is 8 mm, and these are intended to accommodate the connecting link *F7:18* in order to complete the hinge construction. The outsides of the hinge eyes are slightly rounded, whereas the insides, which are intended to fit *F7:18*, are sharp and straight-cut.

The semi-circular fixing plate is provided with a silver sheet, the central part of which, between the rivets, is gilded and has punched ornaments. The gilded surface repeats the rounded form of the fixing plate. Semi-circular patterns are arranged all round the edge of the gilded area, with the openings of the semi-circles facing out towards the edges. The silvered rivet heads partly conceal the gilded surface and parts of the punched ornamentation.

The gilded surface is also divided into four fields by rows of punched semi-circles through the arrangement of the rows of punched semi-circles in the form of a cross. Each of the four fields contains three small punched triangles, with their bases facing towards one another so that they form a small, star-like figure in the centre of the fields. The pattern is thus symmetrically constructed, although its precision in respect of the lines of punched semi-circles and star-like shapes is not perfect. Also, one of the rivet heads partially covers one of the star-like figures. There were originally finely incised lines at the edges of the silver sheet on the fixing plate. These are preserved only in part, however, and they are duplicated on the base of the fixing plate (i.e. closest to the hinge part). Signs of use and wear can be observed on the silver sheet between the hinge eyes, where the connecting link *F7:18* was situated. This has worn down the silver sheet for c. 1 mm, with the result that the two incised edge lines are totally obliterated in that area.

Two of the three rivets are attached immediately adjacent to the hinge mount, with the third arranged centrally on the lower edge of the fixing plate. The rivets are secured below with counterwashers made of bronze. The two which are arranged in a pair have a common rectangular plate measuring 18 x 7 mm, and the single rivet has a square plate with a side length of 7 mm.

F7:18 Connecting link, iron, with gilding

A connecting link passing between the eye of the side bar or cheek-piece (*F7:19*) and the end of the strap (*F7:17*). This is rusted solid to the eye of the side bar *F7:19* and is 46 mm long. The connecting link is made from a band-shaped piece of iron in the form of a figure-of-eight, i.e. with two eyes, one of which sits in the loop of the side bar, and the other is intended to be introduced between the hinge eyes on the strap end mount *F7:17*. The material thickness at this part of the eye is slightly more than 7 mm, which matches the hinge precisely. The connecting link and the strap end mount *F7:17* were locked together with a pin with a diameter of less than 3 mm. No such pin has been found, however, and they may have been made from an organic material.

Immediately adjacent to the hinge mount the connecting link has been forged out into a form most closely resembling a stylized human face or mask, measuring 21 x 20 x 3 mm. The flat upper surface was gilded, and two semi-circular patterns were punched or, more likely, drilled approximately at its centre. One of these is rather fuller than a semi-circle, and in both cases the ends of the semi-circles are shallower than their central parts, which leads one to suppose that the semi-circles were produced using a tubular borer held at an angle. The position of the two semi-circles and the form of the base reinforce the impression of a human face or mask.

F7:19 Side bar, with animal head and loop, iron, bronze

Both side bars (see *F7:21* below) are gently curved in the form of an S, and are respectively 133 and 145 mm long. They have tapering ends which are c. 10 mm thick at the centre. Two gilded bronze sleeves in the form of plastic heads of birds of prey are passed onto the topmost part of the side bars. At the centre of each of the side bars is a forged loop with internal dimensions of c. 15 mm and with a material thickness of 8 mm. The attachments for the reins and the bridle straps were secured to these loops. The left-hand loop contains, on the one hand, the rein mount *F7:25* in the form of an animal's head and, on the other hand, the gilded connecting link for the bridle straps *F7:18*. A corresponding connecting link *F7:23* of simpler design is contained in the right-hand loop, although there is no corresponding rein mount, and it must be assumed that this (*F7:27*) is missing.

The animal heads are made of gilded bronze, and both are to all intents and purposes identical. Situated immediately adjacent to the lower part of the sleeve is a horizontal ridge run-

ning all the way round. C. 6 mm further up is another ridge, which is joined together between the raised eyes of the head and continues in the form of a ridge along the top side of the beak. Two incised lines run down the lower side of the "eye ridge". Before the start of the animal's jaw, there is a third ridge which joins the ridge on the top side of the beak. The beak curves inwards and, like the eyes, is executed in plastic form. Grooves along the sides of the beak mark the corners of the mouth.

F7:20 Bit, iron

The bit is in a single piece 136 mm long and is made from a rectangular iron bar measuring 9 x 7 mm on the right side and 10 x 10 mm on the left side. It is provided at the centre with a forged and elliptical tongue bridge measuring 64 x 11–20 x 9 mm. Both ends of the bit are bent to form eyes which are attached around the side bars *F7:19* and *F7:21* respectively.

F7:21 Side bar, with animal head and loop, iron, bronze

The right-hand side bar is rather more slender and slightly more curved in the form of an S than *F7:19*. In addition, the bronze sleeve in the form of an animal's head at the top of the side bar is in a better state of preservation than in the previous case. See *F7:19* for a description.

F7:22 Leather strap and strap end mount with hinge mount

Practically identical with *F7:17*, but with a few minor differences. 35 mm of the leather strap are preserved. It is joined at a point 15 mm from its intact end below the fixing plate. The joint is held together by the three rivets. On the top side of the leather strap are three rows of stitching, one along either edge, and one in the middle, which may be associated with the joining of the strap.

The distance between the hinge eyes is slightly smaller for this strap end mount, at 7 mm, than for *F7:17*. The ornamentation also differs slightly. Only punched semi-circles appear in this case on the gilded field. As in the case of the other mount, the edge of the gilded surface in this case has a row of outward-facing semi-circles running all the way around. Arranged 2–3 mm inside this row are other outward-facing semi-circles which repeat the form of the mount and the gilded surface. Finally, close to the centre of the gilded surface, there is a vertical row of punched semi-circles, with their openings facing to the left.

F7:23 Connecting link, iron

This is the right-hand equivalent to *F7:18*. It is similarly forged into the form of a figure-of-eight, in which one eye is attached around the loop for the side bar *F7:21*. The total length is 43 mm, and it is made from a band-shaped iron bar of rectangular cross-section of c. 8 x 6 mm. That part of the connecting link which may have supported the face-like, gilded panel found on *F7:18* is missing from this piece. The missing section is 11 mm long, which means that, if such a decoration was present, it would have been considerably smaller than that on *F7:18*. Bearing in mind the asymmetrical execution of the rest of the bridle, it is likely that this connecting link was of a simpler design, and that the right-hand side of the bridle (and of the harness as a whole) was the less representative side.

The part of the connecting link which fits into the hinge construction is scarcely 7 mm wide, which closely matches the strap end mount *F7:22* and its associated distance between the hinge eyes.

F7:24 Strap end, leather

Straight, 56 mm long. Fracture surface at the top. At the centre are the remains of a silver rivet, with a rhombic bronze counterwasher on the underside. The fracture surface has the remains of a transcurrent thinner leather strap. The end of the strap is evenly cut at the bottom and is slightly rounded. A long, narrow mount was present at this point and was secured with two bronze pins situated 8 mm apart. A bronze plate measuring 17 x 7 mm is preserved on the underside.

F7:25 Rein mount in the form of an animal's head, bronze, gilded silver

This mount is attached by its ring, which has an external diameter of 14 mm, to the loop of the side bar *F7:19*. The top eye of the mount is 12 mm thick, ridged and gilded.

The length of the mount is 84 mm and it has a maximum width of 21 mm, which is the fixing plate beneath which 24 mm of the securely riveted leather strap are also preserved. The strap is 21 mm wide and thus closely matches the fixing plate of the mount. The strap was secured with three rivets. One larger rivet with a silver head 8 mm in diameter is positioned centrally in the top part of the fixing plate. Two smaller rivets with domed heads of 6 mm in diameter are positioned on the respective outer edges of the fixing plate. A silver sheet is riveted securely to the fixing plate using the same rivets which secure the strap. The panel is trimmed to shape and follows the form of the fixing plate. An area c. 5 mm wide and 12 mm long on the slight ridge which is present at the centre of the fixing plate is gilded. A row of punched semi-circles has been applied on this gilding, to either side of the ridge. The openings of the semi-circles face inwards towards the ridge.

A 7 mm wide area in the form of a "collar" follows beneath the fixing plate, before the animal head itself starts. The "collar" consists of a deeper, transverse central groove and two shallower side grooves, all in relief. The head, like the "collar", is gilded directly onto the bronze.

The animal head has distinct, slanting and recessed eyes. The nostrils exhibit the same form, but are raised instead. Running between the eyes and the nostrils is a ridge which converges from the eyebrows and runs down over the nose. The whole of the smooth surface of the animal head is covered with punched ornaments. The punched figures are situated in friezes which follow the general form of the eyes, the nostrils and the head. The ornaments consist of semi-circles and triangles of the same kind as are found on the strap end mount *F7:17* of the bridle. Only a single type of figure is present within each frieze. In one area, in fact the only area which is not a frieze, where the ridge passes through the nostrils, both triangles and semi-circles are found together in the same field. The

punched decoration is applied with considerably greater accuracy than on the hinge mounts *F7:17* and *22* above.

At the very bottom, the mount is terminated with an almost circular plate, 11 mm in diameter and 3 mm thick, which has a circular, 2 mm diameter hole at its centre.

The mount is hollow beneath, although not the fixing plate, which is solid. The maximum thickness of the animal head is 10 mm at the eyes.

F7:26 Strap divider, leather, bronze

Consists of 4 parts; 2 leather straps with respective lengths of 74 and 72 mm fitted with bronze eyes, which are attached to a square bronze frame with length of side of 20 mm. The frame is right-angled and flat at its corners and is marked along its edges there with dual lines. The rest of the frame is round and slightly sunken. The frame is partly hollowed on the rear side. The frame is broken on one of the four sides. The strap mounts, which are provided with eyes, exhibit a width which corresponds quite well to the sunken, rounded central part of the frame. The eyes have a much greater diameter, however, in fact 8 mm, compared with the 4–5 mm of the frame. The eyes are severely worn on one edge of the undersides, where they are only 2–3 mm wide, as against their original 6 mm. The shanks of the two eyes continue on the respective leather strap and form rectangular mounts. One of these is considerably larger and continues for 34 mm on the upper side of the strap and is secured with two silver rivets. This part of the mount is 9 mm wide, and the material is 1 mm thick. A line runs around the longitudinal edge, and within it a double longitudinal line. Weak traces of a further single line within these others can also be seen. There are also two transverse double lines on that part of the eye which faces towards the mount. The part of the mount on the rear side is much simpler and extends onto the strap for only 10 mm. This means that only the one rivet which is situated closest to the eye passes through the shanks on both the front and rear sides of the mount. The rear rivet passes through the top shank and has a round, bronze counterwasher of 7 mm diameter on the rear side of the strap. Two silver rivets are attached to that part of the strap, of which the one closest to the bronze mount is intact and the other is missing. The strap is broken away after that point.

The opposite eye is rather narrower, and the continuing shanks are similarly narrower and smaller. Both extend onto the strap for only 15 mm. The shank on the upper side has single lines on the edge, and may have had a couple of single lines on the lower part of the eye. Two bronze rivets, the heads of which are missing, secure the mount to the strap. There is a silver rivet in the middle of this part of the strap, and the part of the strap is terminated by a straight-cut edge. Situated a couple of millimetres before the termination is a 7–8 mm long slot, through which a quite narrow, single-thickness strap is passed. This in turn has a slot in it, and a broken end passes through this slot. The other end is obviously original and shows that this strap had a cross-section of c. 5 x 3 mm. Iron rust is also present at this end, which probably means that this part had been knotted securely to an iron object, for example to the iron eye of the side bar *F7:19* or *21* according to the proposed reconstruction. In accordance with this reconstruction, this strap has the function of a nose strap or a chin strap (Fig. 43).

F7:27 Rein mount (?), fragmentary

Two fragments which may be the remains of the rein mounts on that side are present in the loop of the side bar *F7:21* and are partly rusted solid to the bow itself. There is no other component which could have been attributed reliably to this function. The upper fragment is only one part of an eye, 8 mm wide, and the lower part is 31 mm long and fragmentary, with a maximum width of 20 mm. In order for the situation to concur with the other side of the bridle, which in this respect is quite clear, the rein mount must sit beneath the connecting link. This excludes the upper fragment from this function. The position and the maximum width of the lower fragment, however, indicate that this was a part of the rein mount, the other parts of which are missing. The upper fragmentary eye may be associated with a possible nose band made of leather or similar, that is to say it may be connected to the three-part strap divider *F7:26* which, according to the reconstruction proposed below, has been given the function of a nose strap or a chin strap. There is no corresponding ring on the other side bar loop.

4.6.2.2. Reconstruction of the battle bridle, and comments

The battle bridle thus consists of 26 parts and fragments in total (*F7:1–26* in Fig. 41). The parts are referred to by their number *1–26*. The different parts are the one-piece iron bit (*20*) and the two S-shaped iron side bars (*19* and *21*) with loops in which the mounts for the reins (*F7:25* and *27*) and the mounts for the harness (*F7:17–18* and *22–23*) were fastened. The rest of the material is made up of leather fragments and strap ends and the like belonging to the harness.

There are four strap crosses in total (*1, 3, 5* and *8*), of which one (*5*) also has a bronze-mounted strap end. A similar mount was probably applied to its counterpart (*1*). The strap cross (*8*) is considerably longer than the others, and was clearly positioned differently. Two identical pieces (*12* and *16*) also have a slot in the middle of the strap in addition to having bronze-mounted strap ends. The strap end mount covers a joint in the leather strap. The two strap ends (*13* and *15*) are also almost identical pieces, as are the strap holders (*17* and *22*). There are otherwise two pieces (*6* and *25*) that definitely do not have any counterparts on the bridle. That is also true of the hinges (*17* and *23*), with the former being more elaborate than the latter. It appears that the more elaborate mounts were positioned on the right side of the horse's head (left on Fig. 41), and the bridle is not symmetrical as far as the decoration is concerned (see below).

A part of the strap (*6*) has been cut in such a way that a broader section is formed in the middle. This part was covered with a bronze plate on its upper side, and with a corresponding iron plate on its underside. The whole was held together with four silver-headed rivets.

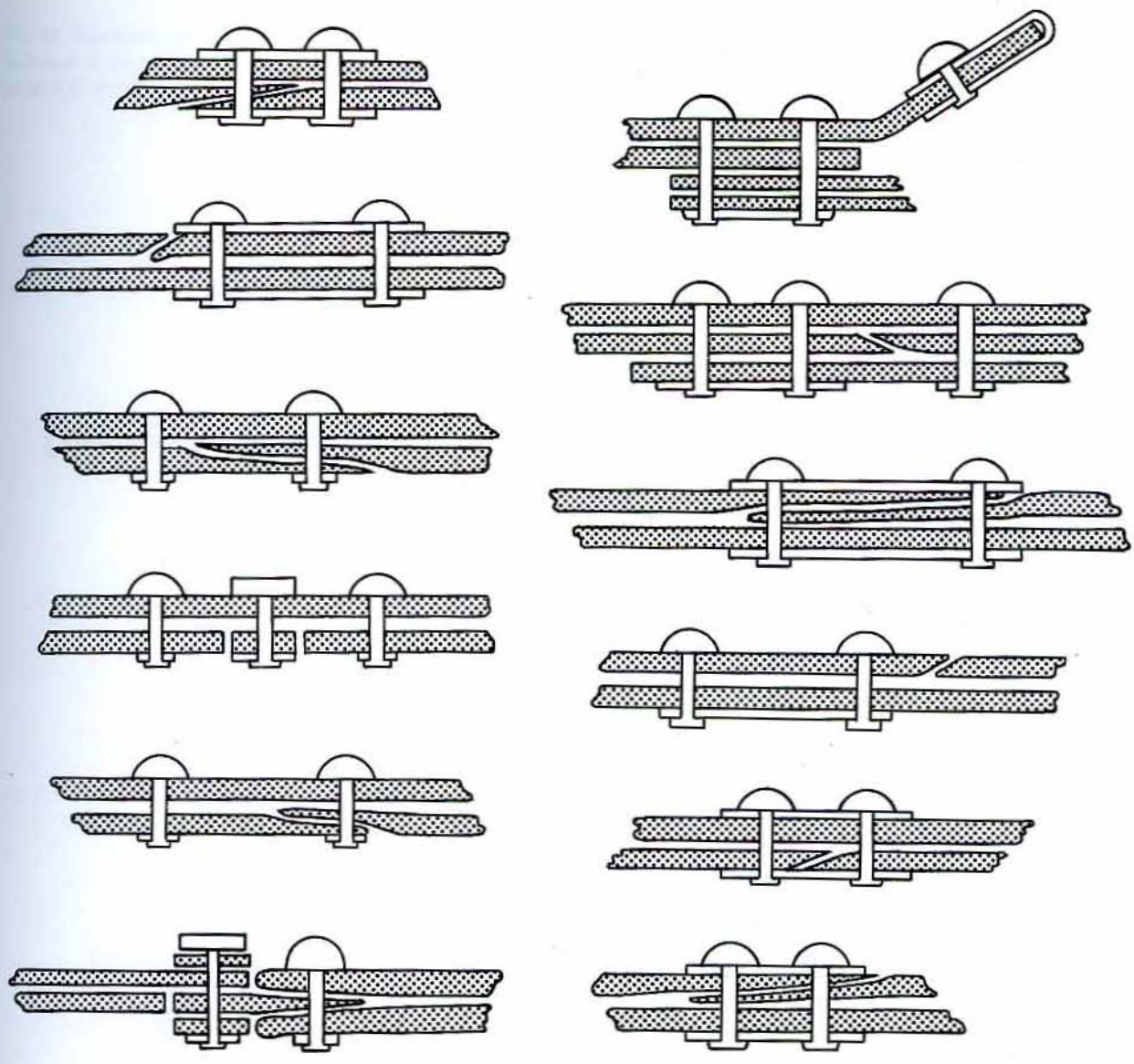


Fig. 42. Examples of strap joints in the battle bridle.

There is also an articulated part of the strap (*26*), where two bronze-mounted strap ends are attached to a square bronze frame.

Only in a single case does a cut strap end without trapezoidal bronze fittings (*24*), but with a fragmentary straight bronze mount, occur.

The other parts of the bridle consist of fragments of leather with silver rivets, or traces of these, grouped in a 2 + 2 arrangement.

As far as the reconstruction of this largely preserved bridle is concerned, I have taken as my starting point the drawing which (presumably) Selling made during the excavation (Pl. 34). In spite of this relatively detailed plan, a number of difficulties are still associated with the reconstruction. Nevertheless, we do have several important points of reference. These include the central, intersecting and riveted piece of leather *8* and the row of fragments *1, 6* and *10*, together with the leather cross *5*. In these cases it appears that the fragments are lying more or less in their true positions, whereas the pieces associated with the bit are much more difficult to interpret. The further reconstruction of the bridle was thus determined by the position of these fragments. The pieces show *inter alia* that, where two intersecting leather straps occur, these were riveted together with a fairly heavy bronze rivet with a flat head and without any covering of silver. Other rivets always have a silver head, and their task was to decorate and

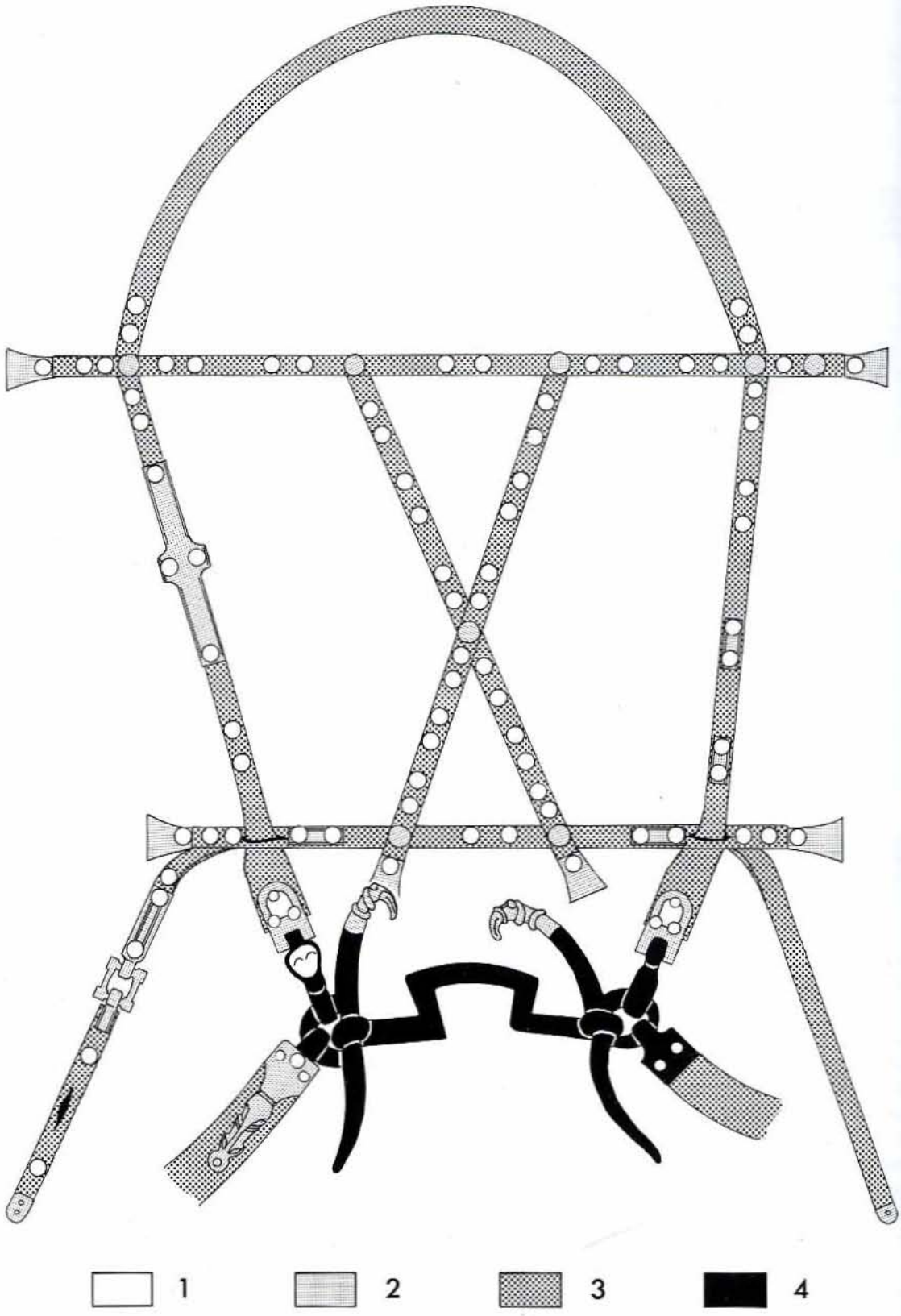


Fig. 43. Reconstruction of the battle bridle. 1 = silver, 2 = bronze, 3 = leather, 4 = iron. (Drawing: P. H. Ramqvist).

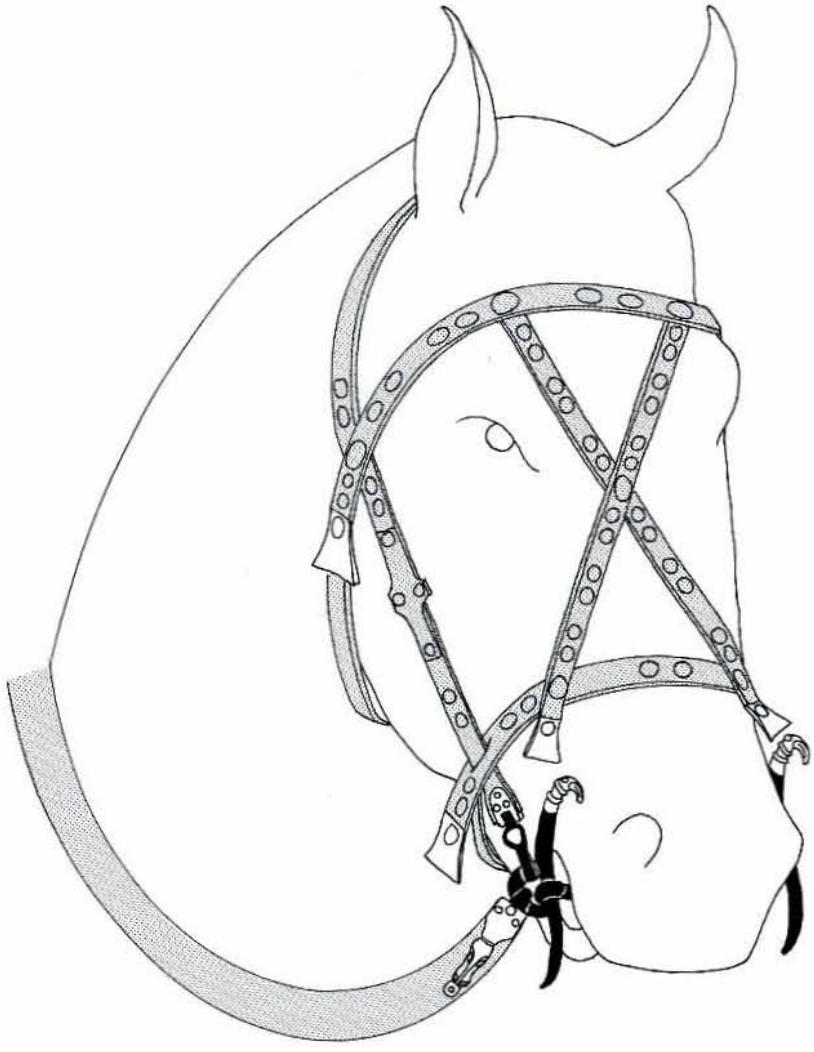


Fig. 44. Reconstruction of the attachment of the battle bridle. (Drawing: P. H. Ramqvist).

hold together the joints (Fig. 42) and, in conjunction with the seams, to hold together the two layers of leather. In the case of the fragments *13* and *15* fitted with trapezoidal bronze strap ends, one quite large bronze rivet is present in the first instance, whereas such a rivet is absent from the second fragment, although it was probably present there in the remaining hole. These two fragments thus also represent a strap intersection.

One missing link in the bridle is the connection between the broad straps, a fragment of which was found without a bronze mount (Pl. 36; *F 89*), and the two which are attached to the hinge mounts *17* and *22* and the narrower straps *10* and *11*. I have suggested in the reconstruction that the straps *10* and *11* passed through the longitudinal slots which are present more or less centrally on strap fragments *12* and *16*. The width of these slots is 20 mm, and they would be an excellent fit for straps which are rather wider than the thin, 10 mm straps which are used as the basic straps for the bridle, although the slots are too small to accommodate the 22 mm wide strap which issues from the hinge mounts. Accordingly, the straps in this area probably exhibited a progressively tapering width from 22–10 mm, and at some point in this progressively tapering section passed through the slots, as shown in Figs. 43–44. A tapering strap of this kind is not preserved, however.

This suggestion admittedly has a number of weak points. These include the position of the aforementioned slotted and bronze-mounted strap fragments (*12* and *16*). In this suggestion they were designated as parts of the nose band, in which case the slots served as a flexible strap intersection, with the side straps from the ear to the bit passing through the slots in question. This argument is supported by the fact that the slots would then be situated precisely at the point where the

harness strap reduces in width, from c. 22 mm in the case of mounts *17* and *22* to the c. 10 mm of the rest of the harness strap. In other known contexts, e.g. Thorsbjerg (Engelhardt 1863:Taf. 13:1), similar slots are provided for the attachment of the reins by placing the cross-bar on these mounts in the slot. A solution along these lines was not adopted here because no cross-bars or fragments of these were found, and in view of the absence of traces of these in conjunction with the slots.

A further weak point in the proposed reconstruction concerns the positioning of the articulated strap *26*. This has been designated as a chin strap, which was attached directly to the strap ends *12* and *16*. The articulated strap has a slot at one end, in which there are present the remains of a narrower leather strap which was possibly joined with a knot to the strap end *24* under the chin of the horse.

Unfortunately, nothing remains of the parts of the bridle which must have been present on the underside of the horse's head (i.e. the extensions of strap fragments *1* and *12* to the left, and of strap fragments *5* and *16* to the right in Fig. 41) and behind the horse's ears (i.e. the upward extension of fragments *1* and *5*). One likely explanation for this is that these components were not fitted with silver and bronze rivets, as a result of which they have not been preserved as well; this circumstance is also believed to apply to the reins, which are only preserved in conjunction with mount *25* with its animal head motif.

It may be interesting in this respect to make a few comments in respect of certain parts of the bridle. As far as I am aware, the mounts with a wider central part found at Sösdala I (Geißlinger 1967:Taf. 11:6, 24; Taf. 15:1–9 and Taf. 16:1–3, 9,10) have been accepted without question as belonging to the bridle equipment. A comparison with bridle fitting *6* from Högom should make it quite clear that these items were a part of the bridle. The total of 15 Scanian items which have been illustrated taper to a sharp point, whereas those at Högom have straight cut, broadened central sections which contain rivets. The Scanian items have no rivets at the centre, but only at their respective ends. They are also much shorter, usually c. 6 cm, than the one with which we are concerned here, which is 11 cm long. In spite of this, there should be no doubt that the mounts in question are closely related to one another. In addition, the Sösdala I find contains a number of small silver caps which may belong to the same type of decorative rivets used in the Högom bridle. The Sösdala I bridles have not been reconstructed, unfortunately, although to judge from the material (Geißlinger 1967), they consisted, at least in part, of a bridle with side bars, with 13–14 mm wide main straps mounted with rectangular sheets with punched ornaments. This strap width is, in fact, closer to the width at Högom than is the Thorsbjerg bridle, for example, in which the strap is up to 35 mm in width (Engelhardt 1863:Pl. 13, Krogh 1966).

The upper ends of the side bars at Högom are mounted with bronze sleeves in the form of an eagle's head, for which no contemporary parallels are known. Side bars similarly mounted with animal head motifs occur however, at a later stage. Such an example is in Vendel grave I (Holmqvist 1951a; Arrhenius 1983:57, Fig. 18), where an animal's head in Style II, decorating a side bar with silver inlays, was found. An animal's head of a more stylistically similar type exists in the form of that on the drinking horn from Söderby-Karl in Uppland (Holmqvist 1951b), dated to the sixth century. Although signs of similar animal head terminations also occur on the Continent (Paulsen 1967:56ff), their most distinct form is considered to have been produced within the Nordic region, although the parallels are generally of more recent date than the Högom bridle.

The form of the bit has obvious links with the heavy and often worn-out ring-rein bridles discovered in some of the Danish bog finds. The links are seen as being especially pronounced in the case of Ejsbøl (Ørsnes 1988). Similar links are also encountered at Thorsbjerg (Engelhardt 1863), and are also likely to have been encountered at the Illerup find, no details of which have yet been published.

With regard to the reconstruction as a whole, the material from the Migration Period is extremely sparse. The relatively simple bridle from Sösdala II (Bunte 1961), which differs completely in respect of its mounts, however, has nevertheless been the subject of a reconstruction along similar lines to the Högom bridle, but on the basis of much less reliable material. In the material from SE Europe, too, similar reconstructions have also been proposed for slightly later bridles (Garam 1987:121).

The fact that the bridle, like the weapons and the saddle (Sect. 4.6.2.4. below) had a symbolic character can be appreciated clearly from the animal heads, which endowed the bridle with power. What is interesting from a functional point of view is the absence of wear which can be noted on the bridle. Clear signs of wear were nevertheless noted on one of the mounts; this was the strap divider mount *26*. According to the proposed reconstruction, this is the only place on the bridle where two bronze surfaces are in contact with one another. Elsewhere, metals are articulated with one another only in conjunction with the bit, although in both cases this is iron on iron, which is difficult to study due to rusting. It is possible to state, however, that the bridle was in use in the condition in which it was found in the grave, although probably not

with a rider, and most definitely not with a rider in battle or in some other form of activity involving riding for lengthy periods. The most reasonable conclusion which may be arrived at here is that the harness was used on ceremonial or other demonstrative occasions, and in parades and similar events with or without a rider. The side of the harness fitted with the largest number of symbols was its right side, which may perhaps be taken as an indication of standardized, well planned and repetitive ceremonies.

4.6.2.3. Common bridle and other horse accessories, F8 (Pl. 44–47)

This ring bridle with its associated parts is made of iron throughout. It consists of a 3-part bit, 2 large side-rings, each with two strap attachments, and two smaller rings, also with two strap attachments each. Part of a saddle-girth or similar is a strap divider in the form of a ring with a cavetto upon which two strap attachments sit. The frame of a small buckle is threaded through one of the strap attachments. Five straight and one hooked strap end mounts with a coiled end, two plane mounts, and five or six iron rivets and counterwashers which were partly rusted away were also found together with the bridle, and it can be stated with the greatest probability that these belonged to a set of horse trappings.

The 3-part *bit* consists of two rectangular rods, respectively 75 and 80 mm long. These are articulated on a square, 8 mm thick plate with a side length of 23 mm. The plate has a hole at the centre in which the two rods are secured. The other ends of the rods are bent around the respective side ring. The rings are made from a 9 x 7 mm rod with a pointed oval cross-section. Both rings have a diameter of 96 mm, and one large and one small strap attachment are fixed to each ring. The strap attachments are identical on both rings. The larger one is 83 mm long (of which the shanks account for 58 mm), and has an eye with a rectangular forged upper and lower shank, between which the leather strap was attached. The width of the shanks and the leather straps is 17 mm. The strap was secured by two iron rivets with domed heads. The smaller strap attachments have only a single shank and a single, amply proportioned rod curved around. The forged shank is practically trapezoidal in form, and is 30 mm long and 15–22 mm wide. A rivet on the outer part of the shank was used to secure a leather strap, although no remains of this are preserved.

The two *smaller rings* are both 55 mm in diameter and are made from a round rod of c. 5 mm in cross-section. Both rings have similar strap attachments, one large and one small, although none of the strap attachments is completely intact, and for this reason the respective lengths cannot be determined. However, all the mounts had two shanks, and the larger attachments are c. 15 mm wide and the smaller ones c. 10 mm wide.

The *small buckle, the ring and the two strap attachments* all belong together. The cavetto ring is 40 mm in diameter, and the hole is 15 mm in diameter. One side of the ring has a 17 mm wide and max. 3 mm deep jag left by a knife blow or similar. Sitting in the ring are two identical, although somewhat damaged, strap attachments. They have two shanks, which were originally probably of rectangular form c. 33 x 42 mm. The rivets are difficult to distinguish. Remains of the leather strap, which was 33 mm wide in each case, are present between the shanks. A band-shaped mount measuring 34 x 17 mm lies directly over the base of one of the strap attachments, where it has either become rusted solid or was riveted in position in ancient times to provide reinforcement. One rivet head of c. 12 mm in diameter can be distinguished.

The small *buckle* is rusted solid to one of the strap attachments. The frame of the buckle sits around the strap attachment, which illustrates their functional association. The buckle frame is oval, measuring 52 x 39 mm, and is made of an almost round rod with a cross-section of 12 mm at the front and 9 mm at the base. A band-shaped strap attachment is folded over the base of the buckle frame, with a section left free for the tongue. The strap attachment of the small buckle is 33 mm wide, which corresponds to the width of the strap, and 31 mm long. Parts of the leather strap remain preserved between the legs of the shanks of the strap attachment. The tongue is straight, made from a square bar, 6 mm in cross-section, and is folded over in the middle of the base of the buckle frame.

Of the eight *strap end mounts*, five are of the same type; these are in the form of a pointed bar of rectangular cross-section and are slotted at one end, where parts of a leather strap and a rivet remain or were present. The best preserved is 106 mm long and has a cross-section at the top, beneath the slot, of 10 x 8 mm. The other mounts have lengths of 104, 102, 82 and 63 mm. The latter is heavily fragmented, however, and most of the slot and the rivet are missing. The leather straps, which are riveted securely in the slots, are c. 10 mm wide. The three longer mounts (c. 130 mm), from which only a small piece of the upper part is missing, are almost identical, whereas the smallest also appears to have been rather smaller originally. The rivets which are preserved in four of the mounts have domed heads with a diameter of 7-8 mm. The strap is in a better state of preservation in one of the mounts, and in this case measures 10 x 5 mm. The length of the slots beneath the rivet varies from 10 to 35 mm. One of the mounts has a reinforcement or a repair, at a point 20 mm below the middle, in the form of piece of iron added by forging.

The two iron rods are very nearly identical and, as far as can be established, intact. They are 130 mm long and have a rounded square cross-section with a maximum length of side of 10 mm. The top 15 mm or so of both rods are forged into a plate measuring c. 15 x 9 x 4 mm with what is now a rusted-over transcurrent hole. They thus served as attachment plates for straps of more or less the same size as on the strap end mounts, and as such should also be regarded as strap end mounts.

The hook-shaped strap end fitting is 55 mm long (not intact) and has a termination in the form of a folded and curled end. One rivet hole and an indication of a slot are present on the upper edge, where the fitting measures 12 x 7 mm.

The latter artefacts, i.e. the small buckle, the cavetto ring with its associated mounts and the eight strap end mounts, probably do not belong to the bridle itself, but rather to some other horse equipment, possibly a saddle-girth. This supposition is supported on the one hand by the wide straps (33 mm wide), which match the small buckle and the ring mounts, and on the other hand by the heavy dimensioning of the artefacts. The small buckle is fully comparable in both size and form

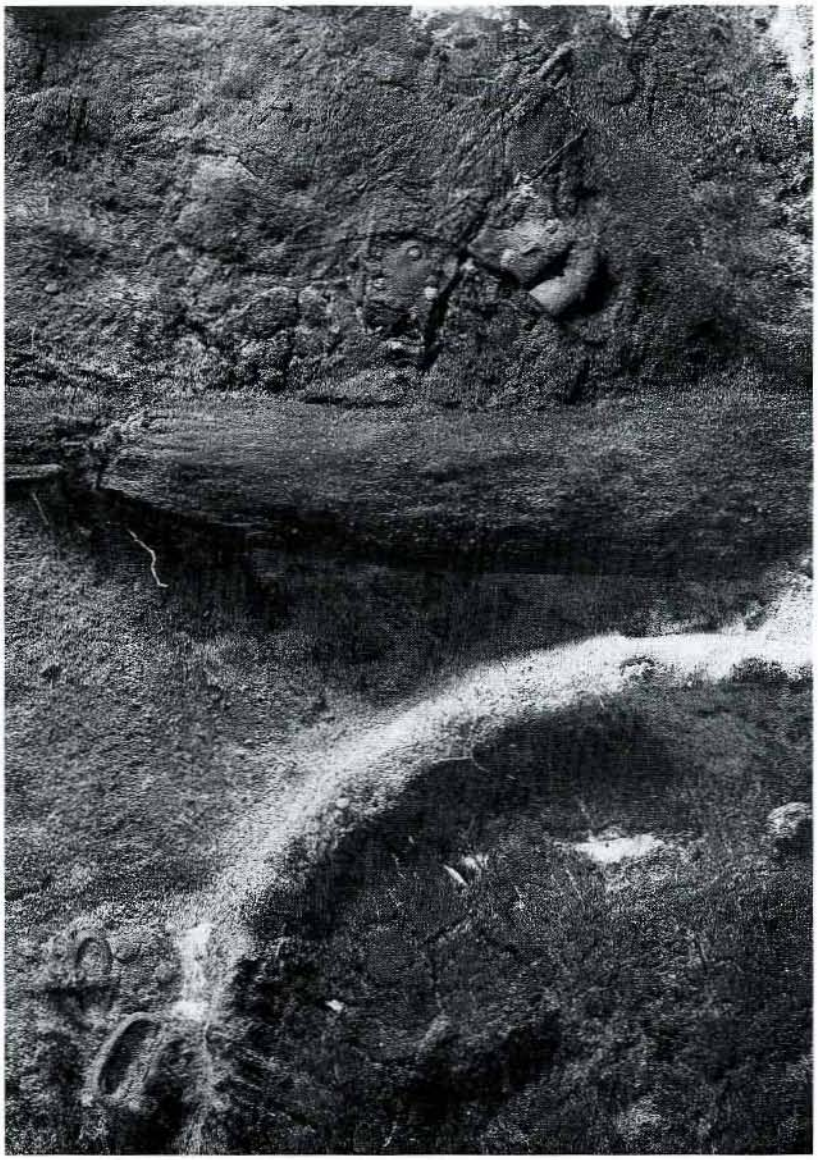


Fig. 45. Investigation of the saddle, at an early phase of the excavation. Two of the saddle-girth buckles can be seen at the top, and the other two are visible at the bottom left. In the centre is the wooden pole, to the end of which the iron ring (*F62*) was attached. The rounded pattern in the lower part of the picture belongs to the tub (*F42*).

with the four bronze buckles of the saddle-girth (F9, below), and the cavetto ring has precisely the same external dimensions as the bronze rings on the saddle.

4.6.2.4. Saddle, F9 (Pl. 48–60)

The saddle was comparatively well-preserved and as such represents one of the best-preserved saddles in Northern Europe dating from the Migration Period (Figs. 45–47). It is a saddle of the type known as the ring saddle (e.g. Norberg 1929), which is characterized by heavy fittings equipped with rings on both the front and rear saddle bows. The following is a description of the various parts of the saddle, which are sub-divided into the bronze mounts, the front saddle bow, the rear saddle bow, the rails and beadings, the stuffing of the saddle, the saddle-girth buckles, and a reconstruction of the saddle.

A. Bronze mounts

Two pairs of bronze mounts were positioned on both saddle bows of the saddle. The front pair was larger than the rear pair. All the mounts have an associated bronze ring with a large staple, which passed through the mount via a hole in it and further through the lower part of the saddle bow, and then into the respective saddle board.

The front, large mounts are almost identical and are slightly curved to match the form adopted by the saddle when the saddle bow was secured to the saddle board. They are c. 140 mm long. The mount has a plain back section and trapezoidal

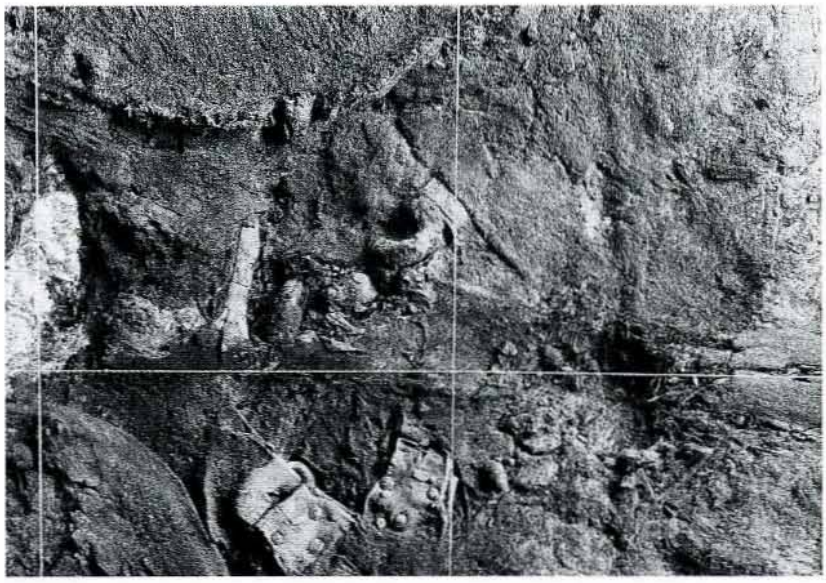


Fig. 46. Investigation of the saddle. Two of the saddle-girth buckles, and rings and mounts for the saddle *in situ*. A part of the resin caulking ring (*F53*) can be made out at the bottom left, and a part of the tub (*F42*) at the top left.

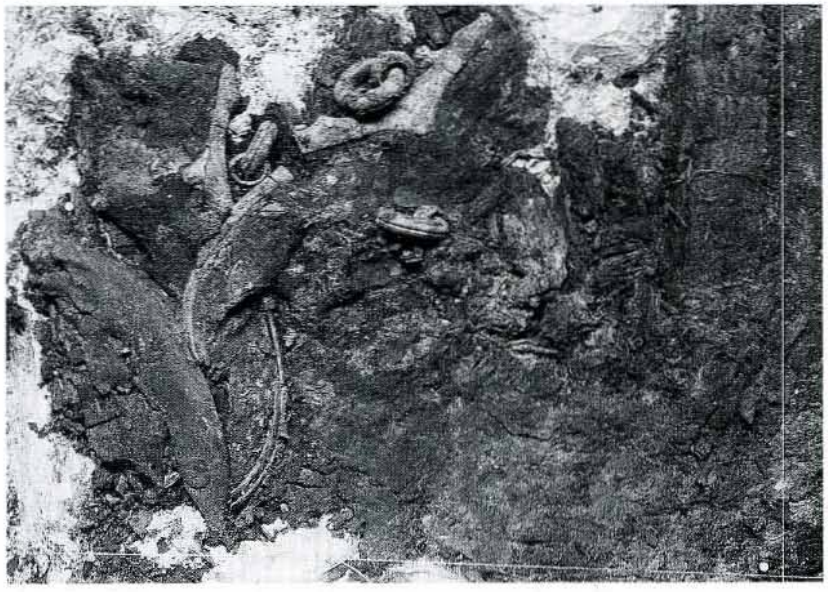


Fig. 47. Same as for Fig. 46, but at a more advanced stage of excavation. The saddle-girth buckles and the tub have been removed. The front saddle-bow and its mounts are clearly visible.

lobes inclined downwards at the centre, which also form the greatest width of the mount, which is 43 mm. The plain back section is widest at the centre, where it measures 15 mm, and 8–9 mm elsewhere.

The mounts are terminated at each end with an animal's head. The outer one (i.e. the one which faced outwards and downwards from the horse) is a plastic, gently rounded animal head with profiled and gently rounded "lips" and oval, shallow-marked eyes surrounded by a thin outer contour. The head at the other end is sharply cut off and has protruding button-like nostrils and protruding cylindrical markings for the eyes. According to Selling, the plain upper surfaces of the eyes were covered with silver sheets with concentric decoration. A weakly ridged central line divides the head in the longitudinal sense between the eyes and the nostrils.

Both animals have a "neck collar" in the form of a facetted, raised area c. 10 mm wide and 1 mm high. This area has four, 1 mm wide silver threads hammered into each "neck collar". The ends of the silver threads are bent in beneath the edge of the mount.

Bronze oxidation left by the rivet which had been soldered in place at that point for the purpose of securing the mounts to the saddle bow is visible on the underside of the mounts beneath the lower animal head. This rivet is missing from beneath the upper animal heads (i.e. those which face inwards towards the horse), where the mount was instead secured to the saddle bow with bronze pins of just under 2 mm diameter. This construction, with a large rivet at the bottom and a smaller side pin at the top, is also found in the smaller mounts on the rear saddle bow.

A circle with mid-point, 4 mm in diameter, has been drilled into the bottom plane of one of the mounts. The positioning of the circle of dots bears no dimensional relationship to the centre-line or to the length of the mount. No corresponding drilled mark is present on any of the other mounts. The rectangular holes at the centre of each mount have probably first been drilled and thereafter sawn out (Törnquist 1989). One explanation for the drilled mark could then be that it simply is a trial drill of the craftsman to test the material and the equipment. A circular bronze plate of 14 mm in diameter, which bears traces of concentric decoration, is also solidly attached by oxidation to the outer surface of one of the lobes of the same mount. According to Selling, this plate was 30 mm in diameter and had a silver coating. She also refers to the presence of fragments of a similar detached plate (although this has never been traced since).

A rectangular hole respectively measuring 9 x 7 mm and 9 x 7 mm was made at the centre of each mount, in order to accommodate a bronze staple fitted with a ring. The staple has a slightly curved shaft and a profiled loop. The two shafts of the staple were c. 70 mm long (slightly damaged), and consist of a rectangular bronze rod measuring 6 x 3–4 mm, the width of which tapers slightly towards the tip. The dimensions of the shaft closely match those of the corresponding hole, so that the staple would only fit one way in the mount. This determined the direction in which the rings were positioned. As far as the front rings are concerned, they faced in such a way that the hole was lying in a horizontal attitude. The attachment of the shaft to the loop is straight when the otherwise profiled loop is filed flat at the transition with the shaft in order to lie closely against the mount. The loop has an external diameter of 27 mm and an internal diameter of 14 mm. Apart from the filed-off lower part, the loop is circular and has two 2 mm wide projecting flanges situated close to the hole. The width of the loops is 12 mm.

Each loop encloses its own cavetto ring, which is 41 mm in diameter and has a material thickness of 12 x 10 mm, i.e. the cross-section is slightly oval. The cavetto is surrounded by a thin line on either side. A drawing by Selling which has been preserved shows that a 15 mm wide leather strap sat in one of the rings (although this has never come to light since).

Practically no traces of wear could be noted on the mounts, rings or loops. What can be noted, however, is that the shafts of the staples are straight or only slightly curved, and as such lack the right-angled bend which is typical of the corresponding rings in South Scandinavia (Norberg 1929).

The mounts on the rear saddle bow are entirely in the same style as the front mounts, although much smaller and less pretentious. They are also more angular, which can be taken as an indication that the rear saddle bow was connected to the saddle board at not quite the same obtuse angle (see the reconstruction below, Fig. 48). One of the mounts lacks parts of one of the animal heads, although both probably measured c. 82 mm originally (measured from nose to nose) and had animal heads at both ends, together with downward-projecting lobes like the front mounts. The width at the lobes is 29 mm. As in the case of the larger mounts, the plain rear sides are rather broader at the centre, where they measure 12 mm, whereas they taper elsewhere to a minimum width of 6 mm.

The two animal heads in this case are both executed in a plastic style similar to the lower heads on the larger mounts. The lower fittings are practically identical in this case, too, although slightly smaller, whereas the upper mounts, i.e. those which face towards the horse, are cut off abruptly instead of having a gently rounded mouth with lips, and are provided with small, bud-like nostrils.

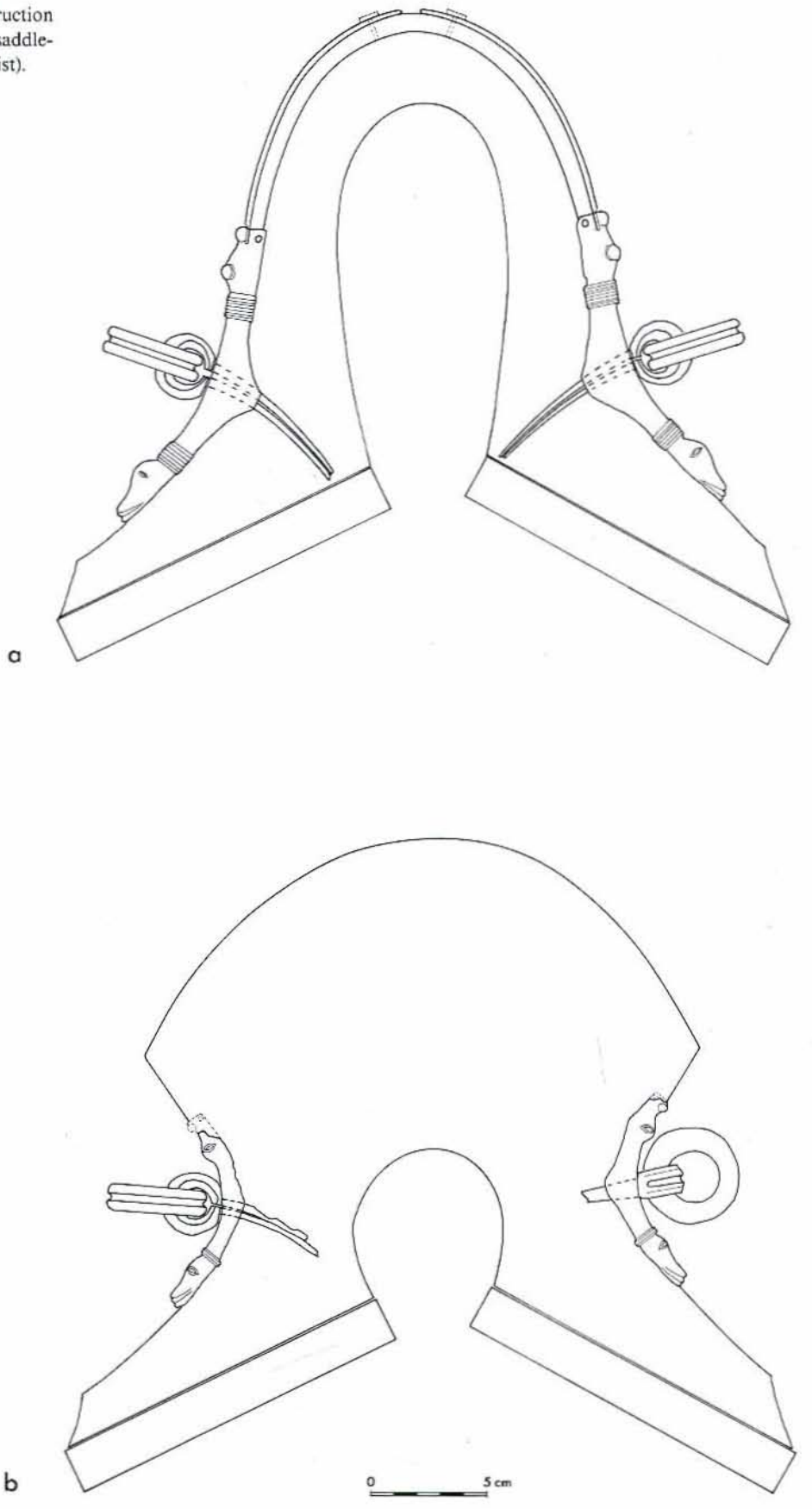
As in the case of the larger mounts, the abruptly cut-off nose must be associated with the fact that this part was intended to secure a beading or similar. No such beading has been found in this case, however (in the case of the front saddle bow, this concerns both a wooden beading and a bronze rail). There was presumably only a wooden beading on the rear saddle bow, which has now disappeared. A bronze pin which secured the mount to the beading of the saddle bow was situated in the sides of the upper animal head, as in the case of the front mounts. The lower attachment, as mentioned above, consisted of a bronze rivet securely soldered to the underside of the lower animal head.

With regard to the rings for the rear mounts, there is an interesting deviation in that the ring situated on the left exhibits a completely different form, construction and position. Firstly, the loop of the staple is completely forged together, and is thus a ring provided with a sharp point. The point is not intact, and in its present state it is 23 mm long and has a tapering, rectangular cross-section of 8 x 6 mm, with the largest dimension at the top. The "shank" thus does not consist of two parts, as it does in the other three cases. Secondly, the "loop" also lacks the side flanges which are typical of the other loops, and instead has slightly bevelled edges. Thirdly, the "loop" is provided with a cavetto, although this does not run around its entire periphery. Fourthly, this staple was applied to the saddle in such a way that the hole in the ring was lying vertically. This is the only mount with a vertically positioned ring. The other three rings all lay horizontally. These observations are reliable for two reasons; one is that the mounts were found together, and the proposed reconstruction made by Selling also shows the different arrangement of the rear left-hand ring. In addition (this is the second reason), the staple can only be positioned one way, since the hole in the mount and the size of the tip can only be joined together in the manner illustrated in the proposed reconstruction below.

Nevertheless, the ring which sits in the different staple is of precisely the same type as the other three, i.e. with a cavetto flanked by a thin incised line on either side. The ring is also the same size, with a diameter of 42 mm and a material thickness of 12 mm.

The staple and the ring belonging to the rear, right-hand mount do not differ in any way from the front two. The only difference is that the shanks of the staple were shorter, at c. 50 mm, compared with the c. 70 mm of the front items. This tendency can also be seen in the tip of the differing staple, which is unquestionably broken, but which was probably no longer than 50 mm, to judge from the degree of taper. It is also possible to establish, in addition to the differences in one of the mounts, that the length of the shanks differs from that of the front items. This has to do with the construction of the saddle, in as much as the rear saddle bow was narrower, and the staples at that point did not need to be of the length required at the front.

Fig. 48. Suggested reconstruction for the front (*a*) and rear (*b*) saddle-bow. (Drawing: P. H. Ramqvist).



B. Front saddle bow

In spite of having been subjected to compression and to a certain amount of distortion, practically the whole of the front saddle bow is preserved. It was broken into four parts, presumably already in the burial chamber, and these fractures reveal its weakest points, i.e. on the crown and where the two large staples for the saddle mounts had been hammered into the saddle. The cross-section and the contents can also be studied, however, thanks to the fracture surfaces. On one of the parts of the bow in particular there are still abundant remains of animal hair (Pl. 48:1), which have nothing to do with the saddle, but are simply the remains of one of the many furs which were laid down beneath the deceased and his grave gifts.

The stuffing of the saddle was found to consist throughout of a woody straw material. This almost certainly comes from some variety of cereal, probably oats (information provided orally, Kroll & Tafel). A small, round stick served as the frame, and this can be seen in the under part of the saddle bow. The stick or twig is now 8 mm in diameter. Leather was subsequently wrapped around the filling and sewn together. Seams can be followed along large parts of the under side and upper side of the saddle bow. The seams are in the form of 5 mm wide leather strips with long, thin holes (double holes) arranged 5–7 mm apart. The leather was wrapped over the aforementioned wooden beading, but not over the bronze mounts and rails.

The fracture surfaces of the two staples reveal that the staple did not pass all the way through the material of the saddle bow (although unfortunately the saddle boards are not clearly identified in the preserved wooden material), but may be parts of the lowest part of the saddle bow, into which the staple had been hammered in this case, although it certainly did not pass all the way through both the saddle bow and the saddle board. Instead of what appears to be the customary method in the rest of South Scandinavia, which was to hammer the staple through both the saddle bow and the saddle board, tapping over the shanks on the rear side, a different method was adopted here. A large bronze nail was knocked in on the respective sides at the edge of the saddle and was then bent back over the legs of the staple. The nails were knocked in from the front and down at an angle into the saddle bow. The end of the left-hand nail is bent back through c. 90 degrees, although it is difficult to give details for the right-hand nail due to damage. The intact nail was 82 mm long (60 mm straight, and 22 mm bent through 90 degrees). The nails are made of roundish material with a maximum diameter of 7 mm, and the heads of the nails are flat and round with a diameter of 13 mm and 2 mm thick.

C. Rear saddle bow

Two almost intact structural elements of the terminations of the rear saddle bow were found. These appear to be individual structural elements, which in turn would have been fastened to the bow itself or to the "backrest" of the saddle. One is completely intact, and c. 25% is missing from the other. The intact piece measures 72 x 34 x 26 mm, and the damaged piece 65 x 25 x 26 mm (the latter dimensions, i.e. the width and the height, are not original due to damage). Both pieces exhibit the same plan form as the animal head fittings for which these structural elements served as the base.

Clear impressions of the undersides of the bronze fittings are present on both pieces. The structural elements are made entirely of organic material and exhibit the same fundamental construction as the front saddle bow. One feature which can be observed directly is the stuffing of a straw material, on top of which leather has been applied. A distinct leather seam is present on one side of the piece. There are also leather remains at the point at which the mount was applied, i.e. originally beneath the mount. A quite large, rough and relatively badly shredded square hole measuring 7 x 7 mm runs at an angle through the intact piece; this is the hole left by the bronze ring nail of the mount. The corresponding hole on the damaged piece is extremely fine and whole, and is 4 x 4 mm square. It is obvious that the mount with the odd ring sat here (see above).

It can also be appreciated from the two saddle bow terminations that the animal head mounts were attached to the saddle bow by means of a bronze rivet, securely soldered to the underside of the mount, which passed through the bottom end of the saddle bow. Circular counterwashers are in fact present on the underside of both pieces, and the rivet heads can be seen on the upper sides. The rivet head on the intact piece is oval, measuring 10 x 8 mm, and is very nearly flat, whereas the rivet on the other piece is severely corroded by oxidation, yet gives the impression of having a domed head. As mentioned above, the other side of the animal head mounts was attached by means of bronze side pins, of which no trace remains in these two saddle bow pieces, however.

D. Rails and beadings

The crowns, front and rear, of the two saddle bows were probably both trimmed with beading. Unfortunately, no reliable parts of this belonging to the rear saddle bow were found. On the other hand, all the details of the banding for the front saddle bow are preserved. It can be established from these that a wooden bead supported the crown of the bow. This, like the stuffing of the saddle bow, was then covered with leather. Two bronze rails were applied at the top, and the animal head mounts referred to above were also applied above the wooden beading. The bronze rails ran directly from the bronze mount up as far as the crown of the bow, where they were each secured with a bronze rivet with a silver head.

Both bronze rails are identical, although one is more fragmentary. The rails were gently curved, and both exhibit the same curvature, for which reason they constitute the upper curvature of the saddle bow. Their true length is c. 130 mm, and they are of rectangular cross-section 10 x 2.5 mm at the centre. The rails widen gently outwards at the top, and the width increases progressively to c. 18 mm. Parts of a bronze rivet with a flat, silvered head 8 mm in diameter are still present 12 mm down from the edge. Directly on the underside of one of the rails sits a 26 mm long piece of leather, which is now 2 mm thick, through which the rivet passed.

The lower part of the rails is scarcely 10 mm wide, and they were bevelled for the final 8 mm and given a crescent-shaped cross-section, the purpose being to enable them to fit beneath the animal head-shaped mounts. A fine, incised edging line runs along the edges of the mount, except in the bevelled part.

As far as the wooden beadings are concerned, these are preserved in a fragmentary manner, which nevertheless repre-

sents the most important parts. The largest part of the beading had a trapeziform cross-section with a base of 10 mm, a height of 7 mm and an upper width of 8 mm. Two longitudinal parallel lines, approximately 1 mm deep, were incised 3 mm apart on the upper side. The beading was given a different form beneath the animal head mounts, i.e. at the lower terminations of the beading. It is broadened out there to 18 mm, and is thinned down to 4 mm. It is also decorated with grooves cut cross-wise, one above and two below a quite large, gently rounded, incised depression.

The wooden beading on one side of the saddle bow had already broken away in ancient times and had been repaired by securely riveting a bronze sheet over the damaged part of the beading. The sheet is 48 mm long and has been folded down over the fracture, after which a rivet was driven through the bronze sheet and the wooden beading from one side to the other. The downward termination of the sheet is tongue-shaped and lies over the wooden beading. The damaged beading can be seen beneath the repair sheet, and the fracture surface is very sharp and even. It has the unmistakeable appearance of a sword blow or a light blow from an axe, aimed from below, which struck the saddle bow at an angle of c. 30 degrees. Another strange thing about this fracture is the fact that both the fracture and slightly more than half of the repair sheet are covered by the saddle mount. This means either that the damage occurred naturally, or that the saddle had no mounts when the blow was struck. What is also interesting in this context is that the rivet which holds the repair sheet in place is positioned precisely at the point where the saddle mount ends, and was accordingly visible.

E. Stuffing of the saddle

The material used to fill out the saddle bows, i.e. not the stuffing in the true sense, was clearly visible at all the fracture surfaces of the front saddle bow and in the two rear saddle bow fragments. The purpose of this stuffing was probably to give the bows more volume and bulk. The stuffing consists of what appears to be plaited oat straw. The variety is quite difficult to identify, although everything points to it being the straw from one or other of the cereals (information provided orally: Kroll & Tafel). In its present state the stuffing is very tightly packed and compressed, in addition to which it is impregnated with paraffin (from the first conservation) and is largely concealed beneath the covering leather.

F. Saddle-girth buckles

Four almost identical bronze buckles, consisting of a plain, crescent-shaped mounting plate which is cast in a single piece with the frame of the buckle. The mounting plate is 40 mm wide and a maximum of 31 mm long and 3 mm thick. Parts of leather straps are preserved in all the buckles. These were of the same width as the mounting plate, but broadened to at least 45 mm away from it. The leather straps are sewn together (Sw: *laskade*) with thin, narrow leather strips (Törnquist 1989). The straps were attached to the mounting plate with three bronze rivets with plain, silvered heads of 9–10 mm in diameter (in most cases 9 mm). The counterwashers are made of bronze and are circular, of 6–10 mm in diameter. Two of the rivets are positioned close to the frame, and one is near the edge along the centre-line of the buckle. A thin edging line runs around the mounting plate, but not on that part which faces towards the frame.

The frame is 47 mm wide (external dimensions), and the space available for the strap (i.e. the internal dimension of the frame) is 35 mm wide. It is thickest at the front, where it measures 8 x 9 mm. The strap is lightly facetted and slightly at an angle. The tongue is band-shaped, 5–6 mm wide, 2 mm thick and with a slightly sharp point. The tongue is attached to the frame/mounting plate by being bent around a depression in the base of the frame or a recess in the mounting plate.

The best preserved leather strap is in two layers, consisting of 3 mm thick straps. These are sewn together a few mm in from their edges. The stitching is rough, and a leather thong 4 mm in width was used. In the best-preserved example, the strap which passes through the frame, and through which the tongue also passes, is also preserved. The strap is double and is folded back on itself at this point, so that the strap end (which is not preserved) continues back on top of the incoming strap.

G. Reconstruction of the saddle

The fact that the front saddle bow is in such good condition permits its height and angles to be determined relatively easily (Fig. 48). The lower parts of the front saddle bow were attached to the saddle boards which rested on the horse's back. No readily identifiable remains of these were found in the material which was recovered. However, in one of the photographs of the excavation (Fig. 47), it is possible to see what is probably the remains of a board immediately adjacent to the lower part of the saddle bow. It is clear from this, and from the inclination of the remaining parts of the saddle bow, that the angle between the two saddle boards was a little more than 120°. To judge from the preserved lower part of the saddle bow, the saddle boards were presumably c. 15 mm long and a maximum of 2 mm thick, and probably even thinner. The distance at the top between the two saddle boards is c. 4 cm. It has not been possible to determine the length of the saddle boards, although the distance between the front animal head mounts and one of the rear boards was c. 35 cm, which should give some indication of the length of the saddle. One of the rear saddle mounts was lying close to the east wall of the chamber, about 60 cm from the other, and its associated ring was lying about 40 cm from the mount (cf. Pl. 10). This could be taken as an indication that the saddle was hung on the east end wall, and that one of the saddle mounts had become detached when the chamber collapsed, while the rest of the saddle ended up in a heap in the position in which it was found.

The height of the saddle bow was c. 20 cm at the centre, i.e. between the horse's back and the crown of the saddle bow. The saddle bow was c. 4 cm thick at the top, and for this reason the oval cavity formed between the bow and the horse's back was c. 16 cm. It has not been possible to determine whether this cavity had leather stretched over it. The preserved remains of leather show that the saddle bow was covered with leather. This leather probably covered most of the saddle and served as a means of retaining the stuffing, which consisted of cereal straw next to the saddle bows.

All that remains of the rear saddle are the pieces directly beneath the animal head mounts. These pieces appear to have

been complete structural elements, however, and it is possible that the rear saddle bow was constructed in an entirely different manner, perhaps with a filling of organic material which has not been preserved as well as the cereal straw in the immediate vicinity of the bronze mounts. The angles and the height in the reconstruction drawing were simply transferred from the front saddle bow. It is thus not possible to state whether the rear saddle bow was inclined or vertical. However, the stuffing had a leather covering in this case, too.

One curious feature is, of course, that the bronze staples of the saddle mounts with their rings never passed all the way through the saddle bow and the saddle board to be bent over on the rear side, as is customary in South Scandinavian finds. Instead, a long, heavy bronze nail had been driven in on each side at an angle to the staple and then bent over, so that the whole was presumably secured in this way. This construction is not known in other contexts, and the question which must be asked is to what extent the construction was able to withstand loadings imposed on the rings.

H. Comments on the saddle

The saddle is without any doubt one of the most interesting accessories in the burial chamber. It is rare to find such well-preserved saddles which are so richly adorned with mounts in European graves dating from the fifth and sixth centuries. This is not even the case in E and SE Europe, where finds of horse equipment are otherwise so abundant (László 1943; Kiss 1984). This explains why practically all the earlier reconstructions which have been presented are based more or less on analogies drawn from known historical circumstances. Certain associations of an elementary nature are nevertheless believed to exist in respect of a number of points, which cannot be completely ignored. These include, for example, the angle between the saddle boards, which must be adapted to the horse's anatomy. The optimum angle at this point is considered to lie between 109° and 117° (Kiss 1984:195). The angle at Högom was slightly more than 120°, and this slightly larger angle has been found to be acceptable in the course of testing (Krogh 1970). The distance between the saddle boards has a part to play here, of course, although on the other hand these cannot be arranged just anyhow. The question can be answered by further testing, although it must be said that, in many of the reconstructed examples presented by Kiss (1984), the distance does appear to be rather large. The distance must be related to the anatomy of the horse, and also to the strength of the saddle. Indications of dimensions are unfortunately infrequent in the reconstructions which have been presented, and accordingly no direct comparisons can be made here with the Högom saddle.

This type of saddle is referred to by Norberg (1929) as the ring saddle, because of the heavy bronze rings which very often sat on the sides of the saddle bows. A further characteristic feature is the bronze saddle bow mounts with silver inlays which often bear ornamentation in the form of animal heads. From a European point of view, this type of saddle has limited distribution in Southern Scandinavia, but is not known in Norway. In this respect the Högom saddle is a distant relative of these from a geographical viewpoint.

As far as the Högom saddle is concerned, we must look to the South Scandinavian peat bog finds for comparable material (Fabech 1987). It is mainly the mounts and other metal parts of the saddles that are found here, and the organic parts are very often missing. With regard to reliably identifiable saddle components, such as side mounts and large cavetto rings fitted with staples. These are found at the following locations:

1) Hassle-Bösarp, Scania (Stjernquist 1974).
2) Fulltofta, Scania (Norberg 1929; Geißlinger 1967:139; Stjernquist 1974).
3) Sösdala, Scania (Geißlinger 1967:139f; Stjernquist 1974).
4) Jönköping, Småland (Norberg 1929).
5) Vännebo, Västergötland (Norberg 1929; Stjernquist 1974).
6) Ejsbøl, Jutland (Ørsnes 1988).

A number of sites where only a single ring, rings or individual side mounts have been found should be added to the above. These are:

7) Lundebjerg, Funen (Thrane 1984). Saddle ring.
8) Tranemo, Västergötland (Stjernquist 1974:43, Fig. 27). Ring saddle mount.
9) Finnestorp, Västergötland (Norberg 1929). Saddle ring.
10) Thorsbjerg (Engelhardt 1863:Pl. 18:16; Raddatz 1987:86f, Fig. 37, Taf. 106). Saddle ring on rail.
11) Kragehul (Engelhardt 1867:Pl. IV:6). Saddle ring.
12) Krumstrup, Svendborg (Geißlinger 1967:Taf. 20; Thrane 1984:59, Fig. 8). Ring saddle mount.
13) Skedemosse, Öland (Hagberg 1967a:73, Pl. 6; 1967b:33). Saddle rings.
14) Åmossarna, Scania (Holmqvist 1951a:111, Fig. 55; Geißlinger 1967:140). Saddle rings.

Considerable affinity exists between these finds, in that they all represent the so-called ring saddle. Their characteristic feature is the well-made side mounts, often with animal head ornamentation, with rectangular holes cut in them to accommodate the heavy rings fitted with staples. The Ejsbøl and Thorsbjerg finds may possibly differ in this respect through their mounts in the form of beadings with nothing other than surface decoration. These finds are interesting for the reason that they are relatively closely related to the find at Blucina in Moravia (Tihelka 1963; Werner 1978), which can be dated to the second half of the fifth century. Saddle rings are absent at Blucina, however, and the dating is approximately one century later than the two South Scandinavian finds.

A feature shared by the ring saddles with animal head mounts is the constantly recurring silver inlays, which is found either on the side mounts and the rings, or on either (Holmqvist 1951a).

One characteristic of all the finds listed above is that they occur in the context of hoards in South Scandinavia, or as loose finds for which the circumstances of the find are unclear. With regard to new aspects of *inter alia* the finds from Sösdala and Fulltofta, Fabech (1990) states that these should perhaps be regarded as a treasure find, rather than as a battle booty votive hoard like most of the other hoards dating from that period. What is clear, however, is that not a single reliable grave find with a saddle dating from this period, apart from Högom, is known in Fenno-Scandinavia. Furthermore, the dating of these saddle mounts and rings is generally held to be c. 400 or a little earlier (Holmqvist 1951a:115). Also, the geographical distribution is clearly concentrated in S Sweden and Denmark. Norway and Finland are both conspicuous by their absence in this respect. It is clear, therefore, that Högom is something of an enigma, with its well-made saddle, which was perhaps already 100 years old at the time when it was placed in the grave. One explanation for this may be a combination of circumstances, whereby the saddle was passed down through two or three generations, and the South Scandinavian practice of hoarding *inter alia* battle equipment, and equestrian items was not current in Central Norrland. The saddle, like other battle equipment and equestrian items, instead accompanied the deceased into the grave, in line with the Continental model, in around the year 500. In spite of the fact that Continental graves containing saddles are few in number, this would appear to be the most likely explanation in the light of the grave as a whole. It is also clear from both written and archaeological sources (e.g. Janssen 1981) that the saddle was an attribute of the higher social strata. It is believed that the use of the saddle was a royal privilege in Moravia, and the saddle is described in the Beowulf epic as the high seat of the king in battle (Norberg 1929:100f). The rôle of the saddle in a social context is believed to be clear, which is confirmed by the Högom grave.

The Continental saddles occur mainly in the area which was often frequented by mounted nomads from the east, such as the present-day Hungarian area (Kiss 1984). A number of saddle finds has been made here, and Kiss also lists the other European finds, although not the Scandinavian ring saddle finds. Ambroz (1973:94ff), too, discusses the saddles discovered in Eurasian finds and presents details of the technological development of the saddle. A cushion saddle was used during an initial phase, in which two cushions were placed on the horse's back and were held together by a front and a rear low saddle bow made of wood. During a second phase, the cushions were replaced by saddle boards (or saddle sticks), which were placed on the horse's back and were also held together by one front and one rear, vertically arranged saddle bows. The saddle board and the saddle bow lie edge-to-edge, unlike in the third phase, when the saddle board is extended and the saddle bows instead rest upon the boards. The saddle bows are arranged vertically in this phase, too. In the final phase, the rear saddle bow is inclined and forms a saddle very similar to a modern saddle. No precise chronological details have been given for this development, although it had already started during the first millennium BC, and the development includes the prehistoric period. As far as the Högom saddle is concerned, it is perhaps best classified in third phase above.

A diagram of the pattern of development for the period with which we are concerned here has been drawn by Kiss (1984:190). Because of the poor find conditions, it is not possible to group the saddles together from a technological point of view, and he concentrates instead on the mounts and the ornamentation of the saddles. He distinguishes three different types of saddle during the period from the fifth to the tenth centuries: 1) The saddles from the Hun Period (c. 375–450) with their mounts in the form of gold sheets; 2) The saddles dating from the period c. 450–700, some of which are framed with metal beading and some of which bear mounts in the form of figures in precious metals; 3) The saddles from Central and Inner Asia with horn mounts, which arrived in the Carpathian Basin with the Awars, who invaded Eastern Europe in the year 562, and with the occupation of the area by the Hungarians during the ninth century.

According to Kiss's sub-division, the Högom saddle, like other ring saddles, belongs to group 1) purely from a chronological point of view, although its metal beading and mounts also place it in group 2). In other words, Kiss's sub-division is not entirely adequate for the Scandinavian saddles prior to the Vendel Period. On the other hand, the Vendel Period saddles from Valsgärde grave 7 reconstructed by Arwidsson (1977) and from Vallstenarum, reconstructed by Norberg (1929), closely align with the group 2 saddles of Kiss.

Major problems are thus encountered in positioning the Scandinavian saddles in a credible European context, since there is no one today who believes that they could be the product of entirely local innovation; much points to a south-eastern background, perhaps as the result of the activities of the Huns in Europe during the Late Roman Period. It is not clear to what extent Scandinavian warriors or troops fought in the service

of the Romans or the Huns during this period, although knowledge from both these societies may have found its way to South Scandinavia. The Romans imitated certain aspects of the combat techniques of the Huns during this period, the better to confront the enemy. Both the reflex bow and a type of saddle with vertically arranged front and rear saddle bows (László 1943; Werner 1956) are encountered in particular in the eastern provinces during the fourth century. Earlier associations, which appear in the archaeological material in the form of glass and gold foil beads, for example, point to the existence of Scandinavian contacts with South East Europe at least since the third century, so that familiarity with this type of saddle need not coincide with the Hun Period. Several of the finds, including the Ejsbøl and Thorsbjerg finds referred to above, may predate the arrival of the Huns in Europe. Most of the Scandinavian finds can be dated to the first half of the fifth century, however, and in some cases later (Högom), and to some extent perhaps even earlier (Thorsbjerg).

In spite of the fact that the Scandinavian saddles have their roots in South East Europe, that area does not, as far as I am aware, contain any reliable parallels specifically with the ring saddles. We must therefore assume, like Norberg (1929:113), that this particular practice of fitting the saddle bows with rings and with mounts with animal head decoration is a South Scandinavian development of a common SE European type of saddle. The practice of decorating saddles was especially common, possibly in large parts of Europe, during the fifth century, to judge from the known fact that Emperor Leo I prohibited the decoration of saddles with pearls and precious stones (Norberg 1929:99). This is a situation which is also noted in archaeological finds dating from the fifth century which have been made on the Continent, for example in the saddle mounts from Ravenna (Vierck 1972; Kiss 1984:199) and Apahida II (Horedt & Protase 1972), both of which can be dated to the second half of the fifth century. These thus belong to Kiss's group 2 (1984) and are often decorated with cloisonné work or other mounts, not infrequently in the form of eagles, and occur throughout the seventh century on the Continent, when they are also found in a Scandinavian context. On the other hand, there are no contemporaneous equivalents to Apahida II, for example, in Scandinavia. There is thus a Scandinavian vacuum at the end of the fifth century and during the whole of the sixth century, and it is not until the seventh century, or possibly the end of the sixth century (Arrhenius 1983), that magnificently decorated saddles begin to occur amongst the finds in Vendel, Valsgärde and Vallstenarum. The date of deposition of the Högom saddle thus falls within this vacuum and indicates, to the extent that it is representative, that the ring saddle is still current in that area, whereas the South East European saddles are now decorated with magnificent cloisonné ornamentation.

Janssen (1981) identifies two areas which are particularly rich in saddles; these are South East Europe, especially in the Danube region between Hungary and the Black Sea, and Scandinavia. As mentioned above, however, there are differences in the development pattern, and it is not at all certain that the two areas lend themselves to comparison. Amongst other things, the saddles occur under quite different find conditions, always as grave gifts in South East Europe, and (almost) always as hoard finds in Scandinavia, which are interpreted by Fabech (1987) as battle booty votive hoards. Interestingly enough, only Högom has this feature in common with the Continental occurrences.

One functional aspect of the saddles which is emphasized by László (1943:156f) is that the height and distance of the saddle bows affect the freedom of movement in the saddle. The higher they are, and the closer together, the less suitable they are for the combat techniques employed by the nomadic peoples, i.e. the ability to shoot with the bow in almost every direction from horseback. They thus prefer low, wide saddles, whereas the combat techniques which are based on the spear and the lance instead gain advantages from tall, protective saddle bows. Unfortunately, no dimensions are given, so that no direct comparisons can be made from this point of view, although as far as I can appreciate, the South Scandinavian ring saddles, like the saddles in Attila's group 2 (1984), must be regarded as narrow saddles with high saddle bows, which in this case would conflict with, for example, the Hunnish patterns. As conceivable patterns for this type of saddle, László (1943:157) instead quotes the Arabian saddles. We must, however, remember the context in which many saddles on the Continent and at Högom were found. They certainly do not give the impression of having been buried engines of war, whose weapons and other equipment had the primary task of serving a functional purpose from the point of view of combat techniques; in all probability their primary function lay in their symbolic value.

4.6.2.5. Spurs (Pl. 61)

F61. Spur, iron

Greatest height is 19 mm. Weakly oval base plate, measuring 30 x 20 x 4 mm. Heavily rusted on the heel side, although it was of slightly concave form when viewed from the heel side. The stud is almost round, 14 mm in diameter, and slightly conical. There is a slight hint of a waist between the heel plate and the stud, c. 13 mm in diameter.

F65. Spur, iron

Similar to F61. Greatest height is 21 mm. Weakly oval heel plate, measuring 25 x 27 x 4 mm. Seen from the heel side, the plate is concave. The stud is practically oval, measuring 14 x 11 mm, and is slightly conical. It is waisted at the transition between the heel plate and the stud, measuring 13 x 10 mm. Both artefacts are thus very similar, and they were found just outside the bed of the deceased, near the foot end. One spur was lying 10 cm, and the other c. 30 cm from the east end of the bed. The latter had direct contact with the battle bridle, *F7*.

This type of spur is well represented at *inter alia* Ejsbøl (Ørsnes 1988:Taf. 165f). These are also made of iron and are of approximately the same size. However, they are commonly provided with silver inlays or niello on the lower part of the stud, and they also have holes in the edges, something which could not be found in the Högom examples. Some of the Ejsbøl spurs also have a hollow under side, like those at Högom (e.g. Ørsnes 1988: Taf. 166:9-14), although they do not exhibit such a distinct waist on the stud. This may be explained by the different methods of attachment.

In the rich, but unfortunately robbed chamber grave from Fullerö, Uppland (Lagerqvist 1963) a similar spur with silver inlay was found. The chamber was dated to the Late Roman Iron Age.

At Vä, Scania, Stjernquist (1951:112, Fig. 58:7) found a spur in the settlement layer almost identical with the two in Högom.

All that was required for the attachment of the Högom spurs was a leather strap which had been slit along its length, as shown in the proposed reconstruction (Pl. 61d). The waisted stud was pushed into the slit, so that the leather strap could then be knotted around the foot. The hollow under side of the spur thus fitted the form of the heel (similar suggestion also given by Stjernquist 1951:12).

4.6.2.6. *Comments on the horse trappings*

There is no doubt that horsemen's graves and horse graves reflect a high social status, which can be appreciated from the rich grave goods found in such graves. The Högom grave is clearly closely related to this group of graves. Although no horse was actually laid in the grave, it can be appreciated from the foregoing that the grave contained practically every item of a horseman's equipment.

It must be stated, by way of introduction, that the contents of the Högom chamber as they relate to horse tack, i.e. the saddle, the two bridles and the spurs, do not actually have any equivalents during the late fifth or early sixth centuries. If we examine horsemen's graves from a broader perspective, we find that the Continental material was most recently discussed by Oexle (1984). The most common type of horse equipment which occurs in the graves is the bridles. These occur in increasingly large numbers from the middle of the fifth century onwards. One of the most important areas during this period is Thuringia, as is the Alemannic area to a certain extent. Quite small concentrations also occur in Lombardic Bohemia and Moravia. The Frankish area, on the other hand, is only weakly represented in respect of bridles in the graves during the later part of the fifth century.

One phenomenon associated with these horsemen's graves is the so-called horse burials, in which one or more horses accompany the deceased, but are placed in separate graves (Müller-Wille 1972; Oexle 1984). This practice is not believed to occur in Scandinavia during the Migration Period. Its origins may possibly derive from the Pannonian region, and may date to the Early Roman Iron Age. There is also one interesting concentration of early horse graves in the South Baltic region (Müller-Wille 1972:174, Fig. 38). Parts of the horse buried in separate pits are found in particular during the Roman Period.

During the late fifth century, the distribution is in principle the same as for graves containing bridles, and the clearly largest concentration is in Thuringia, with smaller concentrations in the Lombardic area. One separate area in this case is the Southern Baltic region, which has continuous horse burials from the Early Roman Period, continuing through the Migration Period and into the Vendel Period (Müller-Wille 1972:188). There are only sporadic occurrences, however, in the Alemannic and Frankish areas. A very comprehensive horse grave, which was discovered only relatively recently, was found next to the Childeric grave at Tournai, which has been known for some considerable time (Périn & Kazanski 1986). The current stage of research suggests that this was a solitary site of its kind in this area, and it must be assumed that Childeric's horse grave indicates contacts with the Thuringian kingdom.

The picture relating to horsemen's graves and horse graves changes somewhat during the sixth century, in that there is a significant fall in the number of horsemen's graves in Thuringia, and the largest concentrations are now found in the Alemannic and Frankish areas. The same is true of the horse graves, but with the exception that these are still used relatively constantly in Thuringia. During the whole of the fifth and sixth centuries, the horses were sometimes accompanied into the grave by horse trappings such as bridles, rein chains and similar. This practice ceases in around the year 600, when the horses were buried without accessories (Oexle 1984:139).

There is thus a link between horsemen's graves and horse graves, in addition to which they also belong to a higher social stratum. This is at its clearest at Tournai, where, apart from the rich content of the grave, the 30 or so horses which were buried nearby clearly tell of the importance of the horse as a status symbol. No reliable horse burials are known from the Migration Period in Fenno-Scandinavia. On the other hand, num-

Fig. 49. a) One set of clasps for the wristband *in situ*. Three of the clasp buttons have been pulled off, although the impressions left by them are visible in the cuff band. The rivet of the outer buttons is still in position in the cuff band.

erous finds of horses are encountered in conjunction with the finds of votive offerings in the bog finds of Central and Southern Scandinavia (Müller-Wille 1972:180ff).

From the point of view of interpretation, it is thus appropriate to associate Högom with what appears to have been the customary practice in Thuringia during the late fifth century, and to assume that this in turn reflects the social and political relationships existing between Central Norrland and Thuringia.

4.6.3. DRESS AND ACCESSORIES (Pl. 62–68)

In view of the fact that the preserved textile material in the Högom grave has been worked on by Margareta Nockert (1991), I will briefly mention the textiles, but concentrate on the many dress accessories which exist, in the form of the 68 clasp buttons (*F11*, Pl. 11). First, however, a few words on the garment (*F10*, Pl. 11) as it is interpreted by Janson & Selling (1955) and Nockert (1991). The deceased was dressed in a tunic, trousers

Fig. 49. b) The wrist band in the course of excavation.

and a cloak. An extra garment was probably laid under the head.

The woollen *tunic* was about 70 cm long and extended c. 10–15 cm below the belt. Its sleeve ends and lower edge had figure-woven tablet bands. The sleeve ends had a slit which could be closed with clasps (Fig. 49). These 12 clasps are the most elaborate of them all and bear style I ornaments. A similar arrangement, but with simpler disc-shaped buttons, was on the side slits on the tunic. The tablet-woven wool bands, 6 cm wide at the sleeves and c. 4 cm at the lower edge of the tunic, are all pattern-woven. On the band on the lower edge two larger and five smaller pictoral fields are preserved (Fig. 50). One of the larger fields is well preserved showing a worshipper, with outstretched and upstretched arms, standing between two animals facing away from the worshipper. The smaller fields on the band each contain a quadruped animal. They are alternatively positioned with their heads and legs upwards. At least one of the animals is looking backwards. The colour of the bands could be traced in most cases. The contours of the figures were originally white. The worshipper and the animals were yellow and the background red. The eyes of both the worshipper and the animals were blue.

The bands from the cuffs have a freer continous pattern, probably with human-like and animal figures, but they have not been possible to analyse any closer.

The bands all have a very high quality and represent, together with other Scandinavian Migration Period bands, a technical skill, achieved either before or after. The bands were, like other Scandinavian bands from similar rich graves, also patterned with horsehair in different colours. By this method the pattern was hightened and given a smooth and shiny silk-like surface.

Not much was left of the *trousers*, but at the bottom of the legs there were two sets of clasps on each leg (Fig. 51). This kind of double sets has no known parallels. The clasps situated above had an omega-pattern and they were fastened on a c. 6.5 cm wide tablet-woven band. The clasps below were of a simpler disc-shaped type and were fastened to a c. 5 cm wide tablet band. The doubling of clasps made Janson & Selling suppose that the higher pair of clasps belonged to the trousers and the lower set to some kind of footwear. A similar interpretation was pronounced by the author (Ramqvist 1990a:54). Nockert (1991:35) however, argues for the interpretation that there was a very long slit (at least 11.5 cm) at the ankles. The connection of

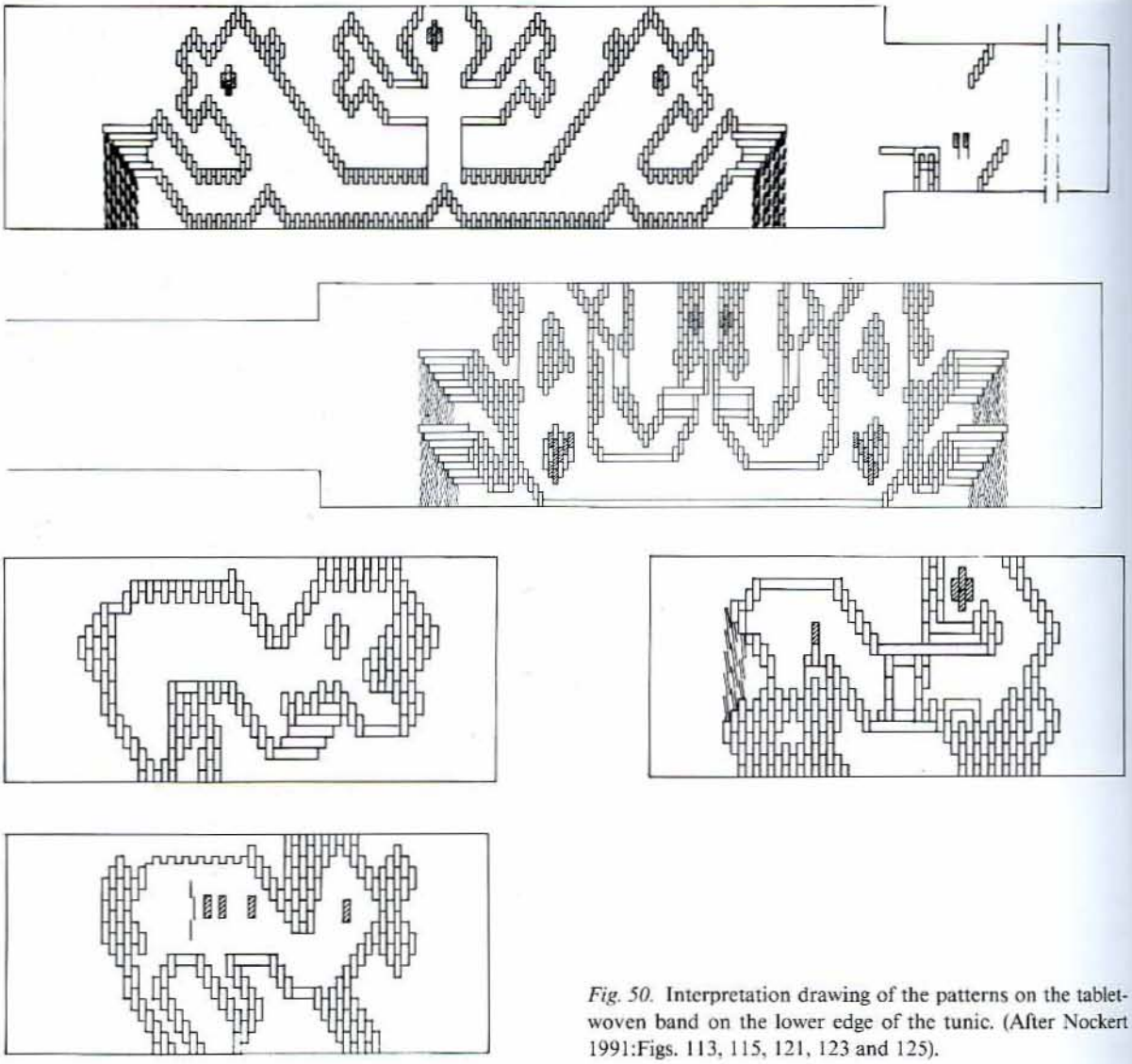


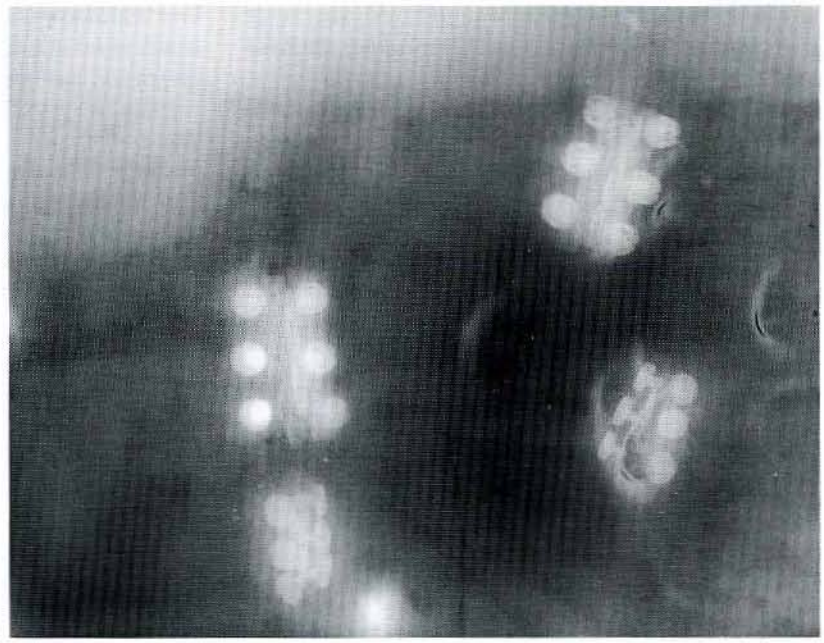
Fig. 50. Interpretation drawing of the patterns on the tablet-woven band on the lower edge of the tunic. (After Nockert 1991:Figs. 113, 115, 121, 123 and 125).

the clasps and the tablet-woven bands speaks in favour of Nockert's interpretation. If the lower sets of clasps belonged to footwear, one would expect to find traces of leather, and if they belonged to some kind of under pants, one would expect, for example, fragments of linen. But, on the other hand, the two bands on each leg termination are not of the same type and it is not quite certain that they were attached to identical kinds of fabric (Nockert 1991:34), while the interpretations are still a little uncertain. In theory it is possible to fasten tablet-woven bands on top of the leather shoe shafts and on the leg terminations of, for example, linen trousers.

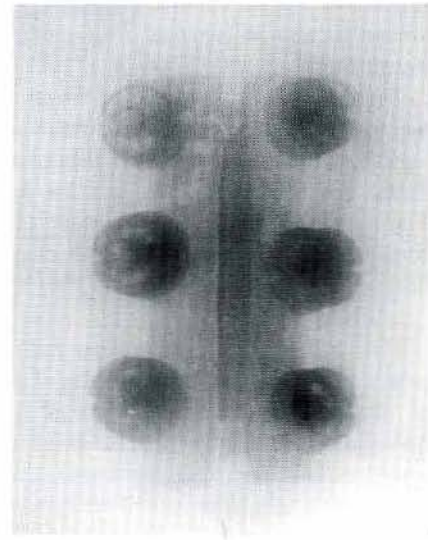
Very small fragments interpreted as a square *cloak* were found among other places below the belt. The interpretation as a cloak is especially supported by the find of a tablet-woven square corner with tassels.

As mentioned earlier (Sect. 4.5.2.), furs were also found in the chamber. Some of these probably belonged to one or more garments but no certain conclusions can be reached. However, beaver hair that probably was part of a fur cap or similar, was found by the man's head (Nockert 1991:106).

Two different types of clasp buttons were found around the head of the deceased. One set 2x2+2 with triskelion pattern, and one set with 2x3+3 flat, disc-



a



b

Fig. 51. X-ray photograph of the clasp buttons on the trouser waistband. *a*) The picture shows the double settings of clasp buttons *in situ*, of which the upper are the omega-shaped buttons and the lower are the flat, disc-shaped buttons. *b*) detail of the upper, omega-shaped buttons in which the mounting sheets can also be seen.

shaped buttons. These buttons were all attached to tablet-woven bands. Janson & Selling's and the author's interpretation of these clasps as parts of some kind of headgear is rejected by Nockert (1991:35). She makes it plausible that they belong instead to an extra garment placed under or by the head of the deceased. In comparison with the dress on the deceased, the combination of clasp types suggests that the more elaborate clasps, i.e. those with triskelion pattern, were situated by the cuff of a tunic. Also, the diagonal cutting of one of the bands indicates that (Nockert 1991:35). The more simple disc-shaped buttons were accordingly situated either by the leg terminations of a pair of trousers or perhaps by the side slits of the tunic. Most probable, however, is that these were a tunic and a pair of trousers lying by the head of the deceased. The arrangement with side slit clasps on the tunic, is, in fact, seldom encountered in other finds.

Regarding the colours of the garments, Nockert (1991:72ff) concludes that the tunic and trousers on the deceased were probably red, while the garment by the head was green with in that case red and yellow tablet-woven bands.

A number of other features are unavoidably associated with the garment in conjunction with the examination of the clasp buttons which follows. The belt natur-

ally belongs to the garment, too, although this is described separately in Sect. 4.6.4. below under the heading "Belt".

The garment has no fewer than 68 clasp buttons; these are described in more detail below. The buttons consist of differnt types:

a) *Spherical Style I-decorated buttons* on the wrist bands. One pair on each sleeve positioned 3 + 3 = 12 *examples*. The buttons are convex, made of silver, gilded, decorated with niello, and bear Style I animal ornamentation.

b) *Cylindrical buttons with triskelion decoration* by the head, probably on the sleeves on the spare tunic. One pair positioned 2 + 2 = 8 *examples*. The buttons are cylindrical, made of silver, gilded and decorated with niello, and with a triskelion motif in relief as ornamentation on the slightly recessed top surface.

c) *Cylindrical buttons with omega-shaped decoration* for the upper part of the trouser ankle bands. One pair on each trouser leg positioned 3 + 3 = 12 *examples* (Fig. 51). The buttons are cylindrical, made of bronze, gilded and decorated with niello, with a horseshoe or omega pattern in relief as ornamentation on the flat top surfaces.

d) *Disc-shaped, flat buttons* for the side slits of the tunic, for the lower part of the trouser ankle bands and for the spare trousers or side slits of the spare tunic. Positioned in all cases in pairs x 3 + 3 = 36 *examples*. The buttons are disc-shaped, made of silver, and according to Selling decorated with circles and lines of dots, at least in a few cases.

The *total of 68 individual clasp buttons* thus constitutes a not insignificant proportion of the total number of buttons found in Scandinavia (cf K. Lamm 1972). As will be appreciated from the brief introductory description, buttons of similar appearance can occur in widely differing garments. The buttons which occupied the most conspicuous positions, i.e. those which are most elaborate, are those on the wrist bands of the two tunics and, to a certain extent, the highest buttons by the ankles. The other buttons are both smaller and lacking in ostentatious ornamentation. The degree of preservation is also variable. The disc-shaped buttons in particular have been exposed to considerable weathering, making it impossible to reach reliable conclusions, and in this case I have to rely totally on Selling's observations made in conjunction with the excavation. One of the spherical buttons on the wrist band is so badly damaged as to exclude the possibility of more detailed comment. The 11 remaining buttons are in good condition, however. A further consideration is the fact that several of the buttons are still attached to textile material, as a consequence of which no more detailed analysis can be made. Furthermore, the buttons which are ornamented with triskelion are heavily compressed in a couple of cases, although the top ornamentation has been preserved.

4.6.3.1. Spherical Style I-decorated buttons on the cuff bands

These buttons represent the most magnificent artefacts in the grave, and 11 of the 12 buttons are in an excellent state of preservation. The buttons are all of similar size, spherical, and 13 mm high and 20 mm in diameter at the bottom. They were arranged in the form of 3 + 3, each secured to its own rectangular bronze plate measuring 60 x 14 mm, which was securely riveted in turn to the cuff band. The small bronze rivets are preserved to some extent and had slightly domed heads of 6–7 mm in diameter, which had been soldered to the hollow underside of the buttons. The rivet shafts were 1–2 mm in diameter. The plates were fitted respectively with hooks and eyes, and thus with true clasps, which means that the wrist band was slotted. The so-called cuff band is made in the tablet-weaving technique, and this, too, is c. 6 cm wide, which means that the clasp arrangement and the tablet band were matched to one another.

The 12 (11) clasp buttons all exhibit the same construction, style and ornamentation. Each button is subdivided into three side fields, or sectors, which converge in a hollow cylinder situated on the crown. The sectors are sub-divided by three vertical beadings with a plain upper side which follow the spherical form. A zig-zag line decorated with niello is incised into the plain upper side of the beadings.

A quadruped animal in relief is positioned in each side field. One rear leg and one front leg are easily recognized here and are connected by a strip-shaped, slightly arched body decorated with lines running at an angle, which may be regarded as rib bones. The eye, within a U-shaped frame, can also be perceived clearly, obliquely above the thigh of the front leg. Situated beneath the eye, probably in a rearward-inclined position, are

Table 3. Colour and weight of clasp buttons on the sleeves of the deceased (prior to conservation in 1987). 11a and 11b were the clasps on the right-hand (RH) and left-hand (LH) cuff respectively.

GROUP	BUTTON No.	COLOUR	WEIGHT (g)
RH 1	11a: I	red-yellow	4.76
	11a: II	light yellow	5.62
	11a: III	medium	3.66
RH 2	11a: IV	red-yellow	4.62
	11a: V	red-yellow	3.04
	11a: VI	medium	3.82
LH 1	11b: I	light yellow	6.60
	11b: II	medium	6.50
	11b: III	light yellow	4.90
LH 2	11b: IV	medium	4.71
	11b: V	light yellow	5.66
	11b– VI (fr)	?	(2.10)
Mean	n = 11		4.90

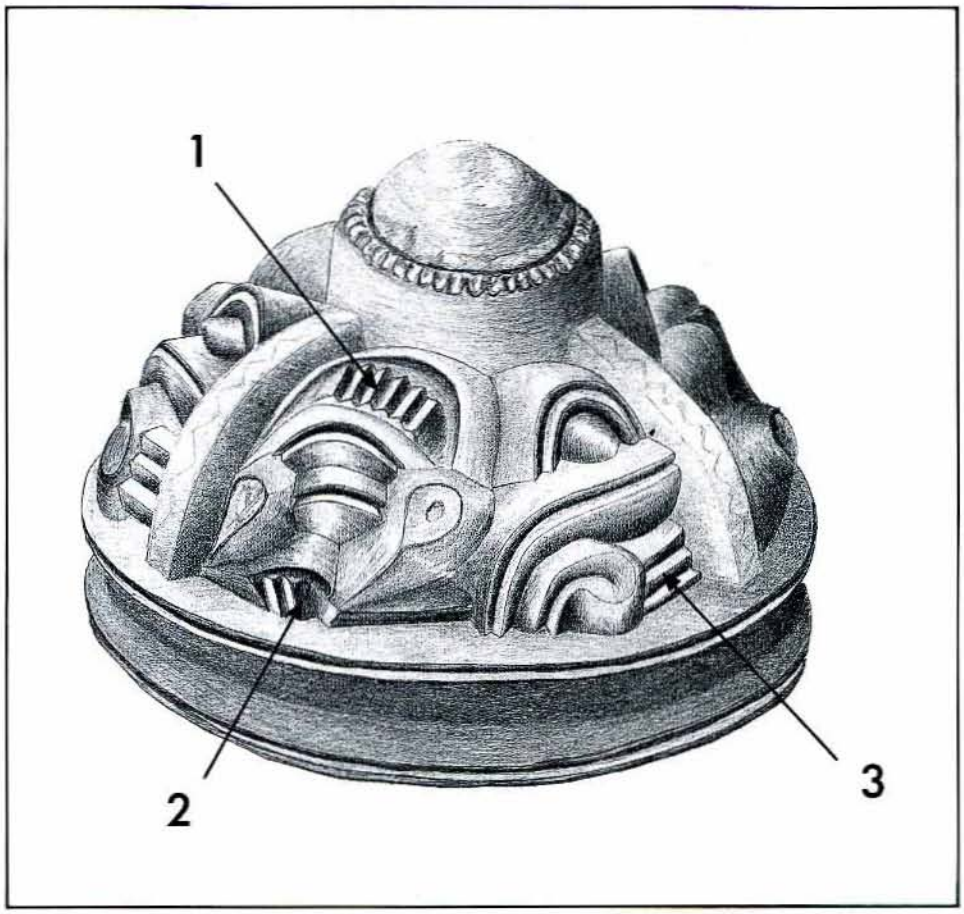


Fig. 52. The form elements which were studied on the wrist band buttons. 1 = "ribs" on the animal's body, 2 = "claws" on the rear leg, 3 = ridges on the "muzzle".

the head and jaw of the animal, which thus cover the claws of the front leg. The claws of the rear legs can be recognized through their more or less vertically arranged fluting.

The animal's thighs are pear-shaped and have a flat upper side decorated with niello. Both legs are resting on the beading which finishes the whole button.

The cylindrical top has an internal diameter of 5 mm and is usually 3 mm deep. Present around the edges of all the buttons are clear marks left by blows, which were probably added in order to secure the material which originally sat in this space on the crown of the button. Selling considered it likely that the material which sat there was of an organic nature, which would explain why nothing was found in these hollow spaces. The latest conservation however, states that there was a brown hard mass present in one of the cavities, in which a red (?) stone was set (Törnquist 1989). This is in accordance with other similar artefacts from the Migration Period, for example the sword in Högom with the triangular red granates. The absence of most stones means that they were lost, and not substituted during the time they were in use.

As can be appreciated from Tab. 3, major differences in weight exist between the different buttons. The variation lies between 3.04 and 6.60 grammes (ignoring the damaged button), which can be attributed largely to different preservation conditions and to the presence or absence of parts of pins for the attachment of the buttons to the plate.

Given that these buttons exhibit a total of 33 enclosed areas containing a Style I motif, it may be of some interest to study the variations in these motifs (Fig. 52). One aspect which can be noted is that there are no structural differences, and it can be assumed that the intention of the craftsman was to produce the same type of symbol on all surfaces. There are differences in detail, however, for a variety of reasons. The number of ribs in the animals, for example, varies between 4 and 8, with a mean value of 5.4. Two buttons which are especially noticeable have animals which have been given 6, 7 and 8 and 8, 7 and 8 ribs respectively. Both buttons belong to the setting for the right arm. Otherwise the animals' ribs are relatively similar with regard to their number and tend not to deviate from 5 (Tab. 4).

With regard to the number of claws on the left leg, their range of variation is considerably less, varying from 1 to 3 with a usual value of 2. A single claw occurs only on one occasion, on button 11a:II, i.e. on the right-hand setting.

Table 4. Comparison of the certain stylistic elements on the 11 well-preserved clasp buttons on the sleeves of the deceased (*F11a–b*). The number of ribs, claws and ridges (cf. Fig. 52) is shown for all 33 fields. For abbreviations cf. Tab. 3.

BUTTON	FIELD	RIBS	CLAWS LH	RIDGES RH
RH SIDE				
11a: I	a	6	3	3
	b	7	2?	3
	c	8	3	3
11a: II	a	5	2	4
	b	5	2	3
	c	6	1	3
11a: III	a	5	3	3
	b	5	2	3
	c	5	2	3
11a: IV	a	5	2	3
	b	4	2	3
	c	5	2	3
11a: V	a	8	3	3
	b	7	3	4
	c	8	2	4
11a: VI	a	4	2	3
	b	5	2	3
	c	5	2	3
LH SIDE				
11b: I	a	4	2	3
	b	6	2	3
	c	4	2	3
11b: II	a	6	2	3
	b	5	3	3
	c	6	2	3
11b: III	a	5	2	3
	b	5	2	3
	c	4	2	3
11b: IV	a	5	2	4
	b	5	2	3
	c	5	3	3
11b: V	a	4	2	3
	b	5	2	3
	c	5	2	3
Mean n = 33		5.4	2.2	3.1

Table 4 also includes the ordinary horizontal ridges in the bottom right-hand corner on the side fields. These exhibit very little variation and appear consistently in the number of three. Only in four of the fields do 4 ridges occur, on three of these occasions on the right-hand button setting, and on the left on a single occasion.

It is possible to arrive at certain conclusions on the basis of the analysis of the variables studied here. On the one hand there is not a single button with three identical fields, and on the other hand certain design elements clearly demonstrate a greater tendency to vary than others. In the first place this concerns the ribs, which vary in number more often than the three horizontal ridges, for example. This variation occurs both between buttons and on the same button. Such a fragile stylistic element as the claw of the left leg, which is also of identical execution to the ribs, exhibits considerably less variation than the ribs, for which reason there may be grounds to believe that some significance attaches to the variation in the number of ribs. Accordingly, this need not be seen to depend solely on the fact that the rib section of the animal is more exposed from a technical casting point of view than the claws, which means that it more frequently requires rectification.

What is also remarkable is that the left-hand button setting exhibits nothing like the same degree of variation as the right-hand setting. The former is admittedly reduced by one button, although this does not upset the picture as a whole. It is also striking that those buttons with many design elements, i.e. buttons 11a:I, 11a:V and 11b:II, are the very buttons which, when compared by me, were found to have the most red-yellow colouring. These variations in colour are shown in Tab. 3, and represent only relative graduations. This could mean that the buttons with the largest number of design elements were manufactured first, and that the remaining buttons were subsequently manufactured by casting in the same moulds, but that rectifications proved necessary, i.e. the fine patterning had to be reduced, especially in the area of the ribs on the animal's body. The first three buttons to be cast were then gilded with a gilding with a particularly high gold content (red-yellow), whereas four have normal gilding (medium), and the last four to be cast received a gilding which had been further diluted with silver (light yellow).

Apart from the variables selected here, four of the buttons are identical with regard to the number of ribs, claws and horizontal ridges. These are buttons 11a:IV, 11a:VI, 11b:III and 11b:V.

4.6.3.2. Cylindrical buttons with triskelion ornaments

Buttons of this type were found lying by the head of the deceased. The buttons make up two sets, consisting of 2+2, i.e. a total of 8 buttons. Apart from being situated at a distance away from the other clasp buttons, they also differ in that they exhibit a 2+2 arrangement, instead of the otherwise customary 3+3 arrangement. It is only on these buttons, furthermore, that the triskelion ornamentation appears. Several of the buttons are securely attached to textile material and cannot be described in greater detail, although, according to Selling, in every case they were made of gilded silver and were securely riveted to rectangular bronze plates with a length of 33–40 mm and a width of 10–13 mm.

The buttons are cylindrical, with a concave, profiled side. There is triskelion ornamentation in relief in the sunken, central field, and a niello line runs around the edge. According to Selling the buttons of one set are slightly smaller, at 13 mm in diameter and 12 mm in height, than those of the other, at 14 mm in diameter and 14 mm in height. Also, the triskelion ornamentation on the buttons in the larger set is rather coarser, and the spirals there are not as tightly coiled.

4.6.3.3. Cylindrical buttons with omega-shaped ornament

A total of two sets of buttons were found on each leg in the region of the ankles of the deceased. The upper set was in the form of buttons with omega-shaped ornamentation on the up-

per side. They occur in a 2 x 3+3 arrangement, i.e. 12 buttons. The buttons are 12 mm in diameter and 7 mm in height, and they are the only bronze buttons, albeit gilded, on the entire garment. They are practically cylindrical (with a slightly larger base diameter) and have a profiled side which is dominated by a concave central part.

The top surface of the buttons is recessed, apart from the beading of c. 1 mm in width, which serves as the ornamentation of the buttons. These beadings form a surrounding frame and, at the centre of the buttons, an open circle which is attached to the frame in such a way as to produce an omega-like symbol. The opening in the inner circle corresponds to a groove running vertically on the side of the button. The omega pattern and the surrounding frame are joined together with a straight length of beading directly in line with the opening on the inner field of the button. The buttons were secured to 51 mm long and 13 mm wide bronze plates, forming a hook and eye arrangement.

4.6.3.4. Disc-shaped, flat buttons

Other settings of clasp buttons were discovered in conjunction with the garment; these were fragmentary and clearly of a more simple type as a general rule, although all were made of silver. Since most of them are either securely attached to textiles, or are so fragmentary as to make any description difficult, we must rely entirely in this case on the observations made by Selling in the course of her preparations. 36 buttons of this kind were found in total, at the following three locations:

a) On the bottom edge of the tunic. 2 x 3+3 disc-shaped, round buttons made of silver, originally with concentric ornamentation (rows of dots, etc.), and 13 mm in diameter. These were attached to band-shaped silver sheets measuring 36 x 9 mm, forming a hook and eye arrangement. These buttons were found on the sides of the deceased person's tunic and were thus situated to either side of a side slit on the lower edges of the tunic. The excavation photographs (Figs. 54 and 57) show that the lower edge of the tunic thus extended for 10–15 cm below the belt.

b) On the lower part of the trousers. 2 x 3+3 disc-shaped, round buttons made of silver of 10 mm in diameter and 3 mm in thickness. A groove is present on the vertical side, and otherwise any ornamentation which may have been present on the upper side has been obliterated. They were attached by silver rivets to 33 x 7 mm band-shaped plates made of bronze (?). These buttons were found as a setting at each ankle, and c. 10 cm closer to the feet than the omega-shaped buttons, although in approximately the same positions as the latter.

c) By the head. 2 x 3+3 disc-shaped, round buttons made of silver and of the same type as those on the bottom edge of the tunic, 13 mm in diameter. It is impossible to distinguish the presence of any ornamentation. They are attached to hook mounts made of bronze, c. 35 mm in length (according to the X-ray photograph), although the width cannot be determined. The two settings face at an angle of 90 degrees to one another.

4.6.3.5. Comments on the dress and the clasp buttons

I will start with a few words on the different positions of the buttons. It is quite clear from the circumstances of the finds where most of the buttons sat. Some are problematical, however, in particular the buttons around the head of the deceased. In order to gain a better idea of this, it is necessary to discuss the possible function of these buttons. The interpretation in this case depends partly on how tall the deceased was and in spite of the fixed relationship existing between the parts of the garment and the belt, for example, relatively major differences can be identified; compare Selling's reconstruction of the position of the deceased (Pl. 10b) with my own reconstruction (Pl. 11). In the former proposal the golden pendants (Sect. 4.6.5.4.B) end up more or less on a level with the right-hand collar bone of the deceased, and in the latter proposal in the vicinity of the right-hand ear of the deceased. In Selling's case the deceased is well over 2 metres tall, which may be regarded as surprisingly tall, although it is still not an unreasonable height; the height in my own case is just under 2 metres. The critical distance for the proportioning of the deceased is the distance between the belt (the waist) and the lowest clasp buttons on the legs of the deceased, which is c. 110 cm.

The lowest position which these clasps are likely to have occupied is at ankle height, which means that they belonged to the lowest edge of the trousers. If they had been any higher, this would have had unreasonable consequences for the total height of the individual (see below). Also significant is the position of the clasp buttons on the sleeves of the deceased. One complication which arises in the latter case, however, is that the deceased need not have had his arms fully extended, which may have caused the wrist bands to end up in a higher position than that which would have been natural if he had been lying with his arms fully extended. In the case of a man with a height of c. 190 cm, a normal distance between the ankle and the waist is c. 110 cm, whereas the same man's wrist bands with the arms extended end up about 25 cm below the waist.

If we examine the actual situation in this case, the clasp buttons are only c. 10 cm below the belt, which must be taken to mean either that the arms were not fully extended, or that the belt was sitting in a relatively low position. In this case, however, the latter would mean that the distance between the clasps on the lower legs and the belt would be shorter than might be expected for even proportioning. However, as already mentioned, this distance was greater than in a man of normal proportions and with a height of 190 cm. The most likely explanation is thus that the deceased was slightly under 2 metres tall, and that he lay in the grave with his arms slightly bent, which would explain why the clasps on the wrist bands finished relatively higher up. The consequence of this is that the two groups of clasp buttons which were found in the western part of the chamber ended up in the region of the head of the deceased.

This in turn means that the clasps belong either to an item of headgear or to a grave gift in the form of a spare costume. The latter alternative is supported by the following *inter alia:* on the one hand there are abundant remains of textile material, which may originate from this spare costume and on the other hand the two button settings correspond relatively well with regard to stylistic dissimilarities to what could be observed on the garments which the deceased was wearing. In fact, buttons of finer quality were used on the tunic, and rather more simple buttons on the trousers. The buttons which would have belonged to the tunic in this case are those with the triskelion ornamentation. A suitable hypothesis for this interpretation is that these garments were folded and laid by and/or beneath the head of the deceased, for example. As there are not believed to be any parallels with an item of headgear fitted with clasps, the most likely explanation is perhaps that what we are concerned with is a grave gift in the form of a spare garment, which also fits the conclusion drawn by Nockert (1991). Even this would be an occurrence without parallel and would, had this been the case, pose a question which is extremely difficult to answer, given that textile finds are extremely rare.

As far as clasp buttons are concerned, the chamber tomb is by far the richest known in Fenno-Scandinavia. This relates not only to their number, but also to their quality and their combination and, not least, to our knowledge about their respective positions on the apparel. Thus, the positions of the various clasps together with the textiles found within the chamber give us indications that the Högom man wore a tunic, trousers, a cloak and a spare tunic and trousers. Concerning the footwear or long underpants as Selling and the author (1990a) suggested, it is unlikely because of the tablet-woven bands in connection with the lower clasps of the trousers. The double sets of clasps probably belong to long slits, placed at the back lower part of the trousers. We are also able to appreciate a much broader spectrum of areas of application for the clasp buttons than was previously known, for example, through the works of Blindheim (1947) and Hines (1984).

With regard to types, there are more or less exact equivalents to three of the types of clasp. These are the buttons with the triskelion ornamentation, those with an omega-shaped upper side, and the flat buttons with or without impressed decoration. On the other hand, there are no good parallels with the magnificent buttons found on the wrist bands of the deceased in the grave.

Buttons with triskelion ornamentation were manufactured on the island of Helgö and were given the designation *variant II* (K. Lamm 1972:112f). Lamm reports 12 sites of finds of this type, which have yielded a total of 14 examples, in Uppland, Södermanland, Västmanland and S. Österbotten. Högom is not included in this list, however, and nor is a more recent find from Ullsäter in Hälsingtuna (Olsson 1984). The latter find contains a total of 7 buttons, which means that the Central Norrland buttons account for 62% of the total number, and Högom alone for 43%. It seems that the triskelion ornament on buttons mainly occur around the Baltic and Bothnian Sea.

It is presumably incorrect to separate cylindrical buttons with triskelion ornamentation from those with other spiral decoration. K. Lamm (1972:11, Fig. 39) even included these on her distribution map. One other important area is S and SW Norway, which contains five sites with this type of button. The number in the Mälar Valley has also been increased by four sites of finds, one in Medelpad and one in Central Finland. The pattern of finds is thus rather more extensive, and what might be expected from the point of view of distribution is that Trøndelag would also be represented, although new finds can cause the picture to change rapidly.

Buttons with an upper side with an omega pattern were also manufactured on Helgö, and these are referred to as *variant V:2* by K. Lamm (1972:113ff). Eight find sites with a total of 32 buttons are listed for this type. Högom, with its 12 buttons, is included on this occasion, although the Finnish finds are not. From Gulldynt in S. Österbotten come three buttons, probably from a grave which contained *inter alia* two, and perhaps three gold solidi (Erä-Esko 1986:75f). The youngest coin in this presumed combination is a solidus of Zeno (474–491), from which the collection can probably be dated to c. 500. There are probably other examples in the Finnish area. A single button was also found in the recently excavated house A at Trogsta, Hälsingland (Liedgren 1992:61, Fig. 3:57). The sites of other finds are situated in Scania, Uppland and Jämtland. On the whole, this means that Högom accounts for c. 30% of the number of clasp buttons of this variant known today. From the point of view of distribution, it exhibits distinct Baltic and Bothnian Sea associations, as it is not known in the Norwegian or West Swedish area.

The 12 buttons on the sleeve of the deceased belong to a variant with an arched upper part. Spherical buttons are represented only in individual fragments of casting moulds on Helgö. Buttons with an arched upper part are a heterogeneous group, which, according to K. Lamm (1972:117ff) include variants VI, VII and VIII. Only rarely, however, do the arched buttons have animal figures of Style I, and no correspondence to the Högom buttons has been found, either amongst the casting mould on Helgö or amongst other published clasp material. Only two fragments of casting moulds

(probably belonging to the same mould) have been found on Helgö which can be attributed to *variant VIII* (with animal ornamentation); the variants are uncertain as a result, and it may be presumed that it was also relatively uncommon in the Migration Period societies. The few examples with animal style were discovered *inter alia* at two Finnish sites, Kokemäki and Kirjakka, Satakunta (Erä-Esko 1965:Pl. 7:20), of which the latter is described by K. Lamm (1972:120) as being most like the casting mould on Helgö. Arched buttons with Style I animals have also been found at Kista Uppland; Havor, Gotland (Nerman 1935:Fig. 537) and at Häste, Jämtland (Åberg 1953:50, Fig. 46). In this case, too, this is thus a type of button with a distinct East Nordic distribution.

The totally flat buttons, with or without impressed ornamentation, belong to the most common type of clasps on the whole, although these are not particularly well represented on Helgö. The designation *variant IX* has nevertheless been given to this type of button (K. Lamm 1972:99). More than one hundred finds of this type have been made in Fenno-Scandinavia, and not one case of ornamentation on the upper side occurs in the casting mould material from Helgö. This is natural, given that what is involved in the known cases is punched ornamentation applied after casting.

This clasp variant may merit brief comment. They are found over large areas of Fenno-Scandinavia, in both more and less richly furnished graves. They also occur sometimes as loose finds at sites (e.g. Petersen 1941; Ramqvist 1983:108, Fig. 4:56), which suggests that this type of clasp was probably more common than others and need not in itself indicate any higher social status for the wearer. It also occurs, however, in the context of exceptionally rich finds, such as the chamber tomb at Veiem, Nord-Trøndelag (Farbregd 1980), and in the form of the 42 gilded bronze buttons from the Norrala chamber in southern Hälsingland (Varenius 1961) (Fig. 69). The buttons in these cases are respectively made of silver and bronze with punched ornamentation, and in both cases they belong to the clothing of a warrior. We may thus assume that the number of buttons and the choice of material for the buttons also had a distinct social significance. All the Högom buttons, apart from the variant V:2 buttons on the trouser waist band of the deceased, were made of silver. Those with chip-carved and Style I ornamentation were gilded in addition. What is otherwise generally regarded as the most common clasp material is bronze, often with gilding. Clasp buttons made of silver are common in many of the richer graves which also contain weapons, e.g. Lovö grave 3 (J-P. Lamm 1973a) and Evebø (Gustafson 1890).

With regard to the composition of clasp buttons in Högom grave 2, we lack any parallels in respect of both the number and the quality of the buttons. It is necessary to mention a number of grave finds, however, and these are graves Nos. 2 and 3 at Lovö (J-P. Lamm 1972, 1973a). The first, which is a cremation grave, contains examples of buttons of variants II, V:2 and IX, and chamber tomb No. 3 contains examples of variants V:2, VIII and IX. In spite of the fact that these graves have been plundered, the character of the latter in particular places it amongst the group of graves of which Högom is the leading example.

The different types of clasps on the apparel worn by the Högom man are dominated, as already mentioned, by those which exhibit East Nordic distribution. This provides an interesting contrast with many of the other finds in the grave, the western character of which is very obvious. This is even more interesting in the light of the fact that the clothing as such finds its very best parallels in the Evebø grave in West Norway (Dedekam 1926; Magnus 1983; Raknes Pedersen 1983). Moreover, certain detail features, such as some of the tablet-woven bands, are practically identical between Högom and Evebø (Nockert 1991). Considerable similarity thus exists between Evebø and Högom, for example, in respect of the clothing as such, although there is a considerable difference in respect of the button settings. The Evebø man has on his sleeves a 2 x 3+3 setting of cylindrical, gilded silver buttons, with a recessed Style I motif in relief on top and, in addition, possibly two severely damaged 2+2 and two 3+3 settings of small, flat silver buttons. The buttons in Evebø with Style I ornamentation belong to K. Lamm's variant I (1972:99ff), and they seem to occur in both the eastern and the western parts of Fenno-Scandinavia.

The analysis of the *colours* of the garments in Högom have been made by Nockert (1991:72ff). These show that the tunic and the trousers on the deceased were red. This colour is also found on the richest burials in Scandinavia, namely at Evebø and Snartemo V. In other graves like Veiem, Ugulen, Snartemo II, Vemmestad and Sem, which all can be interpreted as rich graves, socially just below the first mentioned, the garments were all green in colour. The record of preserved textiles is of course very limited and certain conclusions cannot be drawn from it. But as a hypothesis one can formulate that red coloured garments were a prerogative for the highest social stratum in these Migration Period societies. Green garments could also be used by people in that position, as the garment by the head of the deceased in Högom shows, but that colour was designated for the stratum below the top. Red, thus had a socially determined rôle in the Migration Period society.

Also the dyestuff has been analysed by Nockert (1991:72ff) and thereby some interesting results were presented.

Fig. 53. Excavation of the belt. The relationship of the strike-a-light stone to the fire tool and the tweezers. The left wrist band of the deceased with its associated clasp buttons can be seen on the extreme bottom left. The lower edge of the tunic can be seen beneath the strike-a-light stone in the form of a tablet-woven band with three flat clasp buttons. (N. B. this picture and Fig. 54 and Fig. 57 represent three different stages of the excavation, in the chronological sequence Figs. 53, 57 and 54).

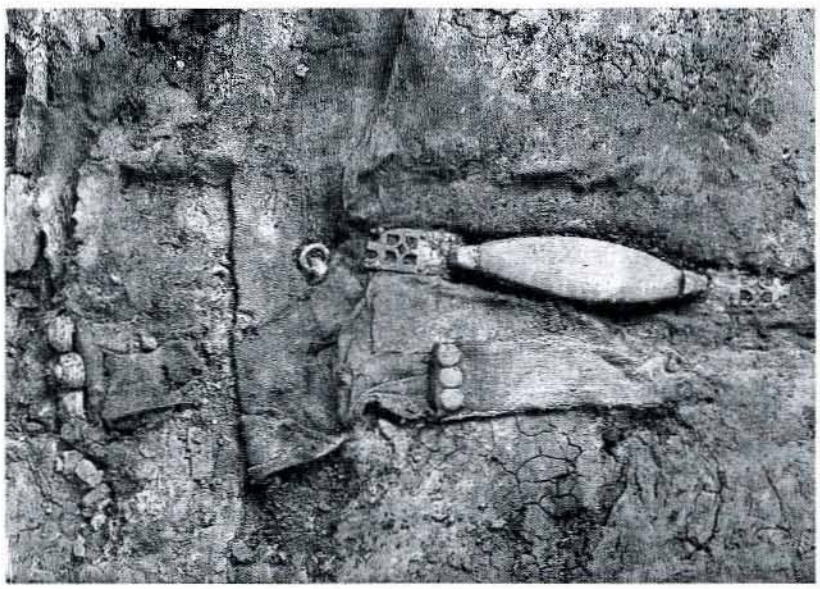


Fig. 54. Excavation of the belt. The strike-a-light stone and the tweezers have been removed. The strike-a-light stone is at the centre of the picture, and to the left of it is one of the belt rings. The wrist band and its clasps are on the extreme left. The lower edge of the tunic with its tablet-woven band and three flat clasp buttons can be seen beneath the strike-a-light stone. There are also textile remains from the tunic. (Cf. Figs. 57–58).

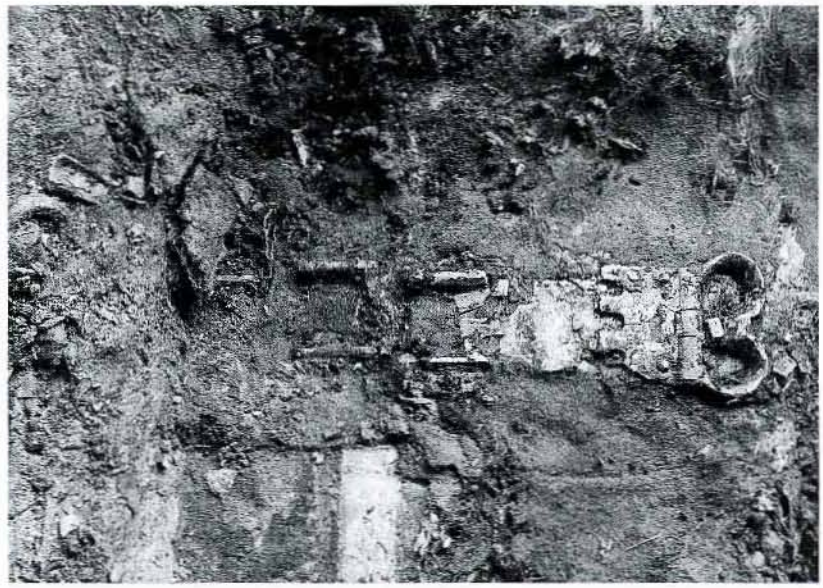


Fig. 55. Picture showing the excavation of the belt. The buckle and the two strap retaining mounts are still *in situ*. Traces of a rectangular bronze sheet, which was probably applied to the garment, can be made out beneath the strap retaining mounts (see "t" in Fig. 67).

- The tablet-woven bands were dyed with:
  weld *(Reseda luteola)* = yellow
  a mixture of weld and madder *(Rubia tinctoria)* = red
- The tunic and probably also the trousers and cloak were dyed with:
  a mixture of weld and Polish cochineal *(Porphyrophora polonica)* = red.
- The garment by the head of the deceased was dyed with:
  both woad *(Isatis tinctoria)* = blue, and probably weld = yellow. The blue and yellow combination gave a green colour.

According to present research on the dyestuffs (Walton 1988), at least madder and Polish cochineal were not locally available during the Migration Period and had to be imported. Woad was not domestic originally, but archaeological finds have shown that it was present in Denmark during the Roman Iron Age (Walton 1988:153). Regarding weld it is uncertain when it arrives to Scandinavia, but it is not naturally a Scandinavian plant. It is thus today extremely difficult to draw certain conclusions about the local accessibility of most dyestuffs in Högom. With Polish cochineal, however, we stand on a more stable ground. This dyestuff comes from an insect *Porphyraphora polonica*, which is a parasite living on the plant *Scleranthus perannis*. This plant is found in Central and Eastern Europe, Ukraine, Asia, Caukasus, Turkistan and W Siberia (Walton 1988:156). The distribution of the plant suggests that the dyestuff arrived in Central Norrland along the same exchange routes as for example the conical glasses (Sect. 4.6.6.12.) and the gold foil beads (Sect. 5.6.2.3.).

One feature of the tunic is interesting regarding the dyestuff, namely the gusset on its left side. This gusset was in the same colour as the rest of the tunic, but the additional fabric was partly of a coarser quality and the added tablet band was of the same type but not of the same sort as the original (Nockert 1991:34). If the gusset, as Nockert states orally, was dyed with the same stuff as the rest of the tunic, i.e. with Polish cochineal, it means that the dyestuff was available more than once. This implies in turn either, that the dyestuff was kept in store or, more plausible, that it could be acquired easily through the well-stablished contact routes of the Migration Period.

To sum up the comments on the dress and its applications it seems to be both similarities and differences between the east and west Nordic areas. It is accordingly possible that certain structural differences in respect of the button types existed between the Baltic Sea side and the North Sea side, but that this does not apply to the textile part of the clothing, or even to all the variants in the metal accessories fitted to the clothing. The Högom man is believed to have had an "East Scandinavian" clasp setting. The colours seem to have been a cross-cutting element where the red garments mainly were reserved for the top stratum of each society.

The ornamentation of the tablet bands and the clasp buttons by the wrist band are discussed in Sect. 4.6.8.3.

4.6.4. BELT (Pl. 69–78)

Around the waist of the interred person were the remains of a belt, to which a series of artefacts had been attached (Figs. 53–55). Mounts and other objects can be clearly discerned in the X-ray photographs (Figs.

65–67), and their respective positions also show that the belt really was attached around the waist of the deceased. Although nothing remains of the leather, of which the belt was certainly made, the width of the stylistically well-matched mounts can be readily appreciated. The X-ray photographs also show a number of objects to which Selling makes no reference in her incomplete descriptions of the finds. It is also clear from the X-ray photographs that the belt of the deceased had two leather bags: one leather bag for the comb with a handle, and one for the two gold bars. The following is a description of the various mounts and artefacts on the belt, and an attempt to reconstruct the belt and its accessories.

4.6.4.1. Buckle, F18

The greatest width of the frame is 32 mm, and the total length of the buckle is 36 mm. The frame is heart-shaped, with a facetted outside and a sloping inside. The maximum height of the frame is 8 mm.

The mounting plate is flat and 23 mm long (including the base of the frame), 25 mm wide and 1 mm thick. Immediately adjacent to the base of the frame, the plate has a 0.5 mm thick raised area in the form of a triangle pointing away from the tongue. The mathematical height of the triangle is 7 mm. The mounting plate is terminated by three rounded notches, 5 mm deep and 4 mm wide. Situated between these notches are four projecting tongues which are cut off straight at their ends; the outermost tongue is damaged. There are two bronze pins for attaching the strap, on either side on the edges of the mounting plate below the notches. The distance between the pairs of pins is 20 mm. The pins have small, domed heads, 3 mm in diameter. No counterwashers have been preserved, although the length of the pins indicates that the leather strap must have been at least 2 mm thick.

Only the mounting plate carries ornamentation in the form of small punched circles, which follow the edges of the mounting plate. The tip of each tongue at the end of the mounting plate appears to have had a circle on the very outside edge. The raised triangle also has a row of circles along its edges, although not along the base, i.e. the side which faces towards the frame of the buckle.

The tongue has chamfered edges, and its form in the longitudinal sense closely matches the profile of the frame, reaching down almost as far as the lower edge of the frame at the front. The tongue is c. 4 mm wide and is only slightly pointed towards the front. It is attached to the frame by means of a hinge arrangement. The base of the frame is thus cylindrical, 5 mm in diameter, and has a 2 mm transcurrent hole, in which the pin is located. A 5 mm wide section of the base of the frame is chamfered at the point where the eye of the tongue was fitted and secured with the pin. The internal width of the frame at the base is 18 mm, which probably corresponds to the width of the strap at this part of the belt.

4.6.4.2. Strap end mount, F19

Bronze, present length 48 mm, although this was originally 52 mm in view of the damage to the tip. Plane, with an almost rectangular mounting plate measuring 25 x 14 x 2 mm. The strap end was thus 14 mm wide and fits perfectly into the buckle, as well as beneath the smaller of the two strap retaining mounts (*F20*).

The strap end mount is terminated by a tapering neck and, at the very outside, by an originally round, slightly convex disc (see X-ray photograph, Figs. 65–66), which is now fragmented, but was 10 mm in diameter. Extending outwards from the neck onto the round termination is a slightly raised tongue in the form of an equilateral triangle with a length of side of 6 mm, a type of ornamentation which finds its equivalent on the base plate of the buckle.

The mounting plate for the strap end mount has two U-shaped notches at its end, in a typical fashion. There is a rivet hole on each edge close to the notches; these rivet holes served as the attachment points for the strap. The distance between the rivet holes is 11 mm. An attempt was made to make a hole next to one of the rivet holes (the one in which the pin remains), although it was positioned too close to the edge.

Two small "steps" are present on the under side of the mounting plate, 15 mm and 20 mm respectively from the edge; these presumably mark the stopping points for the leather strap.

The ornamentation on the mounting plate consists only of double thin edge lines, whereas the neck part on three sides has impressed circles of the same type as on the buckle and the strap retaining mounts.

4.6.4.3. Strap retaining mounts, F20

Three almost identical bronze mounts, measuring 25 mm long and 21 mm wide and in the same style as the buckle (*F18*) and the strap end mount (*F19*), two of which are preserved, whereas the third has not been found again, yet is visible in the X-ray photograph in Figs. 65–67. The upper sides are plane, with two rounded notches at each end, which thus form three projecting, cut-off tongues.

Running underneath on either side is a longitudinal, 18 mm long and 3 mm high rail which "raises" the mount by 3 mm from the strap. Situated at the end of each rail is a cast peg, only fragments of which are preserved. This peg passed through the strap and secured the mount. The internal distance between the rails is 17 mm on one of the mounts and 16 mm on the other. These dimensions thus correspond to the maximum width of the strap end. This in turn means that the wider mount was situated closest to the buckle, followed by the narrower mount. The strap accordingly had a maximum width of 18 mm as it passes through the buckle, and a maximum width of 17 mm as it passes beneath the first strap retaining mount, a maximum width of 16 mm as it passes beneath the second and, finally, a maximum width of 14 mm at the point at which the strap end mount is attached (Sect. 4.6.4.2.).

The distance between the pegs on the rails is 17 mm, which gives a minimum dimension for the width of the strap at the point where these are attached.

The strap retaining mounts bear the same type of ornamentation as the buckle and the bow-shaped mounts, that is to say small punched circles running along the edges. They are arranged closer together on these mounts than on the others, however.

4.6.4.4. Bow-shaped mounts and rings, F21

These suspension arrangements belonging to the belt are made up in total of 3 bow-shaped mounts and 4 rings.

All the rings are cavetto rings made of bronze with an 18 mm external diameter and a 9–10 mm internal diameter. One of the rings has attached to it a leather strap which is 10 mm wide and 3 mm thick. Visible on the bottom edge of the leather strap is a rivet hole and the impression of a rivet head c. 6 mm across.

Three of the rings have a ridge which runs in the bottom of the cavetto, whereas the fourth has a completely smooth, concave bottom. Three of the rings (not the same as those above) also have fine edge lines which run all the way around on either side of the cavetto.

None of the bow-shaped mounts is fully intact. Nevertheless, all the elements are represented in the fragments. The mounts were securely fixed to the belt and served as attachments for the belt rings referred to above. At the very top the mounts have a rectangular mounting plate measuring 21 x 8 x 2 mm. This has a 2 mm diameter rivet hole at the edge on either side. The bow starts from a small heel on the mounting plate, has two pointed lobes at the crown and measures 9 mm at its widest point. From there the bow continues down to an almost square foot with a length of side of 7 mm. In the middle of this foot is a rivet hole, 2 mm in diameter. The bow has a maximum clearance of 9 mm beneath it, i.e. from the imaginary strap to the under side of the bow, which leaves plenty of space for a ring of the type described above.

The bow is plane, but has edges with a two-stage chamfer. The chamfer is present on the bow up to a point 4 mm above the mounting plate and the foot, where the bow is of almost rectangular cross-section, measuring c. 5 x 3 mm. The mounting plate and the foot have punched ornamentation along the edges in the form of small circles of the same type as on the belt buckle.

4.6.4.5. Belt mounts with quatrefoil pattern, F24

Two examples were found (see X-ray photograph, Figs. 65 and 67), although only one is preserved. This was 32 mm long, 25 mm wide and plane, and 1.5 mm thick. It is to the same design as the setting mount of the strike-a-light stone, but with different surface decoration.

Like the strap retaining mounts, there are two notches on either side. The quatrefoil pattern occupy 12 mm of the length of the mount and 16 mm of the width. The pins for securing it to the belt were positioned close to the four corners of the quatrefoil pattern. The distance between them is 19 mm, which indicates that the width of the strap was greater, i.e. probably c. 25 mm, like the width of the mount. The rivet heads are domed and 3–4 mm in diameter.

The surface ornamentation consists in this case, too, of punched rows of circles which follow the edges, although this is not present inside on the beadings of the quatrefoil pattern.

4.6.4.6. Strike-a-light stone F22, with setting mount F23

The strike-a-light stone is of the ordinary type, apart from a few details, made of quartzite, and with a pointed oval shape, 125 mm long, 14–35 mm wide and 20–28 mm thick. The stone

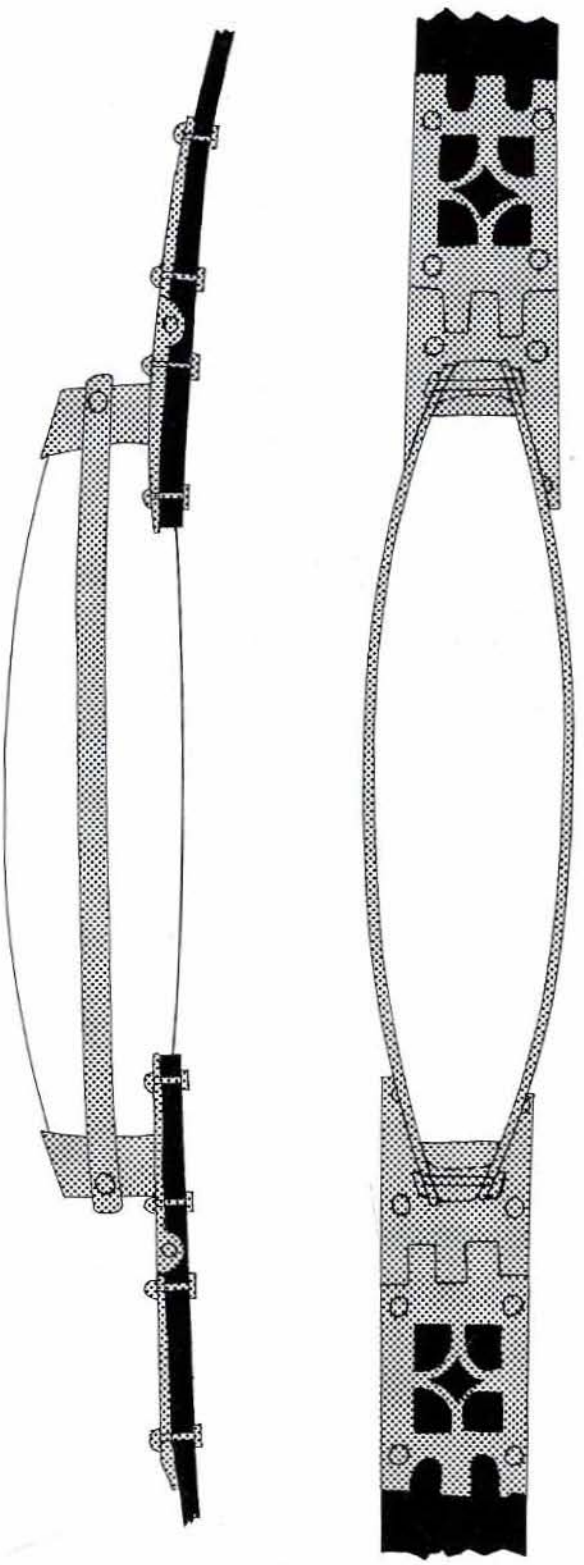


Fig. 56. Reconstruction drawing showing how the strike-a-light stone was retained and applied to the belt. (Drawing: P. H. Ramqvist).

Fig. 57. Excavation of the belt, showing the handle comb in position. On the left is the left hand wrist band of the deceased. The retaining mount for the strike-a-light stone can be made out at the top right. Remains of the silver buckle for the comb bag can be seen lying directly over the comb (on the top edge of the comb) together with a long strap end mount.

has plane sides, but a slightly convex upper side and a very weakly concave under side. A groove 5 mm wide and not more than 1 mm deep is incised at the centre of the sides of the stone and accommodates a bronze band of similar width and thickness, most of which is preserved. The pointed ends of the stone are cut to form a rectangular peg measuring c. 13 x 10 mm, which is intended to fit the upright holders on the retaining mount.

No traces of use can be found on the upper or lower side of the stone. The under side has a relatively large surface, with remains of fur, not yet analysed and unfortunately not discussed by Nockert (1991), at the centre. This indicates that the belt was not in a single piece, and was missing directly beneath the stone (Fig. 56), with the result that the fur hair might have come from the clothing on the back of the deceased, maybe a lining for the tunic.

The retaining mount consists of two identical components, one on either side of the stone, which are riveted fast to the leather belt. Each part consists of two components connected together by means of a charnier construction. The outer part of the mount consists of a mount very similar to the belt mount F24 with a quatrefoil pattern. This mount, including the charnier components, is a maximum of 43 mm long, 24 mm wide and 1–2 mm thick; it is at its thickest next to the stone. The quatrefoil pattern occupies 17 mm of the length and 15 mm of the width.

The other part of the retaining component of the mount, nearest the stone, is a perfect fit with the stone. The retaining component of the mount is 37 mm long (including the charnier). The width increases progressively from 25 to 27 mm between the charnier and the termination, which continues for a short distance under the stone. The material is 2 mm thick. A 19 mm high socket is riveted fast more or less at the centre of the retaining component, with its c. 18 x 10 mm wide and c. 10 mm deep opening facing towards the stone. The peg of the stone was inserted into this opening. The socket has a roof which slopes gently away from the stone and is of trapezoidal form when viewed from above. A horizontal cross-bar is inserted at the furthest point inside the socket, at approximately half its height. The bronze band which runs around the stone was obviously attached to this cross-bar. The attachment was effected by means of an eye or a small surplus length of the band folded over with a hole passing through it. This construction was not sufficiently strong, however, and it was necessary to replace the bronze band and to tighten it around the respective socket. Distinct band-shaped variations in colour are in

Fig. 58. Detail of Fig. 57 showing the remains of the buckle and the strap end mount next to the comb. As can be appreciated from the picture, the material was highly fragmented and could not be recovered. (Cf. the X-ray photograph in Fig. 66, where the buckle and the strap end mount can be seen clearly).

fact visible around the sockets in direct association with the bronze band of the stone.

The attachment of the whole mount to the strap (Fig. 56) was effected by means of 4 rivet pins in each part of the mount, i.e. 16 pins in all, all situated close to the corners of the respective mounts. The domed rivet heads vary between 4 and 5 mm in diameter.

The charnier construction consists of plates which engage with one another, 2 from the quatrefoil component and 3 from the retaining component of the mount.

A double edge line is incised along the long side edges of the whole of the mount.

4.6.4.7. *Fire-tool, F17*

Present length 161 mm, of which the wooden shaft is 102 mm. The fire-tool consists of a shaft part and a tip part. The tip is provided with a leather sheath. Because this object has undergone major changes since it was discovered (Fig. 53), I propose to quote from Selling's description of the object:

> A round, pointed iron tip with a 10.5 cm long loose wooden shaft, which shrank considerably after it was dug up, with a half-round knob at the top end, which is clearly separate from the rest of the shaft and is almost spool-shaped and had a 1.3 cm wide bronze mount at the bottom, undecorated, completely decomposed. The case consists of an upper part of bronze with a half-round central section and side pieces extending at right angles from that point; original width c. 1.5 cm, which taper downwards and are transformed into a half-round plate, which on its rear side has the remains of three rivets which appear to have been secured through the leather – at any rate no traces of bronze could be noted on this side at the time of the excavation. Overall length 16.2 cm, present width of the shaft 1.5 cm.

The drawings made by Selling and Link (Pl. 76) provide a comparison between the original appearance of the fire-tool and its present appearance.

4.6.4.8. *Handle comb with case and leather bag, F25*

The comb and parts of its case are cemented together. The comb has disintegrated to c. 40% (Figs. 57–58). The handle is crescent-shaped, with heavy circular notches on the sides. The central rail of the comb originally consisted of 4 or 5 segments, of which the outer ones are now missing. The holes for a total of 5 pairs of rivets remain on the preserved part of the central rail.

The central rail has a wedge-shaped cross-section and is 4 mm wide at the crown, with an incised line c. 1 mm wide on the crown of the handle. This line is not present on the rest of the back of the comb.

The side plates in their present condition are extremely thin (scarcely 1 mm). The front plate carries ornamentation in the form of double lines running along the edges and, a short distance down at the centre of the handle, a threefold relief circle of dots 10 mm in diameter. The ornamentation on the rear side of the comb is restricted to a double edge line low down on the side plate.

A very small step, which is visible but not capable of measurement, is present on the central rail above the start of the teeth. The teeth are finely sawn, and there are 45 teeth on the preserved part, which is 54 mm long.

The comb case consists of a rectangular back piece with a preserved length of 115 mm, c. 15 mm wide and 2 mm thick. The original length was c. 120 mm. The back piece was combined with the front piece by means of a number of pins along the lower edge. Of these, 4 remain in the form of pin holes, although there would have been 5 pins. The front piece and the back piece were also joined together by four pins situated at the four corners of the case. Of these, only the two on one side are preserved in the form of the pin holes.

The front piece of the comb case was made of an upper and a lower length of horn rod split in half, with an original diameter of 5 mm. The vertical distance between the two rods was 5 mm, which can be appreciated from the positions of the two pin holes in the corners of the back piece. At the very bottom of the lower rod is a flat-filed edge c. 3 mm wide, into which were inserted the pins which held the front piece and the back piece together.

The ornamentation on the comb case is simple, and the back piece has double edge lines running along the upper and lower edges. At their ends the two front rods have groups of transverse grooves. In addition, the lower rod has two longitudinal lines on the filed edge.

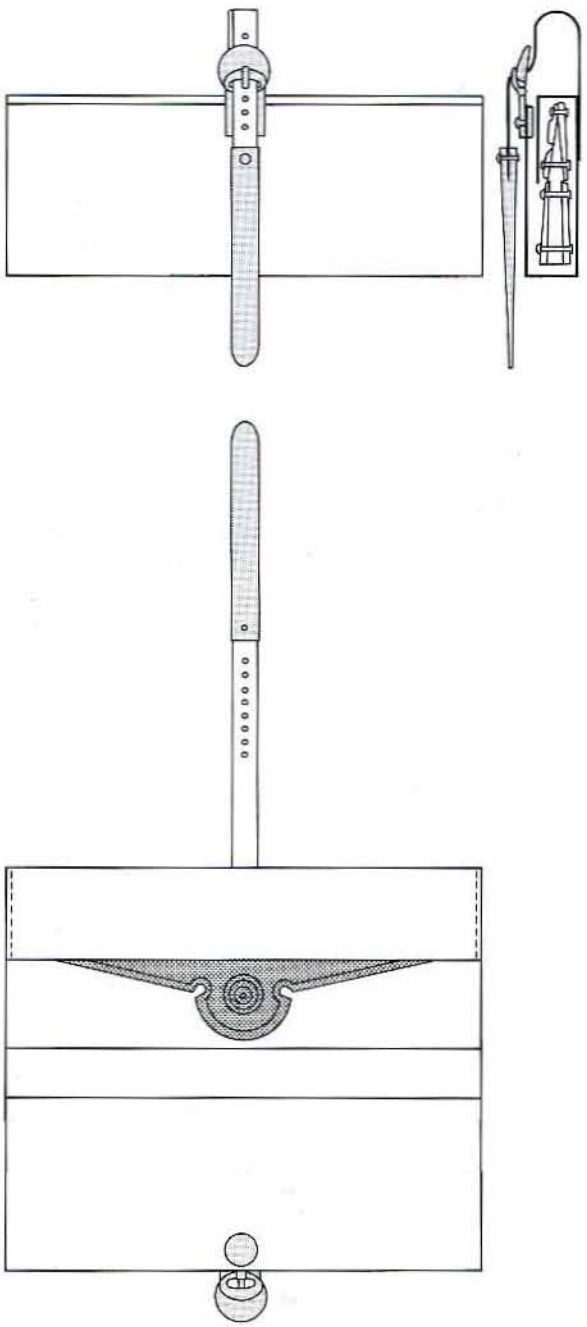


Fig. 59. Reconstruction of the leather bag for the handle comb. The cover is shown closed at the top of the picture, with a cross-section showing the position of the comb inside the cover. The cover is shown open at the bottom of the picture.

A. Reconstruction of the leather bag for the comb

The X-ray photograph (Fig. 66) shows the presence of a buckle (*a* in Fig. 67) and a probable belt end mount (*b* in Fig. 67) on the left-hand side of the deceased, alongside the fire tool, the tweezers, one of the clasp settings on the lower edge of the tunic, a number of belt mounts and the comb (which does not appear on the photograph, however, being made of horn). None of the artefacts concerned has been preserved amongst the finds, and all that I have been able to find amongst the papers left by Selling is a field drawing in which some of the artefacts have been inserted stratigraphically (which is not always clear on an X-ray photograph, of course, but which can be appreciated from the sequence of pictures in Figs. 53, 57 and 54), a drawing of a buckle obviously executed by Selling herself (Pl. 77:a), and the following description of the buckle:

> A buckle, silver. Heavily oxidized, the frame cast in a single piece with the rectangular strap attachment, with a tall, obliquely chamfered front part with a concave under side; a rivet in the strap attachment with a round, disc-shaped plate on the under side, diameter 1 cm. Length 2.6 cm, width 1.1 cm (strap attachment) – 1.4 cm (frame).

This description agrees precisely with both the drawing and the buckle visible in the X-ray photograph. In the X-ray photograph (Fig. 66), however, the buckle is

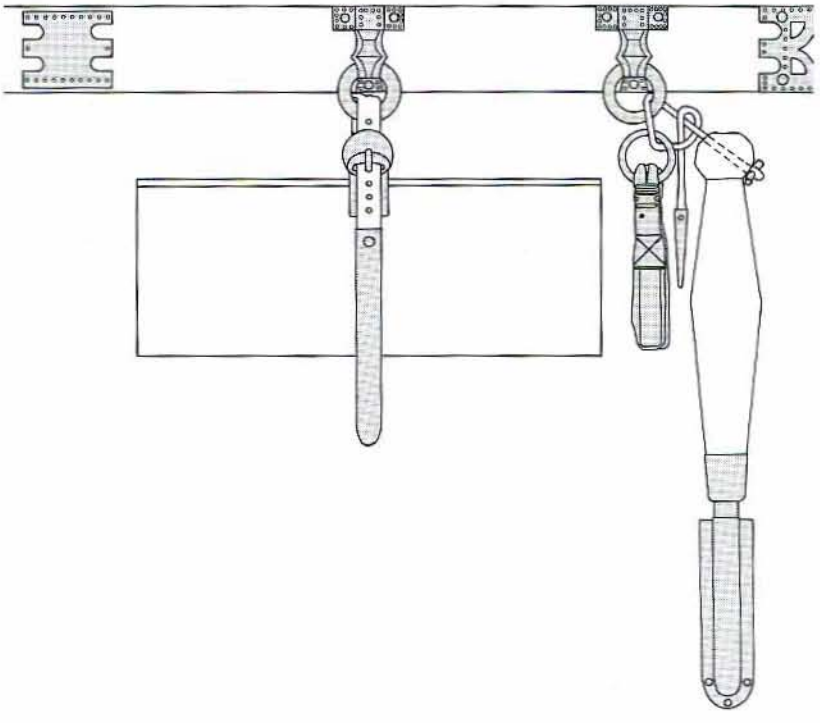


Fig. 60. The reconstructed comb bag in its place, from which its relationship to the tweezers and the fire tool can be appreciated. The reconstructed length of the cover shows that it was actually accommodated on the belt in this position. (Cf. the X-ray photograph in Fig. 66 and the analysis drawing in Fig. 67).

shown viewed at an angle from above, which may be slightly confusing. What is characteristic, however, is the very large pin plate on the under side of the buckle and the sloping and very wide frame at the front. Visible approximately 5 mm beneath the buckle in the X-ray photograph is a 7–10 mm wide and 64 mm long metal component which, as far as can be judged, is a strap end mount belonging to the buckle and its strap. Its density on the X-ray photograph also suggests that it is made of silver. This artefact is also missing, as is a detailed drawing and any other description. However, traces of these probably totally disintegrated artefacts can be seen on the excavation photographs (Figs. 57–58).

The X-ray photograph also shows that the buckle and the strap end fitting were lying beneath the edge mount of the sword (*F1*) and in front of the mounting for the baldric. These two artefacts probably do not belong to the baldric, as they would have been lying closer to the shoulders of the deceased if the deceased had been wearing the baldric. They are probably also too delicate to have served that purpose. A ring and a bow-shaped mount (*F21*) which had sat on the belt are just perceivable, and yet are unmistakable, if one continues for a distance of 1.5 cm upwards along the line formed by the strap end mount and the buckle. It seems quite clear that the strap to which the buckle and the strap end mount belonged had been attached to this ring. It is likely, therefore, that these accessories had sat on the leather bag in which the comb was stored (Figs. 59–60).

The comb was stored lying with its handle facing downwards inside a cover which probably opened in a downward direction, with a single leather strap which ran around the case and through the belt ring and was closed with the help of the buckle. On one of the belt rings which was recovered (Pl. 75), there is also a leather strap whose size closely matches the strap end mount and the buckle.

4.6.4.9. Tweezers, F16

The tweezers are made of silver, but are heavily corroded and have only insignificant remains of gilding. Length = 53 mm, greatest width = 8 mm, and smallest width (at the fork) = 5 mm. The attached ring is wired with a round silver wire with a material thickness of c. 1 mm, and is itself heavily patinated, although it was originally c. 17 mm in diameter.

Ornamentation: a broad flute bordered by two edge lines runs along the crown of the fork and down for a short distance. Immediately below the fork are three horizontal stripes, and beneath them a short notch in each edge. The rear side probably had identical ornamentation, although only two stripes can be perceived there. There is a heavily fragmented cross made of lines at the centre of the shank between two horizontal lines. Beneath this part the shank is marked with thin vertical edge lines. On the rear side, which is severely corroded, there is evidence of a gold spot on the upper part of the shank. Further down on the shank, over a distance of 19 mm, there remains only the gilded bottom of an edge line and, at the top, a short section of the gilded bottom of a line running at right-angles to the edge line. These gilded line bottoms correspond precisely to the lines on the front side, although no gilding remains there.

4.6.4.10. Fighting knife, F5

The single-edged fighting knife, or mini-sax, was attached to the left side of the belt of the deceased. Its length is 280 mm. The handle and parts of the scabbard with a ferrule of silver are preserved. The handle is made of wood, c. 120 mm long, of uniform thickness, and of essentially pointed oval 33 x 20 mm cross-section. The very top part has suffered some damage, and the form of the pommel cannot be determined. The handle is believed to have been cross-grooved. A possible rivet or nail, which was driven in horizontally, projects for c. 37 mm at the bottom of the handle. The scabbard, including the ferrule, is 185 mm long, which means that the handle descends into the sheath for c. 25 mm. The scabbard is made of wood and covered with leather (Törnquist 1989). The leather cover is sewn together on the blade edge side with slightly sloping stitches, which are preserved in a fragmentary fashion in a couple of places, generally for a distance of c. 30 mm.

On one side of the scabbard are the iron remains of a possible attachment point for a loop or similar which would have been present at that point. The iron remains are fragmentary, although they are probably the remains of a rivet with a head of c. 10–11 mm in diameter.

Slight traces of linear ornamentation occur on some of the remaining fragments of the scabbard. Immediately beneath the aforementioned suspension attachment, there are three parallel edge lines at a point 5 mm in from the seam of the sheath. These can be followed for a distance of 20–28 mm. They cease at the top at the point where the scabbard broadens out, i.e. where that part of the handle sits in the scabbard. Curved, intersecting double lines are also visible on the same part of the scabbard. On the other side of the scabbard there is a small fragment of an angled double line, together with two other very fragmentary double lines, one of which is perpendicular, and the other inclined at c. 30°. These occur on the upper part of the scabbard, into which the handle is inserted. At a point 44 mm down the handle, there is also a fragment of a double line on a fragment of leather, which is believed to occupy a secondary position.

The single-edged knife blade is completely exposed for a distance of c. 35 mm, at which point it is 30 mm wide and c. 10 mm thick at the top.

The U-shaped silver ferrule is 20 mm broad at the top and 4 mm thick. It is secured at the top of each shank by means of a small pin.

4.6.4.11. Belt bag

We are entirely without any help from Selling with regard to the belt bag, since she makes no reference whatsoever either to a belt bag or to the small pins (*e–j* in Figs. 61–62, 67), the strap retaining mounts *(n–p)*, the strap ends *(k–m)* and the buckles *(q–s)*, which are clearly visible in the X-ray photograph (Fig. 65).

There should be no doubt at all that this was in fact a belt bag. All the necessary components for a bag of this kind, such as buckles, strap end mounts, strap retaining mounts, pairs of pins which secured it to the belt, and the two gold bars *F14* which were originally inside the bag (Pl. 86–87), are represented.

The bag had three buckles, with the associated strap end mounts and strap retaining mounts. The buckles and the strap retainers were positioned 4–5 cm apart on the front of the bag and with the tongues facing upwards. The buckles probably had a sloping oval frame, measuring 10–12 x 7–10 mm. The internal opening of the frames were 7 mm, which was thus the maximum dimension of the straps. The buckles had a rectangular mounting plate, measuring 7 x 8 mm, and were attached to the bag by means of a pin situated at a relatively central point on the mounting plate. The strap retaining mounts were

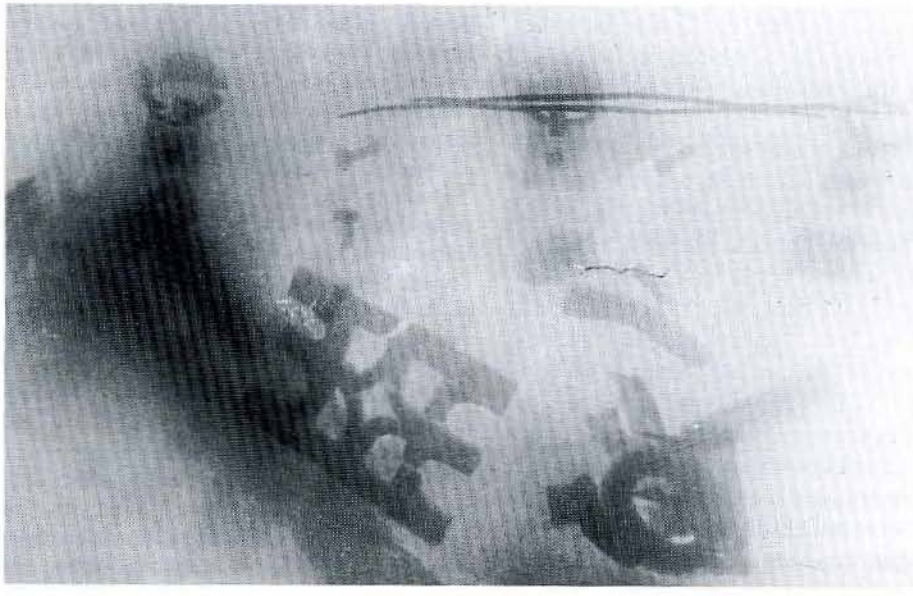


Fig. 61. X-ray photograph showing the buckles and mounts for the belt bag and the position of the gold bars. (Cf. Fig. 62).

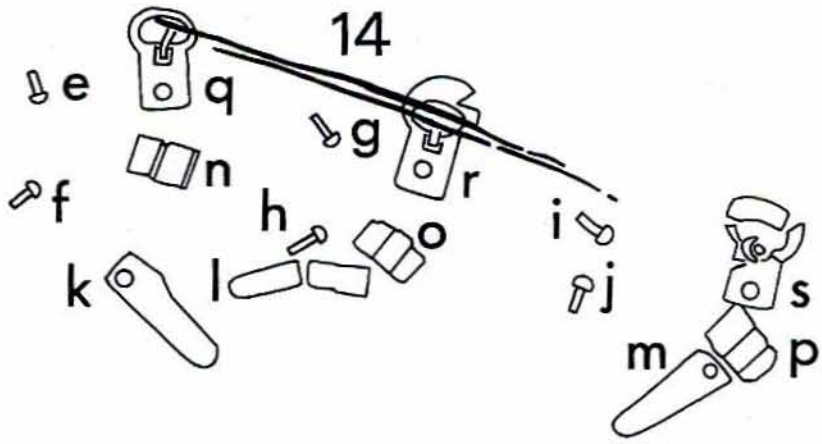


Fig. 62. Analysis drawing for the X-ray photograph in Fig. 61.

situated c. 5 mm beneath the edge of the mounting plate. These were rectangular, measuring 10 x 6 mm, and were constructed in the form of a bridge, so that the strap and the strap end could pass beneath them. The raised part can be seen from the X-ray photograph to have had a width of c. 5–6 mm, which thus corresponded to the maximum width of the straps. The three tongue-shaped strap end mounts can be seen beneath the strap retaining mounts in the X-ray photograph (Figs. 61, 62 and 67), which indicates that the bag was closed in the grave. The strap end mounts were c. 20–21 mm long, and c. 5 mm wide at the split base. They tapered slightly and had a slightly rounded tip. The strap was secured with a pin in the slotted base.

The bag thus had three strap locks with straps which were probably 5 mm wide. The X-ray photograph also shows that the bag was secured to the belt strap with probably four pairs of pins (*e–j* in Fig. 62). Three of these pairs can be seen clearly spaced out at regular intervals to the right of and between the buckles. It may thus be presumed that a fourth pair of pins was situated to the right of the right-hand buckle, although the handle of the fighting knife obstructs a presumed pair of pins at this point. The visible pairs of pins are situated c. 4 cm apart, and one of each pair lies c. 1.5 cm above the other.

If it is assumed that the pairs of pins were evenly spaced on the belt, a view which is supported by the three visible pairs, then the distance between the outermost pairs would have been c. 12 cm. It must also be presumed that the bag itself had extended for a distance beyond the outermost pairs of pins, and that the overall length of the bag would have been c. 15 cm (Fig. 63). As the bag would have had a fold-down cover, to judge from the positions of the mounts and the buckles, there must have been a certain amount of clearance above the buckles. It is not possible, however, to state where the bottom of the bag has disappeared. In the reconstruction (Fig. 63), the bag is assumed to have extended for a similar distance both below and above the belt. This means that the bag may be assumed to have measured c. 15 x 7.5 cm.

4.6.4.12. Leather pouch (?) with hazelnuts, F77

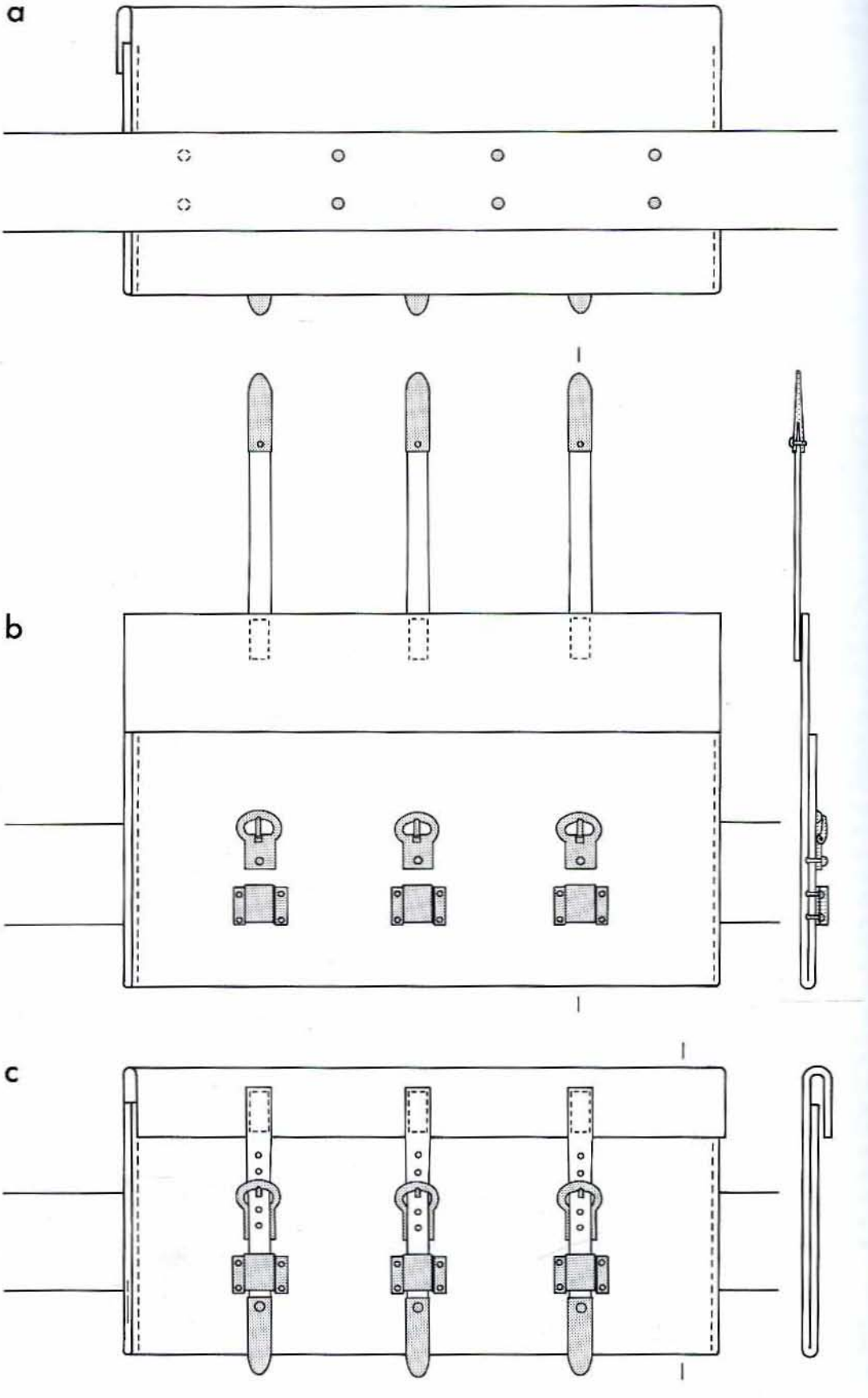
As far as the possible leather pouch is concerned, we must rely entirely on Selling's account, since nothing appears to have been preserved. However, Janson & Selling (1955:74) maintain that a leather pouch containing hazelnuts was hanging from the belt. There is clear evidence in support of the hazelnuts, of which 25–30 were found lying grouped closely together next to the belt (Fig. 64), for which reason it appears likely that they were actually kept in a pouch of some kind. The photograph (Pl. 78) shows that textile remains had become attached to some of the nuts. This need not be taken to mean that they were stored in a textile pouch, since this part of the grave contains textiles, on the one hand in the form of the cloak and the tunic, and on the other hand in the form of an underlying base for the deceased. This textile is thus probably of a secondary nature in relation to the nuts. Twenty or so of the nuts are reported to have been in relatively good condition, in some cases even with the kernel inside the shell. Selling states that the nuts had maximum dimensions of 1.7 x 1.3 x 1 cm.

4.6.4.13. Other items belonging to the belt

As can be appreciated from the X-ray photographs (Figs. 65–66), and as stated above, a number of objects were observed there which could not be identified amongst the preserved finds. These objects were probably in such poor condition that they could not be recovered, although they could be seen on the X-ray photographs. Of the items referred to above in conjunction with the belt bag, no fewer than three buckles, three strap retainers, three strap end mounts and at least six pins are missing. Also missing in conjunction with the probable leather bag for the comb are the buckle and the strap end mount (*a* and *b* in Fig. 67). A drawing of the buckle has been preserved, although in the case of the strap end mount, both the artefact itself and a description of it are missing.

If we now look at the X-ray photograph (Figs. 65–66), three strap retaining mounts *F20* can be seen close together to the left of the buckle. Parts of two have been found, although the third is missing. A small strap end mount can be seen (designation *c* in Fig. 67). This certainly has to do with the suspension of the fire-tool (*F17*) and/or the tweezers (*F16*).

If we now examine the area where the fighting knife was found, we find a strap end mount (*d* in Fig. 67) lying at an angle to it, with the tip pointing upwards. According to the X-ray photograph, it is c. 24 mm long and c. 6 mm wide at the slotted strap attachment, where a pin can also be distinguished at the


a
b
c

◁ *Fig. 63.* Reconstruction drawing of the belt bag. *a*) from the rear, showing the attachment to the belt. *b*) from the front, with the flap raised, with a cross-section. *c*) from the front, closed, with a cross-section.

Fig. 64. The belt during excavation. The hazelnuts are close together. The tablet-woven band on the lower edge of the tunic can be seen on the right on the bottom edge of the picture.

centre of the base. This find may have an equivalent in the papers left by Selling, where she writes:

> Strap end mount, silver. Band-shaped, slightly tapering towards the end, split upper end with transcurrent rivet. Length 2.4 cm, width 1.6–1.9 cm.

A drawing of this strap end mount made by Selling (Pl. 77:2) also exists, although it must be assumed that she made a mistake with the width of the mount in her hurry, which is 0.6–0.9 cm, and not 1.6–1.9 cm. This is very probably the same mount which appears under *d* in Fig. 67. It is associated functionally either with the suspension of the fighting knife (*F5*) or with the hazelnut pouch (*F77*). Since the fighting knife was attached to the nearby belt ring *F21*, it is likely that the belt end mount is associated with the suspension of the fighting knife. The hazelnut pouch was presumably easy to attach to the belt, requiring neither a belt ring nor a strap end mount, and probably looked something like a present-day bullet pouch.

A further three objects can be seen in the X-ray photograph and are identified by the designations *t*, *u* and *v* in Fig. 67. These are sheets, of which at least *t* is of silver, although their function is uncertain. The largest sheet, *t*, is riveted to the lower edge band of the tunic. This is also lying in such a way that the possibility of its having belonged to the belt can be excluded. Compared with the other two plates, it is also attached in a different way. The silver sheet *t*, which measures 38 x 13 mm, had 13 x 7 mm counterwashers on its rear side in conjunction with the four pins. The other two sheets, *u* and *v*, are lying in line with the belt and were probably riveted fast to the belt, especially in the case of sheet *v*, which lies in direct association with the buckle. This was 15 mm wide and at least 20 mm long, and it probably had a pin in each corner. The smaller sheet *u* may also have sat on the belt. This was rectangular, measuring c. 17 x 13 cm, and had a pin at each corner. The function of the sheets is uncertain, except for *t*, which was a reinforced and concealed a join in the edge band on the tunic (Nockert 1991:18).

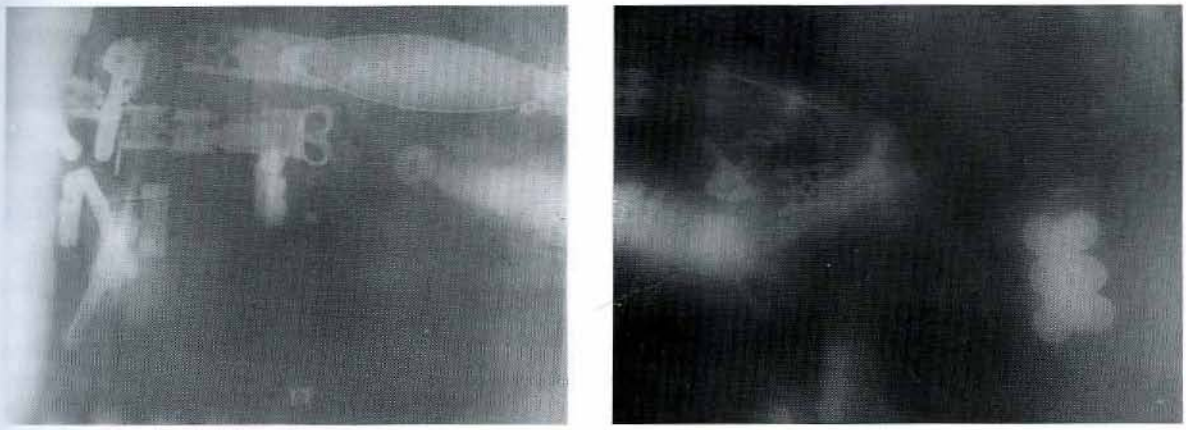


Fig. 65. X-ray photograph of the whole belt. (Cf. Fig. 67).

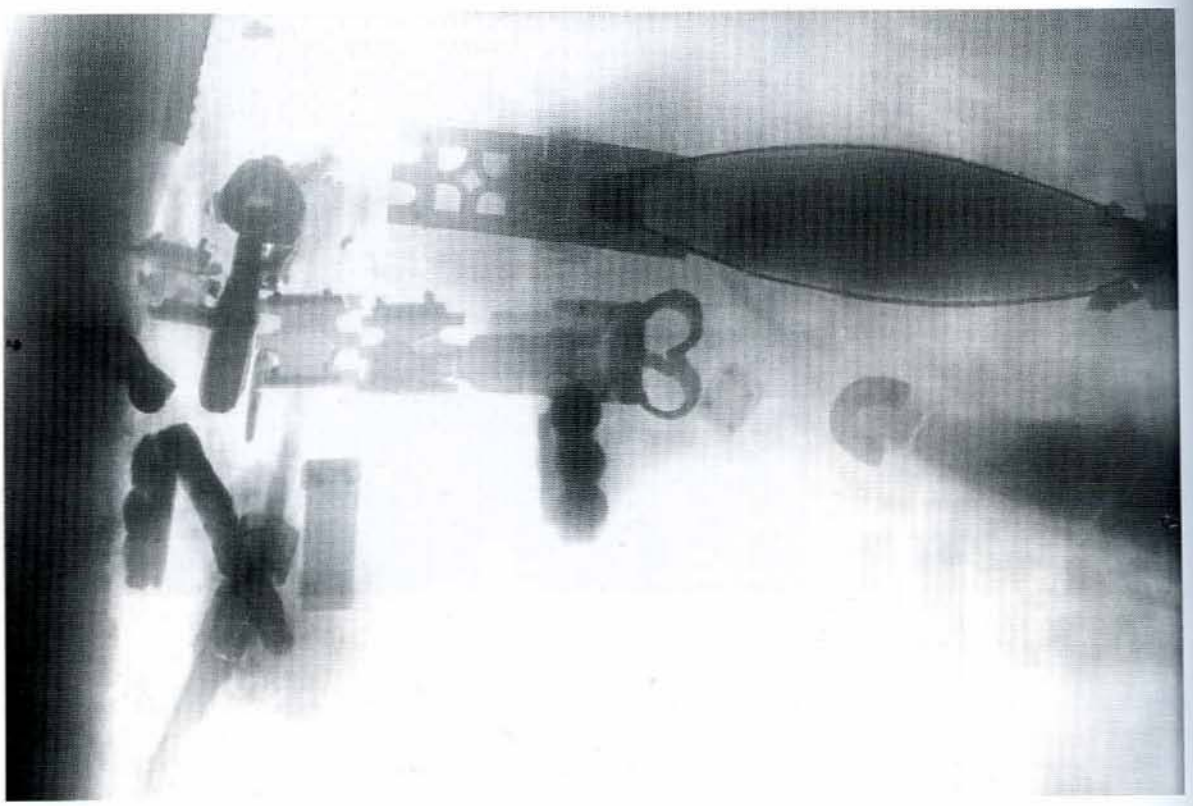


Fig. 66. X-ray photograph detail of the belt on the left side of the deceased.

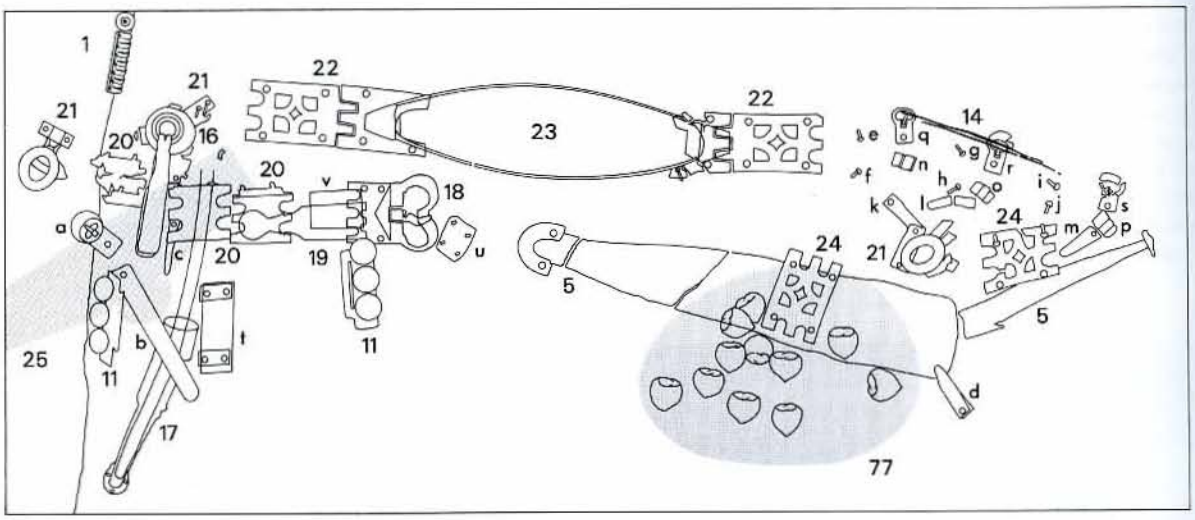


Fig. 67. Analysis drawing of the X-ray photograph of the belt, showing find numbers. The comb and the pouch containing the nuts are shaded.

4.6.4.14. Reconstruction of the belt

Thanks to the X-ray photographs (Figs. 65–66), it is possible to reconstruct the belt in practically every detail (Fig. 68). Difficulties are, of course, encountered in respect of the attachment of the various paraphernalia to the belt and the belt rings. The reconstruction drawing is thus a best estimate, for this reason.

The following arrangement emerges if the belt is described from left to right (Fig. 68). The three strap retaining mounts were positioned immediately after the buckle, for the purpose of securing the other end of the belt where the strap end mount is situated. The strap end mount was found half inserted into one of these, which indicates that the belt was actually being worn by the deceased at the time of burial (see X-ray photographs Figs. 65–67). The three strap end mounts are followed by a bow-shaped mount with an associated ring, which had sat on the left side of the deceased. The comb bag were attached to this ring. Another bow-shaped mount with an associated ring is situated about 4 cm from the comb fastening mount. The tweezers and probably also the strap with its strap end for the fire-tool were attached to this ring. Several possibilities are conceivable here, although in the reconstruction the leather strap of the fire-tool secured both the tweezers and the fire-tool to the same ring.

This is followed directly, and thus at a point more or less at the centre of the wearer's back, by the strike-a-light stone, which is functionally associated with the fire-tool. The belt strap was probably in two parts and was joined together by the heavy retaining mount for the strike-a-light stone. The belt thus did not pass under the stone (Fig. 56), which is indicated by the presence on the under side of the stone of abundant remains of fur against which the stone was resting. The belt bag is riveted fast, probably with four pairs of pins, directly to the right of the strike-a-light stone. The bag was closed by means of three straps and contained the two gold bars and possibly other material which has since disappeared.

There is then a quatrefoil mount followed by bow-shaped mount with an associated ring and another quatrefoil mount. The position of the belt ring in this case places it in a clear relationship with the fighting knife, for which reason the presumed strap of the knife is attached to this ring. The strap end mount, which can be seen in the X-ray photograph, but which is not visible in the reconstruction drawing, also belongs to this presumed strap. The fighting knife sat directly on the right-hand side of the deceased. The leather pouch containing the hazelnuts hung from the belt a little to the right and towards the front. It is not possible to determine the precise point at which the pouch hung, although it is quite clearly the last item before the strap end mount and, as such, probably did not require any special suspension arrangement. Its strap was simply looped over the belt and may possibly have been wound securely around the nearest quatrefoil mount.

A couple of errors found their way into the first published reconstruction of the belt (Ramqvist 1990a:49; Fig. 49), in that the positions of the leather pouch and the handle comb were transposed, and one belt ring too many was placed on the right-hand part of the belt. The reconstruction shown here was arrived at following the examination of better copies of the X-ray photographs. The transposition of the comb and the leather pouch can be explained by the fact that both correct and back-to-front photographs were used side by side, and that there was a failure in checking which of the pictures were back-to-front at the copying stage.

4.6.4.15. Comments on the belt

The belt has no exact parallels, of course, although we know of comparisons with many of the component parts. The belt is without doubt a product which was assembled on a single occasion, since the mounts and the other bronze components are very close from a stylistic point of view.

If we examine the fire-making equipment, i.e. the strike-a-light stone and the fire-tool, these represent the customary means of making fire during the Roman Iron Age and the Migration Period. At the time of the excavations of Thorsbjerg, Nydam and Vimose (Engelhardt 1863, 1865 and 1869), for example, in which this type of fire-making equipment is well-represented, the strike-a-light stones were regarded as whetstones, and the fire-tools as awls. Later, it was suggested that the stones had to do with making fires, and that they were used in conjunction with flint (O. Rygh 1885:6f), and when Rydh (1917) compiled her summary, their function was still surrounded by uncertainty. Sternquist (1951:115), however, connects the strike-a-light stone with iron awls in her analysis of the Scanian Vä-material. Selling wrote her description of the artefacts in Högom in the early 1950s, at which time she is clearly familiar with this method of making fire, given that she refers to *F17* above as a fire-tool. It is the circumstances of the find in this case which would have led to the conclusion of the direct relationship with the strike-a-light stone on the belt. Nor is a major step required to verify this mutual connection in the aforementioned Danish bog finds, where the fire-tools often exhibit close links with the belt and closely resemble that found at Högom. In the more recent investigations, such as Illerup, where these objects often occur, they are referred to as "fire-steels" and are associated with the strike-a-light stones (e.g. Ilkjær & Lønstrup 1983:112).

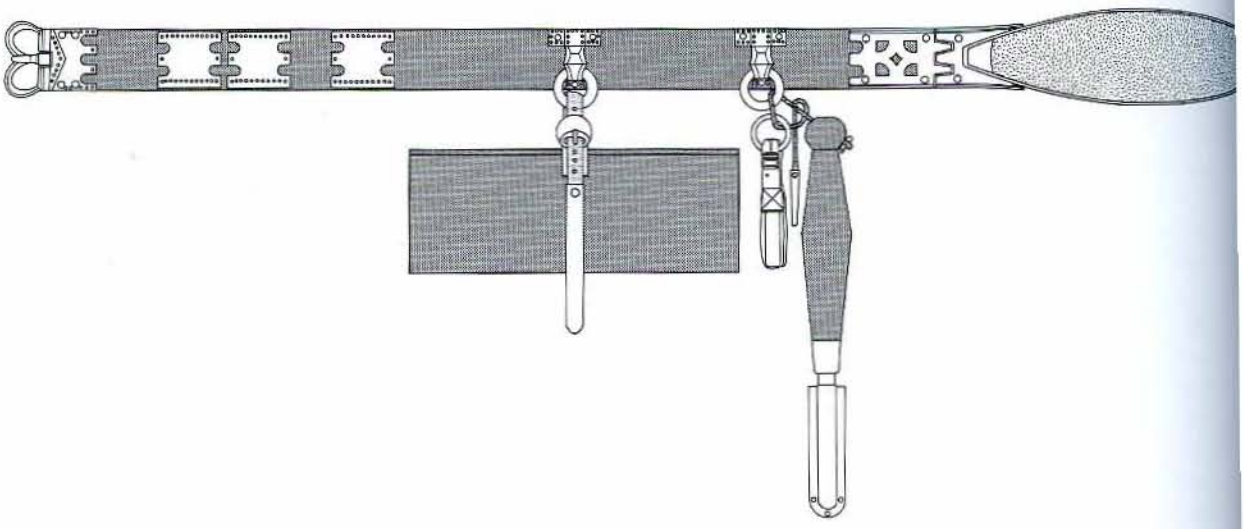
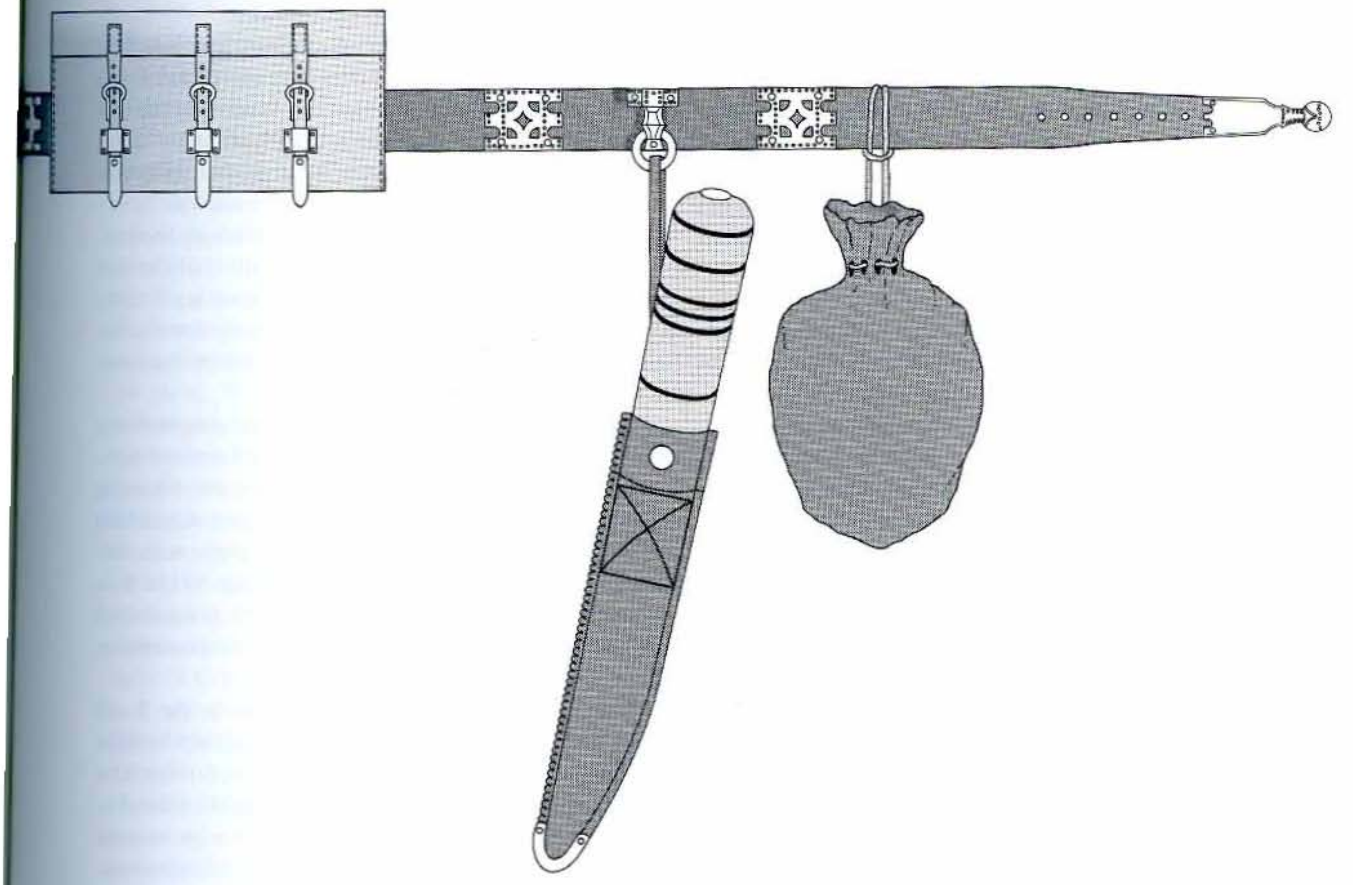


Fig. 68. Reconstruction of the whole belt.

It is clear from the South Scandinavian bog finds at *inter alia* Thorsbjerg, Nydam, Vimose and Illerup, that the fire-tools were of very similar execution, in every case with a biconical grip of wood or horn which was either drilled through or fitted with a ring at the end of the spherical top of the grip. The iron tip was short and blunt. The implement is thus readily distinguishable from awls and prickers, which usually have a cylindrical grip or a width which increases progressively in the upward direction, as well as sharp points in most cases. The bog finds have also shown us that the grip design already occurs in the Roman Iron Age, when its shape is practically the same as that found at Högom and at Sem in Trøndelag (Farbregd 1980:55, Fig. 24 g), both of which date from around AD 500. It is also characteristic that the grip of a fire-tool which has been preserved from the Evebø grave (Schetelig 1912:114, Fig. 257 b) by Schetelig is described as an awl shaft. However, it is described most correctly by Magnus (1983:295) as an "iron fire awl".

It may be interesting in this context to devote a little time to an examination of the development of fire-making implements during the Iron Age. Roman Iron Age forms are probably those which have been discovered in the South Scandinavian bog finds, where they are represented by round to round-oval strike-a-light stones (Welinder 1990:81ff). It is likely that there was a phase during which the stones were not worn on the belt, and thus lacked a lateral groove. However, when the lateral groove is present, it is an indication that the stone was intended to be worn on the belt. Stones of this type also included the fire-tool with a biconical grip, which also had a suspension arrangement enabling it to hang from the belt. Also associated with this was a pointed oval box represented by the two finds at Vimose, i.e. with only a single eye, which, like all the other fire-making tools during this phase, was intended to be worn hanging in a vertical sense. The boxes and suspension arrangements were made of wood and leather during this phase. During the following phase the strike-a-light stones were of a pointed oval shape and were also attached to the belt horizontally, where they were retained in simple or complicated bronze mounts. The same is true of the pointed oval storage boxes from South and West Scandinavia, which were by that time also made of bronze. The fire-tools



were still made in the same style as during the earlier phase, and they were also worn hanging from the belt.

Generally speaking, the type of strike-a-light stone found at Högom is common over practically the whole of Fenno-Scandinavia (Rydh 1917), although it has one detail which makes it extremely rare, i.e. the tenon-shaped notches at its ends, the purpose of which was to engage with the projecting bronze sockets in the retaining mount. These tenons thus serve as an indication of an advanced and, presumably, luxurious retaining mount. A normal feature of the strike-a-light stones of the Migration Period is that they have channels or ground-in grooves only on the sides, yet retaining the pointed ends, which indicates that the suspension arrangement was of a simpler nature in most cases. This conclusion is unavoidable, since stones of this type found in graves or found lying loose do not exhibit more highly finished suspension mounts. The most likely explanation is that the stone was hung from the belt by means of a leather strap, although in certain cases the remains have been found of a bronze band running around the stone, with outward-folded ends indicating that the stone was riveted fast to the belt, for example a stone from Attmar in Medelpad (Rydh 1917:178, Fig. 14).

Nevertheless, there are a number of interesting exceptions and examples which can be compared with the Högom stone. These are two finds from Trøndelag and one from Nordland in Norway, that is to say areas which were particularly closely associated with Central Norrland during the Migration Period. The first find comes from the rich stone chamber at *Hol*, Inderøy, in Inn-Trøndelag (Rygh 1913; Marstrander 1956:39). This chamber has many similarities with the Högom chamber. All that we are concerned with in this context, however, is the attachment of the strike-a-light stone. This has been discussed in detail by Rygh (1913). The stone is of similar size and form as the Högom stone, although the most interesting aspect here is the fact that the stone is also attached to the mount in the same way, i.e. by means of two projecting bronze sockets (Pl. 76), which have precisely the same dimensions in both cases. A c. 4 mm wide bronze band, which should be compared with the 6 mm wide, but subsequently applied band at Högom, runs around the stone and up to the sockets. This method of attaching

the stone requires the stone to be chamfered and made tenon-shaped at the ends, so as to engage with the sockets. It was not possible to study this at Hol, although it is still the most likely explanation. There was some degree of variation in the actual attachment of the mount and the stone to the belt in the two cases compared here. The part of the mount on which the sockets were positioned was identical, i.e. with a notch matching the form of the stone, although the Hol mount has relatively short, plastic animal heads of bronze in place of the mounts with their quatrefoil pattern which follow the notched mounts of the Högom stone.

Rygh (1913:332) also mentions a similar find from *Uteide*, Nordland, in conjunction with the Hol find, where the remains of a belt with a strike-a-light stone were also found alongside the weapons. In this case, too, the stone was surrounded by a bronze band which was attached to projecting triangular sockets. Typically enough, mention is also made of an awl as hanging from the belt (Lorange 1875:115), which cannot have been anything other than a fire-tool.

Yet another comparable find comes from the as yet incompletely published skeleton grave at Sem, Grong, in Nord-Trøndelag (Farbregd 1980:53ff). Parts of a belt were found here, which, to all intents and purposes, are closely related to that found at Högom. The belt found at Sem includes *inter alia* fire-making equipment which closely resembles that found at Högom. Firstly, the stone itself is chamfered in a similar manner to that at Högom, in addition to which approximately one half of a retaining mount of the Högom type is preserved (Farbregd 1980:54ff, Figs. 25j, 24b), and is one of probably two original notched mounts. Parts of a fire-tool also belonged to the belt (Farbregd 1980:55, Fig. 24g). This has a spherical upper part with a bronze ring attached to its top, together with indications of a biconical handle, although only the top part of the handle is preserved.

These finds from Trøndelag and Nordland are those which most closely resemble Högom in respect of the style and character of the belt equipment. One interesting aspect of the three comparisons referred to here, but which is absent from the Högom belt, is the pointed oval box which sat next to the mounted strike-a-light stone on the belt. Boxes of this kind are also found on belts with other types of bronze mounts than those discussed here and occur, perhaps as prototypes, in several of the South Scandinavian bog finds such as Nydam (Engelhardt 1865:Pl. 14, Figs. 15–17), Thorsbjerg (Engelhardt 1863:Pl. 17, Fig. 6) and Vimose (Engelhardt 1869:Pl. 1, Figs. 31 and 33). Similar boxes are not known in an East Scandinavian context, and accordingly they may conceivably be a particular characteristic of West and South Scandinavia. The function of the pointed oval boxes was probably closely associated with the making of fires, and it is thus quite acceptable to assume that they served as storage boxes for tinder. A function of this kind is rejected by Rydh (1917:173f), however, who advances the argument that the boxes were attached to the belt and without any means of opening. We have been able to demonstrate above, however, that the retaining mounts, at least for the strike-a-light stones, divided the belt strap, and that the under side of the stone lay directly against the wearer's back. It appears likely that the boxes were attached in a similar fashion, which discounts Rydh's argument.

Expensive retaining mounts for strike-a-light stones also occur as variants other than that discussed here. Amongst the finest of their kind are the retaining mount from the Evebø grave at Gloppen (Gustafson 1890; Schetelig 1912;114), and the example with animal head motifs from *Hove*, Vik (Rygh 1913). It is symptomatic that these belts, too, have pointed oval storage boxes of very similar style next to the strike-a-light stone.

Belt bags are extremely uncommon in the South Scandinavian area, and there are no contemporaneous parallels. Schönbäck (1968:187), however, refers to a find from Valleberga, Scania, which has been dated to the Late Roman Iron Age, with thin edge mounts made of bronze, suspension eyes and a fold-down cover flap. This should not be regarded directly as a belt bag, however, in spite of the fact that the find points clearly to the existence of leather bags at an early date. A number of similar bags dating from the Late Iron Age have been found at Birka (Sörling 1939), for example, as well as several other types of bag (Gräslund 1984), although these are generally without means of suspension, for which reason they should not be regarded as belt bags. In spite of the fact that the Högom chamber represents an exclusive burial and, to a certain extent, exclusive artefacts, it is unlikely that no parallel belt arrangements occurred in other areas. I believe that this is due in part to a gap in our researches, and I set out below a number of examples in which I believe that some form of belt bag occurred.

The Högom belt was thus found to contain no fewer than 5 buckles in total. One was the ordinary, large buckle for the belt itself, and there were a further four small buckles for the belt bag and the comb bag. This indicates that small buckles may not have anything to do with the belt itself, and may instead be belt accessories. There are, of course, other functions in which the small buckle may have a part to play, for example in conjunction with footwear.

Within the context of the project concerning the Mälar Valley during the Migration Period (Ambrosiani *et al.* 1981), a recently conducted study extended to

no fewer than 228 graves which have been dated to the Migration Period (Bennett 1987). Bennett distinguishes here between buckles with a strap width respectively greater and less than 1.5 cm. The smaller buckles occur in 6.5% of the graves, as a general rule also in association with comb material. Nine of the total of 16 small buckles in Bennett's material are of the kind with a slanting bow, i.e. a type which closely resembles those found in the Högom chamber. It is generally true that the graves in question are cremation graves, for which reason it is not possible to reach conclusions as to the function of the artefacts from their position in the grave. What is clear, however, is that all these buckles need not necessarily originate from different types of belt bags, and especially not in view of the fact that they are present in most cases as the only buckles in the graves. The published material also contains indications pointing to the occurrence of belt bags, namely where more than one buckle was found in the same grave. Such instances include a find made on Helgö, at grave field No. 150, grave 45 (Waller & Hallinder 1970:166f, Fig. 82), and a find made in grave No. 3 at grave field no. 213 in G:a Uppsala (Bennett 1987:229). One large buckle and one small buckle with a strap end mount were found in both cases. In addition, the Helgö find included a comb with a bone or horn comb case, and it is possible that the small buckle indicates that it was originally a cover made of leather for the comb. In another case, grave 1 at grave field 155 at Brännkyrka, we know of the possible discovery of 2–3 small buckles; if these are actually confirmed, then it may almost certainly be assumed that they belonged to a belt bag similar to the one found at Högom.

The chamber grave at Borg in Norrala, Alir, S Hälsingland (Varenius 1961), details of which have not yet been published, provides an interesting parallel with Högom in many respects. The deceased was equipped with a *spatha*, a shield and a lance, and c. 30 arrow points of iron had been scattered or shot around the deceased in a highly unusual manner. The deceased also has a pair of shears of iron, a very finely worked beaded ceramic vessel, and a wrapped vessel probably of birch-bark, all placed next to the head of the deceased. The deceased had also been dressed in a garment with preserved remains of textile and a tablet-woven bands, and no fewer than 46 clasp buttons of Lamm's (1972) variant IX, i.e. flat buttons made of gilded bronze, had been applied to the ankle bands and the wrist bands. On all but one of these, it was punched decoration in the form of a trident, the points of which are surrounded by three halved, concentric double circles, i.e. the same ornaments as that found on *inter alia* the Lockne buttons from Jämtland (Biörnstad 1962:89, Fig. 39). What is most interesting to us in this context, however, is the large number of objects situated around the waist of the deceased, i.e. the belt and its accessories (Fig. 69). Because the individual who was buried was probably laid in the grave resting slightly on his left side, several of the accessories have adopted a slightly displaced position. A strike-a-light stone, a fighting knife, an associated pair of tweezers and an ear-scoop made of bronze, three belt rings with a rectangular belt plate made of bronze, and with bronze tongue-shaped strap end mounts close to two of the belt rings, were also found in the vicinity of the waist. Three small bronze buckles were also found, two in direct association with the belt (Nos. 1 and 2 in Fig. 69), and one (No. 3) next to the set of clasps on the right of the deceased. The buckles were made to accept the following strap widths: No. 1 = 8 mm; No. 2 = 11 mm; No. 3 = 9 mm. Buckles Nos. 2 and 3 are charnier buckles, and in the case of No. 3, the ends of the charnier pin are fitted with profiled knobs of the same type for which casting moulds were found at Högom, Gene and Helgö (Pl. 117). This buckle (No. 3) probably does not belong to the belt, but rather to a baldric (sword-belt) or similar. Buckle No. 2, which is the largest, and yet in spite of that is not physically large, must be regarded as the main buckle of the belt. We are now left with buckle No. 1, which is the smallest buckle and is associated with the central belt ring. This small buckle corresponds directly to the buckle for the comb bag at Högom, with its sloping and relatively tall frame. It is thus highly likely that it had a similar function, i.e. for a bag or case which was secured to the central belt ring (Fig. 69).

Material has also been published from Gotland which suggests the existence of similar circumstances there. Skeleton grave No. 13 at Lilla Bjärges, in the parish of Lau (Nerman 1935:32, Fig. 105a) is both interesting and informative. The finds lie in their correct positions there, and include two buckles. One of these is for the belt and has a width of 13 mm, and there is a smaller buckle with a width of 9 mm lying cross-wise to the direction of the belt; this is the identical situation to that of the buckle and the strap end mount for the comb bag described above at Högom. It lies on the left side and slightly to the rear in the Högom case, however, and on the right side of the deceased and probably to the rear in the Lilla Bjärges case. The handle comb was lying at the feet of the deceased, from which it would appear that the small buckle and the comb had nothing to do with one another. This may well be a plausible suggestion, since there is really no reason why the comb should not have been taken from what is presumably its leather cover and placed at the feet of the deceased at the time of burial ready for use on his arrival on the other side.

Gotland also provides us with a number of examples of the combination of a large and a small buckle

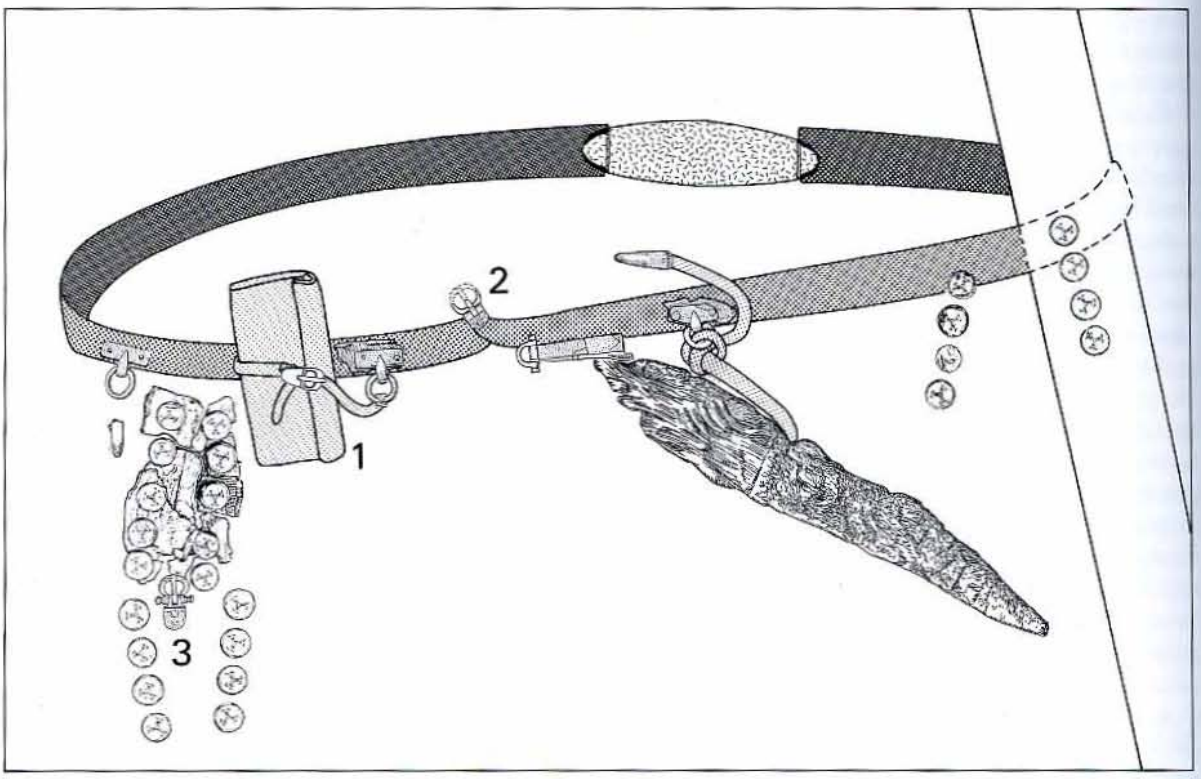


Fig. 69. Reconstruction of the Norrala belt and its belt bag. 1 = buckle for the belt bag, 2 = belt buckle, 3 = buckle for baldric (?). Composite arrangement of drawings by B. Händel.

(e.g. Nerman 1935:Taf. 14:162 and 167; Figures 184 and 187, etc.), from which it appears most likely that the lower limit for the width of the belt buckles was of the order of 10 mm, and for the width of the straps for covers and belt bags, etc., less than 10 mm, with the usual dimension being of the order of 5–7 mm. All this requires separate investigation, however, although it should be clear from the Högom find and from the above broad survey that belt and comb bags were more common than previously believed to be the case. Nevertheless, they should probably be related to graves containing grave material of above average quality.

As far as comb bags are concerned, the delicate nature of the combs indicates that they would have been kept in some form of bag or cover in addition to the "tooth guard" (i.e. comb case made of bone or horn), with which we have long been familiar. It is highly likely that the very often extremely finely executed details on the combs would soon have been broken if they had simply been allowed to dangle freely from the belt, as shown in the reconstruction drawing by Bennett (1987:108, Fig. 77a).

If we now make international comparisons between belt bags, we find that they do not appear to have been used by Roman soldiers (Baatz 1983). The Germanic area, on the other hand, provided finds which invited reconstructions, although in almost every instance these are bags in which fire-steels, flint and perhaps tinder were kept (Brown 1977; Schulze 1982; Pescheck 1986). However, a group of leather bags or, more correctly, purses in which coins were kept, has also been found, *inter alia* in the course of the investigation of two early Frankish graves at Severinus' Church in Cologne (Fremersdorf 1941). The skeleton graves each contained a male child and have been dated to the first half of the fifth century, or around 450 (Steuer 1980). Both graves contained the remains of a belt together with parts of belt bags. It is not clear how they were attached to the belts, although both contained coins. One purse (in grave 64) was rectangular with measurements of 7.8 x 3 cm, with rounded corners on the top side and edge seams, and a small buckle was also associated with the purse (corresponding to a maximum strap width of 7 mm, according to the illustration). Grave 65 was found to contain a similar, but less well-preserved, purse in conjunction with the belt. This still had a small buckle *in situ* (strap width 5 mm), and there were a further two small buckles and three mounts which may belong to the purse, although their exact position is not known.

In addition to the above, Gorecki (1975) discusses other more or less certain occurrences of purses or

small bags. In his view, these were used as containers for coins. Thus, the number of finds which have enabled reconstructions to be made is not particularly large, and there are accordingly no really good parallels to the two bags at Högom. It should thus be clear that it was not unusual in the higher social strata to have a bag made of leather on the belt, which could be used for a variety of purposes, although due to the fact that they were made of organic material, and that no find has previously provided a direct indication of the function of the small buckles, i.e. the buckles which correspond to a strap width of 5–10 mm, it has not been customary to draw conclusions in respect of bags/covers/purses.

The heart-shaped buckle with its associated strap end and strap retaining mount has no exact parallels. Buckles with a heart-shaped frame occur now and then in the belt material, and in Thüringia this type often occurs in the period from c. AD 480–525 (Schmidt 1961:90).

The handle comb belongs to that group of objects which is regarded by the project concerning the Mälar Valley during the Migration Period (Ambrosiani *et al.* 1981) as a key find for the Migration Period. Although the comb itself is not one of the most common types known during the Migration Period, a number of good parallels exist, for example at Skedemosse (Hagberg 1967a:59, Fig. 49), and the type of comb has a distinct East Scandinavian distribution (Slomann 1959; Silvén 1956; Hagberg 1967b:33).

One interesting phenomenon is the presence of hazelnuts, not only in the belt pouch (*F77*), but also the few found in conjunction with the saddle (*F9*) and the battle bridle (*F7*). The nuts found amongst the saddle mounts were intact, with measurements of 18.5 x 12.5 x 10 mm, and represent the largest of the identifiable nuts. Fragments of hazelnuts have also been found in seven Migration Period graves on the island of Lovö in the Mälar Valley (Petré 1984a), although in significantly smaller numbers. This can give an indication that nuts were more common than generally established, due to their highly perishable nature. The nuts were not as exclusive in the Mälar Valley, however, as they were in Central Norrland, and they may have had the same significance as grave gifts for that reason. Their function need not only be linked with the provision of food, given that the hazel is a plant which in many areas is specially associated with magical properties.

During the Sub-Boreal period, the available pollen charts from an area in the vicinity of Högom, i.e. the charts from Rudetjärn and Tunbyn (Engelmark 1978), indicate that the hazel was growing quite profusely in the mixed oak woodland which covered those parts of the landscape which were not dominated by the pine. There is a marked decline in the broad-leaved deciduous species at the time of the transition to a Sub-Atlantic climate (c. 500 BC), at the same time as the spruce shows a steep increase in the area. The hazel occurs sporadically thereafter, and in particular where the local microclimatic conditions were good. However, of the broad-leaved deciduous species, it is the hazel that is considered to have adapted best to the harsher climatic conditions, even though its occurrence probably never became profuse. Today, the most northerly wild stands of hazel are to be found in northern Ångermanland about 170 km N of Högom (Mo 1969).

The relative rarity of the hazel, together with the fact that it and its nuts enjoyed considerable significance in folklore and folk medicine during early periods of our history (Weinhold 1901; Hoffman-Krayer 1931: 1527ff), point to it having been rather more than simply a consumer good. A number of these significant meanings are believed to be of considerable age, and reference is made not infrequently to the hazel in the Icelandic sagas, for example. One subject which is also touched upon by certain ancient authors is the ability of the hazel to protect against poisonous animals such as scorpions and spiders. Similar significance is also encountered in the Germanic area, where the hazel is believed to protect against poisonous snakes and the like. We can mention the name of Thor in this connection, who held the hazel sacred, and his struggle with the Midgård Serpent. The frequently quoted tale of the serpent and the lightning is also appropriate in this context, and leads on in an interesting manner to the very commonly held belief that the hazel protects against thunderbolts.

Another commonly held belief in folklore was that the hazelnut was a symbol of fertility, although this is true of far too many other fruits and phenomena for it to be interesting in this context. There is one subject area, however, which may be interesting to mention, namely that the hazel was believed to have had a protective function in war. This reported significant meaning relates to Siebenbürgen, Central Europe and may also extend to later periods, although it is said that a soldier who is about to go into battle must cut for himself seven 3–5 cm long hazel twigs, and must carry them with him at all times (Hoffmann-Krayer 1931:1528). This observation relates to hazel twigs, and not to hazelnuts, although it is undeniably possible to assume, from the evidence of the weapon graves, that a similar protective and propitious function was also attributed to the nuts. Given all the circumstances, it is felt that the interpretation which should be placed on the hazelnuts is that they are either associated directly with battle, or that they generally bring good fortune. The two individual nuts which were found in conjunction with the bridle and the saddle also support the association with battle.

As far as the various bronze mounts of the belt are

concerned, it is striking how similar and how badly preserved are the strap end mount (*F19*), the two strap retaining mounts (*F20*), the quatrefoil mount (*F24*) and the belt buckle (*F18*). The belt rings and the bow-shaped mounts (*F21*) and the retaining mounts for the strike-a-light stone (*F23*) are similar and are equally poorly preserved. The condition of these objects is in glaring contrast to the bronze mounts of the saddle. The latter naturally contain considerably more bronze; can this provide the complete explanation, however, or are we faced by two entirely different qualities? The micro-local conditions of storage in the two parts of the chamber are presumably not the reason, since the degree of preservation of other material in the two parts is similar. I would venture to suggest that the bronze mounts belonging to the belt are of local manufacture, whereas those belonging to the saddle are imported.

4.6.5. PERSONAL ITEMS (Pl. 79–87)

4.6.5.1. Pair of shears , F27

Length = 233 mm; maximum blade width = 27 mm; width of loop = 34 mm. The shears are highly corroded, but are still in one piece for the time being. The loop, which widens out towards the top, exhibits slight traces of a depression with a maximum width of 13 mm.

The top part of one of the cutting blades (i.e. nearest the loop) is completely rounded, probably as the result of wear.

Fig. 70. Excavation of the shears *F27*. A shaped piece of wood, maybe the remains of the bow, can be made out directly to the left of the shears. Parts of the left arm of the deceased with clasp buttons can be seen beneath this. A belt ring and a part of the retaining mount for the strike-a-light stone can be seen on the bottom right.

although this may also be corrosion damage. The other blade has an obtuse angle at the corresponding place.

According to Selling, these shears had a case made of wood. She found the remains of 2 or 3 different textile fabrics (Fig. 70) on the under side of the shears. None of this is preserved on the object today, however.

4.6.5.2. Leather pouch (?) with toilet items

A collection of implements was lying relatively close together beneath (or possibly on) the shield, directly to the left of the head of the deceased. These included a wooden case containing a pair of shears (*F28*), two small iron knives (*F32* and *F33*), and another extremely fragmentary tool (F68). Of these, *F28*, *F33* and *F68* were lying parallel with one another, whereas *F32* was lying at right angles to them (Fig. 71). This group also contains a cavetto ring made of bronze with a leather strap and a bronze wire hanging from it. There are reasons to believe that these objects lay in a leather pouch and formed a coherent group of tools or implements, most probably clipping and shaving equipment. The various components are described below:

A. Pair of shears in wooden case, F28

The case consists of two originally complementary components. The original length was c. 260 mm. The pressure inside the chamber has caused the case to disintegrate (Fig. 72), and it is not now possible to determine whether the case was rectangular or whether it had its present form with a slightly inward-curved upper part.

Of the shears, which are visible on the X-ray photograph (Fig. 71), only a small part can be observed in the broken-off section. The wooden case probably lay inside a leather pouch or similar originally, remains of which have been found in particular on the narrow sides and the front side of the longer part of the case.

According to Selling, the case was in two parts, consisting of an upper half and a lower half. This cannot be confirmed simply by a visual inspection, although logic tells us that it must have been in two parts. In view of the fact that ornamentation is still present on the sides of the loop part, it is unlikely that the case was in two parts at that precise point. What is more likely, however, is that the lower c. 2/3 of the case was in two parts. This is supported by a relatively even, although short join on the right hand side of the case viewed from above. A possible join is also concealed by remaining leather from the pouch.

As already mentioned, another question concerns the original form and size of the case. The length indicated above should correspond quite closely to the original length, although as far as the width is concerned, it must be assumed that it has changed significantly. It is clear that the case was subjected to such considerable lateral pressure inside the chamber that it was already fractured in the chamber and was caused to break to the left. The upper part of the case has a relatively strong "waist" with a maximum width of 50 mm and a minimum width of 30 mm. This "waist" is very probably the result of having been squeezed together, which is demonstrated by the two ornamented friezes with running dog motifs. Both were clearly friezes which ran along the edge of the case, but the compression has caused the left-hand frieze to be displaced towards the centre, and half of the right-hand frieze has suffered damage.

Fig. 71. X-ray photograph of the area of the leather pouch, including the shears in a wooden case *F28*. The large light area is the shears, which are broken, and the knife *F32* can be seen lying perpendicular to it. The bronze ring *F69* can be seen at the point where these cross. The two tools with wooden shafts *F33* and *F68* can also be seen above the shears, and between them traces of a further object, albeit unidentified. On the top left are two sets of angled clasp buttons belonging to the spare garment by the head of the deceased. Running vertically on the right side of the picture is one of the iron bands which supported the chamber at the time when it was encased in plaster.

Ornamentation: fragmentary remains of ornamentation are present on the edges and on the upper side of the case. Right at the very top of the upper side are parts of two edge friezes with a running dog motif; the one on the left is the best-preserved and is c. 30 mm long. The running dog motif consists of 4 spirals in relief surrounded by longitudinal lines. A raised zig-zag line contained within two edge lines runs immediately adjacent to the edge of the case. The zig-zag line has a direct parallel in niello on the sword (Sect. 4.6.1.1.) and the clasp buttons on the wrist band (Sect.4.6.3.1.). Of the right-hand frieze, only two spirals can be discerned weakly. There was also ornamentation between the two edge friezes, although all that remains are slight traces of a curved double line which connects with the left-hand frieze.

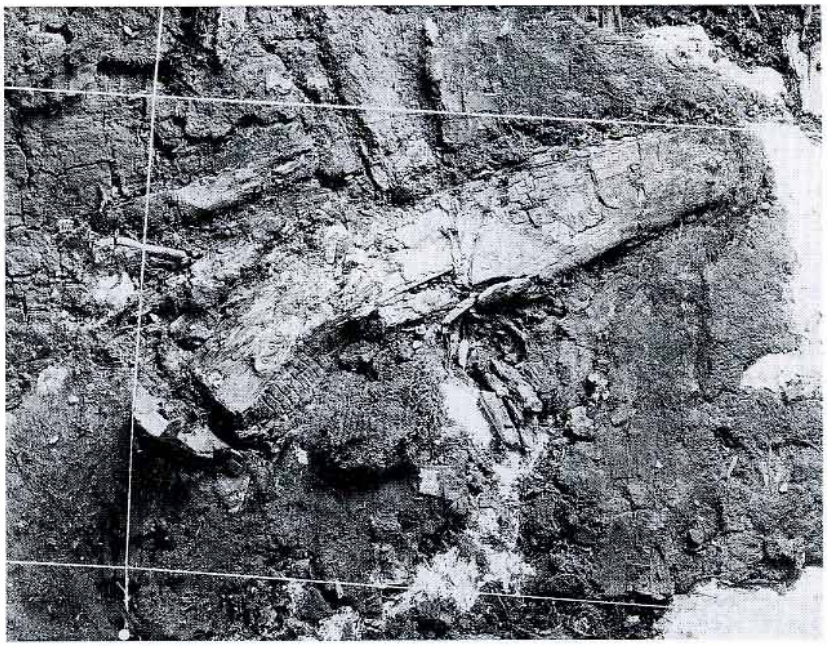


Fig. 72. The wooden case for the shears *F28* in the course of excavation.

Linear ornamentation is preserved on both long sides of the top part. This is preserved for a distance of c. 40 mm on the left-hand edge and is made up of bundles of vertical lines. In direct contact with these is a Style I ornament of indeterminate form. The Style I ornamentation is framed by horizontal edge lines and is preserved for a distance of 10 mm. Only quite small fragments of the vertical lines are preserved on the right-hand long side.

No ornamentation can be discerned on the short side of the upper piece, although the remains of a horizontally applied bronze rivet can be seen slightly to one side of the longitudinal axis. Only the head is visible, and is gilded with a diameter of c. 5 mm and with a conical depression.

As far as the larger, lower part of the case is concerned, only slight traces of decoration are preserved on its upper side. To some extent there are fragmentary double edge lines on both sides, and for a short distance of c. 7 mm on the left side is a zig-zag line of the same type as above. There are fragmentary, but clear remains of Style I ornamentation on the lowest part of the case, surrounded by twin double lines.

According to Selling, a lilac-blue substance was found on the lower part which, according to her, was the remains of a silver rivet around which the two case discs were able to turn. This explanation cannot be correct, however, as there is no room for the shears inside the case if a transcurrent rivet is situated at the point at which the silver remains were found. The silver corrosion would thus have been secondary, or else belonged to a decorative rivet on the case which has now disappeared completely. Selling also mentions the fact that at least the Style I ornamentation on the upper side of the case was a red colour. Selling also describes items of ornamentation on the rear side of the case, although these cannot be seen today. Selling's drawings of the ornaments similarly show that they were easier to see and rather more comprehensive in the state in which they were retrieved from the burial chamber.

With respect to the reconstruction of the case, the absence of a join on the long sides of the upper part is troublesome, as already stated above, because the case would then have had the appearance shown in Fig. 73. One possibility is that the crack which is visible on the short side and in which the gilded rivet sits, in fact represents the join between the upper part and the lower part. If this is the case, then either the ornamentation on the long side must belong to the sides of the upper piece, which would then lie outside the edge of the lower piece, or the ornamentation in question would occupy a secondary position. Both alternatives are strained and cannot be taken seriously, as a consequence of which the first-mentioned reconstruction is recommended (Fig. 73).

B. Iron knife with wooden shaft, F32

A relatively well-preserved iron knife, which was broken into two pieces when found, but which today has been artificially repaired. The current length is c. 180 mm, of which the shaft accounts for c. 75 mm. The shaft had an oval cross-section of c. 20 x 10 mm. The shaft part was probably a little longer originally. Small parts of the leather sheath are preserved, c. 70 mm from the upper end, of which there is a secondary application of leather on an area measuring c. 20 x 20 mm; the leather fragment is 1–2 mm thick. This leather could belong to the leather pouch in which it probably was kept.

C. Iron tool with wooden shaft, F33

62 mm in length, of which the shaft accounts for 27 mm. Neither the shaft nor the iron has been preserved intact, and in addition the latter is also heavily rusted. The iron part was of almost rectangular cross-section, however. The shaft is flattened on one side (probably as a result of the pressure to which it was subjected in the chamber), and it measures

15 x 12 mm. It was probably 14–15 mm in diameter, similar to *F67*. The lower 15 mm of the iron part carry horizontal impressions of some textile similar to two-leaved twill.

D. Fragment of tool, F68

A very severely fragmented object consisting mainly of wood, but with single iron fragments, measuring 45 x 19 x 12 mm. This probably represents the handle of some kind of tool.

E. Bronze ring with leather strap and bronze rod, F69

A cavetto ring made of bronze, 19 mm in diameter, with a 9 mm hole and 8 mm thick material. The cavetto is very distinct and is 3 mm wide. The fragmentary leather strap sits around the ring and is 10 mm broad and 1–2 mm thick. A fragmentary bronze piece made of rectangular 5 x 3 mm material is also partly twisted around the ring. This was presumably also a ring.

Unlike the belt rings, this cavetto ring is considerably heavier and thicker and has a more distinct cavetto.

F. Conclusions and comments

As will be appreciated from the above, there is leather on the case for the shears' and on the knife *F32*. The leather on the shears' case was interpreted by Selling as indicating that the wooden case had been enclosed within a "leather cover". With regard to the knife *F32*, she simply states that the leather present on it is the remains of a leather sheath. A secondary piece of leather measuring c. 2 x 2 cm is present on the outside of the sheath (Pl. 82), which may be the remains of a leather pouch. the matter is complicated by the fact that the shears' case was lying on top of the knife *F32*, which also means that the leather may come from a leather pouch which simply contained the shears' case.

Whereas there can be no doubt as to the presence of a leather pouch, it is not possible reliably to establish whether all the objects referred to here were contained within it, or whether it contained only the shears' case. The most likely explanation is that those objects which were lying parallel with the shears' case were contained in the pouch. The presence of a pouch also makes it probable that the ring *F69* was associated with this bag. This suspension arrangement thus corresponds to that of the belt, and in this instance the leather strap which was presumably attached to the bag is also preserved, as well as a further, relatively simple bronze ring, which either functioned as a supporting ring in its own right, or was a support ring used in connection with the suspension. The object to which the cavetto ring was attached is not clear from the circumstances of the find, although I show a conceivable alternative in the reconstruction drawing (Fig. 74). The pouch is 30–35 cm high and up to 10 cm wide in the proposed reconstruction, and as such is adapted to the largest object, the shears' case.

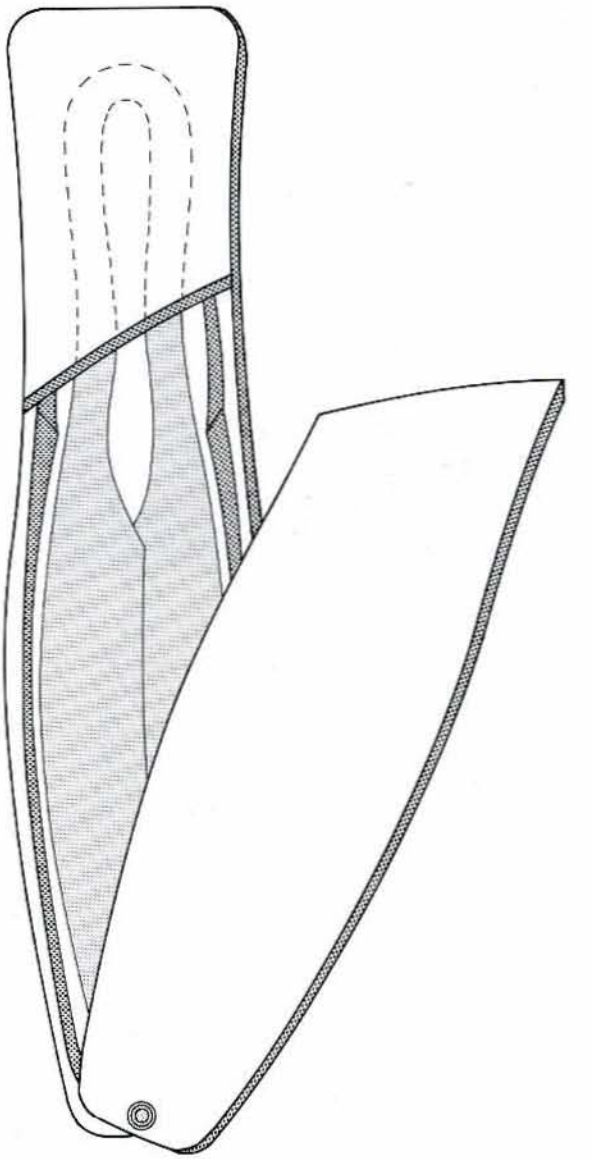


Fig. 73. Suggested construction of the shears' case (*F28*).

Leather bags containing different types of implements are not unusual during the period with which we are concerned here, for example in the Frankish region. In addition, a closure similar to that at Högom often occurs (Pescheck 1986).

The preserved wooden case probably bore all-over ornamentation on its upper surface, and to some extent on the sides, consisting of both geometrical and Style I motifs. This is probably also something which can be compared to an imitation of punched ornamentation. As can be appreciated from Selling's simple drawing (Pl. 83) of the ornamentation elements observed by her, it was difficult to make out much of the

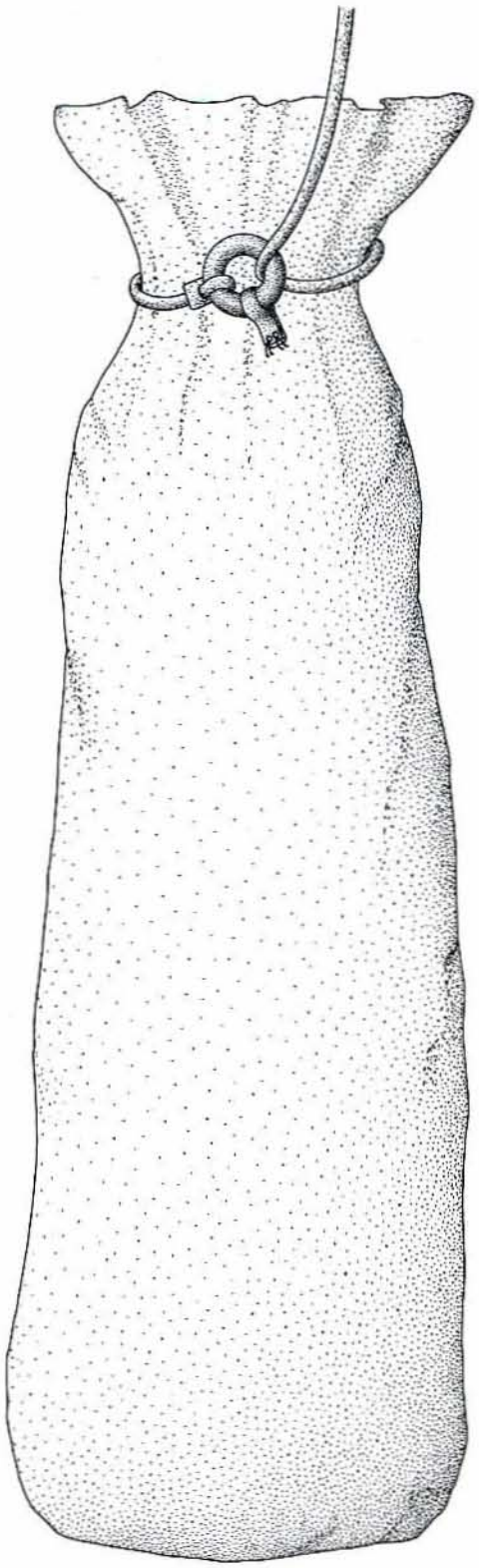


Fig. 74. Reconstruction of the leather pouch containing the shears (*F28*), etc.

decoration even directly at the time of retrieval. There are a number of differences, however, in relation to later observations (Pl. 82). The most obvious of these is that the best-preserved Style I motif contains a thigh and a leg of a typical Style I animal. Unfortunately, other Style I ornamentation exhibits no clear patterns.

4.6.5.3. Bone comb, F26

This was lying in the bronze dish *F40* (Fig. 75), which probably explains why it is so exceptionally well preserved. In particular the side which was lying against the dish has been impregnated with bronze and is completely green. The other side of the comb has a brownish colour and is more fragmented, which means that it is more similar to the comb on the belt (*F25*). The ornamentation on both sides of the comb was identical, however.

The cross-section is wedge-shaped, which is also true of the side plates. These are 2 mm wide at the centre on the bottom edge, and 6 mm at the top. They taper slightly towards the edges.

The comb was c. 50 mm high at the centre and 35 mm at the edge. Originally the comb was 20 mm wide at the top at the centre, and 12 mm wide at the top on the edges.

The comb is made up of 2 applied external side plates and a central rail, which in turn is made up of four parts. The whole is held together by 5 pairs of rivet pins. These are arranged symmetrically, alternately in high and low positions on the comb. The middle three pairs of rivets are positioned to either side of the joins between the four parts of the central rail, whereas the two outermost pairs simply secure the side plates to the central rail.

The central rail has steps to match the side plates. The step forms a clearly marked ridge c. 1 mm wide on the front side of the comb.

The comb had 86 finely cut teeth, a large number of which are still intact. The row of teeth is terminated at each end by a broader, 4 mm wide part.

The ornamentation of the comb consists of double and triple edge lines on the side plates, large concentric circles with a central dot and rows of dots, sometimes situated on an incised line, which was probably a guide line used by the craftsman in order to ensure that the row of dots was in the correct position. The bottom edge of the supporting rail is decorated with a frieze, in which three of the pairs of rivets and four repetitions of a pattern composed of three semi-circles with central dots and short straight lines are contained. Situated at both ends of the frieze, beyond the outermost rivets, are a horizontal line of dots and, at the extreme end, a vertical line of dots, respectively containing 5 and 2 dots. On the central rail, between the curve of the row of cut teeth and the curve of the stepped ridge, are two parallel rows of dots (one long and one short), which also run parallel with the curve of the teeth.

Finally, the crown of the central rail has a beading with inclined fluting. Traces of working can be seen here on the lower parts of the central rail, although not on the adjacent side plates, which indicates that the inclined fluting was applied to the beading before the comb was assembled. The crowns of the side plates are both decorated with two edge lines.

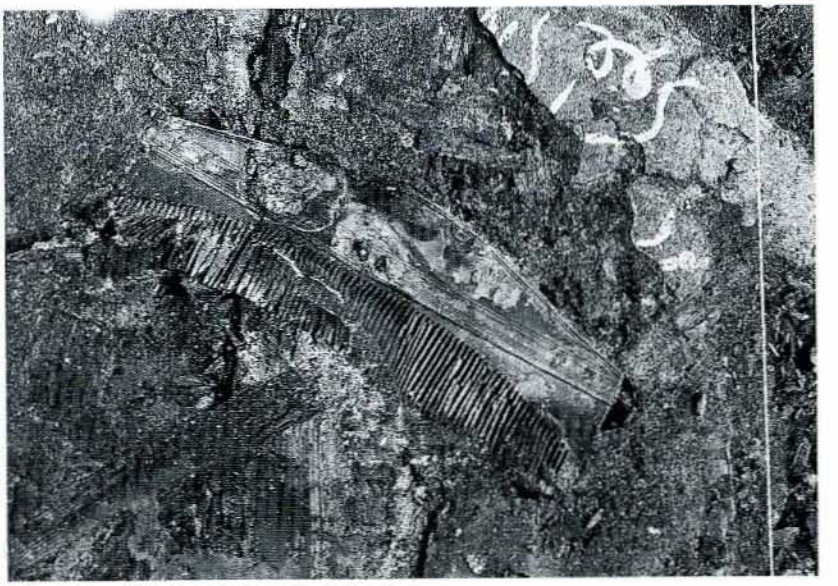


Fig. 75. The comb *F26* in the bronze dish *in situ*. Parts of the bronze dish with the figures painted on by Selling can be seen at the extreme top right. The ring which is visible, *inter alia* over the teeth of the comb, is the impression left by the foot of the bronze dish. (Cf. Figs. 83–84).

4.6.5.4. Gold artefacts (Pl. 86–87)

A total of seven gold artefacts was found in the grave. These consist of two finger rings (Fig. 76), two pendants (Fig. 77), two gold bars and a plain gold plate.

A. Finger rings, F12

One large and one small finger ring. Both are plain and are totally lacking in ornamentation. The larger ring is made from a band-shaped bar with a cross-section of 4 x 1 mm, although the dimensions vary somewhat at various parts of the circumference. The internal diameter is 19 mm, and the external diameter is 21 mm. The regular marks left by hammering can be observed on the upper surface of the ring, which is also gently but irregularly chamfered on its edges. The inside of the ring exhibits an insignificant depression running along the centre line, and the edge overlaps to some extent, with the result that the edge is relatively sharp. No traces of wear could be observed. The weight of the larger ring is 4.49 grams.

The smaller ring is also made from a band-shaped bar, in this case with a cross-section of 3.5 x 1.5 mm. The internal diameter is 15 mm, and the external diameter is 18 mm. Here, too, the upper surface of the ring bears the regular marks left by hammering, and its edges are relatively sharply chamfered. The inside of the ring is plain, and no traces of wear could be observed. The weight of the smaller ring is 4.47 grams.

The rings were worn by the deceased on his left hand, and both the position and the size of the smaller ring indicate that it was worn on the little finger, whereas the larger ring was probably worn on the middle finger or possibly the index finger. It was unlikely to have been worn on the ring finger, however, because the distance between the rings was too great (Fig. 76).

B. Pendants, F13

Two almost identical pendants made of light, thinly-hammered gold. These were formed at the broad end into slightly cupped leaves, which taper and are terminated by a simple, coiled spiral which forms a small suspension eye. Both are 72 mm long and have a maximum width of 12 and 13 mm respectively. The width decreases uniformly up the eye part, where the original bar retains its form; in one case the cross-section was square, with a length of side of 1 mm, and in the other case it was rectangular, measuring 2 x 1 mm. Both sides of both pendants bear the traces of slight folds left by the cold-hammering operation. These folds run across the leaves at an angle, and both have slightly undulating edges, which can also be attributed to the cold-hammering process. The pendant with the slightly narrower leaf weighs 3.12 grams, and the other 3.47 grams.

C. Gold bars, F14

Two almost identical gold bars were found in conjunction with the belt of the deceased. These were lying in a belt bag (Figs. 61–62). Both resemble tooth-picks, are 64 mm long, and exhibit at the centre a four-sided cross-section of 1 x 1 mm. They taper slightly towards the ends, and one end of each bar is more pointed than the other. Their weights are 0.53 and 0.46 grams respectively.

D. Gold tablet, F15

The gold tablet resembles a coin, although it is not completely circular with a diameter of 18-18.5 mm, and is 1 mm thick at the edge. The edge is sharp and is slightly thicker in relation to the rest of the tablet. The weight is 3.13 grams. This find is described as follows by Törnblom (1985):

Fig. 76. The finger rings *in situ*. The remains of planks belonging to the bed can be seen to either side of the rings.

Density measurement in distilled water gives a value of 15.23 g/cm³. If the alloying material is silver, which is probably the case having regard for the colour of the alloy, then the gold content is 53%. The tablet appears to have been struck between two tools whose diameter was slightly smaller than that of the tablet, causing the thickened edge to occur. The edge, which is now round, was swaged all the way round, whereupon the edge was tapped down once more from the flat side so as to form the sharp edge around the tablet. This explanation was provided by a silversmith, Erik Norgren, who also believes that the tablet is alloyed with silver. There cannot have been any earlier markings on the tablet. A number of defects can be observed in the tool, however, such as cracks at the edges and surface irregularities.

E. Comments on the gold finds

The combined quantity of gold in the find is 19.67 grams. We must remember, however, that at least the gold tablet is heavily alloyed, which is also true of the pendants. The finger rings probably have a larger gold content.

As far as the function of the various gold finds is concerned, there is not a great deal to say about the *rings*. It can simply be established that they had been placed on the left hand, probably on the middle finger and the little finger, and that they were symbols of great status; they should not be regarded as the equivalent of the Continental signet rings, however, since this type of gold ring is far too common to have fulfilled that function.

As a consequence of what is discussed above (Sect. 4.6.3.5.) in respect of the height of the deceased, it follows that the *gold pendants* were lying in the region of the ears, which means either that they were some kind of ear-rings or hair decorations, or that they belonged to the headgear. None of these alternatives appears more or less unreasonable than the others, although in the absence of reliable parallels we must content ourselves with this conclusion for the time being.

Equally poor parallels exist in respect of the two *gold bars* which were found in the belt bag. Their presence inside the bag should perhaps be taken as an indication that they had the function of some form of gold used for payment. The function of a tooth-pick suggested by J-P. Lamm is possible, although as far as I am aware there is no equivalent in earlier finds. The objects

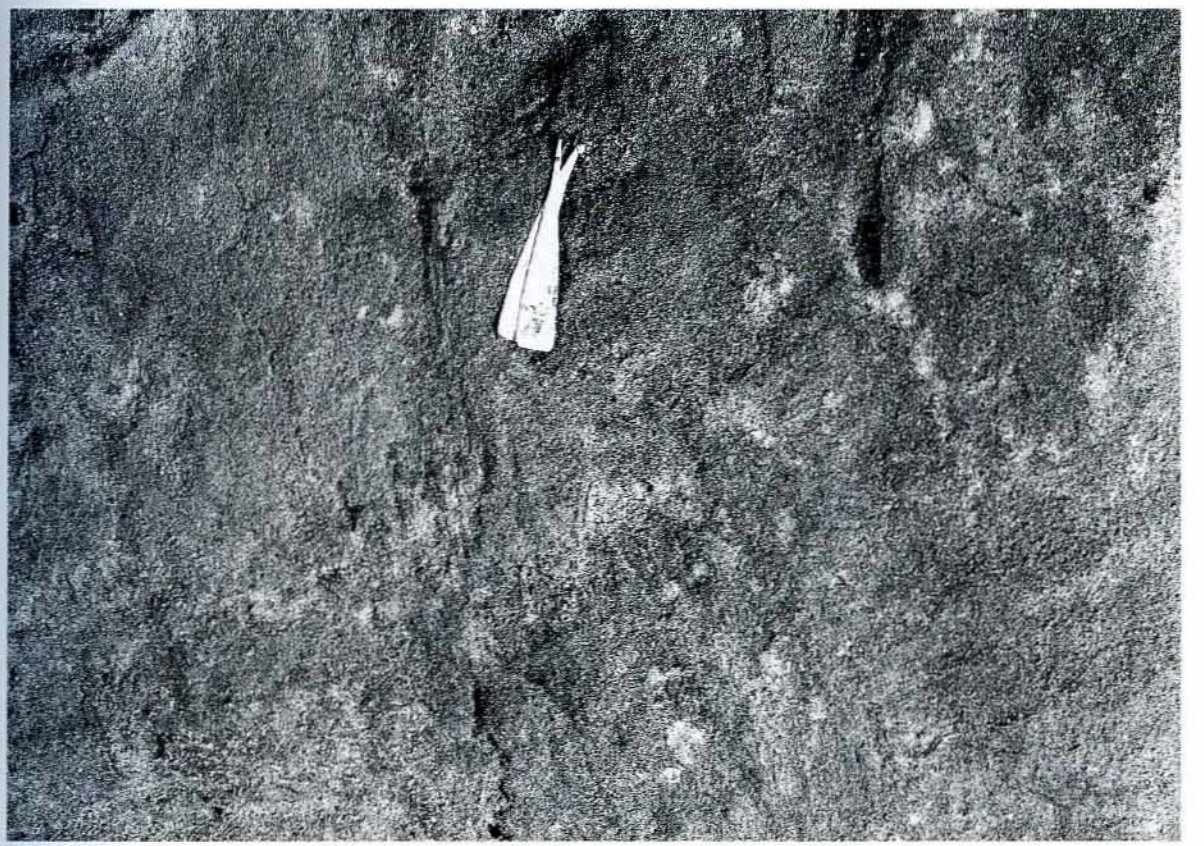


Fig. 77. The gold pendants *in situ*.

which are usually interpreted as tooth-picks have other forms as a general rule and occur often together with other toilet articles (Becker 1990:109ff).

The *gold tablet* in the Högom grave has already been discussed in conjunction with the possible occurrence of obole-custom in Scandinavia (Silvén 1956; Gräslund 1966; Werner 1973; Ramqvist & Müller-Wille 1988; J-P. Lamm & Axboe 1989). The items discussed in this context are the gold artefacts and the individual silver artefacts which were found in graves close to the head of the deceased, in his mouth, and in or close to his hands. The type of object ranges from coins, medallions and imitation bracteates to flat-hammered gold sheets and tablets, etc. J-P. Lamm & Axboe (1989) also discuss the possibility that coins and tablets with holes in them may be oboles. It is similarly not regarded as impossible that objects such as these occurring in cremation graves might also be oboles (cf., for example, Gorecki 1975; J-P. Lamm & Axboe 1989).

The published literature makes reference to 10 Scandinavian graves dating from the Late Roman Iron Age and the Migration Period, which I consider to be probable occurrences of Charon coins or similar substitutes of gold and silver. These are the following skeleton graves:

1) Salands, Linde parish, Gotland. A round gold disc, 14.9 mm in diameter, decorated on one side with a four-edged pattern. Found immediately adjacent to the head. Male weapon grave. Dating: Migration Period. (Silvén 1956).
2) Kälder, Linde parish, Gotland. An imitation medallion or coin with markings on both sides. 22 mm in diameter. Found in the mouth of one of the two individuals who had been buried. Double grave, male graves, weapons. Dating: Late Roman Iron Age. (Almgren 1903).
3) Hågerup, Funen. A silver denarius (137 AD) and a gold thread coiled into a spiral, found next to the jaw of the deceased. Male grave. Dating: Late Roman Iron Age. (Broholm 1952).
4) Himlingøje 1, Zealand. A piece of gold found next to the lower jaw of the deceased. Male grave. Dating: Late Roman Iron Age. (Norling-Christensen 1951).

5) Himlingøje 2, Zealand. A piece of gold in the mouth of the deceased. Female grave. Dating: Late Roman Iron Age. (Norling-Christensen 1951).
6) Gile, Toten, Opland. Round silver disc with a hole in it, found next to the teeth of the deceased. Male grave. Dating: Late Roman Iron Age (c. 200). (Herteig 1955:82).
7) Hol, Hustad parish, Trøndelag. A piece of gold measuring 21 x 5 x 1 mm, found close to the head of the deceased. Male grave? Dating: Migration Period? (Bøe 1926:64, 82).
8) Søtvet, Solum parish, Telemark. A flat, hammered-out piece of gold which, together with two bracteates, was lying next to the head. Female grave. Dating: Migration Period (c. 500). (Bøe 1926:22).
9) Vestly, Rogaland. A gold tablet in the vicinity of the head of the deceased. Male grave. Dating: Migration Period. (Møllerup 1966).
10) Högom, grave 2.

Of these, the three Danish graves in particular and the grave from Gile in Opland are important for our appreciation of how the practice was transferred from the Continent to Scandinavia. Werner (1973) doubted whether the practice was actually conveyed to the germanic groups via the Roman Empire, since there was felt to be no reliable evidence of the use of the practice by the Romans. Gorecki (1975), however, has demonstrated and argued in favour of the practice having been applied during the second century, at least within the Romano-Gallic province. The burial practice is a source-critical factor here, as in other areas, since the predominant burial practice was cremation, as a result of which it is difficult to comment on how common the obole custom actually was. Nevertheless, the relatively few skeleton graves have provided clear evidence of the Charon coin having been placed in the mouth or in the hand of the deceased or in the immediately surrounding areas.

It is thus quite clear that the rich graves in the Hassleben-Leuna group, which also include graves containing oboles, may be regarded as the connecting link with the contemporaneous rich graves on the Danish islands. The areas in between in Mecklenburg also exhibit the individual pieces of contemporaneous evidence of the application of the obole custom. Amongst other things, its occurrence in the skeleton grave dating from the Late Roman Period at Woldegk, Neubrandenburg (Schach-Dörges 1970:25ff, Taf. 64:6), with its 13 mm wide and almost 3 mm thick gold plate, constitutes an excellent parallel in this respect with the chronologically younger Högom grave. Another example from the same time as Högom derive from a large mound in Kittendorf, Mecklenburg (Beltz 1911). There a solidus of Zeno (474–491) was found in the mouth of the buried warrior.

It is also quite clear that the obole practice during the Late Roman Iron Age, to the extent that it occurs, is associated with the upper social stratum, a situation which is believed to continue into the Migration Period. The practice was not so common, however, that it occurs in all graves of a high social stratum, and its use appears to have been controlled by certain mechanisms of which we are unaware. It is considered to be clear (Werner 1973) that the Hassleben-Leuna group enjoyed a close relationship with the Roman Empire, and it is probable in the light of this circumstance that the contemporaneous and similarly extremely richly equipped graves on the Danish islands and in Scania (Stjernquist 1955) exhibited a similar pattern of behaviour, perhaps as *foederati* of the Roman Empire. This also offers an explanation of why the Alemannic region, for example, did not adopt the obole custom during the Late Roman Iron Age, because the Alemanni were in a situation of sharp conflict with the Roman Empire at the time in question. This can accordingly be taken as a classic example of the causes of diffusion and the acceptance by various groups of foreign customs and cultural patterns. The critical factor in this respect is thus believed to be the political relationship prevailing at the time.

The continued selective spread of the practice during the Migration Period can thus be regarded as a consequence of the situation during the Late Roman Iron Age, when the practice presumably spread to all the areas with the obole custom which are represented during the Migration Period. Since the practice was not common and was reserved only for the highest stratum of society, the picture which we obtain through the finds which have been made is naturally of a highly random nature and is thus not reliable from a strictly chorological point of view.

4.6.5.5. Iron tool with a wooden shaft, F67

68 mm in length, of which the shaft accounts for 33 mm. Neither the shaft nor the iron has been preserved intact, and the latter is also heavily rusted. The shaft was originally round or oval, with a diameter of 14–15 mm. There is a one millimetre wide gap between the shaft and the iron tool, which makes a small part of the tang visible.

4.6.5.6. Whetstone, F93

A fragmentary whetstone of grey/white quartzite, with a rectangular cross-section. Present length 85 mm, with dimensions of 42 x 20 mm at the centre, and 50 x 23 mm at the end. One side is smooth, and the other has a longitudinal groove which tapers slightly towards the centre.

4.6.6. CUPS, CAULDRONS AND CONTAINERS
(Pl. 88–99)

No fewer than 17 containers of different kinds were found inside the chamber (Figs. 10–11). An even greater number of wooden cups and similar objects may possibly have been placed in the chamber originally. Wooden plates could be identified in four cases, although only half of these could be saved in spite of their optimum shape for survival inside the chamber. This, together with the intermixture of the wooden roof of the chamber, makes it uncertain whether all the containers which were originally present inside the chamber were, in fact, detected in the course of the excavation.

4.6.6.1. Glass with ovals, F36 (Selling's glass No. 2)

153 mm tall. The glass has an essentially pointed internal bottom, and its internal depth is 134 mm. The external diameter of the mouth is 100 mm, and the internal diameter of the mouth is 90 mm. The rim at the mouth is inclined slightly inwards. The diameter of the small plane surface of the base is 13 mm (Fig. 79).

The glass has 5 rows of upright, ground-in ovals. The number and size of the ovals is as follows (top row = row 1):

Row 1: 26–27 x 11–12 mm ovals. 21 ovals. The distance between the ovals varies from 0–2 mm. The diameter on this row (at the centre of the row of ovals) is 83 mm.

Row 2: 25–27 x 9–10 mm ovals. 21 ovals. The distance between the ovals varies from 0–1.5 mm. The diameter on this row (at the centre of the row of ovals) is 70 mm.

Row 3: 21–24 x 7–8 mm ovals. 21 ovals. The distance between the ovals varies from 0–2.5 mm. The diameter on this row (at the centre of the row of ovals) is 57 mm.

Row 4: 17–19 x 6–7 mm ovals. 21 ovals. The distance between the ovals varies from 0–1.5 mm. The diameter on this row (at the centre of the row of ovals) is 48 mm.

Row 5: 15–18 x 4–5 mm ovals. 21 ovals. The distance between the ovals varies from 0–1 mm. The diameter on this row (at the centre of the row of ovals) is 40 mm.

The depth of the ground-in ovals gradually reduces; it is scarcely 0.5 mm at the top, and even less at the bottom. Fine, vertical grinding marks can be seen on all the ovals.

A 3.5 mm wide rim running all the way round has been ground-in at a point 6 mm below the mouth. A further 7 mm below this (from the bottom edge to the top edge) a row of small horizontal ovals runs all around the glass. These very shallow ovals are all severely oxidized and have the appearance of light brown spots against the green glass. The glass in this area is rather damaged, although presumably the horizontal ovals were 21 in number and measured 7 x 3 mm. A ground-in rim c. 3 mm wide runs all around the glass at a point 14 mm above the bottom surface. The rim is completely oxidized, however, and has the appearance of a light brown rim.

Repairs: Two obvious repairs are visible on the glass. One of these is 5 mm below the rim. A bronze plate, 36 mm long and 8-9 mm wide, is firmly oxidized in place inside the glass. This is secured by two pins which had been applied through holes bored in the glass. The diameters of the holes are 2 mm and 2.5 mm respectively, and the distance between the holes is 32 mm. The second repair plate is situated 43 mm below the rim. The bronze plate on the inside measures c. 26 x 7 mm and is attached by means of two bronze pins positioned 20 mm apart. The holes were drilled with diameters of 2 mm and 2.5 mm respectively. These plates are also accompanied by a bronze plate which has become loose; its position on the glass is unclear (Pl. 89:6), although according to Selling it belonged to glass No. 2. It is intact, and it measures 55 mm long, 5.5 mm wide and 0.4 mm thick; it was fitted with three pins, and parts of two of these are still present. The ends of the plate are even-

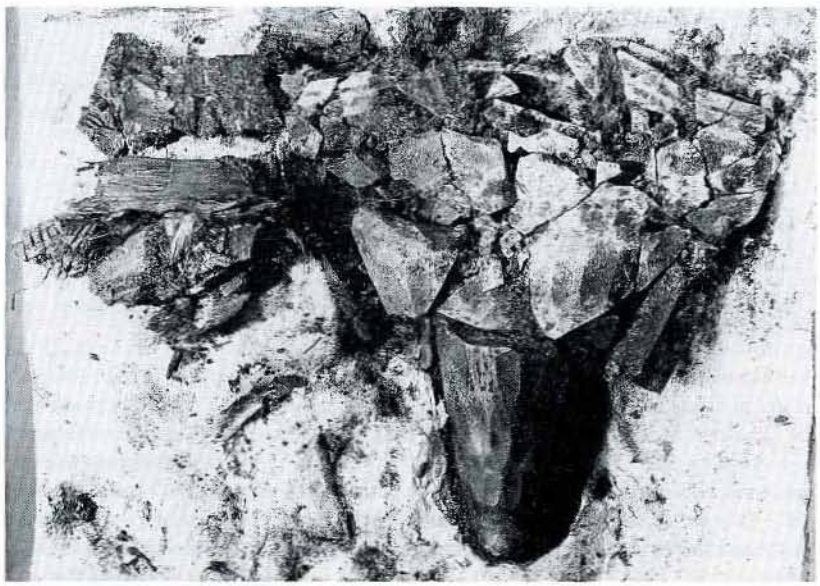


Fig. 78. Glass *F36* (with ground-in ovals) *in situ*. On the left can be seen remains of the swept vessel with the associated plaited birch-bark. (Cf. Pl. 97).

ly rounded. The middle pin is 2 mm in diameter and projects by 7 mm, whereas the other projects by only 1 mm. Both pins have flattened heads.

The following observations were made by Selling: Present above glass No. 2 was plaited organic material (Fig. 78) consisting of 2–3 mm wide strips, which are preserved in part on a piece measuring c. 60 x 35 mm. In her notes which accompany the drawing, Selling has deleted the word birch-bark and has substituted the word straw. Also being kept in the same box as this was a piece of wood measuring 40 x 18 mm bearing the impression of the silver repair plate used on the glass. The box also contained three fragments of such plates (Sect. 4.6.6.3.).

A further piece of plaited birch-bark is included in the collections of material which are presumably associated with the glass (Pl. 106–107). This is a two-layered fragment which measures c. 80 x 7–17 mm. The two layers are made up of an underlying solid piece of birch-bark, and on top if it a piece of plaited material made from c. 2 mm wide strips of birch-bark. The plaiting can be reconstructed in this case (Pl. 107:c), and it is likely that the other piece referred to above was also plaited by the same technique.

One interpretation of the circumstances of this find suggests that the glass had been kept wrapped inside a birch-bark container, and that a finely plaited outer cover had been sewn securely to the outside of the birch-bark container.

4.6.6.2. Glass with facets, F35 (Selling's glass No. 1)

Height 155 mm. The internal depth is 143 mm, and the inside bottom is essentially pointed. The outer diameter of the mouth is 103 mm, and the inner diameter of the mouth is 94 mm. The mouth is inclined slightly inwards. The diameter of the plane surface of the base is 19 mm (Fig. 79).

The glass has 4 rows of upright, ground-in facets. The number and size of the facets is as follows (top row = row 1):

Row 1: 34–37 x 15–19 mm facets, with a total of 15 ground-in facets. The diameter on this row (at the centre of the row of facets) is 89 mm.

Row 2: 34–39 x 11–16 mm facets, with a total of 15 ground-in facets. The diameter on this row (at the centre of the row of facets) is 73 mm.

Row 3: 24–38 x 10–15 mm facets, with a total of 15 ground-in facets. The diameter on this row (at the centre of the row of facets) is 58 mm.

Row 4: 25–27 x 9–11 mm facets, with a total of 15 ground-in facets. The diameter on this row (at the centre of the row of facets) is 47 mm.

The top and the bottom parts respectively of the ground-in facets are rounded, which points to the ovality of the facets. The facets are otherwise hexagonal, although they are in no way of completely identical form. The variations and the irregularities are considerable, which can also be appreciated from the dimensions. It is not uncommon for two or more highly irregular facets to lie next to one another, which can possibly be explained by the fact that these were the last facets to be ground-in on that row. Interestingly enough, the most irregular facets lie along a slightly diagonal line, although in principle they are directly beneath one another, which could be taken to indicate that the facets were ground-in in horizontal rows.

As in the case of the glass *F36*, the larger facets are ground-in more deeply than the smaller facets, although the difference here is not as great, and all the rows are ground-in relatively deeply to a depth of c. 0.5 mm at the centre of the facet.

By comparison with the glass with oval shapes, the facets give a very smooth and highly *polished* appearance, in addition to which no grinding marks can be seen on the facets.

A ground-in line, 6 mm wide, runs all the way around the glass at a distance of 5 mm below the rim. A further 6 mm below this is a row of horizontal, ground-in ovals measuring c. 10 x 5 mm. Only 14 intact ovals can be seen, because of damage, although there would have been 15, which is the same as the number of facets. As in the case of the other glass, *F36*, the ovals are oxidized and appear light brown against the green background, although they are slightly larger and deeper than in *F36*.

There is also a ground-in line, 4 mm wide, running all the way around the glass at a distance of 18 mm above the bottom.

Repairs: A total of 8 repairs can be observed, which are marked by pairs of drilled holes. There is also one 2 mm diameter drilled hole in the bottom of the glass. Of the repairs, two were horizontal and the others were essentially vertical. Five of the repairs have intact bronze plates which are still in place on the inside, with the bronze pins still in position. Four of the bronze plates have finely rounded short sides, whereas the fifth is of a more randomly rectangular form. The length of the plates varies between 24 and 46 mm, and all are 5.5 mm wide. The size of the holes varies between 2 and 4 mm in diameter. The largest repair was situated directly on the rim of the mouth.

4.6.6.3. Ornamented repair sheets for the glasses

As mentioned above, both glass beakers had already been repaired in ancient times with rivets securing rectangular sheets on the inside and the outside of the glass. The sheets on the inside were made of bronze (see above), whereas ornamented sheets of gilded silver were used, at least to some extent, on the outside.

Several of the bronze mounts on the inside of the glasses remain, as stated above, although all the external sheets have become detached and are preserved only in a fragmentary manner. Selling, in her description of the find, refers to ornamented mounts only in conjunction with the facetted glass *F35*, although ornamented sheets were probably used on both glasses.

The ornamentation on the gilded silver sheets is not believed to have been totally identical on each sheet. At least two different types of ornamentation occurred. However, all the ornamentation shares the common feature of having been punched.

Sheet a (Pl. 89a): Intact width = 7 mm; preserved length = 11 mm; thickness = 0.35 mm. The ornamentation is similar to the above, but much better preserved. The semi-circles are positioned outside each ring, with the open side 0.5–1 mm from the edge of the sheet. There is no great precision in the positioning of the punched marks, and the circles on one row have consistently been punched so as to partly overlap the semi-circular marks.

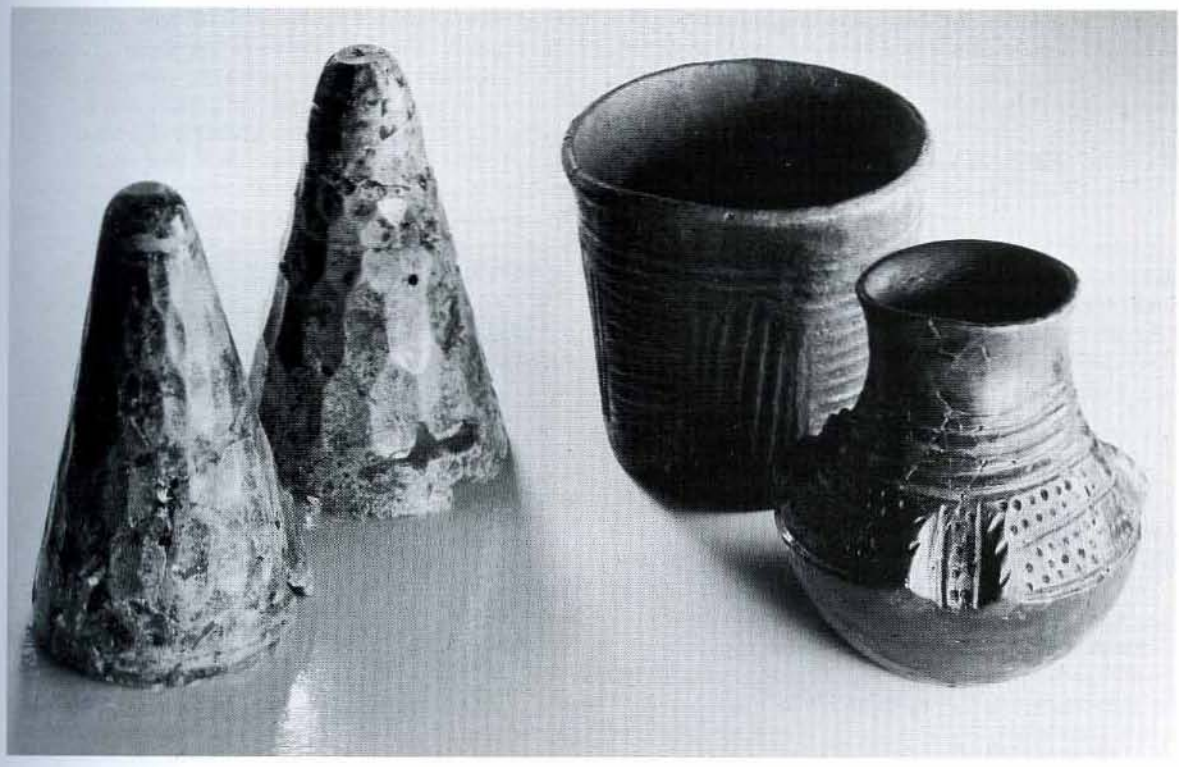


Fig. 79. Photograph of the two glasses (*F36* on the left) and the two ceramic vessels.

Sheet b (Pl. 89b): 6 x 5 mm. No intact edge is preserved. Thickness = 0.25 mm. Two different forms of ornamentation are preserved; one is an individual ring similar to that used on the previously described sheets, and the other is an almost whole, multiple concentric circle and a similar, half-preserved pattern.

Sheet c (Pl. 89c): Intact, width = 8 mm; preserved length = 10 mm; thickness = 0.45 mm. At the centre of the sheet are the remains of a headless silver pin of 1.5 mm in diameter. The gilded surface is corroded. The ornamentation consists of two rows of simple rings c. 2 mm from either edge. Situated outside these, and probably just as frequent, are slight traces of semi-circles with their open side in direct contact with the edge of the sheet.

Several very small fragments of similar kinds like Pl. 89:d-e are also preserved.

4.6.6.4. Black-polished beaded vessel, F37 (Pl. 90)

Height = 126 mm; internal depth = 119 mm, but with a slightly convex bottom (viewed from above). External diameter of mouth = 70–74 mm; internal diameter of mouth = 65–69 mm. Minimum diameter of neck = 61 mm; greatest diameter of belly = 125 mm (excluding beads); base diameter = 65 mm.

Ornamentation: 5 lines spaced 6 mm apart run all the way around the lower part of the neck. The top line is 2 mm wide, and the others 4 mm. The shoulder of the vessel is divided into two fields, bounded by horizontal lines. The top line is the lower of the lines referred to above, and the bottom boundary line is applied above the transition to the belly (Figs. 79–80). The third line lies between these two, but slightly closer to the top line. The two fields which are formed by these three lines, a smaller upper field and a larger lower field, are filled with pits, each in two rows. The upper rows of pits are closer together than the lower rows. This ornamentation runs around the shoulder, but is interrupted in three places where pairs of vertical projecting ridges (beads) are applied. The distance between the ridges making up each pair is 30, 30 and 25 mm respectively. The crown of the ridge is grooved diagonally, and one and respectively two vertical rows of pits are applied between the ridges. In one case an extra pit has been applied off-set in relation to the row. A number of compositional inconsistencies can be observed in the vessel. No ornamentation is present on the belly or the base of the vessel.

Technical observations: The horizontal lines were produced using a tubular instrument, perhaps a hollow bone or similar. This is illustrated quite clearly by the lines which terminate on the ridges. The ends of several of these lines retain a typical peg of material which reveals the form of the instrument. Some of the lines have such a peg at both ends, although usually only at one end.

4.6.6.5. Bucket-shaped pot, tempered with asbestos, F38 (Pl. 90)

Height = 120 mm; internal depth = 116 mm; external diameter of mouth = 125 mm; diameter of base = 110 mm.

Ornamentation: Coarse, horizontal fluting commences approximately 20 mm below the rim (Figs. 79–80). The top three

Fig. 80. The two ceramic vessels.

flutes run all the way round the vessel. Below this point the horizontal flutes are interrupted in five places by vertically fluted surfaces. The vertical surfaces contain 3, 7, 7, 7 and 7 vertical lines. On all the horizontal parts, the fluting is inclined by up to 30° from the vertical plane. This is particularly clear in respect of the lower flutes. Two of the vertical surfaces are also inclined, although in these cases the flutes are divergent. The part on average 15 mm up from the bottom is not ornamented, but both the vertical and the horizontal flutes exhibit considerable variation in both length and parallelism.

Technical observations: A vertical thickening of the material indicates the presence of a join, at the point at which the sheet from which the wall of the vessel is made has been joined together. The method of manufacture is described in detail by Johansen Kleppe & Simonsen (1983). As far as the ornamentation is concerned, the instrument used was probably a two-toothed, comb-like tool with a relatively sharp-toothed end. All the vertical, ornamented surfaces exhibit the same two flutes on the right-hand side, which are terminated at the very bottom by a characteristic angle at the end (Fig. 80, Pl. 90).

The characteristic end angle is repeated again in most of the other flutes. They are not always grouped together in twos, however, which may mean either that several instruments were used, or that double fluting was applied from time to time, whereby a couple of flutes were first drawn with a single stroke, moving the instrument only a fraction in such a way that, on the second stroke, the right-hand leg of the instrument was placed in the line drawn by the left-hand leg on the first stroke. Given that the number of flutes is odd on all the vertical surfaces, the method described above must have been used. Evidence in support of this can also be found on the vertical ornamented surface which has only three lines. The two right-hand flutes were made first, forming the characteristic end angle. The instrument was then moved and applied a fraction to the left, in conjunction with which the right-hand leg ran in the same groove produced by the left-hand leg on the first stroke. As can be appreciated from the flutes, the instrument was not inserted as deeply on both strokes, and accordingly the end angles made by both the right-hand leg and the left-hand leg are present in the same flute (Fig. 81).

4.6.6.6. *Wooden tub, F42* (Pl. 91)

A tub, which has been compressed to a thickness of only a few centimetres, was found in the SE corner of the chamber.

The handle is preserved in its entirety. It is made of iron and is of almost square cross-section. The distance between the suspension hooks is 385 mm, which indicates the external diameter of the tub at the top. The hooks at the end of the handle are simply bent upwards.

One of the handle attachments is well preserved. This was made of an iron bar c. 7 mm wide and 2–3 mm thick. The bar was bent in the middle, thereby forming the eye, and was then forged together and riveted securely to the tub using a rivet of

c. 10 mm in diameter. Both ends of the bar were finally bent through c. 90° in their respective directions. A smaller rivet was used to secure the mount at a point approximately at the centre of each of these horizontal shanks. The vertical part of the attachment, excluding the eye itself, which is missing, measures just over 30 mm, and the intact one of the two horizontal shanks is itself c. 30 mm long. The mount bows outwards slightly to the sides at the point at which the larger rivet was used, which accords with the bar not having been joined by forging at that point, and with an opening having been left for the rivet.

The wooden staves are 10 mm thick and are fitted at the top with a 'U'-shaped iron mount, which descends for 10 mm down the inside and outside walls of the vessel. The width of the staves cannot be established, although it appears to have been as much as 150 mm in some cases; this dimension was measured on a piece without a visible join. Only in one place does anything occur which can be likened to a join between two staves, although this, too, is uncertain because it is visible only on one side.

In earlier papers (for example Ramqvist 1990a:57f) it has been assumed that the tub was held together by several withes. These, however, have recently been analysed (Malmros 1991) and shown to be baleens from either Finwhale (*Balaenoptera physalus*) or Herringwhale (*Balaenoptera glacialis*). These large sea mammals occur in the Atlantic and the North Ice Sea and have of course been hunted and also collected by the Iron Age people in W Scandinavia. This very surprising result gives a real intricate signal of the contacts with the Atlantic side of Scandinavia. The elastic baleens must be a extremely well suited material to use in connection with a tub.

At least 5 closely positioned baleens ran horizontally around the tub. The baleens are flat in their present condition and are c. 13 mm wide. They were presumably positioned at the centre of the tub. In conjunction with the baleens there are seven iron rivets, which held the staves and the baleens together. The rivets probably all had domed heads c. 10 mm in diameter, with rectangular counterwashers measuring 16–18 x 10–12 mm. Three of the rivets sit in a row on the same baleen (the top baleen), and a further four are positioned below these. The distance between the three rivets in a row is 35 mm. On the same baleen, at a point c. 80 mm from the rivets, is a quite long iron mount, measuring 55 x 16 mm, and with a counterwasher of similar dimensions. The mount is held together by two iron rivets.

According to Selling, a 7 mm wide iron band also ran horizontally at a point 14 mm below the rim of the tub. No trace of this has since been found, however.

As far as the reconstruction of the tub is concerned, it was possible to make the top baleen, the handle, the handle attachments and most of the elements which hold the tub together. The diameter of the bottom of the vessel could not be reliably established, however, although it gives the impression of having been wider at the bottom and may, therefore, have had the appearance shown in Fig. 82.

4.6.6.7. *Vestland cauldron, F41* (Pl. 92)

The Vestland cauldron was badly crushed and has undergone major restoration, as a consequence of which it is not possible to give an entirely reliable description.

The folded-out and hammered edge is 13 mm wide and has a material thickness of 2 mm at that point, while the thickness of the rest of the material is 0.6 mm or even thinner. The triangular ears are 56 mm wide at the base and projected by 30–35 mm from the edge of the vessel. The ears were formed directly from the edge, and they, too, have a material thickness of 2 mm. Both ears are damaged, however. The mounting hole for the handle is 5 mm in diameter and is positioned close to the base of the triangular ear.

The restored vessel had an internal diameter of c. 265 mm towards the top and a maximum diameter of c. 335 mm. The base of the vessel was slightly concave (viewed from above), for which reason its greatest diameter was situated 30–40 mm above the base. The height of the cauldron is not easily determined, but was approximately 150 mm.

According to Selling, the remains of insects which had been preserved by the patina were present on the inside of the vessel. This presumably points to the vessel having been filled with food or drink at the time of the burial.

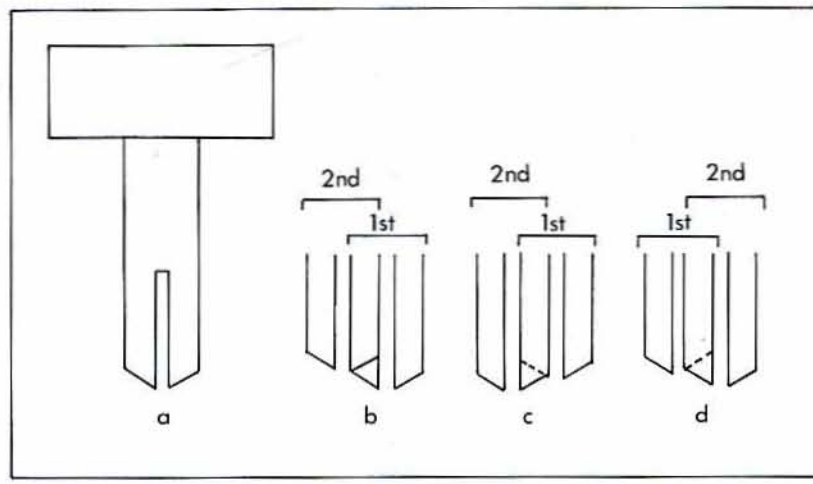


Fig. 81. a) Possible appearance of the tool used for decorating the bucket-shaped pot *F38. b*) Example of the double-drawing of a groove in which the end angle appears for both passes. *c–d*) Double-drawing in which the second pass has entirely covered the end angle of the first pass (indicated with a broken line).

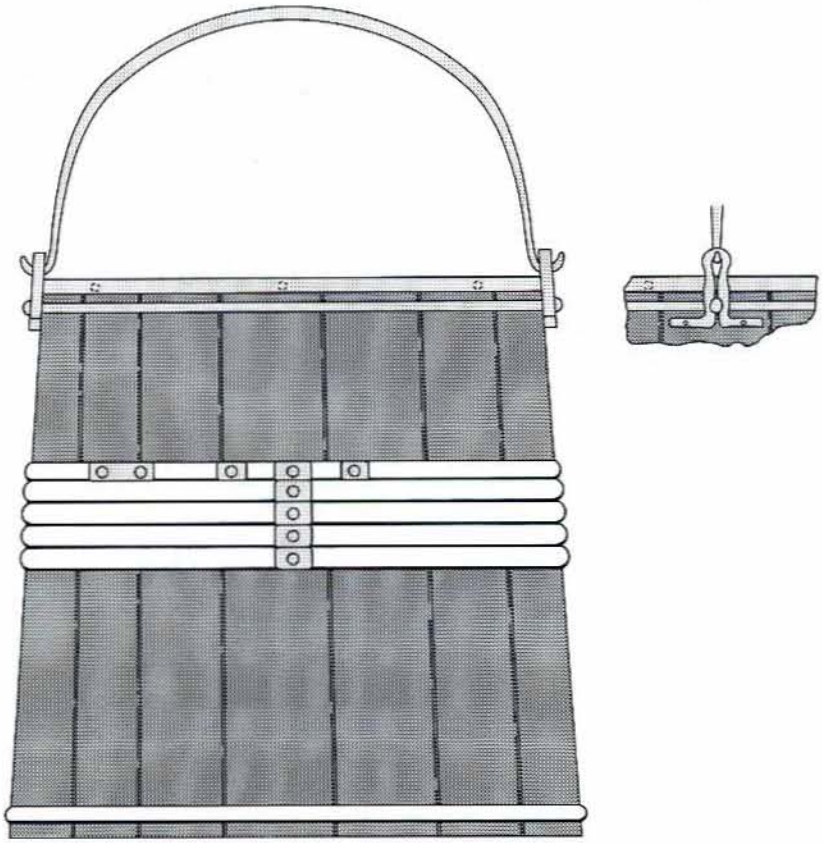


Fig. 82. Attempted reconstruction of the tub *F42*. White = baleen, light grey = iron, dark grey = wood.

The handle is made of iron and has been preserved relatively intact. It indicates that the ears of the cauldron were 250 mm apart (which means that the restored diameter above is too big). The handle has a rectangular cross-section of 10 x 6 mm. Its ends are slightly damaged, although it is of almost round form, 5 mm in diameter, here. The ends are curved slightly upwards, although it is not possible to establish whether they were originally in the form of a spiral of some kind.

Also found in conjunction with the cauldron were a number of carved and, possibly, ornamented wooden fragments, which Selling associates with a possible lid for the cauldron. The wooden remains were of pine and bore traces of holes and decoration in the form of angled and oblique parallel lines.

4.6.6.8. *Bronze dish, F40* (Pl. 90)

The bronze dish was quite badly fragmented when found (Fig. 83), and I suppose that the white and black (?) paint marks on the dish (Fig. 84) must derive from a "puzzle-painting" made by Selling during the excavation, before lifting the pieces. Thanks to the puzzle, it was easier to join the pieces of the dish back together later. However, no reference to the use of such a method has been found in the documents, although the possibility that the paint marks are of ancient origin can be excluded. The dish was re-assembled after the excavation, and it is held together *inter alia* by means of bandages. It now also has a specially designed plastic frame. The reconstruction (Pl. 90) is, therefore, quite dependent on the earlier re-assembly, which was probably carried out in close association with Selling. For this reason, the following description probably contains some uncertain elements.

The dish was made from hammered-out bronze sheet of 0.7–0.8 mm in thickness. It was c. 43 cm wide and 7 cm high, with an inner diameter of 38 cm and a depth of 5 cm. The 25 mm wide rim was positioned practically horizontally and was thicker than the rest of the dish. It was 4 mm thick at the rounded edge of the rim. The dish had a circular ring as a foot, 142 mm in diameter and 20 mm high. According to Selling's analyses, the foot was constructed by bending the sheet, which was visible as a furrow inside the dish.

No ornamentation was observed or reported by Selling, although there are traces of the hammer blows from the smithing work around the edge of the rim.

4.6.6.9. *Swept vessels* (Pl. 94–97)

The swept vessels made up the largest number of vessels in the chamber, and Selling was able to identify the remains of a total of 10 vessels. All that remained of them was the resin caulkings, which were frequently encountered in the form of rings, which were interpreted as the caulking between the bottom plate and the wall of the vessel. Also present in most cases were

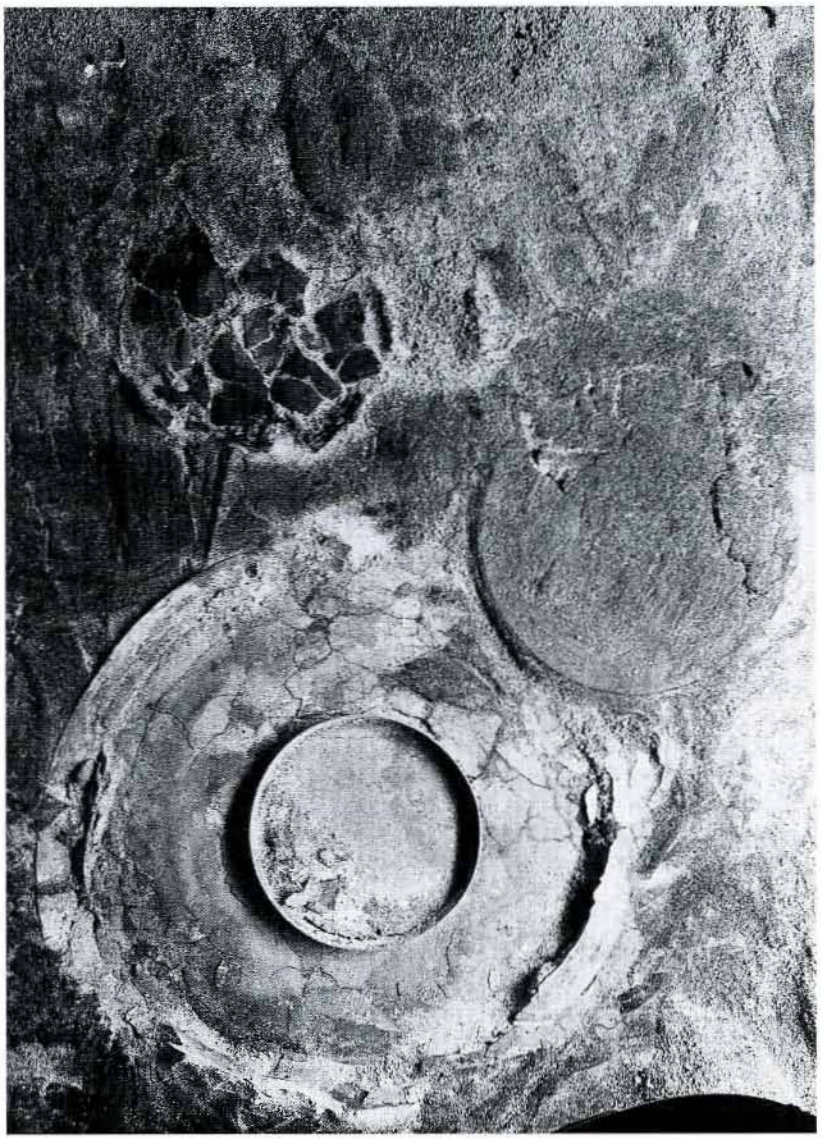


Fig. 83. The bronze dish (*F40*) and wooden dish No. 1 (*F43*) in the course of excavation. The remains of a further two of the wooden dishes can be seen directly above the bronze dish. Traces of a fourth dish can be seen beneath the best-preserved wooden dish.

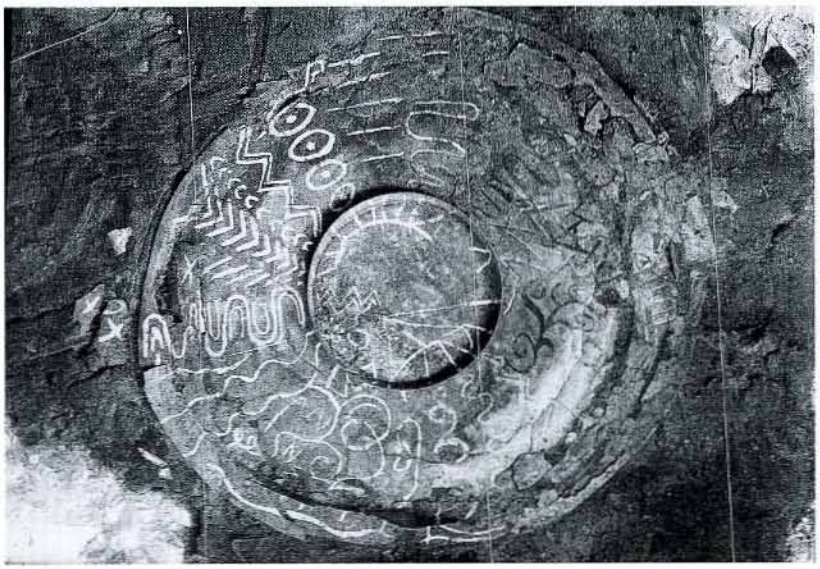


Fig. 84. The bronze dish (*F40*) in the course of excavation. The imaginative pattern was probably painted at the time of excavation, in order to facilitate piecing together the fragmentary dish after it had been recovered.

remains of the original vertical caulking which had sealed the vertical join running from the base to the rim. Since this material is extremely fragile and is made up of fragments, we are obliged in this case to rely on the observations made by Selling at the time of the excavation in 1951.

F45: A single, thin resin caulking, compressed to c. 5 x 11 cm in diameter, and with a preserved vertical caulking c. 7 cm wide. The impressions left by four rows of stitches are present on the vertical caulking. A small, round bottom caulking is also preserved. The resin caulking was found together with the glass *F35* (Sect. 4.6.6.2.), and was probably the case for the glass. Its greatest diameter was 11 cm, which corresponds closely to the 10 cm of the glass. This birch bark container, like the glass, may have been cornet-shaped.

F46: This resin caulking was double, with an outer diameter of 15 cm and an inner diameter of 11.5 x 13 cm. A vertical caulking, 4 cm in length, is also preserved. The inside of the container was of a noticeably more coarse construction than the outside. A couple of the fragments of the resin caulking from the inside carry impressions of 1.5 mm wide strips, running vertically on one fragment and arranged diagonally on a second.

Also found here was a single, thin, inner sealing ring with a diameter of 7.5 cm, and one vertical caulking at least 3 cm long; according to Selling, these belonged to a lid.

This resin caulking was found together with the glass *F36* (Sect. 4.6.6.1.), and probably performed the same function as the previous caulking. However, this birch bark case appears to have been constructed slightly differently and to have been of rather larger diameter, originally c. 13 cm.

F47: A double caulking, slightly deformed. The diameter of the outer ring is 10–11 cm, and that of the inner ring 8.5–9.5 cm. A vertical internal caulking has been preserved up to a height of 10 cm. There are traces of a red pigment (or fungus spores ?) on the part of the caulking facing the upper surface of the base. There are also 6 circular bottom caulking.

F48: A single internal caulking, 8–9 cm in diameter. The vessel had a diameter of 9.5 cm. The vertical caulking is preserved up to a height of 11 cm, and bears the impression of 12–15 stitches. The impression shows that the inside of the vessel had a dense fibrous structure. Individual pale yellow fragments of birch bark are preserved, and traces of a red pigment are present on a part of the vertical caulking.

There is also a slightly deformed double caulking for the lid, with an outer ring measuring 11.5 x 8.5 cm and an inner ring measuring 10 x 7 cm. The resin in this case is of a light brown colour. There is the impression of a dense fibrous structure. Of the 5 circular bottom caulkings, one is preserved.

This container was found close to the bucket-shaped vessel *F38* (Sect. 4.6.6.5.), and probably has some functional connection with it.

F49: A double caulking (Fig. 85). The diameter of the outer ring is c. 22 cm, and that of the inner ring (= diameter of the vessel) is c. 20 cm. The vertical caulking is preserved up to a height of at least 11 cm.

F50: Deformed inner caulking (Fig. 85) with a maximum diameter of c. 17 cm. The vessel was c. 14–15 cm in diameter, however.

F51: Slightly deformed inner caulking, 9 x 7.5 cm in diameter, which also corresponds to the diameter of the container. Two wide vertical caulkings, respectively 2 and 3.5 cm broad. The broader caulking bears traces of a seam and incised ornamentation.

F52: Deformed inner caulking, c. 10 cm in diameter, with remains of wood. A fragment of a 5 mm wide lining along the outside of the lower edge and traces of an incised line.

Fig. 85. Resin caulking rings *F50* (the smaller) and *F49 in situ.*

Fig. 86. Resin caulking *F53* in the course of excavation. On the left is one of the saddle-girth buckles and a strip of leather with stitches on the sides belonging to the saddle. (Cf. Pl. 60:4).

F53: A double caulking with a diameter of c. 25 cm (Fig. 86). A vertical caulking on both the outside and the inside, preserved to a height of at least 15 cm. The wall of the container is 3 mm thick. Two of the resin fragments bear traces of a red pigment which, on one of the fragments, had accumulated in the impression of an incised triangle. There were 8 circular bottom caulkings on the underside of the base.

F54: Probably a double caulking for a container which had been flattened from the side, in a flattened-out state measuring 16 x 10.5 cm (Fig. 87). Three vertical caulkings, respectively 8, 5 and 3 cm broad, and preserved to a height of at least 10.5 cm.

4.6.6.10. Wooden dishes (Pl. 98)

Encircled by the bronze dish (*F40*), the beaded vessel (*F37*) and a birch-bark container (*F54*), was a group of what appeared to be four wooden dishes, of which only one has been preserved to any significant degree (Fig. 83).

Dish 1: F43, about half of which is preserved, so that a reconstruction is possible. This was 180 mm in diameter, 10 mm thick, and had a slightly sunken central part with a surrounding edge 18 mm wide and extending up to 14 mm in thick-

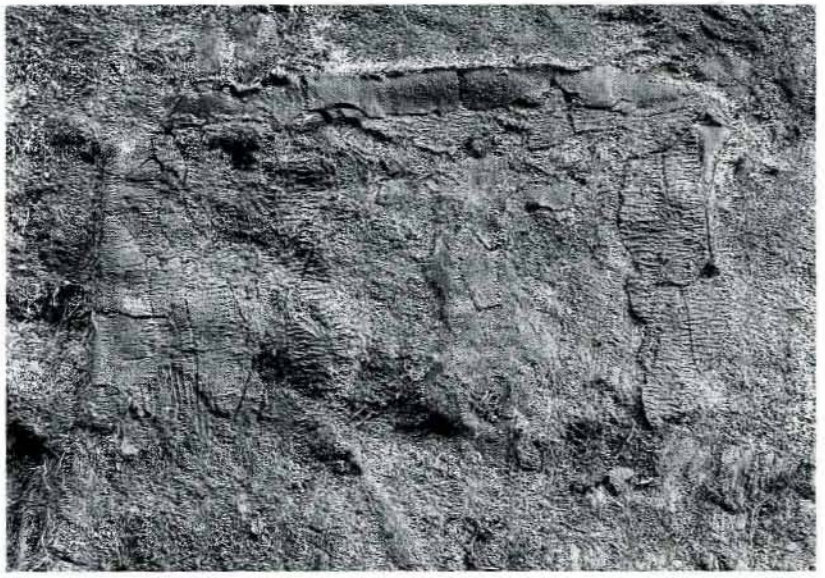


Fig. 87. Resin caulking *F54* in the course of excavation. The rectangular form is attributable to the fact that the round swept vessel had side (vertical) caulkings and was compressed from the side.

Fig. 88. Weak traces of one of the wooden dishes, apparently to the right of the bronze dish *F40*. (Cf. Pl. 10).

ness. On the underside of the dish is a clear impression left by the bronze dish (*F40*), as well as bronze remains of the same. The presence of bronze on the underside of the wooden dish indicate that it was lying upside down, partly beneath the bronze dish.

Dish 2: F44. In the course of her investigation, Selling recorded details of a further three suspected dishes, although none of these is preserved. Two are documented, however, in the form of a rather indistinct plaster cast. Dish 2 has left indistinct traces of an evenly rounded dish c. 20–21 cm in diameter and with a 2 cm wide edge.

Dish 3: Only the edge could be observed, which had a rim c. 2.9 cm wide with two concentric lines incised at a distance of 1.5 and 1.9 cm respectively from the outer edge (Fig. 88). The edge had a club-shaped profile. To judge from the drawing left by Selling (Pl. 98:2), this dish was also lying upside down in the chamber.

Dish 4: According to Selling, possibly a dish which had been fully compressed by the pine roof of the chamber. There is a visible edge, however, which is 1.7 cm wide.

4.6.6.11. Box loop-ring fastener of iron, F66 (Pl. 99)

A box loop-ring fastener made of iron, with two straps and the remains of wood, was found to the northwest of the deceased. A box had also been placed here, probably containing some long since disappeared organic material, as no other finds are associated with it. The box handle and the shackles are completely rusted together, although the handle is made of round material with a cross-section of c. 8 mm and a total width of c. 80 mm. The ends were curved around the shackles and were terminated with a simple bend. The shackle eyes are U-shaped and are made of a rectangular rod of 9 x 6 mm in cross-section. They were c. 30 mm high and 15 mm wide. About 10 mm were hammered down into the box lid, of which fragments of about one centimetre in size are preserved on each shackle.

No conclusions can be reached with regard to the size or function of the box. It can be noted, however, that the thickness of the lid was probably rather more than 10 mm, since the wood extends for this distance along the shackles and, in addition, does not exhibit any traces of hammering-back (Fig. 89).

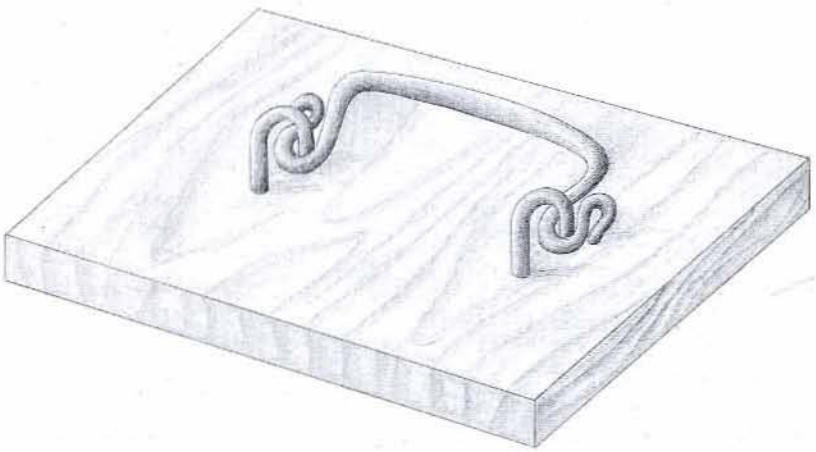


Fig. 89. Reconstruction of the attachment of the box loop-ring fastener to its base.

4.6.6.12. Comments on the household objects

The functions of all the vessels are difficult to explain, although it may be worth noting certain views. It may be assumed that most held different forms of food or drink. We have no concrete evidence in support of the precise nature of their contents, although the presence of insect remains points indirectly to the Vestland cauldron having contained something which was attractive to insects.

A number of aspects of the spatial distribution of the vessels within the burial chamber can be discussed initially. Firstly no vessel was lying to the north of the centre-line of the grave, and secondly most are grouped together in the SE part of the chamber. The containers which, in fact, exhibit the greatest variation in spatial distribution are the two glass beakers with their associated birch-bark containers, the birch-bark containers *F47* and *F48*, and the bucket-shaped vessel *F38*. All these vessels are positioned along the right-hand side of the deceased. They probably fulfilled a special rôle with regard to their contents or function. The glasses are the most exotic artefacts in the grave, and their position means that a major ceremonial rôle must be attributed to them. The many repairs which had been performed on the glasses made them unsuited to anything other than drinking a purely ceremonial toast with allies or similar.

As far as the concentration of vessels in the SE part of the chamber is concerned, it should be obvious that provision had been made there for two persons – i.e. a food and drink service had been laid out for two people. A washing bowl with its associated comb had also been provided with this service.

The drinks service could consist of two "receptacles" for different drinks, i.e. the Vestland cauldron *F41* and the large birch bark container *F53*, together with a water container in the form of the large wooden tub *F42*. There were also two scoops in the form of the birch bark containers *F51* and *F52*, positioned between the tub and the large birch bark container. The drinks would have been drunk from the glass beakers. The two vessels *F37* and *F54*, which are positioned next to the plates, certainly also contained food or drink. As far as the narrow-necked ceramic vessel F37 is concerned, it is difficult to imagine that this contained anything other than a drink; why not wine?

The food service consists of the four plates. Two are positioned between the washing bowl and the bed of the deceased and between the containers *F37* and *F54*, whereas the other two are positioned directly to the north of the washing bowl. If we extend the hypothesis that a service for two persons had been laid, then each person has two plates, possibly one large and one small, although there is no reliable evidence for that. Two of the plates had been inverted at the time of laying the service.

According to this interpretation, the two containers *F49* and *F50* directly to the south of the food service would have contained some of the food to be consumed by the two persons. The vessels *F38, 48* and *47* presumably also contained food of a more exclusive character, for example seasonings, honey or the like.

In order to shed some light on the function of the different containers, it may be of interest to give some idea of their volume. A number of assumptions have had to be made in arriving at the volume, since not all the vessels could be reconstructed to a reliable height. This is true of the swept vessels in particular. In these cases I simply took the relationship between height and width in the two best known cases, i.e. *F45* and *F46*. The ratio of the diameter to the height would have been c. 1:1.25 here. Given that we know the diameter of most of the birch-bark containers, I have also been able to estimate the volume of these vessels. There are, of course, many uncertainties concerning the height of the vessels, including in respect of the function which they had to serve. As far as the tub is concerned, I compared it with a number of known, fully preserved tubs, and I found that the customary ratio of the diameter to the height is of the order of 1:1.1–1.2. If the proportions referred to above are now applied, the volumes shown in Table 5 are obtained.

Table 5. Containers in chamber grave No. 2 at Högom. Estimated size and volume. The height dimensions marked with * are calculated on the basis of the proportions referred to in the text.

CONTAINER	INT. DIAM. (cm)	INT. HEIGHT. (cm)	VOL (l)
Glass *F36*	1–9	13.4	0.32
Glass *F35*	1–9	14	0.33
Tub *F42*	36	41*	41.70
Vestland cauldron *F41*	26.5–33.5	15	10.30
Beaded vessel *F37*	7–11	12.6	0.65
Bucket-shaped vessel *F38*	11.2	11.6	1.14
Birch-bark vessel *F45*	11	15*	0.45
Birch-bark vessel *F46*	13	15*	0.63
Birch-bark vessel *F47*	9	11*	0.22
Birch-bark vessel *F48*	9.5	12*	0.27
Birch-bark vessel *F49*	20	25*	2.50
Birch-bark vessel *F50*	14.5	18*	0.95
Birch-bark vessel *F51*	8	10*	0.16
Birch-bark vessel *F52*	10	13*	0.33
Birch-bark vessel *F53*	25	31*	4.84
Birch-bark vessel *F54*	13	15*	0.63

n = 16

These volume ratios can provide the basis for the interpretation of their respective function in the grave. Roughly speaking, the containers can be sub-divided into three groups: small, medium and large. Starting with the large ones, I have already suggested above that the tub was a water container which would have contained around 40 litres. To judge from its volume the next largest vessel, the Vestland cauldron, which contained around 10 litres, may have been used to contain a drink which was relatively common and produced locally, which leads us to the conclusion that it may have been some form of mead or similar. From its position and its volume, approximately 5 litres, the swept vessel *F53* may also have contained a drink. The last of the vessels which probably contained a drink is the beaded vessel, which contained 0.65 litres. Other vessels, apart from the glasses, were either used as scoops, *F51* and *F52*, or as containers for various foods and seasonings, etc.

In order to shed some light on what these containers may have held, we can examine a couple of cases in which the remains of foodstuffs were still present and were analyzed. For example, grave 64 at the Severinus' Church in Cologne (Fremersdorf 1941) contained a number of hens' eggs in a shallow ceramic bowl. A shallow glass bowl contained the remains of a honey-roasted bird, and the remains of cooking fat or butter were found in a small, but taller ceramic bowl; finally, a jug with a handle, but without a spout, contained the remains of a cooked bird. Present in a jug with a spout at grave 65 at the same location were the remains of mushrooms and yeast, together with a lot of birch pollen, which indicates that the contents were an alcoholic drink made from birch sap. The remains of wine were found in a conical glass beaker with a foot (in its general form not unlike the glass beakers found at Högom). A medium-sized bowl contained the remains of meat and, finally, a small clay bowl contained the remains of a millet porridge made not only from millet, but also from wheat, fat and honey. It can also be mentioned that a smaller, round-bottomed and narrow-necked glass flask, which must have contained some form of liquid, contained the remains of a large number of larvae, although unfortunately these did not provide any more detailed clues as to the contents. They resemble the insect remains found in the Vestland cauldron in Högom which, according to my interpretation, contained mead.

The chamber thus contains a total of 17 vessels and four wooden dishes. These vessels also represent different places of production, inasmuch as the glasses were certainly made to the north of the Black Sea (Ekholm 1965; Näsman 1984; Straume 1987); the bronze vessels are normally regarded as imported goods of provincial Roman origin (Ekholm 1961), and the two ceramic vessels as imports from Norway (Bøe 1931; Slomann 1961). On the other hand, the tub and the 10 birch bark vessels may be regarded as domestic goods, except the baleens which must be imported from the Norwegian coast.

The question which now arises is whether the provenance of the various vessels is not entirely without complication. As far as the *glasses* are concerned, there is general agreement (Näsman 1984:29, Straume 1987:62) that their production took place in the area of the Cernjachov culture and is representative of a Syrian/Egyptian tradition. As far as concerns the difference between conical glasses on the one hand, and glasses with facets on the other, Näsman *inter alia* has suggested that this is only a question of how large the ground areas were made by the glass grinder. In other words, there are no grounds for regarding the two variants as being essentially different. In an earlier work, however, Straume (1984:47) draws a major distinction between the two variants. The view which she puts forward is that the items with ground-in facets are representative of a southeastern type, whereas those with ground-in ovals are presumably a Scandinavian type. This is based on the irregular pattern of distribution, and also on the fact that, of the total of 15 finds in Europe, no fewer than 5 come from the relatively small area of SW and S Norway (Fig. 90). Näsman (1984:60), however, regards this apparently regular distribution as a chance occurrence. Straume modifies her view in a later work (1987:62), and expresses the opinion that the two variants probably come from the same workshop. The argument which she advances in support of this is partly based on the glasses from Högom, and she arrives at approximately the same conclusion as Näsman (1984:60), who also points to the significance of the Högom glasses in this context.

It is thus clear that the Högom find in this case is of decisive importance to our understanding of the connection between the facet-ground glass beakers and the oval-ground ones. There is a very close individual link between the two glasses, and the differences which actually occur are of no typological or other significance, either to the type of glass or to its dating. It must be obvious that the glasses were a pair from the very start, and that they most probably accompanied one another on the roads which they travelled before finally reaching Högom.

From a chronological point of view the Högom glasses do not provide any indication of when they may have been manufactured, although it is still possible to observe a number of interesting relationships. The grave can be dated to c. AD 500 (Chap. 8), and current research suggests that this type of glass was manufactured during the fourth century (Ekholm 1956) and possibly into the fifth century (Näsman 1984:29). This

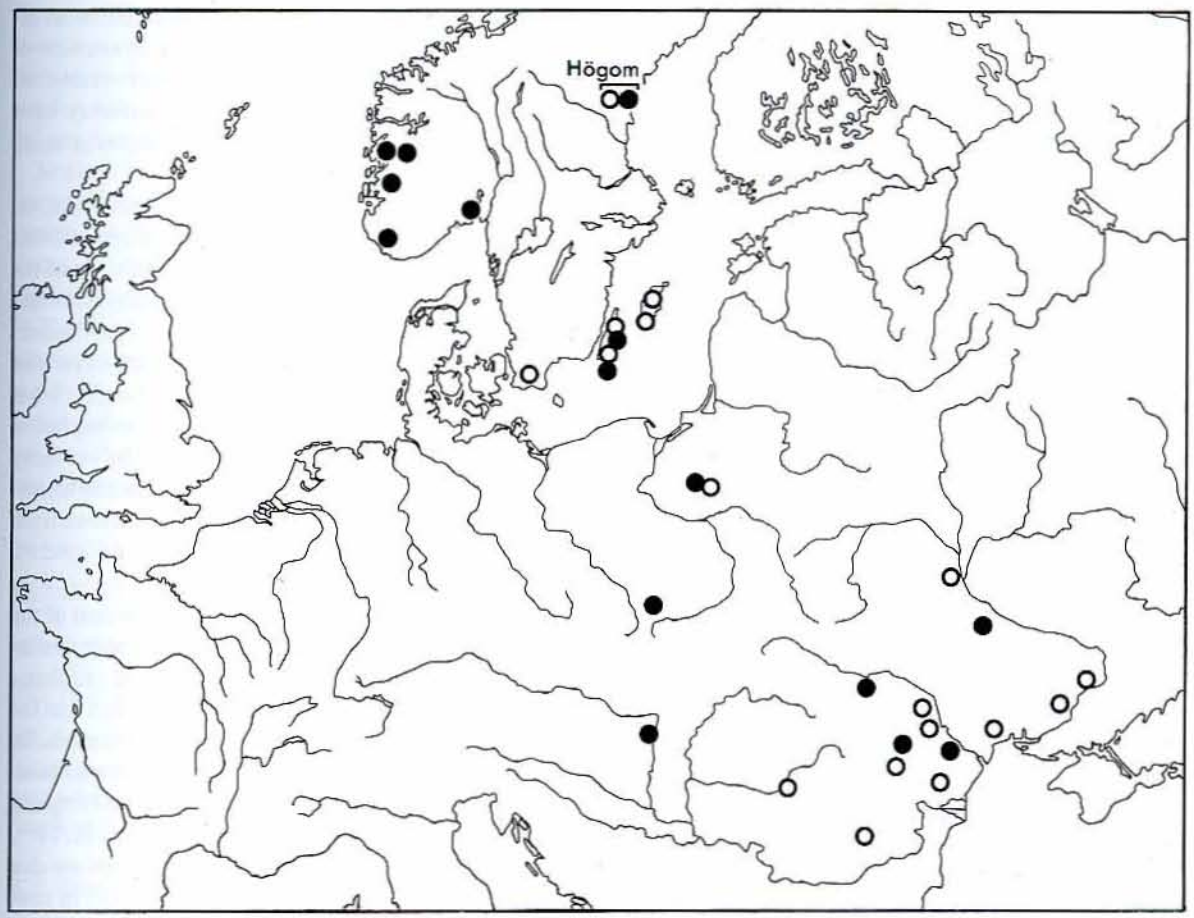


Fig. 90. Distribution of the conical, ground glasses. ● = glasses with ground-in ovals; ○ = glasses with ground-in facets. (After Näsman 1984).

means that the glasses, like many of the other objects in the chamber, may have been around 100 years old when they were placed in the grave. It is quite clear that the glasses were objects with a high social value. This is indicated firstly by their position inside the chamber, secondly by the care which had clearly been devoted to them by having been kept in special birch-bark cases or boxes, and thirdly by the fact that they had been repaired in ancient times and had been elegantly fitted with gilded and ornamented repair plates. The overall picture is also supplemented by the fact that many of the ground glasses had also been the subject of contemporaneous repairs. A total of 15 repaired glasses are known in Fenno-Scandinavia, all from the Migration Period (Straume 1977; Näsman 1984:22). Twelve of them come from the Norwegian region, and three from the Swedish. In addition, eleven are made of ground glass. Näsman (1984:22ff) argues against the repaired glasses necessarily having been old at the time of depositing in the grave, and suggests that the conical glasses may well have been manufactured during Period VI (the Migration Period).

Glass repair is a phenomenon associated with Period VI and thus supports the argument that the conical glasses are of more recent date than the ground, cylindrical glasses from Period V. A number of opinions on the repairs have been put forward by *inter alia* Rau (1972), Hunter (1975) and Straume (1977). Rau believes that the conical glasses were very prone to cracking, due to poor methods, and that as a result they often required to be repaired. Hunter believes that it was difficult to replace the damaged glasses with new ones, and that the repairs were thus associated with poor availability. Finally, Straume puts forward the interesting theory that the glasses were especially valuable due to the social relationships which they represented; this is an interpretation which is, in fact, directly supported by the glasses found in the Högom chamber. Näsman (1984:23) has compiled a synthesis of the various views which have been expressed on the sub-

ject of repaired glass, which he expresses as follows: "If glasses were rare, then their value both as a proffered item and as status-imparting gift would have been greater than if glasses had been common objects and accordingly cheaper to acquire and less remarkable as a gift. The willingness to repair glasses is, of course, dependent on their value. In areas where glasses were of great value, they tended to be repaired more frequently; needless to say, glass which broke more easily was repaired more often."

As far as the type of repair is concerned, the material varies considerably, and Straume (1987:48f) distinguishes between two techniques. The first (*a*) involved the replacement of a lost fragment on the edge part of the glass by a metal plate of approximately the same shape. The metal plate was folded around the edge and fixed to the wall of the glass with rivets. The other technique (*b*) is based on the re-assembly of broken pieces of glass using resin, for example, which are then held together by riveted metal plates. The two Högom beakers were repaired by the latter technique.

It is not unusual to find that the repair plates, which were usually made of gilded silver or bronze, were decorated. Six of the repaired glasses from Fenno-Scandinavia also carry Style I ornamentation (Straume 1987:49), which indicates not only that the repairs were made locally, but also that the glasses were in social use towards at least the end of the fifth century and probably for a short time into the sixth century. There are also repairs which carry Sösdala ornamentation, i.e. punched decoration, with which the Högom mounts must be included, of course. A further example of this is encountered in the case of the Evebø glass (Straume 1987:79f, Taf. 86), although this was repaired by technique (a) described above. The repair plate used on the Kvassheim glass (Straume 1987:89f, Taf. 41-42) is interesting because of the presence there of Style I motifs on the edge mount and punched ornamentation around the edge of the vertical plates and on a lower plate which runs all the way around the glass. To judge from the reconstruction, it must be assumed that the plates were fitted at one and the same time, which excludes the possibility of arriving at chronological conclusions in respect of the difference between the Sösdala style and the Style I motifs, at least not as far as the plates on the glass are concerned.

In spite of the lack of solid evidence to indicate the length of the period for which the ground conical beakers continued to be manufactured, Arrhenius (1973a:44ff) and Näsman (1984:22ff) *inter alia* maintain that they continued to be made for a considerable time into Period VI in Eastern Europe. This must continue to be regarded as a hypothesis, however, for as long as no glass workshops are found to lend support to this view. Although the glasses may perhaps not have been antiques in every case, my own inclination, as indicated above, is to regard the glasses as symbols of important social relationships which were established during the fifth century. Glasses may possibly have been used in our region as a means of proposing toasts of loyalty between petty kings.

As far as the two ceramic vessels are concerned, we are faced by two forms which belong to a typical West Nordic phenomenon, i.e. vessels of which most of the representatives are found in the present-day Norwegian region (Bøe 1931, Slomann 1961). The bucket-shaped vessel provides an essentially identical parallel with the Kongshaug female grave at Hardanger (Schetelig 1912:117ff, Fig. 274). The typical grooving below the rim is superseded here, as at Högom, by vertically and horizontally grooved fields in an essentially identical manner. A not dissimilar vessel is also known from Ramberg, at Bø in North Norway (Sjøvold 1962:Pl. 45a).

It can be stated in respect of the distribution of the bucket-like vessels that it exhibits considerable similarities with the distribution of the Vestland cauldrons and the cruciform brooches, in spite of the fact that the latter are very much more widespread and extends, for example, into the Swedish province of Västergötland, Denmark and areas of Germany, Holland and England which border on the North Sea (Reichstein 1975, Ramqvist 1987a). The bucket-shaped vessels are discussed in greater detail below (Sect. 5.6.2.3.) in conjunction with the site finds beneath mound No. 3, where fragments of bucket-shaped ceramics were found.

The Vestland cauldrons and the bronze dishes are generally regarded as imported goods of provincial Roman origin (Ekholm 1956, Lund Hansen 1987), although I must give expression to some scepticism here, since examinations of at least the Vestland cauldrons have revealed the existence of some of extremely high quality and some made of very thin material. Could we possibly be dealing with different areas of production, one provincial Roman which made the better quality items, and one or more Scandinavian which produced similar cauldrons, but of significantly lower quality?

Unfortunately, it is not possible to establish what form the Högom cauldron originally had, although it is naturally comparable with many of the cauldron finds which have been made in Norway and in the Swedish province of Medelpad. The Vestland cauldron is named after the Vestland region of Norway, since the cauldrons are found particularly frequently in this region, especially as containers for bones in the graves. This circumstance points clearly to the SW Norwegian contact with the provincial Roman area, in spite of the likelihood that some of the cauldrons were manufactured locally. The Vestland cauldron thus very proba-

bly came to Medelpad via SW Norway, or was possibly manufactured locally to a SW Norwegian / provincial Roman model. This is also true of the bronze dish, a similar, although less common type of artefact which did not feature as frequently in the burial practice.

Most of the finds of Vestland cauldrons are, as mentioned, in the form of containers for bones in cremation graves. This is also occasionally true of the bronze dishes, for example the dish found at Harv in the parish of Attmar in Medelpad (Slomann 1950, Selinge 1977:262). It is necessary to look to Norway and the Continent, however, to find equivalents of their use as grave gifts in chamber tombs such as Högom. The Continental occurrences are few in number, however. All the other eight Vestland cauldrons found in Medelpad were used as containers for bones.

4.6.7. OTHER FINDS (Pl. 100–108)

4.6.7.1. Iron artefacts

F65. Iron object

Similar to the head of a nail. A shaft with a rounded (?) termination. Some fragments of wood remain on the shaft. The flat head is concave and slightly oval, measuring 26 x 24 mm. Length of shaft = 15 mm. Weight = 10 g.

F76. Iron nail

Fragment with fragments of wood remaining on the shaft, 20 mm in length. The head is oval, measuring 24 x 19 mm, and 3 mm thick. Total length = 26 mm. Weight = 7 g.

F90. Head of iron nail

Almost round. 15 mm in diameter.

F98. Angled, rod-shaped iron fragment

Rectangular cross-section, 5 x 2 mm. Total length 31 mm. Selling has proposed that this was originally of rhombic form. It was found in the south part of the grave, according to Selling, although no precise spot has been identified.

4.6.7.2. Wooden artefacts

A good deal of wooden material of various kinds was preserved inside the chamber, of course. Most of this is from the burial chamber itself and often includes large pieces of pine. There are also the artefacts referred to above, which have been identified more or less reliably with regard to their function. These are the case for the shears (*F28*), the sword scabbard (*F1*), and the preserved half of one wooden dish together with traces of a further three (*F43–44*). There are also limited remains of the staves of the tub (*F42*), the arrow shafts (*F4*), the shield (*F6*), the axe shaft, the birch-bark vessels and, on rivets and handles, etc., fragmentary remains of the objects to which they had been attached. There is also a number of finds of more indeterminate function, to which reference has not been made previously.

In conjunction with the Vestland cauldron (*F41*), Selling also mentions a number of fragments of wood which, according to her, could belong to a lid for the Vestland cauldron. One of the wooden fragments is rib-like and measures 13 x 2 cm, with a U-shaped recess on one side and a more angular and sharp-edged recess on the opposite side. There is also a further fragment, measuring 9 x 3.5 cm, bearing traces of ornamentation. A row of angled figures can be seen, together with something which most closely resembles the impression left by a cord, although this may also be a carved pattern with lines set at an angle.

F62a. The end of a wooden rod in the form of an animal's head, with an iron ring and a cord (Pl. 100–101)

It is clear from Selling's grave plan (Pl. 10) that a rod-like object was lying in a N-S direction in the SE corner of the chamber, and that according to her documentation this was at least 50 cm long, and presumably longer. Its southern end carried a sculpted animal's head with an iron ring and the remains of a rope. The curved iron mount *F63a* in the form of a rod which is almost square, but has an oval hole measuring 2.7 x 2.2 cm at the centre, was lying in the northern prolongation of this wooden rod, c. 90 cm from the animal's head. The mount was attached by means of a rivet in each corner to a rod, remains of which are still present on the mount. The rod to which the mount was attached was lying in the same orientation as the fragment of rod with the animal's head. The rotation of the mount with its holes could point to a larger diameter than that of the animal head fragment, although the two probably belong together. Immediately adjacent to this rod mount there was also an iron rivet *(F63b)*, which is preserved as a 5 mm long fragment. A similar rivet (*F76*) was found in turn immediately to the west of, and lying parallel with the previous one. These are probably parts of the same wooden structure, although it has not been possible to explain what it was and whether they have anything to do with the two wooden rods which were noted.

The rod end with the sculpted animal head is today preserved only in fragmentary form (Pl. 100), although from a number of fragments it is possible to put the preserved length at about 15.5 cm, which agrees with Faith-Ell's tinted drawing (Pl. 101). It is not certain whether the object really was in such a good state of preservation as the impression given in Faith-Ell's tinted drawing from 1952. The drawing probably includes a degree of reconstruction. Nevertheless, it can be substantiated in respect of its essential components from the preserved finds. Some revision has taken place, however (see below, and Fig. 91).

The rod end is 38 mm in diameter. The top 41 mm are covered with iron, and a distinct, vertical weld join can be observed at the centre of the rear side.

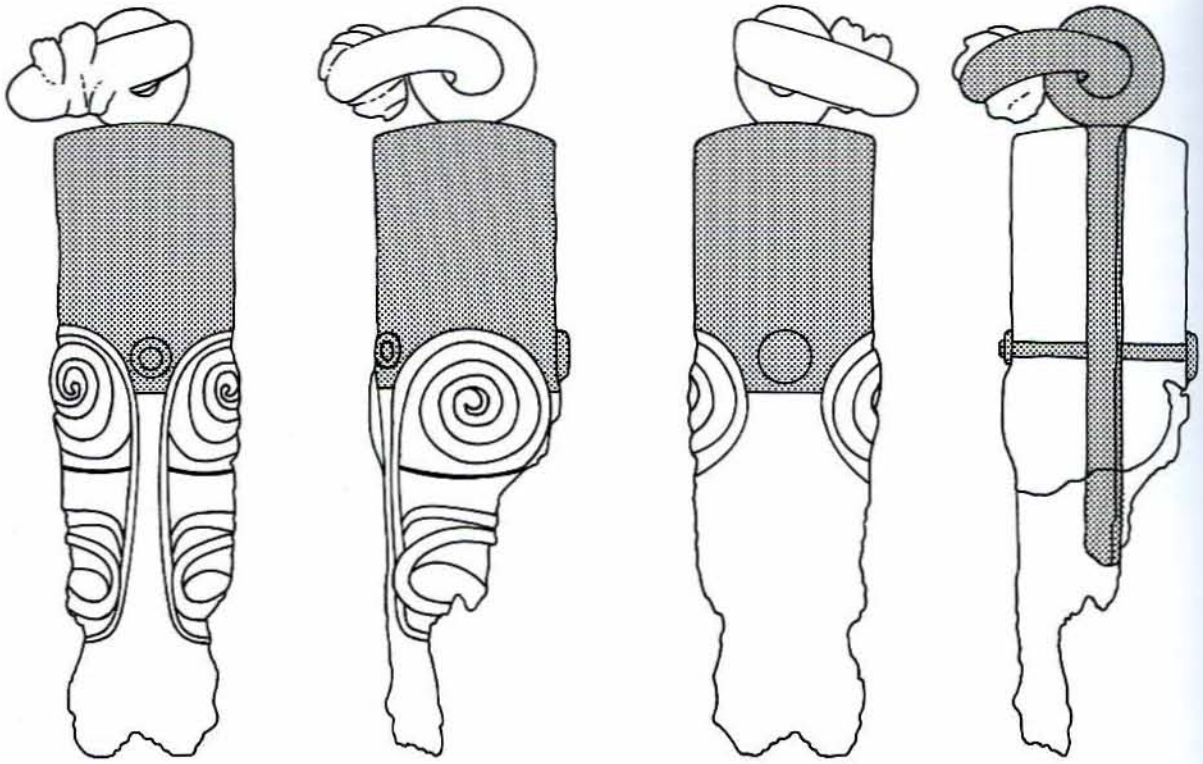


Fig. 91. The rod-end in the form of an animal's head and its iron tip, with the attachment of the iron eye.

On the short side of the rod is a hammered-in iron staple with a projecting loop, 30 mm in diameter and made of 10 mm thick material. The shaft of the staple measures 85 mm over its preserved length, although it was originally longer. The shaft of the staple has a gently tapering, rectangular cross-section, measuring 9 x 3 mm at the very bottom. The staple was locked and held in place by means of a transcurrent iron rivet driven in between the animal's eyes, directly through the shaft of the staple, and out on the rear side directly beneath the weld join. The rivet heads are domed, 8 mm in diameter on the front side, and slightly oval, measuring 9 x 11 mm on the rear side.

An iron ring, 39 mm in diameter and with a material thickness of 11 mm, sits in the loop of the iron staple. The remains of a rope (or possibly a leather thong) in turn sit in this ring.

The actual animal's head was carved into the wooden rod. At the top are two eyes in the form of spirals in relief. The spirals serve as the termination of the two projecting lines which form the bridge of the animal's nose. These lines extend for c. 70–75 mm; the lines are slightly convergent at the very top, after which they are slightly divergent. The lines are terminated at the bottom by a rounded part beneath the "nostrils", the central points of which are situated c. 40 mm beneath the central points of the eyes. The "nostrils" consist of an almost spherical nodule, above which a gently curved ridge is situated.

The aforementioned iron sleeve has a termination which is fully adapted to the animal head of the wooden rod (Fig. 91). It passes down at the front along the bridge of the nose as far as a central point between the eyes, and at the rear as a wider part down as far as the eyes. This means that the transcurrent rivet not only secures the iron staple, but is also driven through the downward-projecting parts of the iron sleeve, in so doing also securing the latter to the wooden rod.

F62b. A wooden rod with an iron ring, an iron rivet and a fragment of rope

Selling's grave plan (Pl. 10) also shows that a rough wooden rod was lying at the eastern end of the chamber, parallel with but a short distance to the south of the longitudinal axis of the chamber. The documented part of the rod was c. 80 cm long and 5–10 cm thick. At its eastern end there was a ring structure (*F62b*) of the same type as on the end of the rod in the form of an animal's head (*F62a*).

All that remains preserved of the rod is a few fragments of the ring construction (*F62b*). This is heavily rusted, and the ring is c. 43 mm in diameter with a material thickness of 10 mm. The staple has been hammered around the ring and has a material thickness of c. 10 mm with pointed shanks c. 5 mm long. The shanks bear the remains of wood, with the direction of the fibres running at an angle of c. 45° in relation to the shanks. If the staple had been inserted into one end of the rod, the direction of the fibres and the staple should have been parallel, although this may naturally have changed under the pressure exerted by the chamber.

Around the iron ring there are also the remains of one of two strands of a twined cord. Each of the strands was 6 mm in diameter. Weight = 70 g.

The nature and the function of the items *F62a* and *b* are uncertain, although they were probably parts of some kind of furniture, or the shafts of a cart or similar. The fact that one is abundantly decorated indicates that the item or items in question were also of a symbolic/ceremonial nature. Most of the rivets and the iron mounts which were found in the eastern part of the chamber probably belong to possible wooden constructions, although it is not possible to make any reliable observations.

4.6.8. COMMENTS AND CONCLUSIONS, MOUND 2

4.6.8.1. Scandinavian chamber graves

I do not propose to undertake a comparative study in any great detail here; this will be the subject of a future work. The reader is referred to J-P. Lamm (1973a, 1973b) and Magnus (1975) for an account of the chamber burial practice, and its origin, nature and character. It is, however, possible to make the general observation that the chamber burial occurs over practically the whole of the Germanic region during the Late Roman Iron Age and the Migration Period. The graves very often contain high-quality grave goods, and were not infrequently positioned beneath large mounds in a West Nordic context (cf. Ringstad 1987), although this is uncommon in a Continental context. No clear relationship exists, however, between large mounds and chambered tombs during the periods with which we are concerned here. The best examples of cremation graves in large mounds are, of course, the Uppsala mounds and Ottarshögen (Lindqvist 1936).

Although it can be said that the North European chambered tombs exhibit extremely close mutual links, including within this large area, regional variations have also been found to occur in the chamber constructions. This is most clearly illustrated in the difference between East and West Scandinavia. The chambers in the west are built primarily of stone covered with large stone slabs, whereas timber or planks are more common in Central Sweden and Central Norrland, for example. Birch-bark is widely used in both areas, however. Other noticeable similarities include the fact that the chambered tombs dating from the Migration Period lie in an east-west direction in the majority of cases, with the head being positioned towards the west. This can probably be interpreted as a proto-Christian feature, and it surely has its origins in the Roman region, where this custom began towards the end of the fourth century, and where Christianity was being elevated to a state religion at the time. This was to become the totally dominant approach during the fifth century, as the major *Reihengräber* horizon became established (Christlein 1978:53). The rich skeleton graves in particular occur with this orientation in practically all the North Germanic areas, which clearly points to the Continental style and contact zones of the upper social strata.

4.6.8.2. Absence of skeletons

As a general rule, it is very uncommon for the skeletons of the interred individuals to be preserved in Norrland graves. This has to do with the usually acid soils, and with the generally relatively thin filling of covering soil and/or stones. The skeletons tend to be preserved only in areas of more chalky, basic soil, such as in parts of Jämtland. In the case of Högom grave No. 2, however, the conditions for the preservation of at least parts of the skeleton of the deceased were excellent in theory. All that remains of the skeleton is a minor part of the *radius* or *ulna*, found in connection with the right cuff of the tunic. Also light-coloured matter on a part of the sword and the very astonishing traces of chest-hair from the deceased found on the textiles above the belt (Nockert 1991:19), shows that the deceased really was placed in the chamber. The fact that a dead person had actually lain in the grave is sufficiently clear from the positions of the clothing accessories, not least the belt, the relative positions of which could not have been achieved without their actually having been placed on a human.

Similar circumstances are also encountered in many of the known Vendel Period graves in Vendel (Stolpe & Arne 1912) and Valsgärde (Arwidsson 1942, 1954, 1977), and also at Sutton Hoo (Bruce-Mitford 1975). The existence of this situation at the latter site resulted in a discussion of whether it was, in fact, a true burial (Bruce-Mitford 1975:488ff). Phosphate-mapping and microscopic remains nevertheless revealed traces of a skeleton, on the basis of which the cenotaph theory was discounted.

If one examines what has been preserved of the skeletal remains in the Vendel and Valsgärde graves, for example, one will be struck by the considerable unevenness in the distribution of the preserved skeletal remains. The animal remains are well preserved in almost every grave, whereas human bones are entirely absent or are present only sporadically. Can this be put down to pure chance, or is there some underlying pattern of behaviour which, if this were to be the case, could also explain the absence of bones from Högom and, for example, Sutton Hoo?

No one has come up with a reliable answer to this question, although a few alternative explanations have been suggested (Bruce-Mitford 1975:493ff; Arrhenius 1983:67). Firstly, it is possible to imagine a natural ex-

planation based on the existence of truly poor conditions for the preservation of skeletons, and on the fact that the total bone mass of a human was insufficient to ensure self-preservation. The large bone mass of the horses, on the other hand, was sufficient for self-preservation to take place. Secondly, a religious/ritual pattern of behaviour could lie behind the phenomenon. The fundamental idea here is based on the fact that the deceased was laid on a *lit-de-parade* (a bed for lying-in-state), or may have made a final journey around the areas in which the individual in question had had his/her interests, with the result that he/she may not have been buried for several years. The animals which were to accompany the deceased into the grave were slaughtered at the time of burial. Thus, there would have been a major difference in the degree of putrefaction between the newly-slaughtered animals and the individual who had died several years earlier. As far as I am aware, there is no evidence of this procedure having been practised by the Germanic societies during the first millennium, although similar practices are confirmed both in the ethnographical literature and by Herodotus during the 5th century BC. The description given by Herodotus concerns the final journey of the deceased Scythian leaders around the whole of the area of interest of the deceased.

Regarding the situation in the Vendel Period boat-graves in Vendel and Valsgärde in Uppland, a similar interpretation is formulated by Arrhenius (1983:67 and note 7). She suggests that special rites were conducted, for example, in connection with sacred events in Old Uppsala. She notes that even the teeth mostly are lacking, which perhaps also gives a hint that the bodies were kept for a long time before the actual burials took place.

Both interpretations are based on the assumption that there was a long time-span between the death and the actual burial of the person in question. The most probable cause of such a time-span has to do with rituals and ceremonies connected with the rank of the deceased. The old legend around the Uppsala sacrifice (sw. *blot*) and the early sources like Adam of Bremen (Svenberg 1984:224f), tell us about the feasts and offerings in Uppsala which took place each ninth year. To these offerings all Sveones had to come with gifts. Maybe dead kings and aristocrats also had to join such cermonies a last time before they were actually buried in the soil. This perhaps can tell something about the time-span involved here.

This description in no way serves as evidence of a similar procedure having been practised during the Scandinavian Migration Period and the Vendel Period. At the present time, however, this can be taken as an acceptable explanation of the observations which we are able to make. A further relevant consideration is also that this practice, if it was in fact applied, was probably restricted to the higher and highest strata of society.

4.6.8.3. Style I in mound 2

As will have been appreciated from the above descriptions, a number of ornamentation techniques are represented on the various metal objects. The pure ornamentation techniques include punched ornamentation (battle bridle, repair sheets on the glasses), filigree and granulation (front surface of the mouth piece), engraving (on most edges of the bronze artefacts, but also on the rear surface of the mouth piece), a garnet setting on the gold sheet (mouth piece), silver inlays (saddle mounts, probably on the spurs), niello work (sword, clasp buttons), etc. Briefly, practically all the techniques in use during the Migration Period are represented on the objects in the Högom chamber. This presents us with an intellectual challenge, since the objects were deposited at the same time and as such do not represent chronological strata, but rather a wealth of skills possessed by the craftsmen of the time. There is also the ornamentation on wooden artefacts to consider, including the case for the shears, the animal head on the wooden rod and the sword scabbard. Regarding the ornaments of the tablet-woven bands on the tunic I refer to Figure 50 and to Nockert (1991), who has analysed and dicussed these motives.

With regard to what we customarily refer to as styles, three such styles mainly occur; these are punched ornamentation or the Sösdala style (battle bridle), the Nydam (or Sjörup) style (sword and clasp buttons on the spare tunic), and Style I (mouth piece, clasp buttons on the cuffs of the tunic, and the case for the shears). Not only the fact that these styles are almost always discussed from a chronological point of view (see below), but also that they occur here in a closed context, is both interesting and thought-provoking. This is not an unusual occurrence, however, and mention may also be made of the repair plates on the glass from Kvassheim, in Rogaland (Straume 1987:89f, Taf. 41), where punched ornamentation and Style I ornamentation are also present side by side on the same artefact.

There can be no doubt that the most important finds for the dating of this grave are the finds which bear Style I ornamentation, i.e. the mouth piece of the sword and the 12 clasp buttons on the sleeve band. As shown in Fig. 92, the four-footed animals which appear on these types of artefact are very closely related, in spite of the fact that they also appear on other types of substrate and in different sizes. The animals in both cases have a head and an eye, a band-shaped body marked with a number of transverse lines between the front and the rear legs, which have clearly marked,

Fig. 92. The Style I animal in the chamber tomb. *a*) on the clasp buttons of the wrist band. *b*) on the mouth piece of the swords scabbard. (Drawing: P. H. Ramqvist).

pear-shaped thighs, and essentially horizontally oriented lower legs which are terminated by sharp claws. The quadruped animal is executed most simply and most clearly on the mouth piece, whereas the lack of space on the clasp buttons means that it has been compressed. It is presumably for this reason that the muzzle was bent backwards and was made to overlap the claws on the front leg. The body has also been given the form of a banana, which corresponds to the spherical surface to which it is applied.

Haseloff (1981) discusses the mouth piece of the Högom sword a number of times in his major work, and suggests from a chronological point of view that it is an early example of Style I, which he puts at c. 500, or the early sixth century (1981:549). It may be interesting at this point to examine how Haseloff imagines the stylistic development which eventually led to Style I. His starting point is the Late Roman chip-carved bronzes (c. 350–400) which had influenced the South Scandinavian craftsmen to adopt the Nydam style (at the start of the fifth century), which in turn developed into Style I during the final quarter of the fifth century. Style I then breaks down into four so-called phases or stylistic variants, A–D, which are said to be capable of occurring simultaneously, but which are treated unintentionally by Haseloff as a chronological succession. The plastic animals in the Nydam style change in the course of stylistic phase A into plastic animals within a frame made up of edge lines. The various flat parts of the animal's body are enclosed within a frame of edge lines during phase B, and the bodies are marked by raised parallel transverse lines. The edge lines predominate during phase C, and the animals' bodies are filled with lines running parallel with the edge lines. Phase D is characterized by animals with band-shaped bodies, occasionally with woven-band ornamentation which foreshadows the coming Style II.

According to Haseloff's hypothesis, Style I thus underwent development over a period of about one century from chip-carved bronzes into Style I. In view of the relative chronological character of these datings, the designation "Early Style I" is not unconditionally associated with the start of the sixth century, and it may well belong to the end of the fifth century. It is possible to establish from a stylistic point of view, however, that a number of the details of the sword, for example the pommel, are ornamented throughout with the mixed technique by which the Nydam style is characterized, i.e. geometrical patterns produced by the chip-carving technique on a gilded and niello-worked silver substrate, in conjunction with punching such as that encountered, for example, on the rear surface of the lower grip mount. The spiral ornamentation which is present on the pommel and the grip mounts is also repeated on the mouth piece in the filigree technique used there. It must be emphasized that the Nydam style was still very much alive at the time when the sword mounts were made. If chronological conclusions are to be drawn from this evolutionary development in style suggested by Haseloff, then it should be possible to date the mounts to the second half of the fifth century. Haseloff's stylistic studies contain nothing to suggest that the animal motifs on the mouth piece and the clasp buttons should not be given such a dating.

The manner in which the animals are executed in the two cases at Högom fits well into Haseloff's stylistic phase B of Style I. Interestingly enough, the Lango-

bard Style I is closely related to stylistic phase B and is assumed by Haseloff to have been transferred from the Baltic Region to the Pannonian Region, a link which is not unusual in relation to other groups of materials or historical sources (the Herules). It is appropriate in this context to remind the reader of the close similarities exhibited by the two mouth plieces at Högom and the above mentioned Felpéc item from Hungary.

As mentioned earlier (Sect. 4.6.3.5.) some of the clasp buttons had an East Nordic distribution; this is a tendency in the clasp material that supports a division into a North Sea area and a Baltic Sea area. The character, and the geographical differences regarding style I has often been discussed (e.g. Erä-Esko 1965, Holmqvist 1972, Arrhenius 1973b, K. Lamm & Lundström 1976, Ramqvist 1990b). However, no good characteristics of the style itself have been agreed upon. According to Haseloff (1981:695), style I B in particular is considered to be a style which recurs in the Baltic Sea region, but that hypothesis has however, to be tested against both workshop residues and the total record of Style I artefacts. This illustrates the large problem, mentioned before (Ramqvist 1983:177f, 1990b), namely the "social and political life" of the artefacts themselves. That means that several of the Style I artefacts were used as symbolic gifts and the like and thereby, to an unknown degree, ended up in "foreign" regions. The best study material regarding geographical production differences, are naturally the workshop residues, but these are presently too few for any certain conclusions. From a socio-political point of view, a model regarding the societal structure of the workshops have been presented by the author (Ramqvist 1990b). According to that model it should be possible to find "workshop regions", roughly corresponding to the petty kingdoms of the Nordic area.

4.7. EXCAVATION OF 1984 (Pl. 109–111)

4.7.1. PURPOSE OF THE EXCAVATION

By the time the 1949–50 excavation of mound No. 2 took place, there was no possibility of investigating the situation beneath the mound, and interest was focused mainly on the grave. Nevertheless, entries in the excavation diary (Sect. 4.4.1.) and comments in the associated paper which was published touch upon the conditions beneath the mound. For example (Janson & Selling 1955:67):

> The original surface of the ground with its small irregularities could be observed beneath the cairn. Fires had been lit here and there. This extended down to the centre of the cairn at an increasingly steep angle.

The excavation diary contains a mention to the effect that the grave lay on top of an occupation layer with a „leopard-spot" character. The indications found during the 1949–50 campaign were not interpreted as settlement traces, however.

Later, when both of the large mounds Nos. 3 and 4 were excavated, and when house foundations were discovered beneath each of them, it was considered likely that traces of the settlement might also be found beneath mound No. 2. The purpose of the 1984 excavation was to investigate this possibility.

Since the 1949–50 excavation had concentrated mainly on the investigation of the central part of the mound, large parts of the periphery of the mound were left intact. Only the NE part of the periphery was excavated by Janson & Selling. We were thus faced by many choices of where to site the exploratory trench. In order to form a more complete picture of the three excavated large mounds, it was really necessary to take a look under mound No. 2. Would we find traces of houses here, too, and could we say anything about the settlement? Another important question concerned the distribution of the settlement on the esker. However, this was a problem which could not be solved simply by means of archaeological excavations, and the area (c. 250 x 200 m) surrounding the cemetery was accordingly mapped out in respect of its phosphate content, soil fractions and the presence of cultural indicators such as charcoal, soot and artefacts, etc. The results of these mappings are discussed in Chapters 3 and 8.

The exploratory trench was sited on the crown of the esker in the SE part of the mound (Fig. 93). It was oriented in a NW-SE direction (i.e. the same direction as the esker), and was made 10 m long and 5 m wide (Fig. 13). 4 m of the length were placed within the visible border of the mound, and the remaining 6 m outside the mound in the field which had been in use up to the 1940s.

Visible layers in the excavation were followed, and the finds in the different layers were separated. The artefacts were collected from squares with a length of side of one metre, and all the soil was passed through a 4 mm screen sieve. Macro-fossil samples were taken in all the features which were found, as well as from the different layers.

4.7.2. SETTLEMENT LAYER AND FEATURES

The excavation revealed the presence of comprehensive settlement traces beneath mound No. 2. Directly beneath the mound was a dark and homogeneous settlement layer, the characteristics of which agree in every respect with the description contained in the

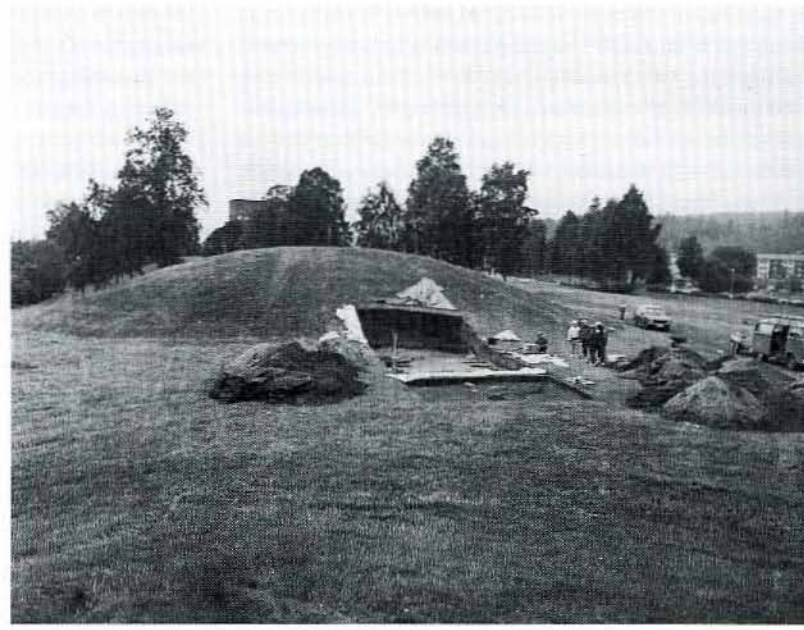


Fig. 93. The photograph shows the location of the 1984 trial trench in mound 2. Picture taken from the crown of mound 3. (Cf. Fig. 4). (Photo: P. H. Ramqvist).

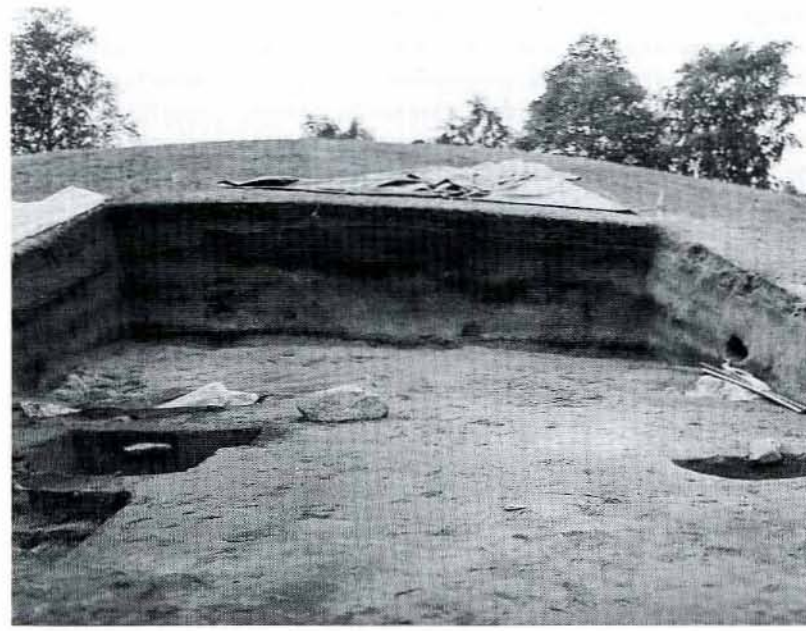


Fig. 94. From the 1984 investigation. The trench wall in mound 2 penetrates for about 4 metres into the mound. (Photo: P. H. Ramqvist).

excavation diary. Most of the filling material in the mound was made up of settlement material, which indicates that parts of the adjacent settlement were destroyed when the mound was built (Fig. 94). Observations were also made relating to the recent destruction and reconstruction of the mound.

The trench was excavated in a total of five different strata, which are referred to here as documentation levels (DL).

DL 1: The upper layer. Topsoil and sand were spread when the mound was reconstructed after the 1949–50 campaigns. The thickness of this layer varies depending on the extent of any damage to and irregularities in the original surface of the mound.

DL 2-I: The topsoil belonging to the surface of the original mound. The thickness varies depending on the damage suffered prior to reconstruction.

DL 2-II: Filling material, consisting mainly of settlement material. The thickness increases towards the centre of the mound.

DL 3: Settlement layer beneath the mound, 0.05–0.20 m thick.

DL 4: Constructed strata used to show that artefacts were found in features.

As can be seen from the long profile (Pl. 109:a), the filling material of the mound ends approximately at coordinate x=42.5, y=80.0. However, the underlying settlement layer continues undisturbed by subsequent cultivation as far as x=38.0, i.e. for a further 5.5 m compared with the filling. Thereafter, as far as x=35.5, there are fragmentary traces of the settlement layer. In addition, the topsoil layer at x=35.0 is 0.25 m thick, while its average thickness from x=37.0–42.0 is c. 0.40 m. In plain language, this means that recent cultivation has taken place up to coordinate x=42.5, which means that original filling material was removed as far as x=37–42 and almost doubled the thickness of the topsoil layer. This additional topsoil also means that the underlying settlement layer has remained untouched by cultivation, despite the fact that it was at least almost always situated outside the mound. It is impossible to estimate the original size of the mound, although it is quite clear that it was larger than the extension of DL 2-II. However, the diameter of the reconstructed mound is probably very close to that of the original.

The original filling material, i.e. DL 2-II, was varied, but in general very sooty, and contained charcoal and typical settlement artefacts such as burnt clay and calcinated bones. This layer was 0.8–1.0 m thick on the short side of the trench (Pl. 109:b). It was characterized by the bands and spots of filling material of different composition, most often of a settlement character, but also by stripes and spots of quite undisturbed filling material. The filling closest to the intact settlement layer (DL 3) consisted of an almost sterile layer of gravel and sand, which had obviously been put there deliberately in order to level the ground before the burial (cf. Pl. 109).

Both the long and the short profiles (Pl. 109) contained regular depressions in the settlement layer; these are the traces of smaller post holes. Those which are visible in the long profile form a row of three post holes spaced at a distance of 1.2 m apart (*A33*, *A34* and *A35* in Pl. 110). After removing the settlement layer (DL3), several other post holes became visible (Pl. 110). A total of 10 post holes and 3 pits with a filling of charcoal were present in the investigated area.

The post holes were of two types:

a) smaller post holes with a homogeneous filling of light, sooty sand without fragments of wood or birch bark;
b) larger post holes with a heterogeneous filling.

No parts of any of the posts were preserved in any of the post holes (Pl. 111). Nor could any charcoal be detected that might originate from the posts. The charcoal present in the filling was probably of a secondary nature. The smaller post holes formed two rows, one of which is mentioned above (*A33–A35*). Situated about 1 metre to the NE of that row was another row consisting of the four post holes *A38*, *A39*, *A2* and *A3*. This row turns slightly towards the NW (Pl. 110).

Only one post hole of the larger type was found (A1 on Pl. 110–111). It was almost oval and measured 1.06 x 0.80 m (NW-SE). The character of the filling made it look like a hearth in plan view. The filling consisted of very dark and sooty sand in the upper parts, and there were a lot of fire-cracked stones around the edges. When excavated, it became clear that the dark filling and the stones were concentrated and were more frequent in the SW part of the post hole (Pl. 111). The depth of the post hole was 0.45–0.55 m. The pit had been cut almost vertically into the ground and had a slightly concave bottom. In the SW part of the pit, the dark filling containing fire-cracked stones reached the bottom of the pit, while the bottom filling in the NE part consisted of only slightly disturbed soil. The post had obviously been situated in the SW part of the pit and had a diameter of less than 0.5 m. The post hole had probably deliberately been filled with settlement material.

The large post hole (*A1*) differs from the other in respect of both size and filling. It could also be observed that the large post hole was built at a later date than the adjacent smaller post hole *A2* (Pl. 110–111). The large one in fact intersects the SW edge of *A2*, which means that the row of which *A2* is a part is also earlier than *A1*.

Of course, it is very difficult to say much about the buildings or structures of which these post holes were a part, although we could mention some parallel examples here. The same ground conditions as at Högom were encountered in the excavation of the Early Iron Age farm at Gene, N Ångermanland (Ramqvist 1983), and a great many post holes with close contextual relationships were found. It was shown there that the roof-supporting posts had a diameter of 0.3 m on average, and that they were placed in pits with an average diameter and depth of 0.8 m and 0.6 m respectively. As mentioned in Sect. 6.6.3., an almost identical situation is encountered in the house foundations beneath mound No. 4. It is probable from these analogies that the large post hole (*A1*) was a roof-supporting post, assuming that it was part of a long-house. If, on the other hand, we compare the smaller posts, then the Högom post holes correspond quite well to the wall posts in the foundations beneath mound No. 4 and in the long-houses at Gene.

The three pits *A4*, *A5* and *A7* (Pl. 110–111) differ from the post holes in respect of their filling. The filling in these is mainly soot and charcoal with occasional occurrences of fire-cracked stones. Feature *A7* may be a post hole, and the other two could be described as hearth pits.

A number of fairly circular damp areas, resembling post holes in their form, were noted in the course of the excavation (Pl. 110). Several of these were found quite high up in the top soil and could be followed down into the C horizon. The spots disappeared after a short time, however, in the quick-drying sand of the C horizon. All that remained after the drying process were sparse and scarcely visible agglomerations of fragmentary charcoal and soot. There is no clear explanation for the phenomenon, although the spots were found to occur mainly where the settlement layer had been destroyed outside the mound. Moisture spots of another kind occurred in connection with larger stones. However, not all of these spots could have been post holes of the same kind as the certain ones. Despite the fact that ploughing has taken place there in recent times, the bottom of the post holes should still have been readily identifiable, as clearly illustrated, for example, by post hole *A33* (Pl. 109–110).

4.7.3. FINDS

As far as the find material is concerned, it may best be described as typical settlement material, consisting mainly of burnt clay, calcinated bones, fragments of iron and some objects. Generally speaking, the artefacts were more frequent in the filling (DL 2-II) than in the intact occupation layer (DL 3) (Fig. 95). In total, however, the filling represented a considerably larger volume (cf. the profile in Pl. 109).

As can be appreciated from Fig. 95, practically all the one-metre squares in layer DL 2-II contained artefacts, with a certain concentration in the N corner of the trench. The following finds can be mentioned: a fragment of a loom weight; a couple of worked, charred pieces of wood; a folded fragment of charred birch-bark, and several fragments of charred hazelnut shells. The latter is especially interesting in the light of the find of a leather pouch filled with hazelnuts on the deceased person buried in grave No. 2 (Sect. 4.6.4.12.).

A smaller quantity of artefacts was found in the intact settlement layer (DL 3) (Fig. 95). The spatial distribution of the finds sheds no light on either the orientation or the construction of the probable house. The character of the finds accurately matches the material found in the filling. The distribution of the finds also shows that the destroyed part of the settlement layer, i.e. outside the mound, can contain artefacts. A certain concentration of finds can be noted close to the eastern corner of the trench, which points to the continuation of the settlement remains outside the mound. Apart from some iron nails and fragments, a piece of heavily sintered clay with a crescent-shaped notch was found in DL 3. One of the sides was scarcely sintered at all, and the piece probably belongs to a tuyère.

The few remains of organic material included a quite small piece of charred faeces, probably from a sheep or goat. Otherwise there were no fragments of either worked wood or birch bark. The difference between the intact settlement layer and the settlement material in the filling is mainly that the latter probably

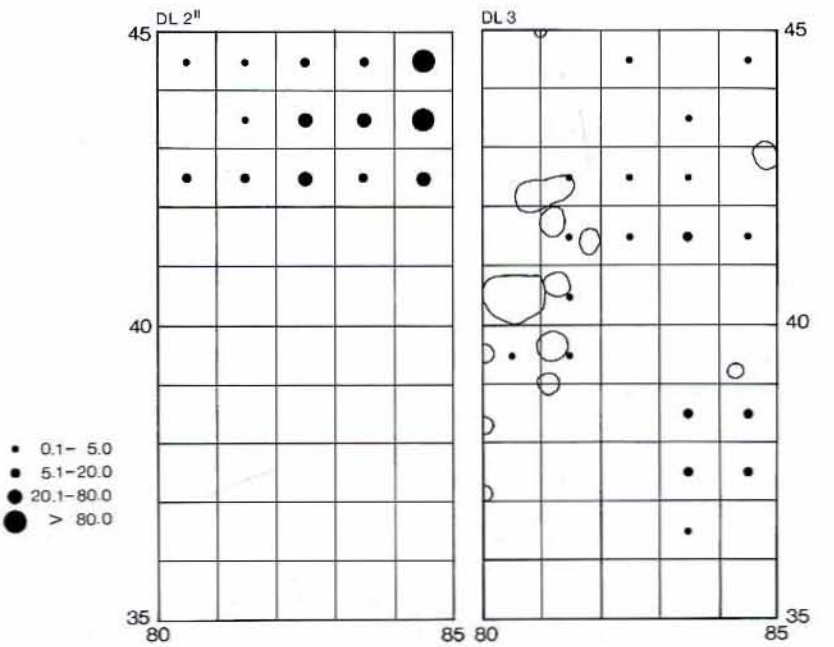


Fig. 95. Occurrence of burnt clay on the area excavated in 1984. On the left is the distribution in filling layer DL 2–II, and on the right the distribution in the intact settlement layer DL 3. Grammes/m².

originates from a burnt settlement, whereas the intact layer and the associated features do not exhibit any of the typical signs of a burnt site or house.

4.7.4. PALAEOBOTANICAL INDICATIONS

The fact that the intact settlement layer (DL 3) was not exposed to any major fire is also supported by the macro-fossil finds, which have been analyzed by Roger Engelmark and Karin Wiklund (1984) of the Department of Archaeology at the University of Umeå. Relatively few carbonized seeds were found by comparison with similar investigations of house foundations (cf. Engelmark 1981; Ramqvist 1983;77; Wennberg 1985). The samples from Högom were taken every metre along both the long and the short profile in all the excavated features and in the intact settlement layer (DL 3). In addition, four samples were taken from the short profile in DL 2-II. Each sample contained approximately 4 litres of soil.

A total of 168 carbonized seeds were found (Tab. 6), distributed amongst the following ecological categories: cultivated plants (CP), arable weeds (AW), grassland plants (GP) and shore plants (SP). With regard to the CP, only 7 seeds were recorded, 4 of which could not be identified; the remaining three were one each of barley (*Hordeum vulgare*), oats (*Avena sativa*) and rye (*Secale cereale*). All the seeds of CP originate from either DL 3 or DL 4. Even though these individual seeds may have reached the site by chance, it is nevertheless quite likely that they in fact represent the most important crops in use at the site. This composition finds a parallel at Trogsta house A (Wennberg 1985), which can be dated to the Migration Period (Liedgren 1984:102, 1992). As far as house 1 at Gene is concerned (Ramqvist 1983:77), which has been shown by different methods of dating to belong to an earlier phase, namely c. AD 100–300, only barley has been found, except a single seed of flax (*Linum usitatissimum*). This house foundation represents the earliest phase of the sedentary settlement of Central Norrland, and the inductive conclusion from these two investigations (Trogsta and Gene) would be that barley (and maybe flax) was the only CP in the earliest phase, and that the use of CPs was successively extended during the Late Roman Iron Age and the Migration Period, when oats and rye were also used. If this were to be the case, the results from Högom could mean that the investigated part of the site (DL 3-4) belongs to a later stage of the sequence, i.e. to c. AD 300–500. Further investigations of this kind must be made, however, before we can provide a more accurate description of the agricultural development of Central Norrland.

Arable weeds are relatively frequent. 12 different species occur in the Högom material, which can be compared with house 1 at Gene and house A at Trogsta, where, in spite of the larger number of samples, only 6 and 9 species respectively were found. Fat hen (*Chenopodium album*) predominates at all three locations, however.

The grassland plants are also well represented at Högom, and here, too, the material is dominated by the same species as in Gene and Trogsta, such as white clover (*Trifolium repens*) and grasses (*Graminae*).

The shore plants or wetland plants are represented only by sedge species (*Carex*) at Högom. This is very similar to the situation at Trogsta, although in this case both Högom and house A at Trogsta differ from house 1 at Gene, where common spike-rush (*Eleocharis palustris*) predominates totally. Both sedge and common spike-rush were clearly of vital importance as winter fodder for the animals when they were kept indoors during the Iron Age. It is quite clear from the distribution of the shore plants at Gene that they were found almost exclusively in the stable and in the storage areas of the house, with a concentration in the stable area (cf. Ramqvist 1983:154, Fig. 5:10). A similar distribution is hinted at in the analyses of the Trogsta material (Wennberg 1985:256, Fig. 4).

It may be interesting at this point to touch briefly on the question of the different utilization of the shore plants on the Iron Age farms at Trogsta, Högom and Gene discussed here. The common spike-rush is mainly a sea-bound plant, which means that it ought not to occur at Trogsta, which is situated 10–15 km from the sea. This site is dominated instead by sedge, a freshwater plant. Why, then, does not the common spike-rush, which is slightly more nutritious than sedge, occur at Högom, which is situated directly by the sea shore? If the few samples collected at Högom are representative, the differences must have something to do with the local topography of the sites. The relatively steep shore zone running down towards the present-day bay (now the Selångersån River) was obviously too steep to support any large amounts of common spike-rush (cf. Fig. 4). Despite the fact that the rapid rate of land upheaval in this region has successively revealed new shore zones, the amount of common spike-rush probably never became especially large. At Gene, on the other hand, the flat shore zone E of the settlement remained suitable for the common spike-rush for several centuries (cf. Ramqvist 1983:77, Tab. 4:8 and 165, Tab. 6:1). The different topographical disposition of the two sites probably provides the best pointer to the different utilization of the wetland plants.

The presence of shore plants in such relatively large quantities as in DL 2-II at Högom could indicate that the filling here originates, in the first place, from a

Table 6. The distribution of carbonized seeds from different parts of mound No. 4 excavated at Högom in 1984. Analyses by Engelmark & Wiklund (1984). A- and B-numbers = features. M1–M17 are sampling series outside the features. Samples M2 (DL 2), M11, M13, M16 (DL 3) and the samples from features *A1, A2, A9, A33–36, A38–39,* did not contain carbonized seeds.

SAMPLING LAYER	DL 2 (M3–5)			DL 3 (M1, M6–10, M12, M14, M17)									FEATURES							TOT
SAMPLE No./FEATURE	M3	M4	M5	M6	M7	M8	M9	M10	M12	M14	M17	M1	*A3*	*A5*	*A7*	*A39*	*B1*	*B2*	*B3*	
Cultivated plants (CP):																				
Hordeum vulgare (barley)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1
Secale cereale (rye)	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	1
Avena (oats)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1
Cerealia indet frag	–	–	–	–	–	1	–	–	–	2	–	–	1	–	–	–	–	–	–	4
Arable weeds (AW):																				
Atriplex (orache)	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
Chenopodium album (fat hen)	1	–	1	–	1	1	–	2	2	–	–	–	–	–	26	–	–	–	–	34
Erysimum cheiranthoides (wild mustard)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	2	–	3
Galium aparine (goose-grass)	–	–	–	–	–	–	–	–	–	2	–	–	–	–	1	–	–	–	–	3
Galium (galium)	–	–	1	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	2
Galeopsis bifida cf (hemp-nettle)	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	2
Polygonum aviculare (knot-grass)	–	–	–	–	–	–	–	1	–	–	1	–	–	1	1	–	–	–	–	4
Polygonum convolvulus (black bindweed)	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1
Polygonum lapathifolium (pale polygonum)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1
Rumex crispus (curied dock)	–	–	–	–	–	–	–	1	–	–	–	–	–	1	–	–	–	–	–	2
Stellaria media (common chickweed)	11	–	–	–	–	1	–	–	–	–	2	–	–	–	1	–	–	–	–	15
Stachys (woundwort)	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1	–	–	–	–	2
Grassland plants (GP):																				
Luzula (wood-rush)	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	2
Plantago major (greater plantain)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1
Poaceae (meadow grasses)	2	–	–	–	–	–	–	2	–	–	–	–	–	1	3	–	1	–	–	9
Potentilla (cinquefoil)	2	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	1	–	–	5
Rumex acetosella (sheep's sorell)	4	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	5
Prunella (prunella, self-heal)	1	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	–	3
Trifolium (clover)	–	–	–	–	–	–	–	2	–	–	–	–	–	–	4	–	–	1	–	7
Vicia (wild vetch)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	2	–	3
Shore plants (SP):																				
Carex (sedge)	14	2	6	1	–	–	–	1	–	–	–	–	–	–	3	–	3	–	–	30
Miscellaneous:																				
Juniperus (juniper)	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1
Rubus idaeus (raspberry)	2	–	–	–	–	–	–	–	–	–	–	2	–	1	2	–	–	–	1	8
Potamogeton (pondweed)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	1	–	2
Cruciferae (cruciferae)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1
Indet	4	–	–	–	–	1	–	3	–	–	–	–	1	–	4	–	1	–	–	14
TOT	41	2	8	3	1	4	1	13	2	5	7	4	2	6	55	1	6	7	1	169

house which had burnt down and, in the second place, from the stable part of that house. There is little to be gained from making any comments about the seeds from DL 3 and DL 4, as only feature *A7* appears to be associated in any way with "fire activities". Feature *A7* alone accounts for c. 1/3 of the total amount of charred seeds found in the trench. Carbonized seeds were totally absent from post hole *A1*, which of course means that it was never part of a burnt structure or filled with material from a burnt house.

Corncerning seeds from *other plants*, raspberry (*Rubus idaeus*) could be mentioned, which, like in Gene and Trogsta, was a utilized berry. Most of the Norrlandic species of berries are present at the last-mentioned sites and the raspberries at Högom indicate that berries were also liked here. One odd species, namely pondweed (*Potamogeton*), occurs in two different places in the settlement layer. Pondweed, which is a water plant, was probably brought to the site by clay- or fodder-catching.

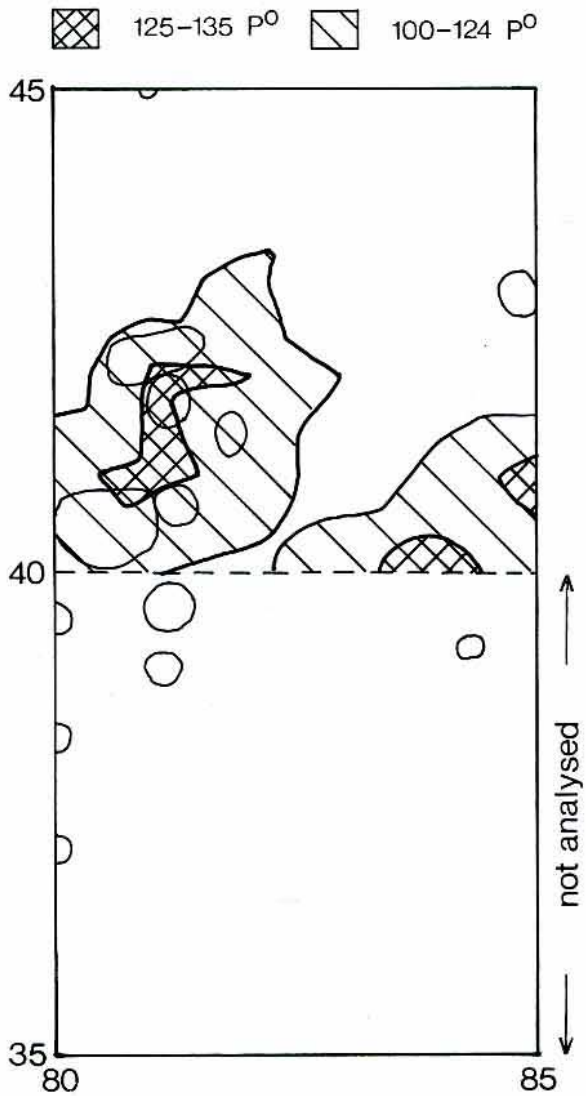


Fig. 96. Distribution of phosphates in DL 3, within the 1984 excavation area. The post holes are marked.

4.7.5. CONCLUSIONS ABOUT THE SETTLEMENT BELOW THE MOUND

The purpose of this investigation was to examine whether settlement could also be confirmed beneath mound No. 2, as had already been done for mounds 3 and 4. The unmistakable remains which we found of post holes of various kinds, as well as a homogeneous occupation layer, point to the site having been settled. It is probable that several buildings in succession were situated here. Quite a large house must once have stood here, given the size of the largest post hole. A row of smaller post holes was also found, which probably belonged to a part of a wall of a house, although this was not contemporaneous with the presumed house which had included the large post hole. Such an interpretation is supported by the slight increase in phosphate along the post row (Fig. 96). No finds of a dating type, or finds which tell us anything about the function of the building, were made.

4.8. SUMMARY AND CONCLUSIONS

The abundant grave goods in the chambered tomb could be gathered in an optimum fashion by the use of exceptional methods of investigation. Amongst other things, this led to the situation in which it was possible to establish that the deceased had been laid on a bed-like base. The bed had in turn been covered with *inter alia* fabric and different animal skins, not yet in detail analysed.

The deceased had been laid with his head to the west, in the Continental manner, and had similarly been given a gold tablet, again in the continental manner, to be used as payment for the journey to the other side. He was accompanied into the burial chamber by a number of weapons, horse trappings and other objects, which indicates that their symbolic value had been something to aspire to. Their technical, combat-related function had been a secondary consideration against the symbolic value.

The chamber could be interpreted as a "two-room" chamber, of which the western part, where the deceased was placed on his bed, was the directly private area, and the eastern part, where the service, the vessels and the horse trappings were situated, was a recep-

tion room or a conference room, where a table had been laid for probably two persons, being the deceased and presumably another person of the same rank as the interred person. The private area also contains all the weapons and the toilet items of the deceased, as well as the two pairs of shears and, amongst other things, a leather pouch containing one of the shears as well as other probable toilet items. The particular importance attached to hair care is illustrated by the presence of the two pairs of shears close to the deceased and the comb in the belt. The two glasses were also lying in the private area, and may have been vessels of especially great significance in this context, possibly intended for use in a toast of loyalty upon conclusion of negotiations and before proceeding to consume the meal which had been set out. Facilities were provided for both persons to wash in the washing bowl after the meal, and to use the comb which had been thoughtfully provided in the washing bowl to comb their hair and beards neatly. The large tub next to the service contained perhaps an abundant supply of water for this washing activity. My intention in including this short speculative section is to highlight only one of the possible interpretations which we must try to apply to assemblages of this nature. There is a great deal of information to be obtained from the position of the objects inside the burial chambers, and because the basic structure can hardly be said to have been arrived at by chance, it is certain that many interesting circumstances lie concealed in the mutual relationships within a burial chamber, something to which Werner (1983) has also made reference at Sutton Hoo.

5. MOUND No. 3

5.1. INTRODUCTION

This mound was excavated between 15 May and 7 August 1960 under the leadership of Rolf Petré of the raä. The excavation assistants were C-O. Cederlund, Lars Olsson and Bo Malmberg. 2 or 3 labourers also took part in the excavation.

The mound is situated between mounds No. 2 and 4 and is the smallest of the large mounds, c. 35 m in diameter and 4 m high. It does not lie precisely in line with the other three large mounds. The mid-point of the mound is situated c. 15 metres to the SW of the straight line connecting the other three mounds (Fig. 4). It could thus be said to represent an anomaly from the point of view of the layout of the whole cemetery.

The following description of the excavation is based on the excavation report delivered by the leader of the excavation, Rolf Petré (1963). I have checked all the artefacts (except for those which cannot be found in the stores), and the descriptions are based on those observations. Petré's descriptions have been used whenever artefacts have not been refound.

This burial mound is mentioned not only by Ramqvist (1990a), but also in conjunction with earlier research in the following works: Stenberger (1964:569) makes passing reference to the grave; Selinge (1977:328ff) gives a brief description of the house foundations beneath the mound, and Ramqvist (1983:8ff, 139f, 1987a) mentions casting remains and asbestos ceramics, and analyses the house construction from a socio-political perspective.

5.2. EXCAVATION TECHNIQUE

The filling of the mound was removed mainly with the help of a crawler tractor, although the parts closest to the occupation layer beneath the mound were excavated using spades and trowels. According to the excavation report, no sieving took place.

Of the four large mounds, this was the least damaged by settlement in modern times and by agricultural activities (Fig. 5). Some damage had been caused to the mound by just a couple of pits which had been dug on the western and eastern edges. It is also clear from the plan that recent agricultural work has reduced the diameter of the mound. This can be seen in the NW part, where the bottom settlement layer has been almost completely destroyed and had become hardly recognizable by the time of the excavation; it was indicated simply by the presence of some soot and burnt clay. The most probable interpretation of these conditions is that the mound originally covered that area, and that recent ploughing has taken place on the lower parts of the mound, finally also reaching the underlying settlement layer.

In order to appreciate the stratigraphy and the construction of the structure, two main profiles were laid out (A–B and C–D in Pl. 112), together with two supplementary profiles at the western and eastern edges of the mound (E–F and G–H in Pl. 112–113). When the mound and features of the mound were removed, the underlying settlement layer was excavated according to a system of 2 x 2 m squares, with the x-coordinates running in an E-W direction and the y-coordinates in a N-S direction. All the finds, features and constructional elements were related to the coordinate system and were normally positioned to an accuracy of one centimetre. The finds concerning the depth were also related with the same precision to the surface of the settlement layer.

5.3. FILLING OF THE MOUND

As can be seen in profile A–B (Pl. 114), the filling of the mound was highly heterogeneous. The soil consisted of quite different fractions, ranging from gravel to silt, i.e.

in principle the same materials that surround the mound (cf. soil map, Fig. 12). Apart from a couple of examples, the filling is quite free from stones which also show good correspondence with the sorted soil on the site (Fig. 97).

The major, and perhaps the most interesting attribute of the filling is its content of disturbed soil, i.e. material from the adjacent and subjacent older settlement. The deposition of the settlement material in the mound filling shows that parts of the settlement were destroyed by the type of mound construction. In the only documented profile passing through the mound (Pl. 114), it could be seen that the settlement material dominates the lower, central part of the mound. The filling accordingly reflects the sequence of construction of the mound to some degree. Most of the settlement material was used first, and once that material had been "consumed", the more undisturbed soils in the immediate vicinity were taken. Pure settlement material, which also contained typical settlement artefacts totally covered the small central cairn (see below).

5.4. GRAVE CONSTRUCTION

The mound seems to have been built in one continuous sequence, and there is nothing to contradict the supposition that it was *originally* meant to be a large monument. It is important to draw attention to this, as it is sometimes the case that medium-sized mounds or stone settings dating from the Early Iron Age are reused and enlarged in a later period (cf. Hallström 1942:212f).

On top of the mound, approximately 0.2 m below the mound surface, there was a smoothly rounded stone measuring 0.5 x 0.4 x 0.3 m, which probably served as a grave bowl (Fig. 98). No recent pits or activities were noticed in connection with the stone, and it was covered with yellow and undisturbed sand, which proves its original location.

A small cairn was found a couple of metres south of the mid-point of the mound, built directly on the settlement layer (Figs. 99 and 102). The cairn was conical, no more than 4.8 m in diameter and 1.2 m high, and had unusually steep sides (Pl. 115). It was covered mainly with birch bark, and in some places with pine bark. The cairn was well protected against the filling material, and therefore no soil was found among the stones of the cairn.

The cairn was not very carefully constructed, but the idea had obviously been to create an even cairn surface. A charred log was found among the stones in the northern part of the cairn, beneath the covering birch bark (Pl. 115, Fig. 100). Some fragments of charred

Fig. 97. Mound 3 in the course of excavation. Photograph taken from mound 4. (Cf. Fig. 4).

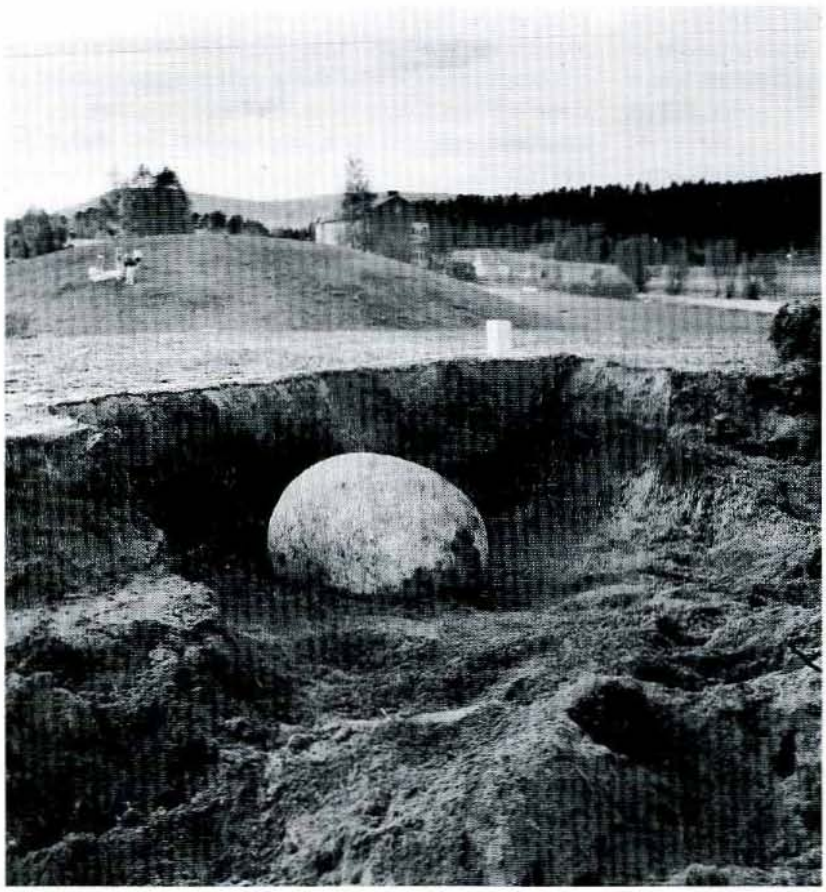


Fig. 98. Grave stone in mound 3 *in situ*. Mound 2 can be seen in the background.

Fig. 99. The central cairn in mound 3, viewed from mound 4. Mound 2 can be seen on the right in the background.

Fig. 100. The central cairn with carbonized timber and birch-bark, viewed from the NE.

wood were also present among the stones in the upper part of the cairn. The excavator was unable to come up with any explanations for these finds.

No traces of burial were found in, below or outside the grave. The appropriate expression used to describe this structure should, therefore, be *cenotaph.* This is a relative term, however, and, as we shall see below, it is perhaps possible to regard the mound, the cairn and the underlying house foundations in one and the same context.

5.5. FINDS IN THE MOUND FILLING (Pl. 116–119)

5.5.1. INTRODUCTION

As mentioned above, most of the lower central part of the mound contained settlement material. Artefacts of a settlement-related nature occurred in those strata which had originally been situated outside the mound area. Most of the artefacts appeared in the relatively dense layers closest to the intact settlement layer beneath the mound. Some artefacts were also found at higher levels, however (*F1* and *F10*). The excavator of the mound separated the find-bearing spots into concentrations numbered 1–3. Other find concentrations were also identified. However, an analysis of the finds has shown that it is possible to fit together fragments from all the concentrations and spots. *It was also possible to fit finds from the filling with finds from the intact settlement layer beneath the mound,* which proves the origin of the filling material.

In the following catalogue of the finds, the presentation is divided into the mound filling and the central cairn. The settlement layer and the finds are presented in Sect. 5.6.

5.5.2. LIST OF FINDS

In this and the following lists of finds, the find numbers, coordinates and levels are taken directly from the excavation report (Petré 1963). The levels are presented in two forms, on the one hand as minus values (–), denoting below the top of the mound, and on the other as plus values (+), denoting above the settlement layer.

The finds have been analyzed by me personally, however, and the categorization of a number of artefacts is accordingly not the same as in Petré's report. For example, most of the moulds and crucible materials in Petré's report are referred to as ceramics.

F1. X = 23.20, Y = 23.47, level = 3.10 m below the top of the mound (= –3.10 m). *Fishing spear point,* iron. With six points, three of which have flukes. Length (L) = 300 mm, max. width = 128 mm.

F2. X = 23.85, Y = 13.20, level = 0.01 m above the bottom layer surface (= +0.01 m). *Iron rivet.* L = 37 mm. W = 9 g.

F3. X = 24.02, Y = 34.50, level = +0.10. *Iron rivet/nail.* L = 46 mm, W = 8 g.

F4. X = 28.30, Y = 36.23, level = +0.05. *Iron bar,* fragment. L = 42 mm. W = 5 g.

F5. X = 24.10, Y = 35.33, level = +0.10. *Iron bar,* fragment. L = 110 mm, W = 18 g.

F6. X = 24.93, Y = 35.24, level = +0.20. *Iron,* 4 fragments. W_{tot} = 5 g.

F7. X = 27.11, Y = 25.00, level = +0.30. *Iron bar,* fragment. L = 33 mm. W = 1 g.

F8. X = 25.10, Y = 34.85, level = +0.05. *Slag,* magnetic. Size = 78 x 51 mm. W = 90 g.

F9. X = 25.70, Y = 28.60, level = +0.02. *Burnt clay,* one side red and the other grey, 3 fragments. W_{tot} = 4 g.

F10. X = 24, Y = 23, level = 2.60 m from the top of the mound. Concentration of charcoal and artefacts on a spot c. 1 m in diameter. The material was identical to the bottom layer and the layer containing *F11* (see below). The following artefacts were found in the concentrations:

(a) crucible, 2 fragments, greyish with a vitrified surface, one of which exhibited a right angle. W_{tot} = 6 g.

(b) burnt clay, 1 fragment, grey outside and weakly red inside. This fragment fits with a fragment from *F11.* W = 4 g.

(c) mould (?), 14 fragments. The largest piece has a thin, smoothly rounded edge, a light red outside and a darker inside. The surfaces are flat. The other pieces are light red, with both flat and uneven surfaces. W_{tot} = 13 g.

(d) calcinated bone, 1 fragment, W = 0.1 g.

5.5.3. FINDS IN CONNECTION WITH THE CENTRAL CAIRN

This section lists details of the finds made in the 0.05–0.10 m deep settlement layer that covered the central cairn. The layer contained heavily sooted sand and various forms of settlement material. According to the excavator, the finds occurred in three quite small concentrations (1–3) within the layer. However, no such sub-division has been undertaken here, because it was possible to fit together fragments from all three concentrations. It was also possible to fit one piece from the settlement layer with a piece from the layer that covers the central cairn. This clearly shows that the filling was taken directly from the vicinity of the mound, and it is quite unnecessary to subdivide the material further than the seven categories presented below.

F11(a), crucible, 11 fragments, with a vitrified surface in green and grey colours and occasionally with red strains. From the largest fragment it is possible to deduce that the crucible was of the large, oval, closed type, with a lid and a small handle on top. All these fragments probably belong to the same particular crucible. The largest piece measures 84 x 63 mm. The insides of the fragments are blackish and very porous and spongy. A number of impressions, of which at least one originates from a pair of tongs used to lift the crucible off the fire, are visible on the large piece (Pl. 118). The impression in question forms a square with a length of side of 20 mm. The outer part of the impression also has a couple of parallel ridges, the function of which was perhaps to make the grip of the tongs more steady. The other pieces include one which could be a handle, in this case an oblong, rounded raised part. W_{tot} = 120 g.

(aa), crucible, 4 fragments. Of the same type as above, but smaller. In these cases the inside of the fragments are of a grey and weakly red colour, and the surfaces are even and compact. Two of the fragments bear the impressions probably left by a pair of tongs, which exhibit pairs of small, acute impressions. W_{tot} = 27 g.

(b), crucible, 12 fragments. Of the same type as above, but with a more blackish/greyish colour. The material is vitrified only to a minor degree. The fragments include one piece with a handle and one piece with a mouth lid which have been preserved. These probably do not belong to the same crucible. The handle is rounded, 10 mm in diameter and 10 mm high. The mouth fragment represents a half lid with vitrified edges; the original diameter of the lid was c. 20 mm. The outside surface is relatively rough and not quite vitrified. A couple of pieces are of the same kind of ware, but very thin, at 1 mm, and may therefore represent another kind of artefact. W_{tot} = 27 g.

(c), crucible, 1 fragment consisting of two pieces joined together. Greyish colour and lightly vitrified. The largest piece of the crucible was found elsewhere in the mound filling, i.e. at X = 21.31, Y = 24.04, level = –2.71. Almost the whole of the bottom of the crucible is intact, but is broken at the place for the lid. It measures 34 x 32 mm, which is close to the original size of the crucible. The present height is 29 mm, which corresponds roughly to an original size of 35–40 mm. It is quite possible that the handle piece mentioned under *F11(b)* belongs to this crucible. W = 11 g.

(d), moulds, 14 fragments. One piece has a motif in the form of a profiled, spherical head with three joining grooves. Two of the grooves are adjacent to the top and bottom of the head, while the third groove, the size of which varies towards the head, meets the head from the left side. This latter groove is perhaps best explained as an air channel, while the one leading from the head may be the cavity for the shaft of the pin with a profiled head for which the mould is intended. The groove on the top may be part of the inflow channel of the mould. The mould fragment in question has three intact sides, and the only broken side is the one with the air channel. This means either that it is not a mould for a pin with a profiled head, or that such a mould was built up of more than one piece.

Another fragment, slightly more reddish in colour, has two sides intact, including a smoothly rounded edge. Both this and

the aforementioned fragment bear clear traces of the thin layer of clay which originally covered the front and back parts of the mould. Apart from the individual impressions and even surfaces, the other fragments bear no traces of what might have been cast in them. These fragments are referred to as mould fragments, because of their similarity to the certain moulds. W_{tot} = 22 g.

(e), red burnt clay with a whitish crust. The crust is 2 mm thick at its point of maximum thickness, and there are a number of thin, straight lines running in different directions on the whitish surfaces. The outside is slightly convex on the largest piece, and the surface is reddish and almost flat on the inside. Some of the other pieces occasionally exhibit a dark red/brown colour on the red inside, resembling the casting surfaces on the moulds. All these fragments could come from moulds, although a scientific analysis would be required to determine that. One of the pieces of this kind could be fitted together with one from *F10* above. W_{tot} = 126 g.

(f), clay bowl, fragmentary (Pl. 119). Original diameter c. 140 mm, and 60 mm high. This very unusual form and quality is grey/black in colour on the inside and red/white on the outside. The outside also bears traces of a whitish, 1 mm thick crust very similar to the crust of *F11(e)*. The last-mentioned crust is totally absent, however, from the grey/black inside surface. A closer examination of the dark inside shows that there is an outer crust here, too, which is about 1 mm thick, and a lot of finger imprints and stripes are visible on its surface. The edge of the pot has an average thickness of 6 mm, while the thickness 30 mm below the edge is c. 15 mm. The bottom is also c. 15 mm thick. The red outside comprises c. 1–2 mm of the ware, while the rest of the ware is grey/black in colour. The colour of the bottom, however, is a relatively homogeneous grey/black. The ware gives a "sandy" impression, and the temper is of a relatively even size and contains quartz and mica, etc. W_{tot} = 266 g.

(g), clay bowl fragments. Two fitting fragments of a pot which is the same as or similar to that in *F11(f)*. One of the fragments was found in the intact settlement layer at coordinate X = 21.22, Y = 25.15, level = –0.04. It was given the find number *F89* in the excavation report. W_{tot} = 15 g.

(h), burnt clay, fragments of various types. All types have their counterparts in either of the find numbers *F11(d), (e), (f)* or *(g)*. W_{tot} = 141 g.

(i), daub. Two larger pieces, of triangular cross-section. Partly vitrified. W_{tot} = 78 g.

Note to F11: The excavation report also mentions three fragments of calcinated bones, which have not been found since.

5.5.4. COMMENTS ON THE FINDS IN THE FILLING

One find which often occurs in more uncertain contexts is the fishing spear (*F1* Pl. 116). This implement, which, moreover, continued in similar form for a considerable period into historical times, is very well preserved and was found embedded in an area of grey, sandy soil in the grave filling; the excavator includes a comment in the report to the effect that the object may be of the same age as the mound, but that it is more likely that it "rolled down from the edge of the profile, or was placed in the profile by an outsider". Here is yet another find circumstance which is uncertain. A similar find, from Hov in the parish of Selånger, was made as a loose find in the vicinity of the graves which were investigated by Selling in 1960. Reliable finds of fishing spears from the sixth century have been made, however, including from the Norwegian region (Hougen 1959:135), in fact in a grave find from Lofoss, Valdres, Norway, containing three fishing spears and, in addition, arrow points, hammers and knives. These fishing spears are of a different type, however, from the two from Selånger, in that they have three barbs and are fully forged together on the shaft part.

As will have been appreciated from the above, it has been possible to fit together fragments from the filling of the mound directly above the central cairn, using fragments found in the intact settlement layer beneath the mound. These fragments are *F11g* from the filling closest to the central cairn, and fragment *F89* found at coordinate X = 21.22, Y = 25.15. This is an extremely rare occurrence, and confirms what had been suspected, i.e. that the mound was constructed with material taken directly from the settlement.

With regard to the objects contained in the filling, they are characterized by material associated with the working of precious metals. Fragments of crucibles and casting moulds and an unusual clay vessel (*F11f–g*) and other ceramic remains (*F11e*), which may also be presumed to belong to such activities, occur relatively abundantly. Amongst the reliable mould fragments under *F11d* is the only one to bear distinct impressions. This has a characteristically profiled head of the type found *inter alia* on charnier buckles, such as those at Norrala (Sect. 4.6.4.15.), on garment pins (Nerman 1935:Taf. 10:82 and 38:384), and on the end studs on the cruciform brooches (Reichstein 1975). We thus have a population of shapes and forms associated in particular with the fourth and fifth centuries. The fragment of a casting mould has its exact parallels at both Helgö (K. Lamm 1969:139, Fig. 50) and Gene (Ramqvist 1983:71, Fig. 4:16d).

We are on very much less sure ground when it comes to the ceramic material. The items concerned include a vessel (*F11f* and the fragment under *F11g*) and fragments with a white crust on the outside and with a reddish brown inside (*F11e*). The vessel, the main parts of which could be successfully reconstructed, presents us with problems, not only because it is very shallow (60 mm) in relation to its diameter (140 mm), but also

because its internal surface is black/grey and there is an occasional millimetre-thick white coating on the outside. There is no doubt that this arose in conjunction with the function of this or these vessels. The form of this ceramic object actually resembles a lid most closely, although this is contradicted above all by the coatings on the outside and on the inside, which support the idea that this was in fact a vessel with one or more functions associated with the working of precious metals.

The Helgö investigation produced a very large quantity of ceramic material, which has been processed by Reisborg (1981) for the workshop area BG 3 and the house concentration BG 4. One might imagine that parallels with the vessel in question could be found in the ceramic material from Helgö, although the published material contains no such indications. Reisborg (1981:142) was able to establish that only 0.61% (14 fragments) of the better preserved ceramic material had a grey outside, i.e. a characteristic which approaches that of the ceramic ware discussed here. However, no more detailed analysis was made of these fragments. The material as a whole nevertheless includes a number of different types of vessel, and Reisborg attempts to associate the function of some of these with the working of precious metals.

5.6. SETTLEMENT BELOW THE MOUND

An intact settlement layer (Fig. 101) was present here below the mound, as was also noted below mounds Nos. 2 and 4. The surface below the mound was documented at two levels. The first level (Pl. 120) was the top of the settlement layer, which corresponds approximately to floor level. The second documented level (Pl. 121) was the layer remaining after the settlement layer had been removed, and only the post holes, hearths and other features were visible in the yellow C-horizon.

5.6.1. HOUSE FOUNDATION

5.6.1.1. Floor level

The settlement layer was relatively weak, apart from a darker belt running approximately E-W across the surface. The latter proved to be the remains of a house foundation. The dark area was bounded by two broad strings of compacted, red-burnt clay which may probably be taken as an indication of the presence of daubed walls. Large pieces of charred birch-bark were also found in connection with the stripes (Pl. 120). The southern one of the two red strings was bounded to the south by a yellow trench. Another similar, but shorter, trench at right-angles to the first was noted close to the profile E–F. A third trench forming a dividing line in the house was also observed at this level. It was surrounded by two rows of post holes and contained yellow filling material. The post holes, but not the trench, could be followed down to the next documented level.

Some very important observations concerning the house foundation had thus already been made at the first level, even if no real traces of the construction elements of the house were found. Firstly, the red-burnt stripes which were observed were the remains of the collapsed long walls of the house (Fig. 102). The walls

Fig. 101. The house foundation beneath mound 3 exposed. Photograph taken from mound 4. Mound 2 can be seen on the right in the background.

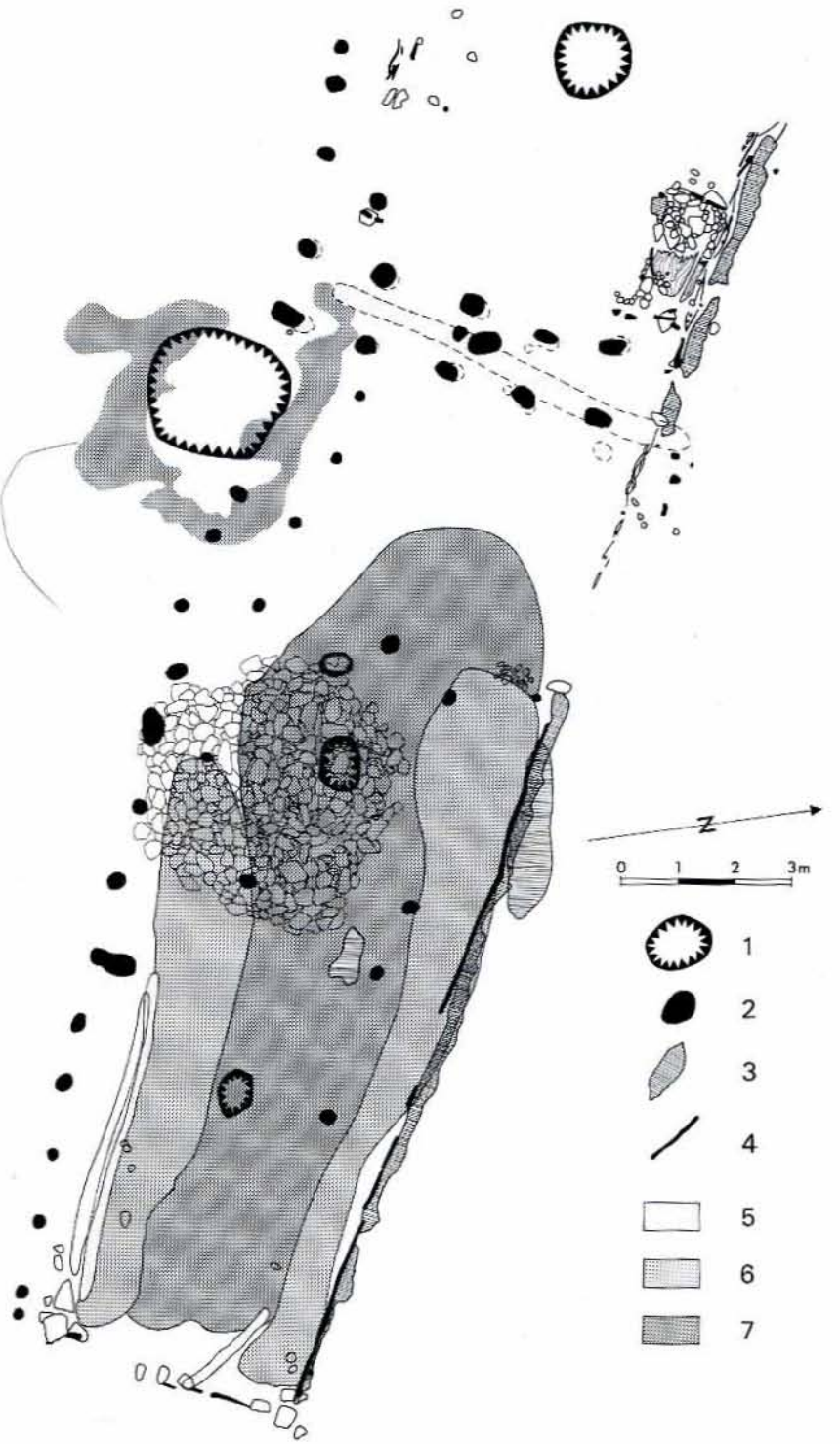


Fig. 102. The relationship between features at floor level and the features which emerged when the floor layer (settlement layer) was removed. The position of the central cairn is also shown. Combination of Pl. 120 and 121. 1 = hearth, 2 = post hole, 3 = birch-bark, 4 = charred remains of sill beam and the wattle work of the wall, 5 = light yellow sand, 6 = red-burnt clay, 7 = soot-mixed sand.

were daubed, and had collapsed inwards, and they had clearly been tied only to the eastern part of the house. The southern one of the two red-burnt stripes was about 3 metres shorter than the northern one, which probably has to do with the presence of the central cairn in that area.

Secondly, the trench of c. 5 metres in length in the SE part seems to have had functional associations with the fallen wall, which is also true of the northern wall line (see below).

5.6.1.2. Layout

Once the dark settlement layer had been removed, the features such as walls and hearths, etc, became visible in most cases as dark discolourations. In some cases, such as along the wall line, the wooden parts were found intact. About 35 post holes, 4 hearths and a couple of other features were also discovered within the house foundation (Pl. 122–124). 3 hearths and a single post hole are reported outside the foundation. The length of the preserved parts of the foundation was c. 25 metres, and according to the layout and the form this is not a complete long-house. The western part of the house had probably already been destroyed by the time the mound was built. The maximum width of the house, i.e. in the western part, is c. 7.5 m, and 5 m at the intact eastern gable-end. Given the continuous increase in the width of the foundation from the eastern gable to the westernmost part, the foundation must have been about 50 m long if they were constructed symmetrically, i.e. if the maximum width was in the middle.

The foundation has no counterparts today among the long-houses which have been excavated in Scandinavia, because the customary three-aisle layout is absent (cf. Ramqvist 1983; Liedgren 1992). One could imagine that the excavators in 1960 happened to miss the large post holes along each side of the central axis of the house foundation, i.e. the trestle posts. It is reported by the excavation leader, however, that considerable efforts were made to find the pairs of posts within the foundation. It seems likely, therefore, that the main constructional elements are represented on the excavation plan (Pl. 121).

5.6.1.3. Roof supporting elements

It has not been possible to interpret the excavation plan and the descriptions of the features in any satisfactory way concerning the logic behind the positioning of the posts within the foundation (Fig. 104). As can be seen from the plan (Pl. 121), only 7 certain post holes (*b1, e1, s, y, t, v, x*) were recorded, and their mutual relationship is not that of a typical three-aisled long-house. None of them form a pair. Post hole *b1* lies close to the central axis, and *s, t* and *y* are on the same line as the E-W trench, while post hole *x* lies between these lines. Features *v* and *e1* and a couple of unexcavated features (post holes) form a line approximately 1.5–1.75 m inside the northern long wall. It is possible that these post holes 1.5–1.75 m inside the wall formed some kind of insulation wall in conjunction with the E-W trench. That seemed doubtful for two reasons, however; firstly, because of the large distance between the two walls. In better known cases, this distance is normally between 0.5 and 1 metre. Secondly, the rows of posts inside the walls are not at all regular, and the post holes seem to occur more or less at random.

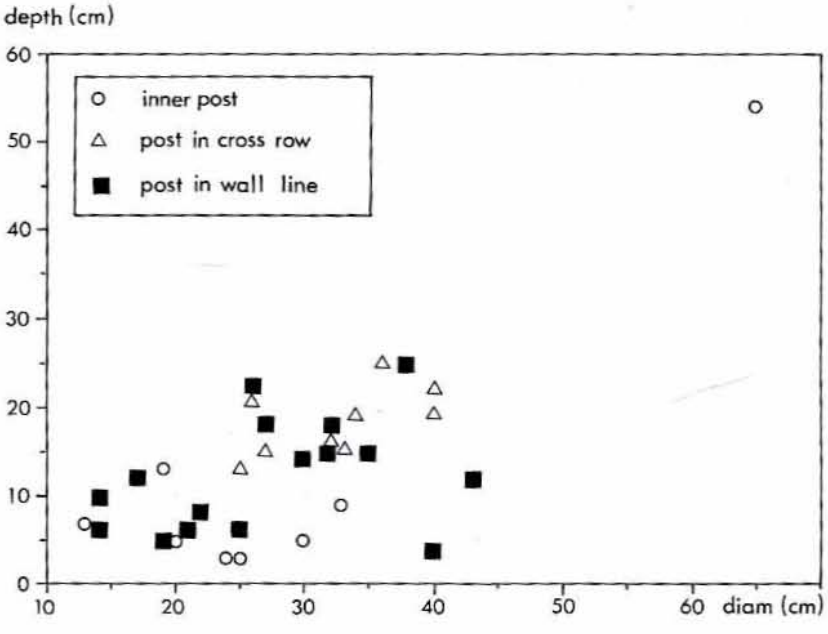


Fig. 103. Post hole depth and diameter in the foundation below mound 3.

Fig. 104. Post holes belonging to the two transverse rows of posts. In the foreground is the hearth *j1* and in the background is the NE long wall.

5.6.1.4. Walls

The most substantial and important constructional elements of these foundations are the wall parts. The walls were straight, diverging as far as the middle of the house, and converging thereafter. The mid point of the house was situated approximately at the point of intersection of the two rows of post holes crossing the house.

As can be clearly appreciated from the excavation plan, the two long walls of this house were of different designs. The south wall is characterized by a relatively uniform row of quite small post holes, and the north wall by the residue of a sill beam and the remains of wattle work (Figs. 105–106). The east gable of the house rested on a sill beam which was supported on sill stones.

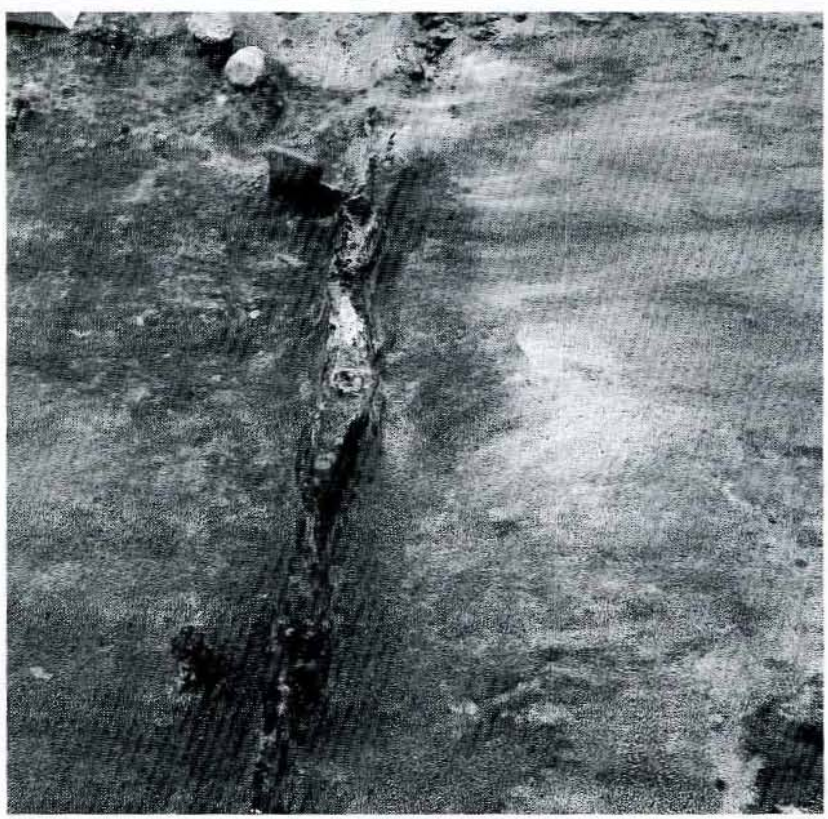
The south long wall includes 18 certain post holes (Pl. 122) positioned at spacings of between 0.4 and 1.75 metres. A common spacing is 1.2 metres. The hearth, feature *b*, intersects the wall, which means that a couple of post holes are probably absent from the line of the wall at this point. Stratigraphical observations made in the course of the investigation revealed that this hearth was built after the house had been destroyed (see below).

According to a similar pattern to that observed at house II at Gene (Ramqvist 1983:78ff), it is possible to note here that the wall posts have no significance in terms of their diameter and depth (Fig. 103). They are 0.14–0.43 m in diameter and 0.04–0.25 m deep. Some of the post holes also exhibit pointed profiles, which may denote that the posts were sharpened. The original diameters of the posts are uncertain, since no wooden remains were found. The filling in the post holes is homogeneous and slightly soot-stained. Individual fragments of burnt clay with no preserved impressions were found in post holes *n*, *o*, *p* and *r*, however. Their presence in these post holes corresponds to the distribution of burnt clay generally in the house foundations (Fig. 110). This is concentrated in that part of the house foundations, i.e. in the area around the hearth *z*.

At the same time, two of the post holes in the wall line, *o1* and *p1*, represent the southernmost pair of the five pairs of posts in the western part of the house foundation which form the two transverse rows at that point (Fig. 104). These posts differ markedly from those along the wall line, in that the 10 post holes are mutually extremely homogeneous, above all in the respect that they all contain carbonized birch bark, something which was not encountered in the wall posts, with the exception of the aforementioned *o1* and *p1*.

A trench measuring just over 5 metres in length and up to 0.4 metres in width, extending for 0.75–1.0 metre within the row of post holes as far as the southern long wall (Fig. 107), was found in the SE corner of the house foundation. The trench connects directly with one of the two quite large flat stones which are present in the SE corner of the house foundation. The eastern one of these stones connects directly with the eastern gable of the house and formed the basis for the sill beam of the gable. The western stone lies in the direction of the

a



b

Fig. 105. Wattle walls in house 3. *a*) parts of the wattle in the NE long wall, to the NE of the entrance. Photograph taken from the NE. *b*) Same from the NW.

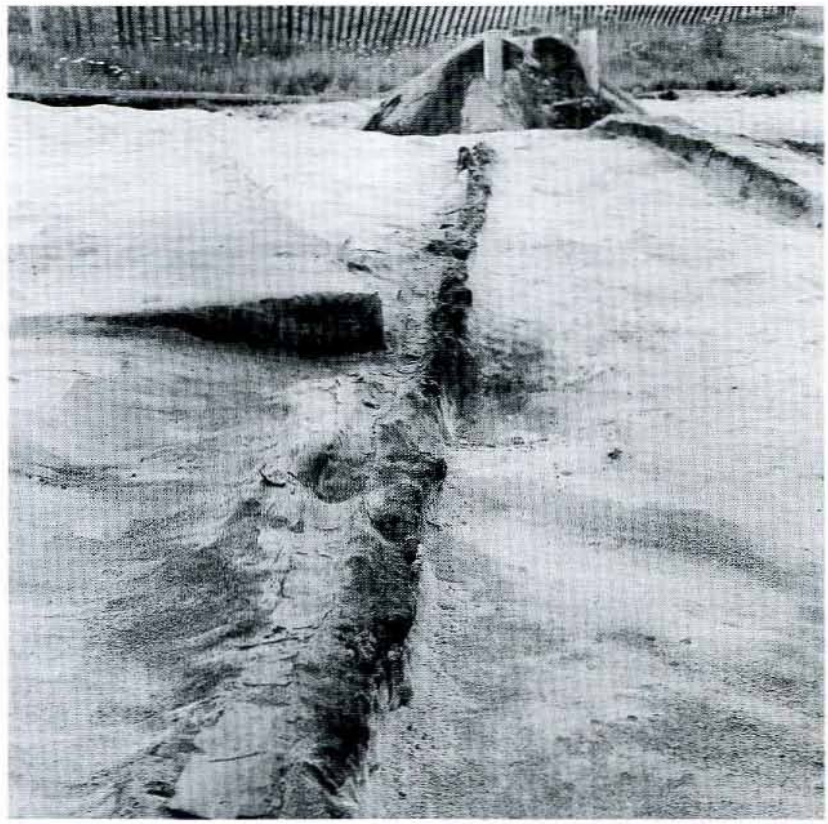


Fig. 106. Part of the sill beam, with the adjacent pieces of birch-bark. NE long wall viewed from the NW.

trench and probably had a functional relationship with it. The trench was filled with light yellow sand and represented, as it were, a negative colouration, which had to be explained by the fact that the originally carbonized sill beam, which had lain in the trench, had been removed in ancient times, and that the resulting depression had been refilled with sterile sand at the time of rebuilding the structure. A similar filling material was also observed in conjunction with the transverse rows of posts in the western part of the house (see below).

It is thus likely that the south long wall involved a double wall construction. The three post holes *y*, *t* and *s* occur on the prolongation of the trench, starting 4.3 metres to the west, and the two as yet uninvestigated *features 1* (post hole) and *2* (part of a trench?) occur on the same line in the western part of the house foundation. These thinly scattered features nevertheless indicate that the south long wall of the house was in fact double, with an inner insulating wall and an outer, rather more stable wall. The inner wall was situated 0.75 m inside the row of posts in the eastern part of the house, and c. 1 m inside it in the central part of the house (i.e. the west part of the preserved house). If this is correct, we can also establish that the inner wall was anchored in the ground in various ways, with a buried sill in the SE part, and elsewhere by means of very sparsely arranged posts.

As far as the north long wall is concerned, there is less doubt as to the manner of its construction, since most of it is preserved. The easternmost part, for a distance of almost 14 metres between the NE corner of the house and the entrance door, consisted of a sill beam, of which c. 11 metres are preserved (Fig. 106). Lightly charred birch bark, in some areas in double layers, runs outside the sill for its entire length and is folded up against it. There were quite large, flat stones at the outermost points of this section of wall, which had formed the base for the sill beam. The only reliably determined entrance to the house starts to the west of this section of wall. It is 1.75 metres wide and is marked by an interruption in the line of the wall and by a small post hole *c1* and by an apparently ordered pile of fire-cracked stones *d1* measuring 0.7 x 0.35 m. This is followed in a westerly direction by a section of just over 3 m in length with walls in wattle work, which have been preserved to a height of about 10 cm (Fig. 105). Birch bark is totally absent from this part of the wall. Slender, charred sticks of spruce had been inserted into the sand to a shallow depth with a distance of about half a metre between them, and thin spruce wicker, which had also been charred, had been woven between them. A sill stone lies in direct contact with this wattle work, and the westernmost 5.5 metres of the house foundation are in the form of a partially preserved sill beam with birch-bark lying outside it in the same way as in the eastern part of the long wall.

The east gable is also quite well preserved (Fig. 108). The two corners are marked by the aforementioned flat sill stones, which are situated 4.3 m apart. There are individual stones between these, as well as the fragmentary remains of a charred sill beam, although there is no birch bark here, unlike the combination of sill beam and birch bark found in front of the north

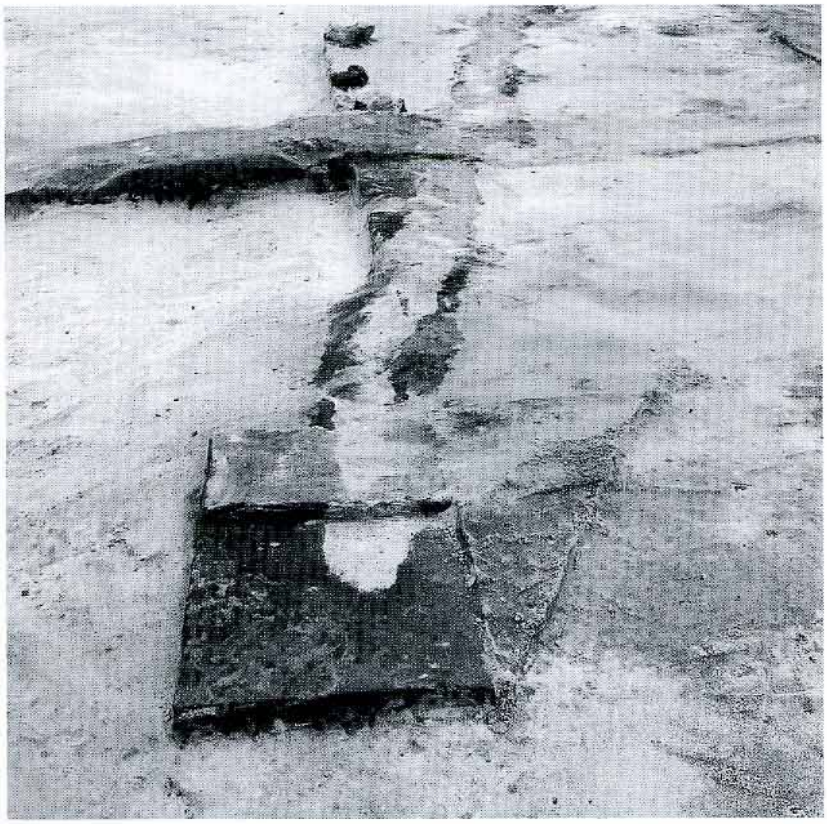


Fig. 107. Part of the inner SW long wall. The yellow sand found its way into the trench after the carbonized sill beam was taken up in ancient times. The picture shows the termination of the trench in the NW. Photograph taken from the NW.

long wall. Situated a further 0.7 m to the south of the SE sill stone of the house is the first post in the row of posts which forms the long wall of the south side, which means that the width of the house at the gable part was 5 m externally and 4.3 m internally.

In order to build up a more complete picture of the nature of the walls, we must also take account of the extremely important observations which were made before the settlement layer was removed, and to which reference was made above. These observations are presented in Fig. 102. It is clear that the eastern parts of both the south and the north long wall had been daubed with clay. A belt of red-burnt clay c. 10 m long and 0.75–1.2 m wide was lying inside the south long wall, i.e. inside the inner wall marked by the trench. This was mostly of a nature which prevented collecting. A similar belt of burnt clay, 0.6–1.8 m in width, was also found running along the north long wall for the same distance as the east sill, i.e. for a distance of 13 metres inside the wall. There can be no doubt that these belts are the remains of the clay daubed wall which had collapsed at the time of the fire. The fact that the belt along the south long wall is three metres shorter may be explained by the positioning of the central cairn over the south wall in this area, which in some way may have brought about the destruction of the remaining three metres. Soot-stained earth is also absent for a corresponding distance, which points to secondary damage. It should also be noted that there is no belt of red-burnt clay at the east gable.

The exceptionally well preserved north long wall and the east gable clearly indicate that the assumptions made in other contexts (e.g. Ramqvist 1983:64), in respect of the presence of the sill beam construction and the presence of constructions of various types in the same wall, were in fact correct. It is also possible to identify a number of other relationships concerning this material, including the existence of certain links between the birch-bark and the sill beam. It is quite clear that both are present together along the north long wall, and that the birch-bark ceases where wattle work with sticks pushed down into the soil are present. This allows us to conclude that the task of the birch-bark was to protect the outside of the wall and the sill beam from rotting, and that it would have lain beneath and against the sides of the sill. How far up the wall it reached and whether or not it actually lay beneath the sill beam was not been confirmed by the investigation. It is reasonable to assume that the principal purpose of the sill stones along the north long wall was not, therefore, to raise the sill beam from the ground, but rather to serve as a stable base. If, on the other hand, we examine the construction in the gable, it appears to have been different. There is a sill beam here, but no birch-bark, which could be taken to mean that the sill stones which were present there, which also happen to be more numerous and larger than elsewhere, served a double function, on the one hand to raise the sill beam from the ground in order to avoid rot, and on the other hand to act as a stable base for the sill beam. This could also be taken as an indication that the eastern ends of the long sides, in both cases sill beams (i.e. the inner wall of the south wall), did not lie on the same stones as the gable sill. As will be appreciated from the plan (Pl. 121), as expected double stones are also present in the corners. Those

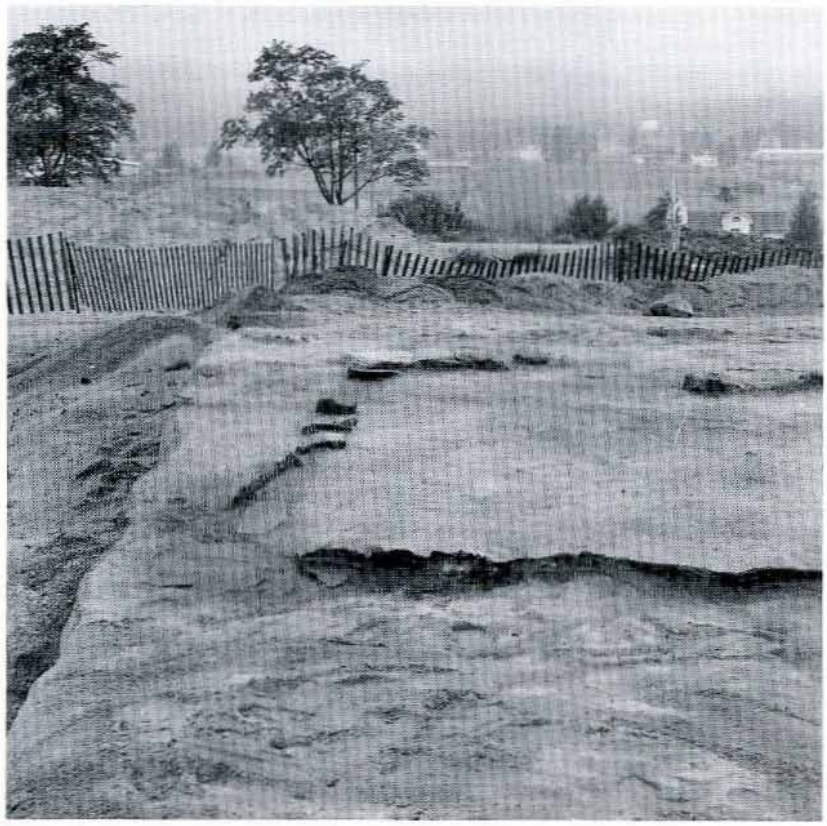


Fig. 108. SE gable in house 3. Note the flat sill stones, the remains of the sill beams and the birch-bark in the closer of the long walls. Photograph taken from the NE.

stones which face towards the respective long wall could very easily be assumed to have lain at a rather greater depth than the two stones which are associated directly with the gable sill. Unfortunately, no such considerations were included in the investigation.

It can be stated by way of conclusion that the choice of material for the various wall construction details involved the use of pine for the sills, but only spruce for the sticks and wicker for the wattle work (Danielsson 1988).

5.6.1.5. *Hearths (Pl. 123)*

Nine hearths in total were found on the excavated area beneath mound 9 (Tab. 7). Of these, five lie within the limits of the house foundation (features *c*, *j1*, *a1*, *z* and *u*), three lie outside the house foundation (features *a*, *t1* and *u1*), and one lies above the south long wall of the house (*Anl. b*). Of the three hearths which are situated inside the house foundation, *j1*, *a1*, *z* and *u* at least can be regarded as belonging to the house foundation, whereas the large hearth, *Anl. c*, exhibits the characteristics of an external (outdoor) hearth, in spite of lying on the centre line of the house, and may accordingly be regarded as being either older or younger than the house foundation. On the basis of its "fresh" nature and its similarity with *Anl. b*, which is certainly of more recent date than the house foundation, *Anl. c* may also be regarded as being later. It has, in fact, been found at Gene that hearths and other features which are older firstly have a very much lighter surface, and secondly

Table 7. Hearths in and around the house foundation below mound No. 3. BB = burnt bones; BS = burnt stones; x = present; – = absent.

Feature	Shape	Width (m)	Depth (m)	BB	BS	In house	Comments
Anl. a	round	1.65	0.30	–	x	no	
Anl. b	round	4.00	0.95	–	x	no	iron fragment
Anl. c	round	1.35	0.26	x	x	no?	
u	round	0.71	0.11	–	x	yes	
z	rect.	0.95x0.70	0.18	–	x	yes	midhearth
a1	round	0.50	0.13	–	x	yes	midhearth
j1	round	0.50	0.18	–	x	yes	
t1	round	0.67	0.07	–	x	no	
u1	round	0.52	0.20	–	x	no	

assume a characteristic ring of carbon around the edge as the result of compression, whereas the most recent features on the site have a uniformly dark surface and thus give a fresh impression (Lindqvist 1989:108f).

The hearths *z* and *a1* together form a central hearth complex in the house of the same kind as that found in practically all the investigated long-houses dating from the Early Iron Age in Central Norrland (Ramqvist 1983; Liedgren 1992). These central hearth complexes sometimes contain a number of individual hearths, although as a general rule they appear to consist of at least one rectangular clay hearth and a circular or oval hearth pit with a relatively large quantity of fire-cracked stones. In this case the rectangular clay hearth *z* is relatively small and measures 0.95 x 0.70 m, and the circular hearth *a1* is only 0.5 m in diameter. Although the character is the same as in other contemporaneous long-houses, the central hearth complex in this house foundation nevertheless appears to be much smaller, which may have to do with the overall function of the house (Sect. 5.6.3.2.). Burnt bones are almost always encountered in association with fire-cracked stones in other known Central Norrland houses dating from this period. This is, however, unusual in this house foundation, where only *Anl. c* contains calcinated bones. This is a further indication that this house was not an ordinary long-house, and that it had special functions.

The other two hearths *u* and *j1* along the centre line of the house are in no way remarkable in their character, although the position of *j1* between the two transverse rows of posts is perplexing (Fig. 104). All the evidence points to this hearth being truly contemporaneous with the house and with the transverse rows of posts, although the actual function of the hearth is unclear.

One important feature which is situated on the south long wall of the house is *Anl. b*. This is a large, almost round hearth measuring no less than 4 metres in diameter at its outer limits, although the sunken part measures 2.5 x 2.2 m across and is 0.95 m deep; this is a remarkable feature by any standards. The feature contained charcoal and fire-cracked stones in thin layers alternating with sand with a sooty admixture. Hearths of a similar type with a tendency towards stratification are also found at Gene and the phenomenon occurs there mainly in conjunction with larger, external (outdoor) hearths.

All around the hearth were spots of grey, unburnt clay, and it was possible to establish that the hearth had been built after the house-fire, since the sooty layers around the hearth pit were separated in places from the burnt layers of the house by a thin layer of yellow sand. Individual iron fragments, which need not have had anything to do with the function of the hearth, were found at its surface. Otherwise, no finds were made in the hearth itself. It is around this hearth, however, that the majority of the burnt bones of cattle were found (Fig. 113), which may be of significance to the interpretation of the function of the hearth (see below).

The hearth, *Anl. c*, is the only one of the hearths to contain burnt bones. It was round and relatively large, with a diameter of 1.35 m and a depth of 0.26 m. Its bottom consisted of a compact layer of charcoal and fire-cracked stones, whilst the rest of the filling was made up of sand with a sooty admixture and individual burnt stones. This is, in fact, the appearance of the typical hearth pits, which are found in their hundreds at Gene. The occurrence of burnt bones is also nothing unusual here.

The animal bones in the hearth have been identified by Gejvall (1961) and were found to represent the remains of several individuals, but only a single species, i.e. the sheep/goat. This phenomenon has also been shown to prevail at Gene, in that the remains of only a single species were found to be present in the hearths in those places where investigation was possible. Hearths containing the bones either of the sheep/goat or of the hare were found at Gene, although the two species were never found in one and the same hearth (Ramqvist 1983:131). A similar situation is thus encountered here at Högom.

5.6.1.6. Other features in the foundation

This category of features or structures also includes feature *v1* in the western part of the north long wall and the two transverse rows of posts containing posts *f1–p1*. It also includes feature *No. 1* with its associated pieces of charcoal west of the transverse rows of posts.

Feature *v1* was rectangular, measuring 1.70 x 0.95 m, consisting of four heavily charred planks lying on the original bottom next to one another and parallel with the wall. A piece of wood 0.07 m wide (Fig. 109) was lying across these planks at right angles on the western edge of the feature. A similar piece of wood was lying cross-wise over the SE corner of the feature. Two quite sturdy posts, respectively 0.18 and 0.20 m in diameter, were found at the corners which face inwards into the house. Restricted to a large part by the two post holes and the planks was a stone packing which, at least in the western half of the feature, formed a low wall within the transverse piece of wood. There was also a fairly small pile of stones east of the planks, close to the east post. Finally, the small iron knife *F149* (Pl. 127 and 138) was found beneath the planks.

What this feature actually represents is uncertain, although it seems likely that it is a piece of furniture fixed to the wall, such as a bench or a bed. It may well correspond to the benches (Sw: *pallar*) which are encountered in some of the houses at Eketorp dating from approximately the same time (Edgren & Herschend 1979:30f). However, no certain explanation could be found for them at Eketorp, either. What can be noted, however, is that the size and position of the benches corresponds to the situation at Högom, although at Eketorp they are constructed from slabs of limestone.

Approximately 0.5 m east of feature *v1* is a stone, marked as "3" on the plan (Pl. 121), on which a charred piece of wood was present, pointing in a southerly direction towards a similar stone with a piece of wood pointing to the north. The latter is marked as "1" on the plan. The distance between the two stones is 5.5 metres. This probably represents the position of a dividing wall which rested on a sill beam, which in turn was supported on the two stones 1 and 3. Apart from the remains of the stones, a few small remains of the sill beam are also documented c. 0.5–1 metre south of sill stone *No. 3* (Pl. 121). As previously mentioned, sill stone *No. 1* also lies in relatively close alignment with the inner wall, marked by the trench, on the south side. The distance between stones *Nos. 1* and *3* can thus also be taken as an expression of the internal width of the house at this point.

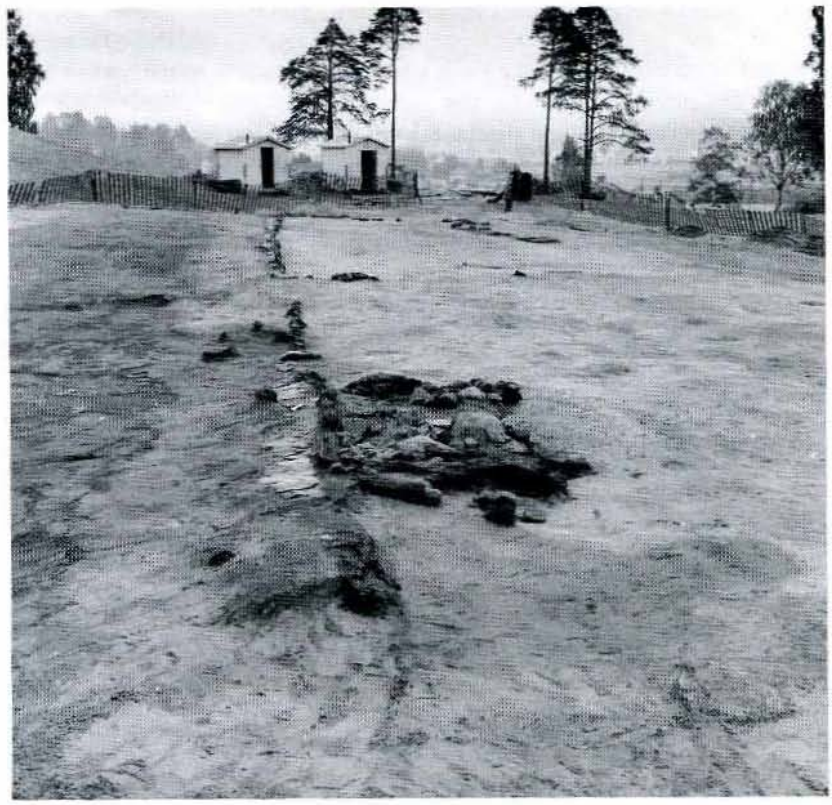


Fig. 109. Feature *v1*, "the bench" (Sw. *pall*), along the NE long wall in house 3. Photograph taken from the NW.

One of the two transverse rows of posts commences at a point only c. 0.75 m to the east of this dividing wall; this is the row containing posts *g1*, *i1*, *l1*, *h1* and *p1*. The next transverse row containing post holes *f1*, *h1*, *k1*, *m1* and *o1* occurs a further 1.2 m to the east. All these post holes, as well as a trench running between them, could already be made out at floor level, where they appeared as light yellow patches in the otherwise darker soil. This indicates that they were of the same character as the trench in the SE corner of the house. The conclusion arrived at by the excavator is that these areas of negative colouration occurred as the result of posts and sill beams having been removed from the site of the fire, and that the cavities left by them had been filled with the light yellow sand at the time of building the mound. A number of peculiarities are concealed here, including the function of the two transverse rows of posts and their relationship to the adjacent transverse wall, as well as the presence of the light yellow trench between the transverse rows of posts, at the same time as the hearth *j1* also lies between these rows of posts. This appears to be a more or less insoluble problem, and it is possible *inter alia* to question whether *j1* really was a hearth. Although it may not perhaps be a typical hearth, most of the evidence nevertheless suggests that it was not a post hole of the mid-post type. The feature in fact lacks the birch bark which is typical of all the post holes in the transverse rows, at the same time as which *j1* contained a compact layer of charcoal and fire-cracked stones, characteristics which were not present in the post holes. The absence of charcoal and the presence of birch-bark in the post holes provide a further argument in support of the posts in fact having been pulled up out of their holes, leaving behind only remains of the birch-bark which had originally been wound around the ends of the posts. The conclusion to the effect that the yellow areas running between the transverse rows of posts belonged to a sill beam which had been removed may thus be assumed to be correct. The only logical conclusion at which I am able to arrive in this context is that the sill and the hearth *j1* cannot be contemporaneous, that it predates the other features, and that its apparently symmetrical positioning probably is a purely random occurrence. It is quite clear, however, that the two rows of posts which run across the house are contemporaneous with the house, given their ordered position in the house foundation and, not least significant, the fact that they function as a barrier serving to restrict the spread of the finds (Pl. 125). The very fact that they act as a barrier to restrict the spread of the finds is, of course, regarded as an indication of the presence of an dividing wall. In this particular context, however, given the probable function of the house (see below), I should very much like to keep open the possibility that what we are concerned with here is a piece of furniture or a similar arrangement attached to the wall and to the floor, positioned along and directly to the east of the intermediate wall, as indicated by the sill stones 1 and 3. It is possible to imagine different types of arrangement here, ranging from a bench or a raised dais to a high seat, etc.

5.6.2. FINDS IN THE SETTLEMENT LAYER (Pl. 126–138)

The following list includes the finds which were made in the settlement layer under the mound. Finds of burnt clay, burnt bones and similar are not included in this list, but are reported separately on the distribution plans (Figs. 110–114). Only in those cases in which these find types constitute actual objects are they included in the following list.

5.6.2.1. List of finds

F12. In square X = 6, Y = 32 (approaching the square X = 8, Y = 32). *Loom-weight*, 2 fragments, black-grey colour. W = 19 g.

F13. X = 8.92, Y = 30.60. Level –0.03. 2 calcinated *bone fragments* decorated with two parallel lines along the edge. 50 x 7 x 3 mm in size. W = 1 g.

F14. X = 9.30, Y = 30.84. Level –0.03. 2 calcinated *bone fragments* that fit *F13*.

F15. In square X = 8, Y = 30. 2 calcinated *bone fragments* that fit *F13*.

F16. In square X = 8, Y = 32. *Loom-weight*, 1 fragment, black-grey colour. Probably belongs to the same loom-weight as *F12*. W = 7 g.

F17. X = 11.90, Y = 26.69. Level –0.09. Almost complete *loom-weight*. Mostly red-burnt, but partly black and vitrified. Clear marks of thread on the surface and in the hole. Diameter = 72 mm; hole diameter = 14 mm. W = 149 g.

F18. X = 11.36, Y = 28.05. Level –0.03. *Iron bar*. Band-shaped, bent and affected by fire. Size 48 x 8 x 3 mm. W = 3 g.

F19. X = 11.14, Y = 31.70. Level –0.04. *Iron fragment*. L = 40 mm. W = 7 g.

F20. X = 13.92, Y = 25.54. Level –0.06. *Rectangular iron washer* 32 x 30 x 3 mm in size, and with a rectangular hole measuring 10 x 9 mm almost at the centre. In one of the corners is a small rivet, and in the diagonally opposite corner there is a half hole for a rivet. The washer is flattened out along one of the long sides. W = 5 g. Escutcheon ?

F21. In square X = 14, Y = 22. *Iron fragment*. L = 11 mm. W = 1 g.

F22. X = 15.87, Y = 27.10. Level –0.06. *Fused bronze lump*. L = 10 mm. W = 2 g.

F23. X = 15.57, Y = 27.51. Level –0.04. *Iron cramp*. Band-shaped with pointed terminations. Bent twice through a right angle. W = 4 g.

F24. X = 14.85, Y = 26.72. Level –0.03. *Iron bar*, fragment, with one pointed termination. L = 64 mm. W = 7 g.

F25. X = 15.80, Y = 27.23. Level –0.03. *Band-shaped iron piece* with a rolled-over termination. Size 47 x 11–15 x 2–3 mm. W = 6 g. Lock-spring ?

F26. In square X = 14, Y = 26. Three pieces, black, very porous and light organic material. *Burned resin*? W = 1 g.

F27. X = 15.65, Y = 28.43. Level –0.02 and *F47.* X = 17.53, Y = 26.70. Level - 0.05. Two fitting pieces of a fragmentary *round bone pin* (pin No. 6). Decorated with a band of crossing lines which is terminated on one side by two lines running all the way round, and on the other by one such line. Occasionally, the crossing lines project beyond the termination line. The double termination line does not seem to be very accurately manufactured and probably belongs to this pin. L = 88 mm; max. diameter = 9 mm. W = 9 g.

F28. X = 15.90, Y = 31.66. Level –0.05. *Bone arrow head*, of triangular cross-section. Calcinated, but almost intact. The upper edge is rounded, and the side edges sharp. On the flat underside there is a c. 75 mm long, 4 mm wide and 0.5 mm deep depression. L = 135 mm, B = 11 mm. W = 8 g.

F29. In square X = 14, Y = 30. Fragment of *burnt clay*, with an enclosed impression of seed (?). One reddish and one greyish surface. L = 28 mm. W = 4 g.

F30. X = 15.40, Y = 34.12. Level –0.10. Calcinated fragment of a *bone comb* with broken teeth, above which there are two parallel engraved lines. There is no ornamentation on the rear side of the fragment. L = 15 mm. W = 0.1 g.

F31. X = 14.14, Y = 34.30. Level –0.07. *Iron mounting*, rectangular, with a convex/concave cross-section. 5 mm from each end there is a 1 mm wide hole. Size 38 x 11 x 2 mm. W = 2 g.

F32. X = 17.02, Y = 25.82. Level –0.03. Fragment of a *bronze sheet*. L = 15 mm. W = 0.2 g.

F33. X = 16.11, Y = 25.52. Level –0.07. *Iron cramp*, band-shaped, with one pointed and right-angled termination. L = 28 mm. W = 2 g.

F34. X = 16.28, Y = 25.91. Level –0.02. *Iron nail*. Bent twice through a right angle. Original length = 41 mm. W = 3 g.

F35. X = 17.44, Y = 24.72. Level –0.02. One fragment of a *needle case* made of bone, calcinated. Decorated with one line running all the way round. Original diameter of the needle case c. 9 mm. W = 0.2 g.

F36. In square X = 16, Y = 24. Four fragments of an *asbestos-tempered* pot. Light red in colour, with a smooth outside and a coarser inside where the asbestos fibres are more readily visible. The length of the fibres varies up to c. 12 mm. The surface of the outside varies in colour from brick-red to grey-black, probably due to secondary burning. The outer surface also bears traces of very high temperatures, where the ware is vitrified. Probably sherds from a *bucked-shaped pot*. The thickness of the ware varies between 3 and 5 mm. The largest piece measures 87 x 65 mm. W_{tot} 34 g.

F37. X = 16.56, Y = 26.38. Level –0.02. *Bronze sheet*. Affected by fire, with a straight and slightly thickened rim. Size 35 x 15 x 1–2 mm. W = 2 g.

F38. X = 16.10, Y = 26.45. Level –0.03. *Bronze sheet* fragment. Size 6 x 4 x 1 mm. W = 0.1 g.

F39. X = 16.90, Y = 26.27. Level –0.05. *Bronze sheet* fragments. The size of the largest is 9 x 9 x 1 mm. W = 0.2 g.

F40. In square X = 16, Y = 26. Lump of *vitrified material* with a small impression of wood. Size 25 x 18 x 9 mm. W = 3 g. One part with a smoothly rounded edge bent up at a right angle has been preserved, indicating that the piece was probably intended to be the lid of a two-piece crucible. In its character, this fragment corresponds most closely to the fragments of *F11b* above. L = 30 mm. W = 3 g.

F41. X = 16.21, Y = 26.59. Level –0.05. Slightly S-shaped *iron rod* of rectangular cross-section. L = 35 mm. W = 2 g.

F42. X = 16.11, Y = 26.74. Level –0.04. Fragment of an *iron cramp.* L = 27 mm. W = 1 g.

F43. In square X = 16, Y = 26. Six fragments of an *asbestos-tempered pot.* Similar to *F36.* The largest sherd measures 29 x 28 x 5 mm and is decorated with two parallel thin lines. W_{tot} = 6 g.

F44. In square X = 16, Y = 26. *Crucible* fragment of grey colour and only slightly vitrified. The ware is built up of at least three clay strata in the typical manner of a crucible.

F45. X = 17.28, Y = 26.45. Level –0.07. Fragment of *flat bone pin* (pin No. 4). The fragment fits with *F55*: X = 17.89, Y = 28.10, level –0.04 and *F56*: X = 17.61, Y = 28.23, level –0.05. Because of different find locations, the fragments have different colours. The pieces represent the point (= lowest part) of the pin. It is decorated on both sides. On the front side, thin lines running parallel with and 2.5 mm from the border converge at the point. The line is double on the right side and on the lowest 30 mm of the pin. The ornamentation lines and the edges are clearly worn on that part of the pin. Both border lines are accompanied by a sequence of arcs with a mid point. These sequences are not quite even or equivalent on the two rows. The rear side contains only the thin border lines. The lowest part is worn here, too, and there are only weak traces of the lines at the point. L = 60 mm. Thickness = 3 mm. W = 3 g.

F46. X = 16.80, Y = 26.96. Level –0.05. Fragment of a *flat bone pin* (pin No. 5). The fragment fits with *F73*: X = 18.52, Y = 27.60, level –0.05 and *F74*: X = 18.61, Y = 27.53, level –0.06. According to the excavation report, *F75*: X = 18.69, Y = 27.04, level –0.05, *F76*: X = 18.5–19.5, Y = 27.0–28.0 and *F77*: X = 18.5–19.5, Y = 27.0–28.0, *F57*: X = 17.43, Y = 29.13, level –0.04 and *F58* in square X = 16, Y = 28 also belong to pin No. 5. The largest pieces, *F46, F73* and *F74* suggest that the pin had the same shape as pins Nos. 1, 2 and 4. It is decorated with border lines on both the front and the rear sides. There is also one horizontal double line on the front, indicating the same partitioning as pin No. 1. The largest fragment (*F46, F73, F74*) has a maximum width of 22 mm and is 3 mm thick. The fragment *F75* is part of the border including the line decoration on both the front and the rear sides. The 10 fragments of *F57, F58* and *F76* also contain small parts of border lines and parts of the point of the pin. *F77* are two tiny fragments of similar kind, W_{tot} = 5 g.

F47. See F27.

F48. In square X = 16, Y = 26. Fragment of the point of a *bone pin.* Probably belongs to pin No. 6 (see *F27*). Has a smoothly rounded cross-section. L = 15 mm, diameter = 5 mm, W = 0.5 g.

F49. In square X = 16, Y = 26. *Bone* fragment, calcinated, with one polished surface and sharp edge. L = 9 mm, W = 0.1 g.

F50. In square X = 16, Y = 26. Slightly retouched piece of *flint.* L = 14 mm. W = 1.3 g.

F51. X = 16.25, Y = 26. Level –0.12. *Hour-glass-shaped bronze mount.* It comprises two not quite identical and slightly convex/concave halves. These halves were originally situated to either side of leather or some other material which was c. 2 mm thick. A small bronze pellet on a bent shaft leaves the base of piece *F51a.* The two halves were attached by means of five small bronze rivets, two on one short side and three on the short side which has the shafted bronze pellet. Original length of mount = 18 mm. W = 1.5 g.

F52. X = 16.27, Y = 29.63. Level –0.08. Rod-shaped *iron fragment.* L = 19 mm. W = 0.4 g.

F53. X = 16.33, Y = 29.80. Level –0.07. Two *iron* fragments, one of which is the point of a *knife.* The other is a small conical fragment with a rectangular cross-section. The length of the knife fragment is 25 mm, and W = 2 g.

F54. In square X = 16, Y = 18. *Fragment of an asbestos-tempered pot.* The outside is reddish and finer compared to the light grey-brown and coarser inside. The character is the same as *F36* and *F43*, although this fragment is thicker, at 6 mm. L = 21 mm. W = 1 g.

F55. See *F45.* Pin 4.

F56. See *F45.* Pin 4.

F57. See *F46.* Pin 5.

F58. See *F46.* Pin 5.

F59. X = 16.47, Y = 29.85. Level –0.03. Fragment of a *composite bone comb.* Damaged by fire on one side. Fragment of the tooth plate with broken teeth. 3 mm above the there are two parallel decoration lines. Size 12 x 9 x 5 mm. W = 0.5 g.

F60. X = 17.13, Y = 29.41. Level –0.04. Fragment of a *composite bone comb.* Fragment of the tooth plate with broken teeth and without ornamentation. Size 12 x 9 x 5 mm. W = 0.5 g.

F61. X = 17.35, Y = 29.63. Level –0.03. Fragment of a *composite bone comb.* Fragment of the tooth plate with a half rivet hole and a c. 45° sloping intact edge. Size 9 x 5 x 3 mm. W = 0.1 g.

F62. X = 17.42, Y = 29.72. Level –0.04. Fragment of a *composite bone comb.* Fragment of the connecting plate, ornamented with two parallel lines. Size 6 x 6 x 1 mm. W = 0.1 g.

F63. In square X = 16, Y = 28. Six tiny fragments of a *composite bone comb.* Undecorated fragments of both the tooth plate and the connecting plate. W_{tot} = 0.5 g.

F64. X = 18.75, Y = 21.39. Level –0.03. *Point of iron object.* Rectangular cross-section. L = 20 mm. W = 0.4 g.

F65. X = 18.34, Y = 23.32. Level –0.02. Three fragments of a *bronze sheet,* each c. 1 mm wide. W = <0.1 g.

F66. According to the excavation report, one bone comb fragment was found at X = 18.40, Y = 25.73. Level –0.03. However, this fragment has obviously been reconsidered, and was later grouped together with the *bone fragments* of *F67.*

F67. X = 18.54, Y = 25.85. Level –0.03. Four calcinated bone fragments of a tubular object, probably a *needle case.* All the pieces are decorated with imprecisely executed lines running all the way round. Original diameter c. 10 mm. Length of the largest fragment = 14 mm. W_{tot} = 0.7 g.

F68. X = 18.85, Y = 26.51. Level –0.04. Fragments of a *bronze sheet.* Size 21 x 16 x 1 mm. W = 0.5 g.

F69. X = 19.56, Y = 27.70. Level –0.04. *Iron ring* with fastening arrangement. The ring is 13 mm in diameter. One of the two fastening arms is broken, and the other has a bent point, which shows that the ring was fastened to material c. 13 mm thick, which is equal to the distance between the right-angled point and the ring. W = 2 g.

F70. X = 19.02, Y = 27.75. Level –0.05. *Iron ring* with a fastening arrangement. The ring is 12 mm in diameter. The bent point shows that is was fastened to material c. 10 mm thick. W = 2.5 g.

F71. X = 19.22, Y = 26.43. Level –0.03. *Iron ring* and three fragments. Probably the same kind of ring as *F69* and *F70.* Ring diameter is 12 mm. W_{tot} = 2 g.

F72. X = 19.20, Y = 26.50. Level –0.06. Slightly bent *iron rod* with rectangular cross-section. L = 16 mm. W = 0.3 g.

F73–F77. See *F46.* Pin 5. *F78.* X = 18.46, Y = 27.84. Level –0.07. Eight fragments of a *composite bone comb* and a *bronze rivet.* Six of the pieces belong to the tooth plate, and three of these have a tiny *ledge* for the support of the connecting plate. The largest tooth plate fragment also has half of a rivet hole, of a size ideally suited for the bronze rivet fragment, which is 5 mm in length and 2 mm in diameter. The last two fragments belong to the connecting plate, and one of the pieces is decorated with two parallel lines. W_{tot} = 0.4 g.

F79. X = 18.30, Y = 27.85. Level –0.06. 45 fragments of a *composite bone comb* and two *bronze rivets.* All the fragments are very small and black in colour. Nine pieces belong to the tooth plate, and on two of these there is a tiny ledge. 13 pieces belong to a decorated connecting plate. The decoration comprises double border lines and sequences of arcs with a midpoint. In two cases the border lines form an angle of about 35°. 23 of the fragments are incapable of being determined. One of the two bronze rivets is complete and is 8 mm long and 2 mm in diameter. The other is 6 mm long and 2 mm in diameter. W_{tot} = 3 g.

F80. X = 19.25, Y = 28.56. Level –0.08. These comb fragments have been grouped with *F85.* X = 19.25, Y = 28.56, level –0.08 by the excavator (?), i.e. the same find location as *F80.* 19 fragments of a *composite bone comb* and one *iron rivet.* Most of the fragments are black in colour. 9 pieces belong to the tooth plate, and two of these have a *ledge.* Three fragments belong to the connecting plate and are decorated with double border lines. Seven fragments are incapable of determination. The iron rivet is 8 mm long and 2 mm in diameter. W_{tot} = 2.6 g.

F81. X = 18.72, Y = 27.10. Level –0.06. 7 fragments of a *composite bone comb* of black-grey colour. 5 fragments belong to the tooth plate, and two of these have a supporting ledge. The largest fragment has a rivet hole 14 mm above the ledge, and it also has an intact part of the top some 5 mm in length. The distance from the ledge to the top is 22 mm, and the angle between the straight ledge and the sloping top is c. 25°. W_{tot} = 1.5 g.

F82. In square X = 18, Y = 26. c. 20 tiny fragments of a *composite bone comb.* One piece is decorated with a border line and probably belongs to the connecting plate. Some of the other fragments probably belong to the teeth. W_{tot} = 0.1 g.

F83. X = 18.50–19.00, Y = 27.00–27.50. Nine fragments of at least two *needle cases* made of bone. The larger was originally c. 12 mm in diameter, and the smaller c. 8 mm. Both have imprecisely executed lines running around the mouths of the tube. W_{tot} = 3 g.

F84. In square X = 18, Y = 26. One fragment of a *loom weight.* Brown-red colour. The preserved surface is almost flat, and the hole was originally c. 15–20 mm in diameter. Size 45 x 35 x 19 mm. W = 23 g.

F85. Bone comb fragment. See *F80.*

F86. In square X = 18, Y = 30. One tiny fragment of calcinated bone, probably a piece of a tooth of the *bone comb.* W = <0.1 g.

F87. In square X = 20, Y = 22. One fragment of a *loom weight.* Grey-brown in colour with a convex surface and a hole originally c. 15–20 mm in diameter. W = 5 g.

F88. X = 20.30, Y = 24.91. Level –0.03. Fragments of *vitrified clay.* Cracking resembling decoration on one less highly vitrified surface. Size 14 x 10 x 9 mm. W = 0.2 g.

F89. Clay bowl fragment. See *F11g.*

F90. X = 21.30, Y = 26.63. Level –0.04. 3 fragments of a *needle case* made of bone. One piece is decorated with a line close to the mouth of the tube. W_{tot} = 1 g.

F91. X = 23.10, Y = 23.93. Level –0.03. 4 pieces of a *whetstone* (?) made of hard sandstone. Partly very smooth, flat and convex surfaces. W_{tot} = 182 g.

F92. X = 22.40, Y = 23.55. Level –0.01. Part of a trapezoidal *bronze fitting* with a rivet hole at the middle of the wider edge. It is thicker at the narrow part. L = 18 mm. W = 2 g.

F93. In square X = 22, Y = 28. Three fragments of black, spongy organic material, *charred resin* (?), with diffuse imprints of three fibres on one side. W = <0.1 g.

F94. X = 22.66, Y = 30.40. Level –0.02. *Iron nail* with oval but sloping head. L = 30 mm. W = 0.8 g.

F95. X = 25.02, Y = 20.59. Level –0.02. *Point of an iron nail.* L = 26 mm. W = 0.2 g.

F96. X = 25.52, Y = 21.47. Level –0.03. A *lump of iron.* L = 23 mm. W = 6 g.

F97. In square X = 24, Y = 22. One piece of *iron slag.* The iron slag has one more or less flat surface, whilst the other is convex and also has a sandy layer 2–3 mm thick showing that it is

probably a part of a bottom piece (Sw: *bottenskälla*). It also bears an imprint of firewood. Size 46 x 30 x 16 mm. W = 26 g.

F98. In square X = 24, Y = 22. Five *lumps* of iron. W_{tot} = 16 g.

F99. According to the report, *„234 beads together with an S-shaped bronze hook"* were found at X = 24.05, Y = 25.80. Level –0.06. Probably originally a three-stringed necklace held together by the hook. The beads were found on the surface of a sooty layer immediately below the layer containing burnt clay and slag, and partly situated in the way they had been placed on the necklace.
The beads were: A *mosaic bead* made of dark blue glass with a chess-board pattern in red, yellow and white, fire-damaged. Original diameter 18 mm, height 14 mm. In one of the holes there is a small fused white bead, and in the other a deformed dark blue bead. Half of the mosaic bead is covered with a totally fused bead of turquoise blue and red opaque glass.
A *melon-shaped bead* made of turquoise blue glass, covered with opaque dark red glass, densely grooved, and fire-damaged. Diameter 20 mm, height 17 mm; diameter of the hole 6 mm.
A *melon-shaped bead* of the same kind as above, but not so densely grooved and more fire-damaged. Diameter c. 22 mm, height 48 mm. Diameter of the hole 8 mm.
A *melon-shaped bead* of the same kind as above, with close, almost vanished grooves; fire-damaged. Diameter 18 mm, height 15 mm, diameter of the hole 7 mm. In one of the holes there is a small, fused white bead.
13 beads made of turquoise blue glass covered with opaque dark red glass, more or less fire-damaged and fragmentary, and some totally fused. It is not now possible to determine whether some may originally have been grooved. Diameter 10–15 mm.
9 spherical beads, opaque, dark red, probably with a core of turquoise blue glass which was covered with red glass, diameter 10–12 mm. One is almost intact, the other fire damaged.
A *melon-shaped bead.* Light blue glass, fragment. Diameter c. 14 mm, height 11 mm.
8 beads of green-blue glass; 1 barrel-shaped bead, diameter 6 mm and length 11 mm. *3 flat beads* 9–11 mm in diameter and 5 mm thick. *3 spherical beads*, with diameters of 4, 6 and 7 mm, and *1 fragment of a spherical bead.*
92 beads of dark blue glass, of which *2* were *cubic with bevelled corners* (cubic octahedrons), length 7 mm, breadth 6 mm; *9 flat discus-shaped beads* 8–11 mm in diameter and 4–5 mm thick; *6 ring-shaped beads*, of which one is fragmentary, diameter 7–8 mm and 3 mm thick; *15 spherical beads*, compressed, with a large hole, diameter 8–11 mm and 4–7 mm thick; *36 spherical beads*, of which 2 are 4 mm in diameter, 16 with a diameter of 5–6 mm, 14 with a diameter of 7–8 mm, and one c. 10 mm in diameter. The rest of the beads cannot be determined, although there are possibly fragments of *1 cubic* and *2 melon-shaped beads.*
12 beads made of white (yellowish) glass, discus-shaped, diameter 9–10 mm and 4 mm thick.
8 beads made of light wired red glass, of which *2* are *discus-shaped*, 6 mm in diameter and 4 mm thick, and *6* are *spherical*, 6–7 mm in diameter.
73 spherical gold-foil beads, of which 28 have a diameter of 4–6 mm, 24 have a diameter of 7–10 mm, and one has a diameter of c. 13 mm. The other is not capable of determination.
10 segmented gold-foil beads, one of which consists of two oblong, rather dark beads, length 11 mm and 5 mm thick; one consists of three oblong beads with a length of 18 mm and 5 mm thick; 6 consist of two spherical lighter beads which could have become fused together as part of a secondary process, diameter 4–6 mm.
An *S-shaped bronze hook* with spiral-rolled terminations and an almost squarish cross-section of the bronze rod 2 mm thick; the length of the hook is 17 mm.

Note: When counted according to this description, the total number of beads in the necklace was 235. In all cases the numbers were impossible to verify, because not all the beads could be found in the stores.

F100. X = 25.08, Y = 28.35. Level –0.04. Two fragments of iron. One piece of *iron plate* measuring 28 x 22 x 3 mm. W = 3 g, and one *iron rod* of rectangular cross-section, measuring 36 x 8 x 6 mm. W = 5 g.

F101. X = 24.92, Y = 29.36. Level –0.05. Two fitting fragments, very probably belonging to the same *clay bowl* as *F11f.* W = 7 g.

F102. X = 26.35, Y = 18.85. Level –0.03. Two *lumps of iron.* W_{tot} = 5 g.

F103. X = 26.73, Y = 20.90. Level –0.04. *Rod-shaped iron fragment* with thicker ends. L = 40 mm. W = 5 g.

F104. X = 26.83, Y = 20.76. Level –0.03. Fragment of an *iron plate.* W = 3 g.

F105. X = 27.11, Y = 20.84. Level –0.03. Fragment of an *iron plate.* W = 2 g.

F106. X = 26.89, Y = 21.84. Level –0.03. Fragment of a *tanged iron implement* (?). L = 39 mm. W = 4 g.

F107. X = 27.20, Y = 21.64. Level –0.04. Fused *lump of iron* and dark blue glass? Not found.

F108. X = 26.07, Y = 23.80. Level –0.06. Four fragments of *iron rod* (?). Wtot = 2 g.

F109. X = 27.66, Y = 26.50. Level –0.05. *Iron nail* with a right-angled point. L = 22 mm. W = 1 g.

F110. In square X = 26, Y = 26. A severely fragmented *loom weight* made of grey-red clay. On one side the surface is hard-burned, partly fused and cracked. Original diameter c. 70 mm. W_{tot} = 117 g.

F111. In square X = 26, Y = 20. 13 fragments of a clay *loom weight*, including pieces with convex surfaces and one piece with part of the hole. The colours range from grey-black to yellow-red. Minimum thickness = 50 mm. W_{tot} = 62 g.

F112. X = 29.07, Y = 22.50. Level –0.03. *Iron cramp*, band-shaped, with pointed terminations, and a small *iron fragment.* W_{tot} = 1.5 g.

F113. In square X = 28, Y = 22. 13 fragments of a *loom weight*, including pieces with convex surfaces. The largest piece has part of the hole preserved, as well as one outer edge. The edge of the hole bears marks of a *thread.* The original diameter was c. 60 mm. The fragments are of two colours, grey-black and yellow-red. W_{tot} = 81 g.

F114. X = 29.60, Y = 25.69. Level –0.07. *Iron rod* with squarish cross-section and with a hooked termination. L = 23 mm. W = 1 g.

F115. X = 28.45, Y = 24.13. Level –0.02. Fragment of the point of a *bone pin*. No. 1. (See *F122*).

F116. In square X = 28, Y = 24.9. Fragments of a *clay loom weight*. Half of the loom weight is intact, with a preserved hole 15 mm in diameter and an almost original diameter of 75 mm. The surface is hard-burnt, and several lines are visible, although they are not situated in any symmetrical relationship with either the hole or the edge. There are also some weak striations on the edge of the hole. Some of the other fragments are black and sintered. W_{tot} = 141 g.

F117. In square X = 28, Y = 26. Three heavily sintered pieces of a *loom weight* made of clay. Two pieces have intact parts of the hole. The colour of the pieces is black-grey. W_{tot} = 30 g.

F118. X = 30.08, Y = 21.75. Level –0.02. Fragment of the *head of an iron nail* (?). L = 18 mm. W = 1 g.

F119. In square X = 30, Y = 22. 7 fragments of a *clay loom* weight. Grey pieces with convex surfaces, and one piece with an intact part of the hole. W_{tot} = 20 g.

F120. X = 31.80, Y = 24.14. level –0.03. *Iron cramp*, band-shaped with pointed terminations. W = 11 g.

F121. In square X = 30, Y = 24. Part of a *whetstone* made of blueish slate. Size 55 x 29 x 8 mm. W = 23 g.

F122. Calcinated *flat bone pin* (No. 1). Several fragments belong to this pin, most of which could be fitted together, such as *F115*, X = 28.45, Y = 24.13. Level –0.02. *F122*, X = 30.25, Y = 24.42. Level –0.08. *F123*, X = 30.65, Y = 24.72. Level –0.04. *F124*, X = 30.79, Y = 25.17. Level –0.04. *F125*. X = 30.43, Y = 24.38. Level –0.05. *F126*. X = 30.63, Y = 25.80. Level +0.01. *F127*. X = 30.44, Y = 25.50. Level –0.03. *F128*. X = 30.32, Y = 25.48. Level –0.05. *F129*. X = 30.58, Y = 24.97. Level –0.02. Capable of almost complete reconstruction, with a length of c. 135–140 mm and a maximum width of 25 mm, and 3 mm at the point, which also corresponds to the thickness. The whole pin, with the exception of the point, has a rectangular cross-section. The pin is clearly worn for a distance of c. 60 mm upwards from the point, indicating that it had been in use (cf. pin No. 4, *F45*). The pin is decorated on one side only. Parallel with and 1.5 mm inside the edges, there are incised double lines which converge about 30 mm above the point. 7 mm inside the edge, and thus 5.5 mm inside the double lines, there is an incised single line on each side; these converge at a point c. 60 mm above the point and reach the edge about 40 mm above the point of the pin. There are groups of arcs with a mid point between these edge-parallel decorations on both sides. There are two such groups along each side, and each group appears to have been built up from eight individual circles with mid-point. The surface is divided into three parts by three intersecting double lines, which are slightly deeper and broader than the edge lines. W_{tot} = 8.3 g.

F123–F129. See *F122.*

F130. A calcinated *flat bone pin* (No. 2). Six fragments were found: *F130*. X = 30.94, Y = 25.44. Level –0.06. *F131*. X = 30.68, Y = 25.29. Level –0.04. *F 132*. X = 30.37, Y = 25.60. Level –0.04. *F133*. X = 30.42, Y = 25.69. Level –0.04. *F134*. X = 30.54, Y = 25.35. Level –0.04. *F135*. X = 30.63, Y = 25.43. Level –0.05. Almost identical with pin No. 1 (*F122*) in respect of both size and ornamentation. In this case only the lower part is preserved for a distance of 55 mm. The fragment bears clear signs of wear. All the fragments are decorated, and one also comes from the upper edge of the pin. W_{tot} = 4.6 g.

F131–F135. See *F130.*

F136. Calcinated *bone pin with oval cross-section* (No. 3). The fragments were: *F136*. X = 30.52, Y = 25.68. Level –0.03. *F137*. X = 30.58, Y = 25.74. Level –0.02. *F139*. X = 30.64, Y = 25.22. Level –0.04. *F140*. X = 30.70, Y = 24.64. Level –0.04. *F141*. X = 30.08, Y = 25.40. Level –0.04. *F142*. X = 31.02, Y = 25.13. Level –0.02. *F143*. X = 30.18, Y = 24.67. Level –0.02. A tiny hole of less than 1 mm in diameter passes through the pin at a point about 50–60 mm from the top of the pin. Six oblique decoration lines c. 15 mm long and 2–4 mm apart surround the area of the hole. The top termination of the pin is chamfered on two sides, forming a top ridge of c. 6 mm in length. There are a couple of oblique decoration lines below each chamfer. Neither the decoration lines nor the chamfers were executed accurately. W_{tot} = 10.1 g.

F137. See *F136.*

F138. Non-existent number.

F139–F143. See *F136.*

F144. In square X = 30, Y = 24. C. 250 fragments of *loom weights*. Of these, six form essential parts of whole weights. The mass of a loom weight was around 200 g, and with its total mass of 1852 g, the material represents 9–10 *loom weights*. The size of those which can be measured varies from 70–77 mm in diameter and from 30–40 mm in thickness. The holes vary considerably in size, from 7–30 mm. Most pieces have a convex surface, but occasionally the areas around the hole are more or less flat. Traces of thread are visible in the hole and on the convex side in four cases; in two cases the mark left by the thread is 2 mm in diameter, and in the other two cases the marks were left by a very thin thread. Several traces of the manufacturing process, especially finger imprints, are also present including in the holes. In a couple of cases the finger imprints form decoration-like pits on the weights. The degree of burning varies from almost unburnt to vitrification, mostly of a light red-burnt colour, i.e. the material exhibits secondary burning in conjunction with the house fire.

F145. In square X = 32, Y = 20. One fragment of a *loom weight*, 70–80 mm in diameter, and with a hole c. 15 mm in diameter. Light red-burnt, and with a slightly convex, almost flat surface. W = 39 g.

F146. In square X = 32, Y = 20. A fragment of a *whetstone* made of reddish-grey sandstone. L = 49 mm. W = 9 g.

F147. In square X = 32, Y = 22. Naturally or accidentally *amalgamated material*, consisting mainly of sand, but with lots of soot and some charcoal. W_{tot} = 59 g.

F148. Found in feature *Anl. b.* Two *iron fragments*; not capable of determination. L = 26 mm and 18 mm respectively. W_{tot} = 2 g.

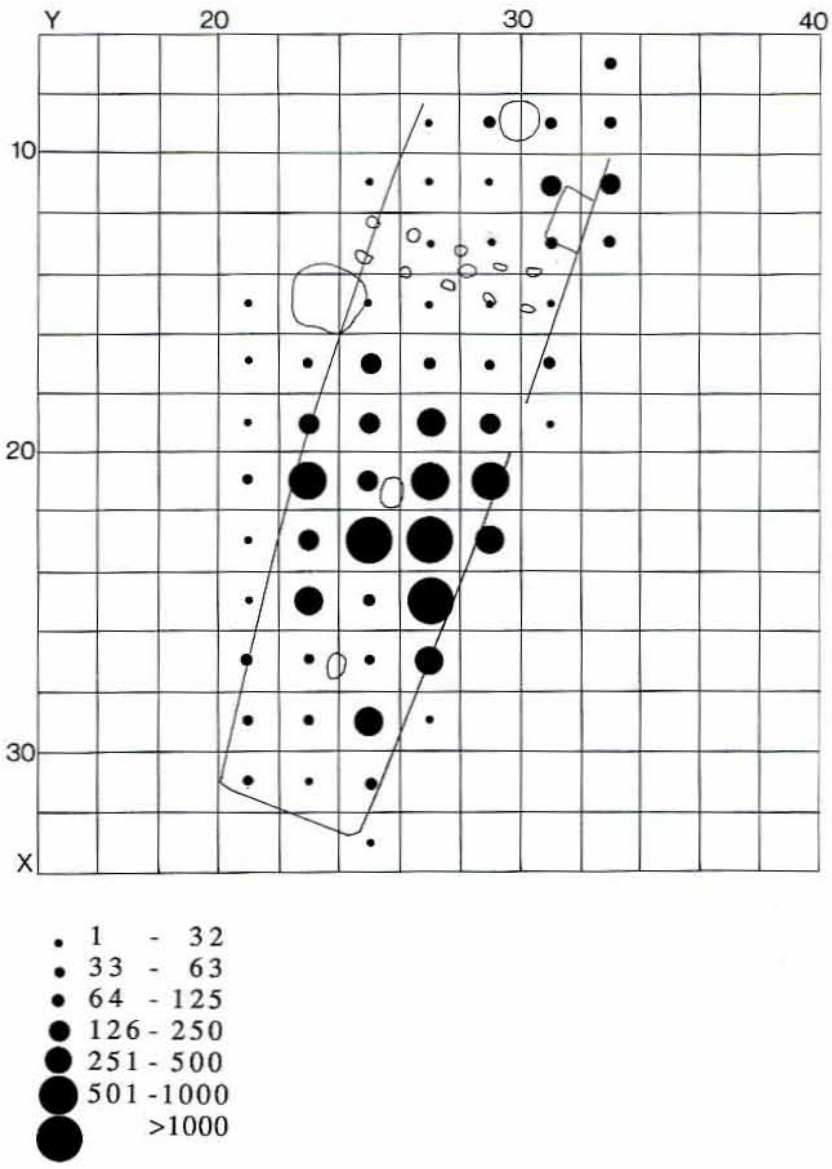


Fig. 110. Distribution of burnt clay in house 3. Centilitres/4 m².

F149. Found in feature *v1*. An *iron knife*. L = 84 mm. The tang is 38 mm in length, and the blade is half-moon-shaped and thus has a *convex edge*. Fibres are still present on the tang. W_{tot} = 9 g.

5.6.2.2. *Daub, bones and casting residues*

Apart from the numbered artefacts, there were also c. 140 litres of burnt clay (Fig. 110) and 1.1 litres of mainly calcinated and very fragmentary bones (Fig. 112) and some scattered slag.

The *burnt clay* exhibits many similarities with the kind found on other sites in Central Norrland and elsewhere (Ramqvist 1983:149ff, 1991c). The clay is mainly of the type known as "clay with a triangular cross-section". It has been found that this kind of clay comes from a ceiling area above the living rooms in the long houses of the Roman Iron Age and the Migration Period. The clay plaster served a protecting or insulating function (Gejvall 1955; Ramqvist 1983, 1991c, 1992; Liedgren 1984, 1992). One very characteristic trait is for daub of this type to be encountered around the middle long hearth, which also appears to be the case at Högom (Fig. 111).

Diagrams have been compiled showing the different imprint sub-types (Ramqvist 1983:149, Fig. 5:9), which fit very accurately into the Högom material. An analysis of the types of imprint on the daub reveals that both logs, planks and wattle-work are involved in the constructions. The spatial distribution of the diffe-

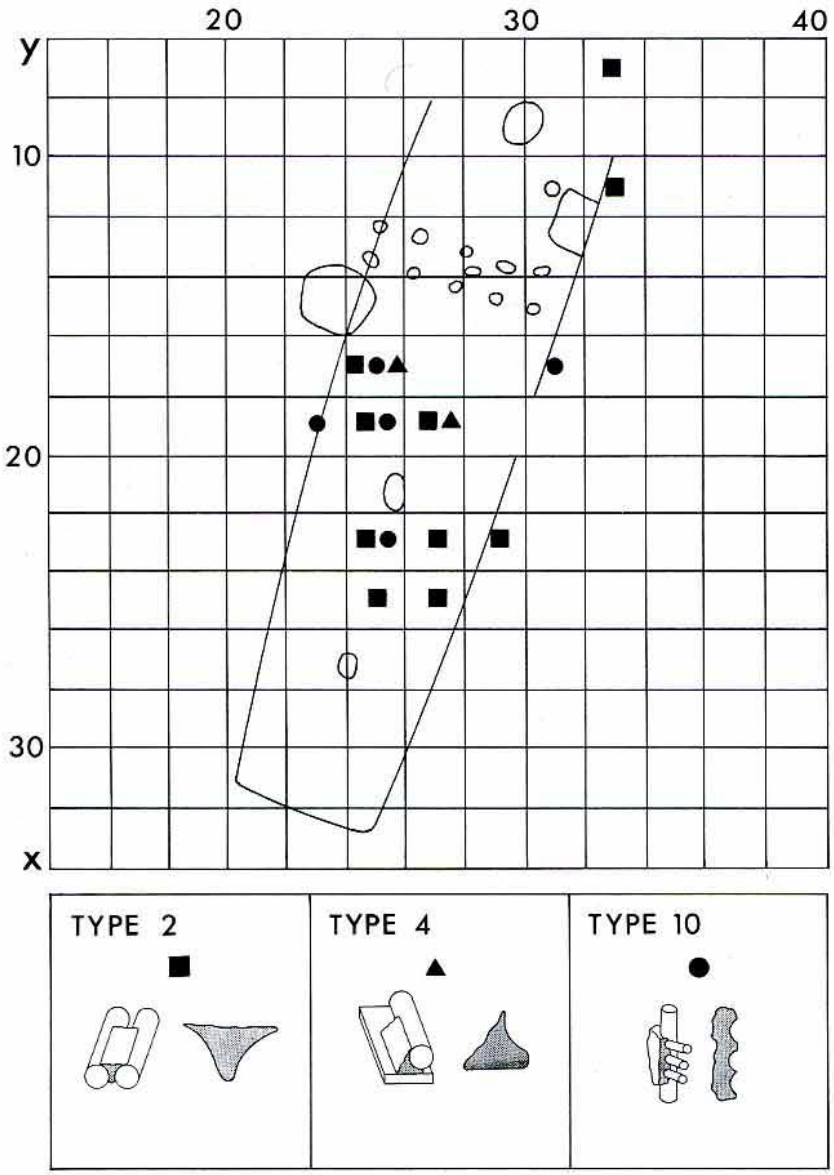


Fig. 111. Distribution of different impressions on the burnt clay in house 3.

rent types is not very clear, apart from the fact that the major proportion of the clay was concentrated around the long hearth (*z*). A major difficulty which arises here is that the finds were collected from an excessively large grid, i.e. 4 m^2. A couple of tendencies could be noted, however. The imprint of type No. 10 (wattle-work) occurs in squares adjacent to, or actually within the line of the wall, with only a single exception. The types of impression which exhibit a triangular cross-section occur more frequently, on the other hand, in the central squares. This spatial distribution agrees very closely with what was found at Gene and at Trogsta. In the case of Högom, it could thus be inferred that the walls in the eastern half of the house had also been made of wattle-work. In the case of the north wall, the wattle-work was placed on a sill beam, and the wattle-work of the south wall was installed between larger posts.

The *bone material* was analyzed by N.-G. Gejvall (1961) and was distributed mainly within the foundation (Fig. 112). The very small quantity of bones, c. 1.1 litres, is typical of the Early Iron Age settlements in Central Norrland (Ramqvist 1983:72ff). The frequently low pH-value and the lack of calciferous soils makes

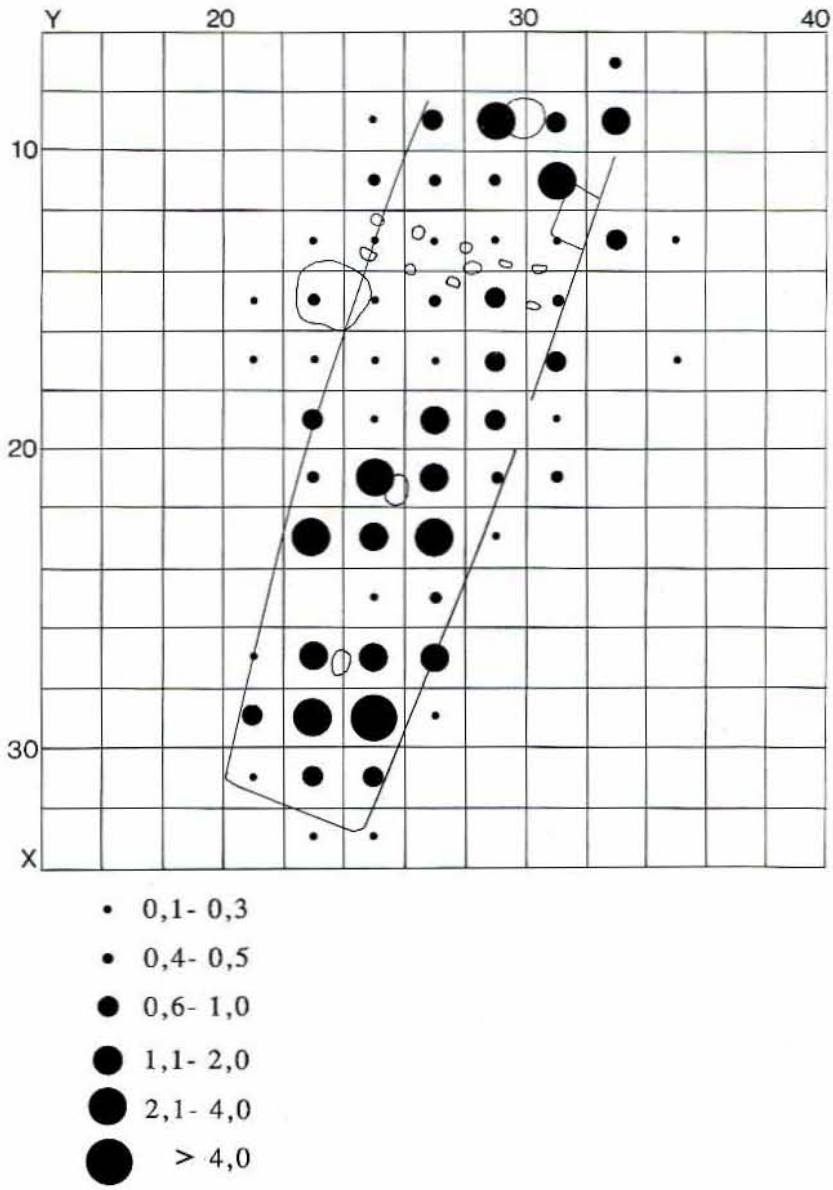


Fig. 112. Distribution of burnt bones in house 3. Centilitres/4 m².

the bones disappear very quickly, and it is normal to find that only the calcinated bones have survived until recent times.

When plotted, the distribution map (Fig. 112) shows three concentrations; the first at the east gable-end, the second around the long hearth (*z*) at the centre of the house, and the third in the western part of the preserved foundation.

Only a small proportion of the total quantity of bone fragments could be determined in respect of particular species. Even though several possible errors are associated with a distribution map of this kind (Fig. 113), it is still interesting to plot them. It can be seen from the map that sheep/goat (*ovis/capra*) fragments dominate the western part of the foundation. This concentration could possibly be connected in part with the activities around hearth *Anl. c*, which itself contained 0.5 litre of bone fragments, i.e. almost half the total quantity found in connection with this foundation. Several individuals of the sheep/goat species were represented in hearth *Anl. c*, and this hearth was obviously connected with the cooking or preparation of sheep/goats. As indicated by the material from Gene (Ramqvist 1983:130f), the cooking hearths seem to have been

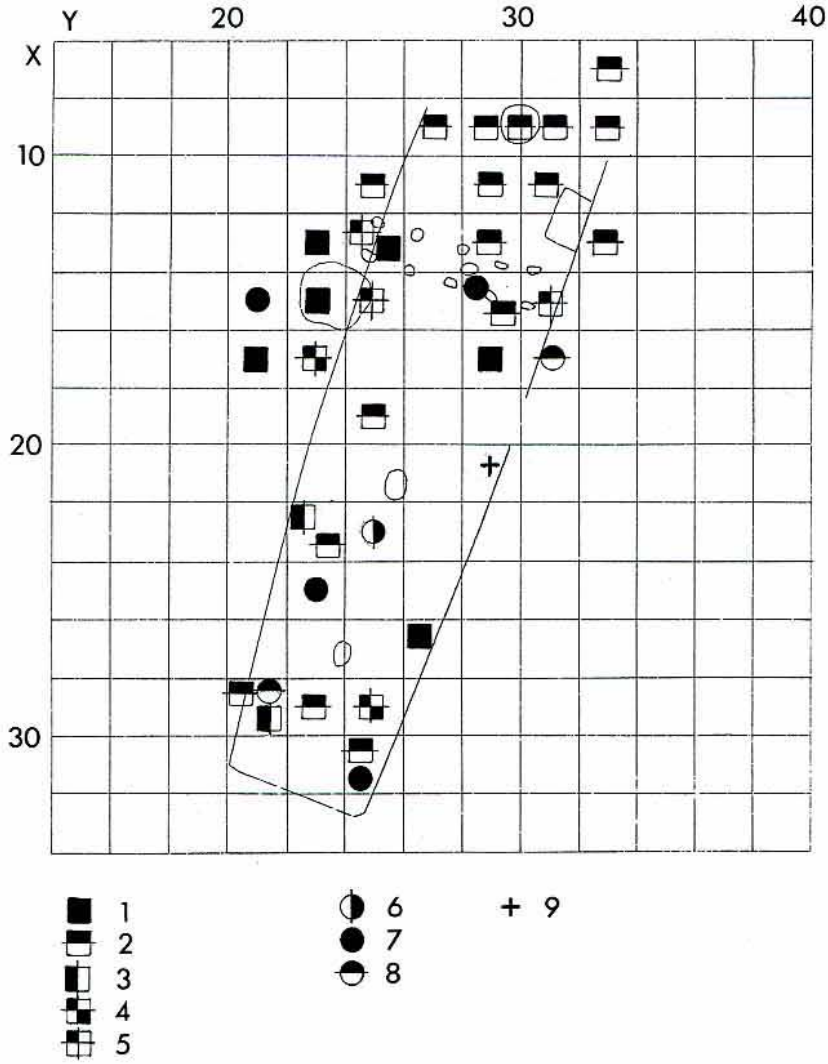


Fig. 113. Distribution of the different animal species in house 3. 1 = cattle, 2 = sheep/goat, 3 = pig, 4 = horse, 5 = horse tooth or jaw, 6 = elk, 7 = seal, 8 = bird, 9 = human.

used only for a single species at a time. The mixing of different species in a single hearth was not proven at Gene. However, sheep/goat fragments occur in all three concentrations, and yet always together with other species in the other cases.

The distribution of cattle (*Bos*) fragments also exhibits a certain spatial pattern. These occur only in the squares around the very large hearth *Anl. b*, which is not contemporaneous with the foundation (Pl. 121). All the certain cattle fragments were found outside and to the south of the foundation. No bones are reported from hearth *Anl. b*, however, and the fragments may very well be contemporaneous with the house.

A third interesting feature of the distribution map is the presence of the horse (*Equus*) fragments. These are found predominantly in the vicinity of the long walls of the house. Two or three of the horse fragments consist of teeth, which fits in closely with the obviously widespread custom of the horse cult. It is not unusual to find horse skulls or tooth fragments in association with the walls of Iron Age houses. This means either that horse heads were buried close to the house, or that the skulls were placed next to the wall (cf. Ramqvist 1983:89).

Fragments of pig (*Sus*) were also scattered in the foundation; this completes the species of domestic animals represented at the site.

It is not possible to estimate the relative importance of the domesticated species. The composition could be said to be normal during this period. The dog is probably absent from the material, although the dog was not consumed during the Iron Age and could not reasona-

bly be expected to be represented in the bone material, therefore, even though bones from the dog have been found at Gene, for example (Ramqvist 1983:73).

Three species of wild game have been identified on the site: seal (*Phocidae*), elk (*Alces alces*) and unspecified bird (*Aves*). These few fragments do not exhibit any particular pattern of distribution, and were found mainly within the foundation. What is interesting in this connection is the combination of the two different biotopical species, the elk (forest animal) and the seal (marine animal). This combination was not found at Gene, for example, despite the similar geo-topographical locations of the sites (Ramqvist 1983). These two animals are the most "effective" ones, since they represent the largest game species in the region.

As far as small game is concerned, the only indication is the bird (an unspecified species, which could be a hen). Here, too, a comparison with Gene reveals a difference, since the small game most frequently encountered at Gene was the hare (*Lepus*) (Ramqvist 1983:73), which appears not to be represented at all in this foundation.

Another species which is probably under-represented is fish (*Pisces*), traces of which are extremely difficult to find without detailed water-sieving, which was not performed at all at Högom. The natural conditions for fishing are very good in the area around Högom, as they are for seal hunting. It is likely, therefore, that fish actually were one of the utilized resources.

One category that has been shown to occur more frequently than perhaps previously believed is *bronze casting residues* (Ramqvist 1983:177ff, 1990b). As in the layer directly above the central cairn, the central area of the main find concentration also contained two or perhaps three fragments of crucibles (Pl. 117:5–6). The layer above the central cairn was also found to contain some pieces from casting moulds (Pl. 117:1–4, 7–11). It can be assumed that all these materials belonged to the same set, and that they do not represent the total quantity of such residues. This is indicated by the fact that only the dark layer above the cairn was excavated with trowels. The rest of the mound filling was excavated with a crawler tractor, a method which would lead to tiny mould fragments being missed.

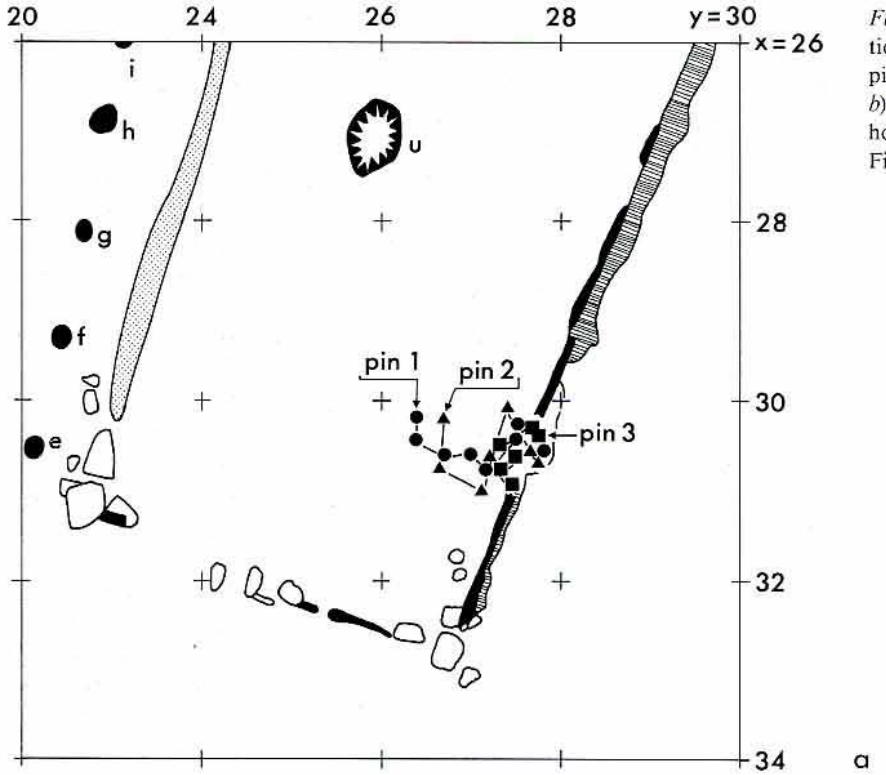
At least three different sizes of crucible are represented by the fragments, including the material above the cairn. Probably all were of the closed "egg" type, with a handle on top and a mouth lid. The largest was originally more than 84 mm, and the smallest slightly more than 34 mm in length (*F11c*). This variation fits in very well with the crucibles from Helgö, for example (Lamm 1977). It can also be mentioned that the crucibles vary with regard to their outer surface. Some of them exhibit the typical vitrified greenish-reddish surface, while some of the fragments belonging to small crucibles have a quite different, non-vitrified, hard and dark surface. These variations can probably be explained by the purpose and function of the individual crucible, for example depending on whether it was used for bronze, gold or silver, if it was open or closed, or if it was intended for large or small amounts of material, etc.

In spite of the limited quantity of the casting residues, it could be said that Högom was also a location at which jewellery production took place. It is impossible to say to what degree, however, although it is at least comparable with the Gene site in this respect (Ramqvist 1983; Lindqvist 1985, 1989).

Another group of finds must be taken into consideration in addition to certain casting residues. This is a highly unusual type of ceramic ware, *F11e-g* (Pl. 119). *F11f* was a shallow pot, which could be reconstructed almost in its entirety. It was 140 mm in diameter, and just about 60 mm tall. The edge of the pot is relatively thin, at 6 mm, while its wall rapidly increases to a thickness of 15 mm, which is also the thickness of the base. This rough and "ugly" pot has a black/grey layer on the inside and a 1 mm thick crust, most often a white material, on the outside. One fragment of this kind was found in its original position (*F89*), although most of the fragments were found in the layer directly above the cairn, i.e. in a similar relationship to that of the casting residues. As mentioned above, the possibility cannot be excluded that this kind of ceramic ware is connected with the metal work activities on the site.

5.6.2.3. Comments on the artefact record

The hair pins are made up of six pieces in total, three of which were found in conjunction with the major concentration of finds inside the door (Fig. 114b), and three in the NE corner of the house (Fig. 114a). These two find sites thus contain a hair pin setting consisting of a set made up of two of each triangular and flat, and a single roundish bone pin (Pl. 126, 133). It was not possible to establish how they may once have been placed in the hair from their position. Fragments of the pins were distributed relatively widely, due in part to the fire and to the sudden destruction of the house. This is particularly clear in the case of pins Nos. 4–6 at the entrance (Fig. 114b). These are also much more fragmented, as a result of which it has been possible to piece together far fewer of the pieces of the pins. The set of pins consisting of pins Nos. 1–3 in the NE part is more concentrated, however, and has been successfully pieced together almost completely to produce complete pins. The differences in the degree of fragmentation and distribution probably have to do with the propagation of the fire and/or the activities which took place after the fire in connection with the construction



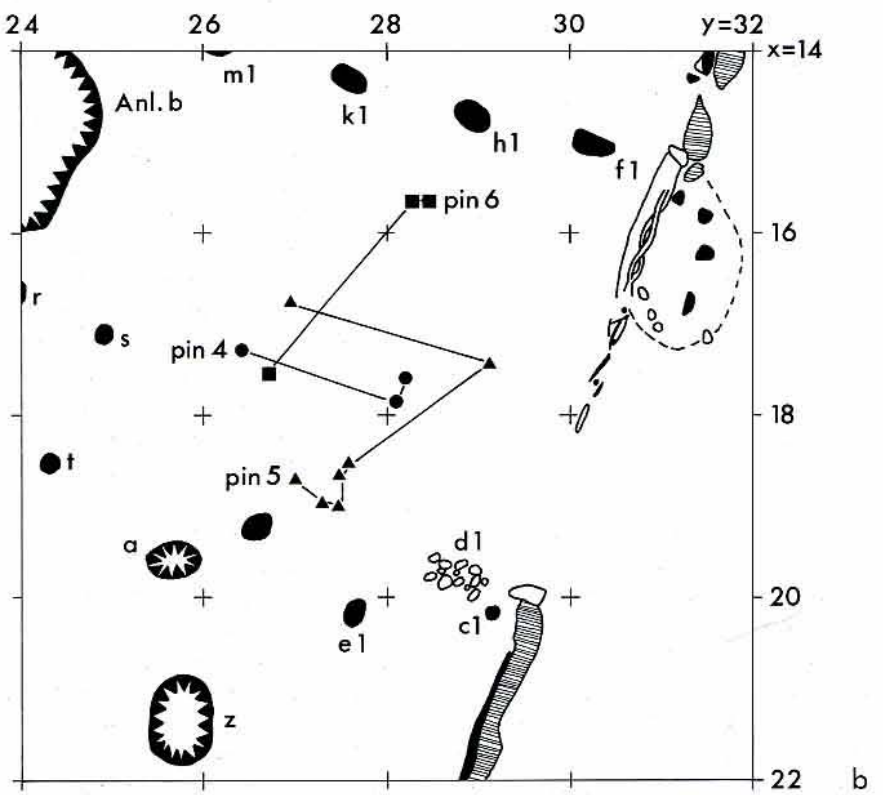


Fig. 114. Detailed plans of the positions of the hair pin fragments. *a*) pins 1–3 in the SE part of the house. *b*) pins 4–6 inside the entrance to the house. (Cf. Pl. 125, for legend see Fig. 102).

the small cairn c. 1–2 metres to the east of the concentration of hair pins.

None of the pins has been preserved in its entirety, and there is some uncertainty as to their size. Relatively reliable dimensions have nevertheless been obtained for the flat pin, No. 1, and the round pin, No. 3, both of which belong to the set of pins in the NE corner of the house. The flat pin was c. 14 cm long and 2.5 cm wide at the top, whereas the tip of the pin was a couple of mm in diameter. The bottom 4 cm or thereabouts at the tip of the pin are strongly rounded, and it can be seen from the ornamentation which reaches as far down as this area that the area is worn. The pin measured c. 4 mm at its thickest point. The round pin was c. 18 cm in length, with a maximum diameter of 7–8 mm at about the centre. It exhibits a transcurrent hole approximately 11.5 cm from the tip of the pin, and its upper end has been filed away from two directions. Bearing in mind the preserved fragments of other pins, it seems likely that these had approximately the same dimensions as those described here.

The ornamentation on the pins varies to a certain extent. The best-preserved pins 1–3 exhibit almost identical decoration in the case of the two flat pins, with double lines along the edges, within which there run single rows of semicircles formed from dots. Running within the rows of semicircular dots on each side is a further line which lies parallel with the edge; these cross over c. ⅓ of the distance up from the tip of the pin. Finally, double transverse lines run across the broader part of the pin at three points. Ornamentation is present only on one side. The round pin has only fragmentary single lines running diagonally downwards.

The ornamentation was rather more simple in pin set 4–6, and only a single edge line with a row of dotted semi-circles running inside it can be observed on pin 5. The pin also has ornamentation in the form of single lines along the edge on its rear surface. Edge lines only can be distinguished on the other flat pin, No. 4. Two lines running horizontally around the pin together with crossing diagonal lines can be seen on the round pin, of which only c. 9 cm are preserved.

Finds made in the Norwegian area indicate how the pins may have sat in the hair. Sjøvold (1962) refers to four complete sets from North Norway, for example, consisting of two flat, triangular pins, one round pin and one composite comb. One of these comes from Bremnes in Nordland, where the precise position of the hairdressing items could be established (Nicolaissen 1901). These were lying beneath the head of the interred female. The round bone pin was in the middle, and above it the comb; these were flanked by the triangular pins, which had clearly been inserted into the hair at an angle. It must not be assumed, however, that all areas had an identical combination of hairdressing items. Variations can also occur within an area, of course, for example depending on the social situation in which the wearer found himself/herself at the time, or on the social or family stratum to which the individual belonged. Marstrander (1983:82ff) notes, for instance, that up to four pins may be present in the graves in Inn-Trøndelag. In the case of cremation graves, however, it is not always possible to establish whether one or more persons had been cremated and had ended up in the same grave.

The distribution of these pins exhibits a typical West Scandinavian pattern. North Norway, Trøndelag, Vestlandet and Østlandet are richly represented. The pins also occur along the Swedish west coast and in Värmland (Danielsson 1971, 1974). They are not known in Denmark. As far as the east Swedish area is concerned, with the exception of Central Norrland, they occur to my knowledge only in two cases in Östergötland, where one triangular, flat pin was found in the hillfort at Boberget, and a round pin with a hole was found in the hillfort at Odensfors (Nordén 1929:327). Apart from the pins found in Östergötland, the pins have approximately the same distribution as the bucket-shaped pottery and coincide to a large extent with the distribution of cruciform brooches and Vestland cauldrons.

Previous research failed to make it totally clear whether Central Norrland should also be included in this area. Marstrander (1983:83), who bases his theory on Slomann (1950), maintains that the flat pins are absent from Medelpad. Danielsson (1971), however, notes a find from Forsa in Hälsingland. An examination of the stores containing archaeological finds at the SHM in Stockholm has also revealed that at least three reliably identified occurrences of flat or quite large round pins of the Högom type have been found in Medelpad: at Harv, Attmar parish, as a round bone pin; at Vattjom, Tuna parish, also as a round bone pin; and at Västland in Skön parish, as a piece of a flat, ornamented bone pin. Other occurrences of more uncertain fragments have also been noted. This, in conjunction with the details of the Högom pins published here and in an earlier paper (Ramqvist 1990a), indicates that Medelpad and Hälsingland can also be included in the area of distribution of this type of archaeological remain.

The dating of the pins has also attracted discussion (Th. Petersen 1923, Danielson 1971). Petersen claimed that the older pins of the flat type had inward-curved sides, and that the later pins had straight sides, but that the chronological difference was not great. Danielsson (1971:9) reaches the view that the pins cannot be used for dating with any degree of accuracy, although she concludes that the type with straight sides appears to

survive the type with inward-curved sides, making reference to the Hove grave at Vik (Schetelig 1917:15ff) in Vestland, Norway, in support of her argument that the straight type continues into the sixth century. This is a rather complicated grave, however, in the sense that one and the same coffin contains no fewer than three burials, one cremation grave and two skeleton burials. Schetelig (1917:18ff) is nevertheless convinced that one skeleton burial took place first, followed by a cremation grave and, finally, by a second skeleton grave on top of the other two. The oldest skeleton grave contained *inter alia* a small silver clasp with a Style I motif. A cremation grave was subsequently placed here, containing *inter alia* this interesting set of hairdressing items with two flat pins with straight sides, a large round pin with a hole in it, and parts of a bone comb with a case. This convincing argument permits us to assume that the set of hairdressing items continues into the sixth century. However, since the early limit is of a more flexible nature, we are unable to arrive at a reliable dating in spite of this, although the most likely date is the fifth century or the start of the sixth century.

A number of fragments of one or more composite *combs* was also found in the large concentration inside the entrance (Pl. 125). The degree of fragmentation is high in this case, too, and consequently no reliable observations can be made about the type of comb. It is clear from one fragment (Pl. 134), however, that the item concerned in at least one case is a ledge comb. This is a type of comb which, as far as the Mälar Valley and probably also Central Norrland are concerned, serves as a distinct pointer to the Migration Period (Ambrosiani *et al.* 1981; Petré 1984b; Bennett 1987).

The *needle cases* were made of bone and were also greatly fragmented at the time when they were found in the large find concentration inside the entrance (Pl. 125). About 10 fragments of at least three needle cases were found, although none is preserved for its full length. However, the diameters of the tubes have been established as 7, 10 and 13 mm respectively. All the fragments carried similar ornamentation, with lines probably running all the way round at the ends of the tubes and arranged two or three adjacent to one another. The lines are not always accurately positioned, and they are not executed with the same precision found *inter alia* on combs and hair pins.

Needle cases are not regarded as being typical of the cremation graves of the Migration Period, which provide the best parallels in this respect, in the Scandinavian region. I have been unable to find good parallels with these needle cases, either in the Mälar Valley (Pe-

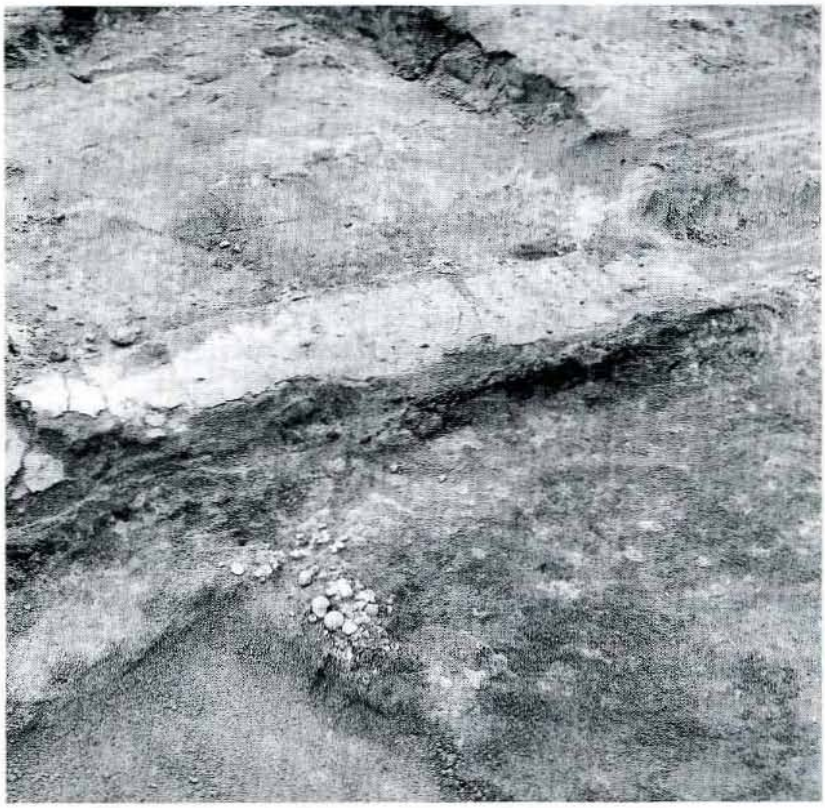


Fig. 115. The bead necklace *F99 in situ*, just inside the NE long wall of the house. Photograph taken from the SW. (Cf. Pl. 125).

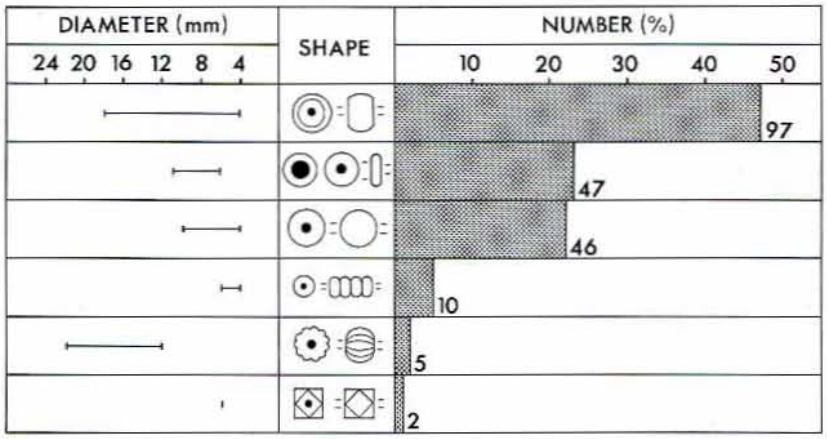


Fig. 116. Diagram showing the shape, relative frequence and diameter of the types of bead. Actual number of beads in each type written to the right of each bar. (All beads were not determinable).

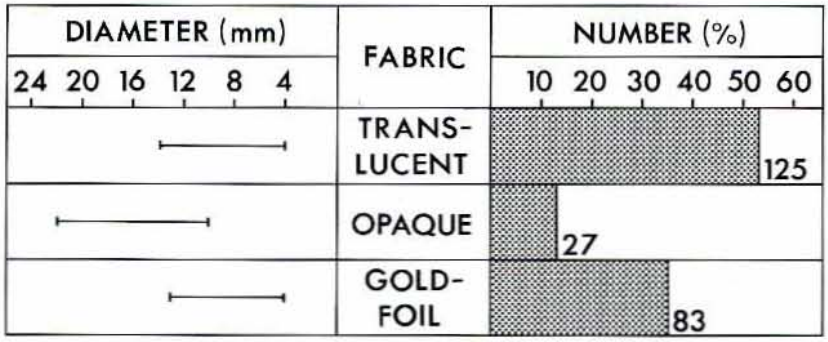


Fig. 117. Diagram showing the fabric and diameter of the beads, and their relative frequence. Actual number of beads in each type written to the right of each bar.

tré 1984b), on Gotland (Nerman 1935) or in Norway, which is otherwise so rich in bone artefacts (e.g. Schetelig 1912; Sjøvold 1962; Straume 1987). There should be no doubt that they occurred, although they were clearly not placed in the graves during that period. The inventory of finds compiled by Straume (1987) in respect of glass finds contains no needle cases made of bone, although a number of bronze cases are listed. These often have similar decoration, including grooved ends. J. Petersen (1951:324ff) also makes reference to finds of needle cases made of bronze dating from the Roman Iron Age, and to a number of needle cases made of bone dating from the Late Iron Age. Needle cases made both of bronze and of bone are also known from *inter alia* Birka. In terms of their size and decoration, the finds at Högom do not differ from finds from other areas and periods, such as Awaric finds (Kürti & Menghin 1985:70) in bone dating from the sixth century or Saxon items dating from the eighth century (Schmidt 1980:442f), although the latter are of bronze or iron.

An unusual find is also represented by the *beads* which were found completely inside the northern long wall of the house at a point four metres to the east of the entrance (Fig. 115). The find consisted of 235 beads in total, apparently arranged in three rows, and all held together by an S-shaped bronze hook. Unfortunately, a number of the beads have melted and have become sintered together; furthermore, I was unable to find all of the beads described by Rolf Petré (1963) in the museum stores.

It was possible to identify 207 of the 235 beads on the necklace by their form, and six basic forms (after Lundström 1981:5) were distinguished; these are: barrel-shaped, ring-shaped, spherical, segmented, polyhedroid and melon-shaped (Fig. 116). The barrel-shaped beads predominate, with 97, and the ring-shaped and spherical beads amount to 47 and 46 beads respectively. The polyhedroid and melon-shaped beads account for only a small proportion, at 2 and 5 examples respectively. The 10 segmented beads are all gold foil beads consisting of two and three segments. There are a number of cases of two individual beads having become stuck together as a result of melting during the fire.

If the beads are subdivided into translucent, opaque and gold foil groups (Fig. 117), it will be seen that translucent predominates at more than one half, but

also that the 83 gold foil beads account for no fewer than 35% of the total number. Finally, the opaque beads account for only just less than one tenth of the set of beads.

The opaque beads, which are larger on average than the translucent ones, consist of 23 obviously smooth barrel-shaped beads made by the flashing technique with a turquoise blue translucent core covered with a red, opaque mass. The same construction is also used for the three large, opaque melon-shaped beads. A single reliable bead exhibits a more complicated construction and is in the form of a mosaic bead with a dark blue tone, with a chess-board pattern in red, light yellow and white. This was included amongst the opaque beads, although it may be a glass bead which took on an opaque appearance through the effect of the fire.

The three opaque melon-shaped beads and the mosaic bead are the largest beads on the necklace, with their diameters of 18–22 mm, and were observed at the time of the excavation to have been positioned centrally on the necklace. The colours of the glass beads did not exhibit any particularly great variation, and polychromatic beads are totally absent, for example (if one ignores the weakly coloured mosaic bead). The colours are dominated by both dark and light shades of blue, and in some cases the beads are also green-blue and wine red. There are also about 20 white, uncoloured beads.

If we examine the size of the beads in relation to their form and fabric, it is clear that the opaque beads are the largest, with diameters between 10 and 22 mm, and that the translucent beads vary in diameter between 4 and 14 mm, the two largest being the melon-shaped beads with diameters of 12 and 14 mm respectively. The translucent beads are otherwise 4–11 mm in diameter. The gold foil beads vary between 4 and 13 mm in diameter.

The necklace has a number of remarkable features: first, it contains such a large number of beads; second, polychromatic beads are totally absent; third, the gold foil beads are so numerous.

The study of beads is not particularly widespread in the Nordic area in these periods (Roman Iron Age – Migration Period), and this really fails to provide a valid basis of comparison. In order to make any progress in this respect, it is necessary to subject the beads to a separate analysis, such as that conducted by Callmer (1977) for the beads from the Viking Period, which far exceeds the scope of this paper. A study has been conducted for the Central European area (Tempelmann-Maczyńska 1985), and this is of some help in this context.

A relatively familiar pattern in Northern and Central Europe is for beads to become an increasingly more common item in graves during the Late Roman Iron Age and the Migration Period (Slomann 1977:63, Tempelmann-Maczyńska 1985:125f). In spite of this, however, it is rare for the finds from these periods to contain 200 beads or more. Even on Funen, for example, which is an otherwise extremely abundant source of finds (Albrechtsen 1956, 1968), or on Jutland (e.g. Ethelberg 1986, 1990), the number of beads rarely exceeds 200. The circumstances are believed to be similar in Central Sweden and, for example, on Lovö (Petré 1984b:60ff). The principal problem on Helgö regarding the gold foil beads and with its site and workshop material (Lundström & Lindeberg 1964, Lundström 1970), is the relatively infrequent occurrence of this type of bead, which rules out accurate dating. Many of the gold foil beads may, of course, belong to the Late Iron Age. Their distribution on grave field No. 150 (Waller & Hallinder 1970) may be significant, in that gold foil beads occur there only in the graves from the Late Iron Age.

A few important finds can also be mentioned. Mention must first be made of a neighbouring find from Tjuvholmen (cf. Fig. 2b). This is a small island, situated 6 km to the east of Högom and in the middle of the bay which leads into the River Selångersån. About 90 beads were found in conjunction with a bronze fibula dating from the late fourth century in one of the graves of the cairn type which are present on the islet. Most of the beads are opaque blue and green beads, although there are 6 amber beads and 4 of the gold foil type (Slomann 1950:13; Selinge 1977:392 f). Although the gold foil beads arrived at the museum later than the others, this is probably a closed find which can be dated to the late part of the fourth century.

Another abundant find from Gile i Toten, East Norway, contained 10 gold foil beads together with a gold breloque (Herteig 1955). The find can be dated to c. AD 200 and may be taken as an early and northern representative of the occurrence of gold foil beads. Most familiar, perhaps, is the abundant and slightly younger Særang find (Slomann 1959), which contained no fewer than 900 beads and can be dated to the first half of the fourth century AD. The beads are characterized by their comparatively small variation, and only 30 or so are millefiori or mosaic beads. There are about 200 amber beads, on the other hand, and the same number of opaque red beads. The translucent glass beads are dominated, as at Högom, completely by blue and white types. Gold foil beads are obviously absent here. A third find from Mæle in Hordaland, in West Norway, dated to the late third and first half of the fourth century AD, originally contained 330–400 beads. Here, too, blue glass beads accounted for a very large proportion, although 12 gold foil beads were also found here (Straume 1987:92f). A further large find of

beads in Norway comes from Valby i Vestfold and has been dated to the first half of the fourth century AD (Straume 1987:102). This partly scattered find of beads originally contained more than 400 beads and is also dominated by blue glass beads. Individual polychromatic beads were also found here, as well as at least five gold foil beads.

The occurrence of gold foil beads can thus be established from these examples, albeit in small quantities, in the South and West of Norway, and the blue and white types are believed to dominate the glass beads in the larger finds. Amber beads are also relatively common in the large finds, although this has not been established at Högom. Polychromatic beads are few in number as a general rule, and they never dominate the sets. These circumstances support the view that the necklace at Högom was of an extraordinary type. Not least the total of 83 gold foil beads is entirely unparalleled within Scandinavian Late Roman and Migration Periods. We must travel to the mouth of the River Weichsel in order to find individual necklaces with several gold foil beads (Tempelmann-Maszyńska 1985). In this area, however, there are only three recorded finds of a greater number of gold foil beads than at Högom: these are grave 29 at Schlakalken, Primorsk (Tempelmann-Maszyńska 1985:331, No. 1185) with 442 gold foil beads on a necklace made up of 453 beads in total; cremation grave F at Kirpehnen, Primorsk (Tempelmann-Maszyńska 1985:336, No. 1220) with 158 of 189 beads of the gold foil type; and cremation grave 188 at Bogaczewo-Kula, Suwalki (Tempelmann-Maszyńska 1985:268, No. 600), for which more accurate details are not available, although the number of gold foil beads was in excess of 100.

This type of bead already occurs in Early Roman Iron Age in the Lower Weichsel area, and the concentration there is in stark contrast to the area of the Przeworsk Culture, from which finds are totally absent (Tempelmann-Maszyńska 1985:65). In his paper of gold foil beads, Boon (1977) discusses the probable dating of the oldest gold foil beads and their distribution to *inter alia* the Baltic region. The earliest gold foil beads may be assumed to date from the third century BC, and the only known site of their manufacture is on the island of Rhodes in the Ægean Sea; it may be assumed that beads from here came via the Black Sea to reach the so-called Bastarnian Culture of eastern Romania and Moldavia during the last two centuries BC. From these areas they subsequently reached the area around Lower Weichsel. Their total absence from the Przeworsk Culture and further east in the Dnepr-Bug-Region indicates that the point of interest was the area-specific exchange which took place during this period between two coastal cultures on the Black Sea and the Southern Baltic respectively. The distribution of the gold foil beads can probably be taken as an indication of this interaction. The products supplied from the Baltic side as a part of this probable exchange obviously included *inter alia* amber. With regard to the stock of beads, both finished items and work in progress, and raw materials, this particular area also has a high concentration of amber (Tempelmann-Maszyńska 1985:Taf. 58–70).

Gold foil beads continue to be very common in the south of Russia during the second to the fourth centuries AD, and it is likely that local manufacture of this type took place there during this period (Boon 1977:197). Surprisingly enough, gold foil beads seems to be totally absent from Western Continental Europe, i.e. Italy, Spain, Gaul and Germany, for most of the Roman period, whereas the southern Baltic region to the east of the River Oder continues to exhibit a high concentration. It is also during the 2nd and 3rd centuries that this type of bead occurs in the south Scandinavian region; its northernmost known occurrence is at Gile i Toten. It was found in the grave of a female of high social standing. It is thus probable that the occurrence of gold foil beads in Scandinavia during the Roman Iron Age derives from the inter-regional contacts along the southern coast of the Baltic, assuming that local production was not already taking place in South Scandinavia at that time. There is nothing in the material to suggest that this might have been the case. The gold foil beads accordingly did not find their way to Scandinavia via Western Europe routes during the Roman Period.

The gold foil beads also became very common in Western Europe during the fifth century, and it may be assumed that production took place at many more locations than during earlier periods. The methods used in manufacture may also have varied, and as shown by the finds at Ribe from the Vendel Period, it is believed that gold foil tesserae may have been used in the course of manufacture (Näsman 1978). This view undeniably provides many opportunities for relatively simple manufacture on a local basis.

As far as the mosaic beads (Andrae 1973) and the melon-shaped beads (Born 1977) are concerned, they are considered to have a wider distribution than the gold foil beads, although it should be pointed out that the research situation in this respect is less good with regard to the distribution of these beads during the Roman and Migration Period.

This attempt to shed some light on the necklace at Högom is in no way complete, in addition to which the literature is too extensive and the summaries too few. From the examples given, however, it would appear that the Högom necklace with its many gold foil beads

is surpassed only by a few finds in Lower Weichsel. In addition, the construction of the three large melon-shaped beads and the 23 other opaque beads is of a kind which I have not found elsewhere in the literature. As far as the dating and the origin of the Högom necklace are concerned, it is unfortunately not possible to fix these with any accuracy. Given that the dating of the house fire must be put in the Migration Period, probably the fifth century, it is possible that the gold foil beads, which can be regarded as decisive in this context, may also have been produced just as easily in West European workshops as in South East European workshops. As we have seen, the beads need not be dated to the Migration Period simply because they fit into a Migration Period context. They may just as easily and, perhaps most likely, date from the fourth century, which, as we have seen, is a peak period for the occurrence of beads in the graves in the Baltic region. If we accept that their introduction probably occurred during the fourth century, this coincides closely in time and space with the probable introduction of the facet-ground glasses into mound No. 2 at Högom.

The distribution pattern for the gold foil beads which is outlined here on the basis of disparate sources may well correspond to one of the most important contact routes, in which Central Norrland represented a terminal point, i.e. the route from the Black Sea – S Baltic coast – S Scandinavia – S Norway – W Norway – Trøndelag – Central Norrland. In this route there seems to be no connections with, for example, the Mälar Valley.

The house foundation and its filling material also yielded up a number of scattered fragments of asbestos-tempered *bucket-shaped pots*. This type of ceramic is most common in Norway, where it is found in both graves and sites dating from the Late Roman Iron Age and the Migration Period (Bøe 1931, Myhre 1980). The type of ceramic ware is known earlier only in graves in Central Norrland (Slomann 1950; Selinge 1977). However, ceramic ware of this type had already been found in 1960, beneath mound No. 3 at Högom, and in the context of a site in this case, too. Details of the first site finds of such ceramic ware were published in conjunction with the Gene investigation (Ramqvist 1983; Lindqvist 1989), and an examination of the site material at Högom resulted in the publication of these details, too (Ramqvist 1983:13, Fig. 2:7). Later investigations at Lucksta, Attmar parish, Medelpad, also produced individual fragments of asbestos-tempered, bucket-shaped pottery (Broadbent 1985:390). It is thus possible to arrive at the conclusion that bucket-shaped ceramic ware is not uncommon at the sites in Medelpad and Ångermanland. The earlier absence can be attributed simply to the low or non-existent level of research activities.

Bucket-shaped ceramic pottery is practically always tempered with one or more of the minerals asbestos, soapstone or talcum (Bøe 1931). As far as the finds in Central Norrland are concerned, soapstone and asbestos have been recorded, although no systematic technological investigation has been carried out. Sherds of both asbestos-tempered and soapstone-tempered ceramic ware are represented at the site at Gene, for example. As mentioned above, Högom grave No. 2 contained an almost intact bucket-shaped vessel tempered with asbestos. The cauldron grave at Kvissle, Njurunda raä No. 114:2 (Selinge 1977:263f) contained *inter alia* a bucket-shaped vessel tempered with asbestos. It can be seen from these examples that both asbestos-tempered and soapstone-tempered bucket-shaped pottery occurs in the area.

In relation to SW Norway, which has most of the bucket-shaped vessels, Trøndelag on the one hand and North Bohuslän on the other can be compared with Central Norrland in terms of the frequency. Bohuslän (and Dalsland) have approximately 15 finds (Särlvik 1982), which were discovered both in graves and on sites. Regarding Trøndelag no total analysis of the distribution has been made, but bucket-shaped pots have been found both in graves and on sites (e.g. Farbregd 1980). Also, the frequency is considerably higher in North Norway than in South West Norway, although this type of ceramic ware also occurs there, both on sites and in graves (Sjøvold 1962; Johansen 1979).

Loose pieces of both asbestos and soapstone, minerals which occur naturally in the Swedish/Norwegian mountain range, were found in the course of the excavations at Gene (personal information, A-K. Lindqvist). This may indicate that the tempering medium was transported in the form of a raw material to the sites in Central Norrland, and that the ceramic ware was manufactured locally. As far as the Norwegian areas and Bohuslän are concerned, the raw material does not pose a major problem, since these areas lie close to the natural deposits (Rolfsen 1986). It is by no means certain, therefore, that the bucket-shaped pots found in Central Norrland (and Bohuslän) is Norwegian, and it may have been manufactured locally with inspiration from SW Norway. The concept of Norwegian inspiration is slightly dubious, however. More recent investigations in the north of Ångermanland carried out by Anna-Karin Lindqvist (1991) have shown, in actual fact, that what we may assume to be the immediate predecessors to the sedentary settlement at Genesmon (Ramqvist 1983; Lindqvist 1989), at least during the middle part of the pre-Roman Iron Age, to a large extent used several types of asbestos-tempered ceramic. It is thus by no means clear that the use of asbestos in Norwegian bucket-shaped pots represents an independent tradition compared with the

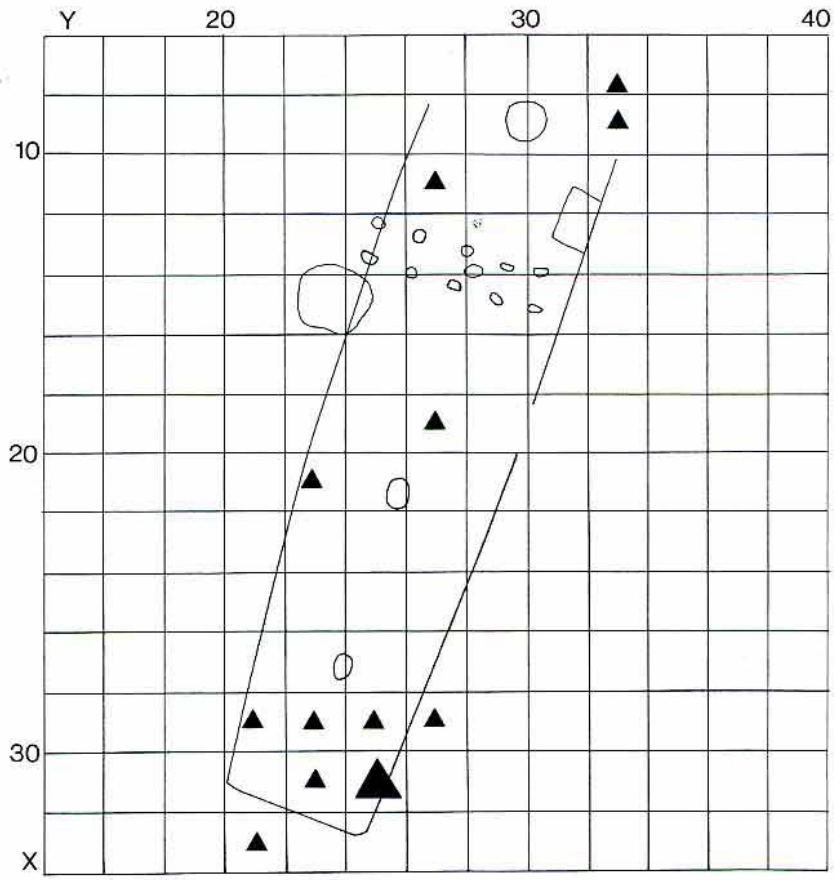


Fig. 118. Distribution of the loom weights in house 3. Small triangle = individual fragments, large triangle = concentration of loom weights.

earlier asbestos-tempered ceramic, which has long been the subject of discussion in the literature (Gjessing 1942; Munch 1962; Meinander 1969; Bakka 1976; Carpelan 1978; Baudou 1986). In fact, there is a great deal of evidence to suggest instead that the asbestos-tempered pottery is one of the few cultural characteristics which exhibit continuity from the mobile or semi-mobile settlement structure and into the sedentary form of settlement at the start of the Roman Iron Age. The problems will not be solved, however, until we also discover asbestos-tempered ceramic pottery in the earliest sedentary settlements at about the time of the transition from BC to AD.

Another group of finds, which was discovered in abundance in the house foundation, is the *loom weights* (Pl. 135). The type of upright loom concerned was sometimes set up in a separate pit-house (Stjernquist 1976; Lindqvist 1989), or inside the long-house next to the wall of the house; the side posts of the frame were sometimes anchored by being sunk into the ground. Traces of the loom itself were not found, however.

The loom weights were generally made of clay and were disc-shaped, with a hole in the middle, to which the warp was attached. The cord often wore a mark into the loom weight (Pl. 135). The loom weights were not usually burnt, and are extremely fragile; they are preserved best in those cases in which the house burnt down. Even in these cases, however, they are often highly fragmented. Interestingly enough, the largest concentration of loom weights lies close to the E corner of the house (Fig. 118), i.e. in the same location as one of the sets of hairdressing items. Individual fragments of loom weights are also present close to the central hearth (*z*) and in the W part of the preserved house foundations.

The large concentration of loom weights consists of fragments with a total weight of just under 2 kg. Since the intact examples each weigh c. 200 g, it is possible to conclude that these fragments in total correspond to c. 10 loom weights. If one also includes the scattered fragments in the neighbouring squares, this gives a maximum number of c. 15 loom weights for the loom which was destroyed by the fire in the house.

5.6.3. ROOM DIVISION AND HOUSE FUNCTION

5.6.3.1. Room division

Quite detailed material is available to us as far as the analysis of the subdivision of the house into rooms is concerned. One major problem, however, is that the whole of the house is not represented; probably only about one half is available to us. Nevertheless, we can identify phenomena such as the following in the part which is preserved:

1) the placement of construction details
2) hearth placement
3) the distribution of burnt clay
4) artefact distribution
5) floor level features

These five factors can be compared with the six phenomena which it was possible to study in houses I and II at Gene (Ramqvist 1983:153). The difference is that this Högom house cannot be analyzed on the basis of the distribution of carbonized seeds and the phosphate distribution along the house foundation. The floor level, on the other hand, was well preserved in the Högom house (Pl. 120), which was the case only to a limited extent at Gene.

The reader's attention should be drawn by way of introduction to the conclusions arrived at in conjunction with the account in Sect. 5.6.1.6., in which a partition wall was noted to have run between sill stones Nos. 1 and 3 (Pl. 121). This partition wall thus effectively splits the house into an eastern half and a western half; there is not a great deal to be said about the latter, since most of it has been destroyed. The small number of finds in the remaining western part, however, point to an area with characteristics other than those of a dwelling or associated with extensive human activity, which may have served as a store or similar.

As far as the eastern half is concerned, we can make a start by comparing the observations which were made at floor level (Pl. 120) with those which were made below the level of the floor (Pl. 121), where the structural elements were readily visible. These two levels of documentation are compared in Figure 102, and it is possible *inter alia* to see that the sooty part of the floor is present in the whole of the eastern part of the house foundation approximately up to a level with the entrance in the N long wall. A similar, although rather shorter western extension is also exhibited by the two collapsed eastern parts of the long walls of the house. In the case of the northern one, its extent coincides precisely with the sill construction, and both the sill, like the collapsed wall, end where entrance starts. Lying slightly to the west of the centre of the dark-coloured part of the floor is also the hearth *z*, which should be regarded without any hesitation as a central hearth in a room in which humans lived. These data do not provide evidence of any tendency to subdivide the house to the east of the entrance.

If we include the burnt clay in the analysis, which is essentially clay with a so-called triangular cross-section, this is concentrated in the area around the hearth *z*, which strengthens the impression of the function of this area as a place where humans stayed. A similar distribution of this type of clay around the central hearth complex also occurs both at Gene (Ramqvist 1983:70), at Trogsta (Liedgren 1981) and Forsa (Liedgren 1989, Melander 1989, also cf. Ramqvist 1992).

The distribution of artefacts in the house foundation (Pl. 125) roughly exhibits two concentrations, one directly in line with the entrance between the hearth *z* and the transverse row of posts, and one in the area of the east gable end of the house. The burnt bones, on the other hand, exhibit three concentrations (Fig. 112), one of which is around the hearth *z*, and a second in association with the hearth *u* in the eastern part of the house. The third concentration is in the westernmost part of the house and consists of sheep/goat bones, all of which probably belong to the hearth, *Anl. c*, which apparently has nothing to do with the house and is of a slightly later date and thereby comparable with the hearth *Anl. b*. The bones thus point to a division of the eastern part of the house into two areas, approximately between the two hearths *z* and *u*.

It can be noted that the concentration of the artefacts at the entrance is offset to the west in relation to the concentration of burnt bones which is directly related to the hearth *z*. It is not clear, however, whether this is of any significance. On the other hand, the area around the hearth *u* is believed to be marked by boundaries equally with regard both to the burnt bones and to the finds. One group of finds which was analyzed separately is the loom weights (Fig. 118), and their distribution, with its strong concentration in the eastern part of the house, supports the view that this area was marked by boundaries in some way. It is not possible to establish whether or not a partition wall was present in the area between the hearths, although there is no doubt that the area in the easternmost part of the house was marked by boundaries and was reserved for *inter alia* weaving activities. The distinct sparseness of the finds c. 2 metres to the west of hearth *u* suggests that a partition wall may have stood there. Interestingly enough, this is approximately on a level with the western extremity of the long trench which extends as far as the inner wall of the southern long wall.

In summary, it appears probable that the preserved part of the house foundation had at least three separate areas. From the east, these were a room for *inter alia* weaving, followed by a central room where most activities took place, in the western end of which was a

fixed arrangement in the form of a bench, and, finally, a western room, which is preserved only in part, possibly used for storage or a similar purpose, from which more extensive finds are absent.

5.6.3.2. House function

The function of the house is a truly challenging question in this context, and I have already examined the question in a couple of earlier works (Ramqvist 1987a, 1990a). The house foundation differs in many ways from other contemporaneous house foundations with regard to their construction, their internal arrangements and the composition of the finds.

The construction gives a very light and fragile impression, and satisfactory supporting elements such as trestles or mid-posts are absent. Those post holes which are present in the house foundation are not arranged symmetrically or in pairs; as the excavator remarked at the time of excavating post hole *b1*, it had been placed on the ground without any visible signs of digging. All that was found was the carbonized end of a post. This is probably the explanation for the apparently sporadically occurring post holes. Because the house was built of very light material, it was not necessary to anchor all the posts in the ground.

The internal arrangement immediately to the west of the entrance to the house with the transverse rows of posts is an interesting feature of the house construction which lacks parallels in other house foundations. What this was originally cannot be determined with certainty. Either it is an extremely well executed partition wall or, more probably, it is some kind of well anchored bench or similar, positioned along a quite weak dividing wall facing into the centre of the room, which is represented by the clay hearth *z*. The fact that this part of the house had a special function is clear from the distribution of the finds, which cease at the double transverse row (Pl. 125).

Apart from the finds which are usually found at a site, such as loom weights, burnt clay, burnt bones and fragments of iron, there is also a fair number of objects which are otherwise found predominantly in graves. These include, for example, bone combs, the bead necklace, hair pins and bone arrowheads. The fact that these remain in the house foundation in this case is associated with the fact that the house had burnt down, that the surface was not cleared to any great extent following the fire, and that a mound had been constructed over the site only a short time after the fire. What makes this process particularly interesting are the two sets of hair pins which were found in the house foundation (Fig. 114). One of these was lying in the NE corner of the house, where most of the loom weights were also found, and the other set was lying at the very centre of the large concentration of finds inside the entrance to the house. The interpretation which comes most readily is that the sets of pins represent two females who had been burnt to death in the fire. No reliably identifiable human bones have been found, although individual fragments described by Gejvall (1961) as being "very similar to human bones in many respects" were found lying directly adjacent to the entrance (cf. Pl. 121). One possible explanation of why human bones are absent, or almost absent, could be that the fire was simply not sufficiently long or fierce for the bones to be calcinated, whereas the other bone items such as the combs and the hair pins naturally came into very close contact with the fire and thus became calcinated and were preserved. This event may well explain the reason for constructing the mound, i.e. the females who had perished in the fire. It also explains the position of the mound, i.e. directly above the house foundation and not centrally on the esker where the other three large mounds were situated, as well as the burial stone found in the upper part of the outer layer of the mound, which is clearly a female symbol (cf. Petré 1984b). It also provides an explanation for the symbolic small central cairn.

In spite of the fact that the house was to become a house of death in its final phase, that is to say a house in which people were buried (we may assume unintentionally in this case), and to be covered by a burial mound, this was in all probability not the primary function of the house. Nor was the house a long-house of the conventional type containing a living area for the occupants and stalls for the animals as well as various other functions; this is supported essentially by the construction, and also by the unusual artefacts. One interesting interpretation is that the eastern part of the house, i.e. to the east of the partition wall and the two transverse rows of posts, was used as some form of collective area. This in turn had two areas, the eastern area with its female activities such as weaving, and the central area with the clay hearth at its centre; the latter was the actual hall, where we may imagine that political and other matters were discussed.

A couple of other important observations which were made in the course of the investigation must be reported. The first is that the bone arrowhead which was found was stuck in the wattle wall, according to Petré. This unprecedented observation could indicate that the house was set on fire as a hostile act. One can imagine anything from plundering to a full-scale battle, given that the Högom homestead was probably the residence of the highest stratum of this society, and for that reason was interesting either from the point of view of defeating a political leader, or for individual

bands of robbers to acquire products and valuables which were most certainly at the homestead.

The second observation is that the large hearth, feature *Anl. b*, is of a later date than the house foundation, at the same time as which the extremely fragile remains of the north long wall in particular are so well preserved. This must be taken to mean, quite simply, that the house foundations were almost completely sealed after the fire. If activities had taken place there subsequently, then all the remains of the wattle and the sill beam would necessarily have been destroyed. The hearth *Anl. b*, must have been built and used, however, before the mound was constructed. The most likely assumption is that this was a hearth in which a "burial meal" was prepared, for example after the symbolic cairn had been raised. It probably had some links with the ceremonial which took place in conjunction with the "burial". The hearth itself failed to provide any indication of what was prepared (and sacrificed), although in view of the size of the hearth, 2.5 x 2.2 m at the bottom, and the distinct concentration of cattle bones around the hearth (Fig. 113), which have been identified as calf bones in some cases, it seems likely that what was prepared (and sacrificed) included one or more calves. The relatively large hearth, *Anl. c*, in the westernmost part of the house may have had a similar function, although we cannot be certain that this was built after the house fire, even if this is highly likely. In this case the hearth would have been the place at which sheep and goats were prepared, evidence for which comes not only from the concentration of such bones around the hearth, but also from the presence of such bones in the hearth (Fig. 113).

In summarizing our observations and interpretations of the house foundation beneath mound No. 3, we can establish that they do not agree from a structural point of view with those of the conventional longhouse from the Late Roman Iron Age-Migration Period. Similarly, it appears likely that the house was not associated with agriculture or used as a dwelling place, but that its principal function lay in the socio-political plane, and that it was perhaps some form of local meeting place which was used only during certain parts of the year, hence the absence of winter-proofing features in the construction. It is also possible, of course, that the western half of the house contained storage areas (for the storage of tributes from the surrounding countryside?). In its final phase, however, the house foundation became a "house of death" for at least two women, who perished in the fire following an attack on the homestead. These women were of high social rank and were given a monumental large mound, the position of which was determined by the position of the house. Before the burial mound was completed, a ceremony was held in which calves and possibly goats or sheep were sacrificed and consumed. These events probably occurred at some time during the fifth century.

6. MOUND No. 4

6.1. INTRODUCTION

Mound No. 4 was investigated between 14 May and 8 August 1956, under the leadership of Margareta Biörnstad. The investigation team was also made up of Ulla Silvén, Ragnhild Fredberger, Sven Melin, Bengt Tingström and Gunnar Hedlund (Fig. 119).

The mound is situated furthest to the SE of the four large mounds and quite close to the smaller mounds in that area of the cemetery. The decision to investigate mound No. 4 on this occasion was justified on the grounds that, of the remaining mounds, it was the one that had suffered most harm. It was severely damaged by buildings and cart tracks, etc. (Fig. 5). The following description was given in the 1943 mapping exercise:

> A mound, c. 5.5 metres high. Severely damaged in many places. Most of the NNE-SE part of the mound has been dug away, leaving a steeply inclined face. Material has been

Fig. 119. Photograph of the excavation of mound 4.

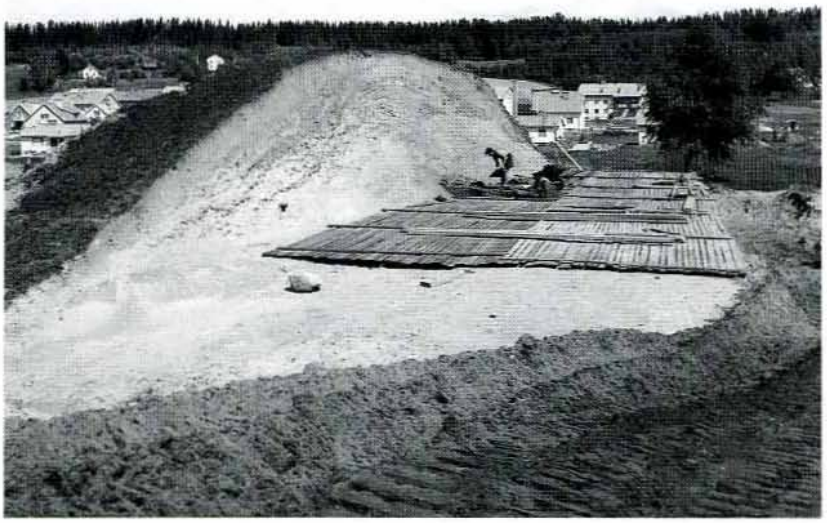


Fig. 120. Exposure of the main profile C–D in mound 4. Photograph taken from the SW. (Cf. Pl. 140–141).

removed from the SE part of the crown in ancient times and was used for the terracing of slopes to the E-SE. There is a cart track leading up from the foot of the mound in the south to a ramp situated on the north-facing slope of the mound for a hay-loft. A farm building has been erected at and on the foot of the mound in the SSE. Its extent is unclear. A number of birches and several bushes are growing on the mound.

The mound is shown on the plan of the grave field (Fig. 5) with a diameter of almost precisely 40 metres; this is a dimension which, in spite of the damage, approaches closely to its original size.

The following account of the investigation is based on the report of the investigations submitted by Biörnstad (1958). I have checked all the artefacts (except those not found in the store), and the descriptions are based on those observations. Biörnstad's descriptions are used wherever artefacts have not been found again.

This grave and the underlying settlement remains have already been discussed in part and analyzed not only by the author (Ramqvist 1990a), but also by other archaeologists. Biörnstad (1984) writes about the excavation; Selinge (1977:328ff) examines the settlement remains and the furrows left by the wooden ard beneath the mound; Stenberger (1964:568f) mentions in passing the grave, the furrows left by the wooden ard and the site; Tholander (1971) analyzes the manufacture of the iron cauldron (Fig. 121) in the primary grave, and Ramqvist (1983:8ff, 138ff, 1987) analyses the house construction.

6.2. EXCAVATION TECHNIQUE AND DOCUMENTATION

The main work was carried out by an 8-ton crawler tractor, which initially worked to the east of the premarked profile A–B (Pl. 140–141). Whenever darker soil or other indications were detected, the archaeologist took over the work at that spot. The machine was stopped, however, once the old ground level, the settlement layer, was identified, and the rest of the mound filling, i.e. the western part of the mound, was removed by the crawler tractor down to a level c. 0.5 m above the settlement layer. The final 0.5 m down to the settlement layer was removed by hand (with shovels), and the settlement layer itself was excavated using trowels (Figs. 119–120).

In order to keep the fragile ard marks intact, these were covered with wet sacks and tarpaulins whenever they emerged (Fig. 122). A total area of 650 m^2 was treated in this way. The ard marks were photographed from the top of a 26.5 m high ladder on a fire engine (Fig. 123). The rest of the settlement layer, in which the ard marks were visible, was then shovelled away in thin layers. Once the settlement layer had been taken away, a house foundation and adjoining features such as post holes, hearths, pits and wall trenches were found. These features were documented both by photographs and on a special plan. Most of the features were excavated in profile and were drawn, photographed and described.

6.3. FILLING OF THE MOUND

According to the excavation report, the mound had a maximum diameter of 42 m and a maximum height of 5.67 m. The mound was built from material taken from the area immediately surrounding it. No "foreign" or old materials were present, and there is close agreement between the filling and the surrounding soil (Fig. 120). There are also several references in the text of the report to fragments from the settlement layer in the filling. According to the profiles, the frequency of settlement layer soil increases towards the lower middle part of the mound. At the bottom centre is a small mound measuring c. 6 m in diameter and 1 m high made of "pure" material from the settlement layer. The primary grave was found in a pit at the edge of this mound (Pl. 143). In one respect, namely the manner in which the settlement layer was used, this grave has its direct counterpart in grave No. 3. There the small central cairn was completely covered with "pure" settlement material; the cairn measured 4.8 m in diameter and 1.2 m high. Including the covering layer, the sizes of the two central constructions appear to be related.

As far as the content of the filling material in the filling is concerned, it is worth noting that burnt clay, slag, calcinated bones, charcoal and single artefacts occur in the layers of settlement material at various points in the filling and in the central construction, as well as in the intact settlement layer under the mound.

One anomaly concerning the mound filling is an occurrence of 0.1–1.0 m large stones over an area of c. 9 m in diameter in the filling, just above the settlement layer in the SW part of the mound. According to the excavator, these stones had accompanied the filling by accident. Apart from these stones, finds *F32–F34* were also made (see the find list below) at levels corresponding closely to those of the settlement layer. From photographs of the stone concentration, it is not possible to establish whether or not it was originally a construction of some kind. The stones themselves were probably transported to the site anyway, as there are no natural occurrences of stones on the site.

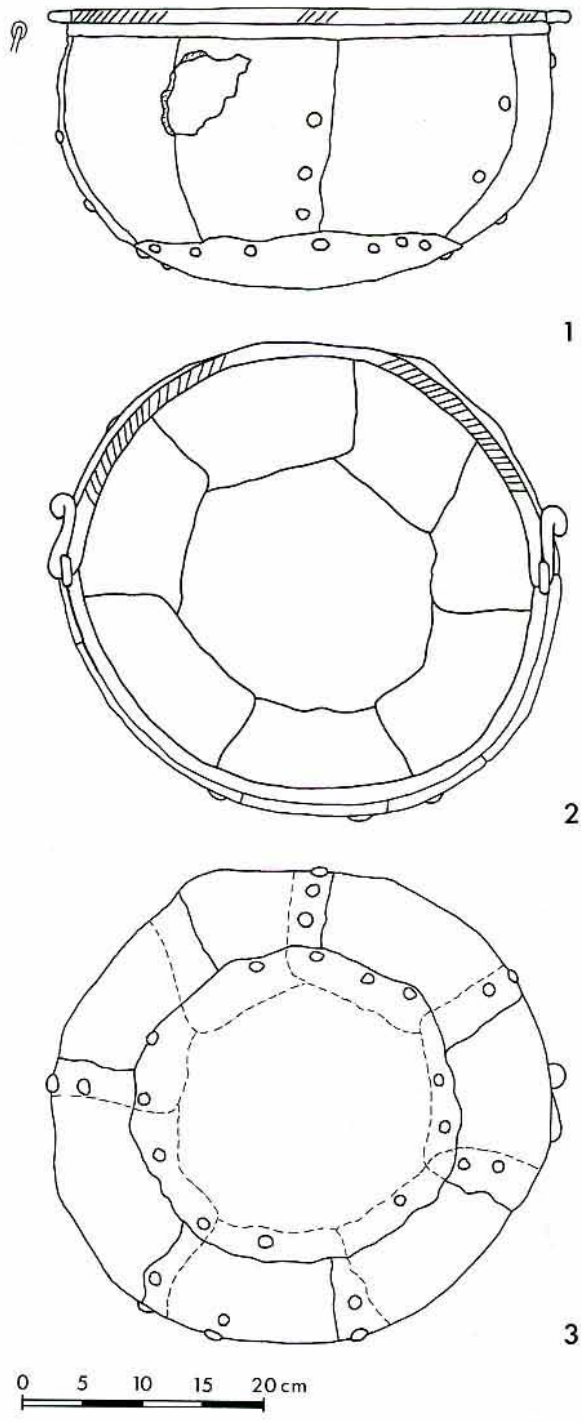


Fig. 121. Primary grave in mound 4. Construction of the iron cauldron. 1 = from the side, 2 = from above, 3 = from below. (After Tholander 1971).

6.3.1. FINDS IN THE FILLING (Pl. 142)

6.3.1.1. Part of settlement layer (700 b)

A "black-earth" layer extending over an area of c. 2.0 x 0.6 m and 0.15 m thick. The layer was found to contain burnt stones and single pieces of charcoal, 5g of *calcinated bone* and:
F13. Slag. W = 18 g.

6.3.1.2. Part of settlement layer in the filling (700 c)

A "black-earth" layer, 1.1 m in diameter and with a maximum thickness of 0.25 m. The layer was found to contain single pieces of charcoal, one fragment of *calcinated bone* and:

F14. A band-shaped *bronze fitting.* L = 90 mm. The object is bent, with the result that it is slightly convex when viewed from the front (decorated) side. The flat front side and the convex rear side are 6 mm wide and 2 mm thick, and both ends are hammered out to form flat, thin and almost rectangular plates measuring c. 17 x 10 mm. There are two rivet holes on each plate, in one case with bronze rivets spaced 6 mm apart, and in the other case with just the two holes spaced 9 mm apart. The rivets were hammered from the rear side and directly against the fitting, which means that no material was riveted to the rear side. The distance between the pairs of rivet holes is 83 mm. The front side is decorated with a single line along both edges, continuing for a short distance out onto the rectangular plates, where the lines then disappear smoothly, suggesting that the fitting was worn at this point. Manufacturing lines and marks are visible on the whole of the rear side, but only on the rectangular plates on the front side. W = 6.3 g.

6.3.1.3. Part of settlement layer in the filling (700 d)

A "black-earth" layer, c. 0.7 m in diameter and 0.15 m thick. The layer was found to contain single pieces of charcoal, 2 fragments of *calcinated bones* and:

F15. Two fragments of heavily rusted *iron*, probably band-shaped, c. 7 x 6 mm in cross-section. Length = 51 and 30 mm respectively. W_{tot} = 8.7 g.

F16. Slag. W = 10 g.

6.3.1.4. Finds in the "inner mound" (700 f)

A heap of settlement material mixed with silt or clay was found in the middle of the mound, and situated directly above the original settlement layer. This measured 6 m in diameter and c. 1 m high. In the SW part of this heap was a pit, partly filled with sand, in which the iron bowl containing the primary burial had been placed (Sect. 6.4.4.). The filling of the heap consisted of the same material as the settlement layer, i.e. a dark red soil with charcoal and burnt clay. Its interfaces with the subjacent settlement layer were generally difficult to determine. Apart from the primary burial, the following finds were made in the heap:

F28. Head of bronze pin or similar. Damaged. A cylindrical head, 9 mm in diameter and 4 mm high, with a profiled edge. Approximately 5 mm remain of a shaft, around which there are fragments of leather. W = 1.5 g. (Not found in the stores).

F29. Seventeen *iron* fragments, most of which are heavily rusted. Of the fragments, two have been identified: *a)* a *hook* with almost rectangular cross-section of c. 7 x 5 mm and a round point. L = 35 mm. W = 4.8 g; and *b)* a *triangular-shaped object* with a concave-convex base and a thick, almost round point. One of the sides is thinner than the other (edge?), measuring 59 x 10–30 x 4–12 mm. W = 26.3 g. Of the other fragments, eight are more or less rod-shaped, and seven are of irregular form. W_{tot} = 109.2 g.

F30. Slag. W = 1.2 kg.

6.3.1.5. Finds in the stone assemblage (700 g)

The stone assemblage was 9 m in diameter and was made up of scattered stones varying in size from 0.2 to 1 m. The stones were placed immediately above the settlement layer in the SW part of the mound. The following artefacts were found in the sand filling that surrounded the stones:

F32. A *whetstone* fragment of reddish quartz sandstone, measuring 58 x 54 x 31 mm. Lev. = –534. W = 130.3 g.

F33. An *iron rivet.* 40 mm in length, with an almost circular, flat head 17 mm in diameter and a rectangular washer measuring 16 x 13 mm. Lev. = –544. W = 6.0 g.

F34. A piece of *burnt clay* with one side vitrified and the other burnt to a brick-red colour. A furnace lining? Lev. = –524. W = 38.6 g.

6.4. BURIALS

6.4.1. SECONDARY BURIAL (Pl. 144–145)

A patch of settlement layer covering an area of 1.85 x 0.9 m and up to 0.2 m thick was found approximately at the centre of the mound c. 1 m down in the filling. Individual calcinated bones and pieces of charcoal occurred throughout this dark layer. The concentration of human bones was found lying partly in a shallow pit c. 0.2 m in diameter and 0.05 m deep on the eastern edge of the layer. It was not possible to determine whether the deposit was dug into the mound, or whether the bones were deposited while the mound was being erected and this particular part of the mound was exposed. No stones or other structural features were present.

A total of 2594 g of calcinated human and animal bones were found in the secondary burial (reference is made to 1365 g in the report, but Iregren changes the figure to 2594 g in a letter to me). According to the osteological analysis performed by Elisabeth Iregren (1983), it was not possible to determine the sex of the deceased. The few fragments of the skull and the teeth merely permitted the deceased to be identified as an adult. The deposit also contained several parts of an adult dog (*Canis*), and parts of the cranium and extremities of a horse (*Equus*) were also found. Scattered fragments of sheep/goat (*Ovis/Capra*) from individuals older than 1.5–2 years also occurred. Finally, 13 phalanges (*F11* below) of a bear (*Ursus arctos*) were spread throughout the layer, which indicates that a bearskin accompanied the deceased onto the cremation fire.

6.4.2. FINDS IN THE SECONDARY BURIAL (*700 a*)

F1. Eleven pieces of a *bronze object* or objects. Five fragments of a similar kind, with edges and angled surfaces. The largest piece measured 21 x 11 x 2 mm. One fragment is band-shaped, measuring 25 x 8 x 2 mm, and has traces of a border running along each long edge on one side. Of the other five fragments,

one is a pellet 4 mm in diameter, probably the result of smelting. W_{tot} = 6.6 g.

F2. An *iron rivet*. 33 mm in length. An almost circular, flat head of 15 mm in diameter and a fragmentary washer, probably squarish, with a length of side of 13 mm. Fire-patinated. W_{tot} = 4.9 g.

F3. An *iron rivet*. L = 6 mm. A circular, flat head, 14 mm in diameter, and a rectangular washer 7 x 7 mm. Fire-patinated. W = 2.4 g.

F4. ?

F5. A fragment of an *iron rivet*, with a shaft fragment on a washer (?). Heavily rusted. L = 12 mm. W = 0.6 g.

F6. Sixteen fragments of a calcinated *composite bone comb*. The largest piece belongs to the *tooth-plate*, and the ledge in this case is more like a ridge. The tooth-plate fragment has intact top and side terminations. The only ornamentation is a single, tiny vertical line on both sides of the tooth-plate close to the side termination. A 2 mm diameter bronze rivet protrudes by 4 mm on one side of the plate. Ten fragments belong to the *connecting plates* of the comb. All but one of these are provided with one or more of the following decorative elements: a) double lines; b) four-double lines; c) triple half circles with mid-point; d) double circles with a mid point. Four of the fragments also have a bronze rivet, and on a fifth there is a rivet hole. Five tiny fragments come from the *teeth* of the comb. W_{tot} = 6.9 g.

F7. Three pieces of a *bone comb case*. Band-shaped bone pieces, measuring 57 x 7 x 2, 72 x 6.5 x 2 and 47 x 7 x 2 mm respectively. All three have similar ornamentation, in the form of double lines along the borders and triple half circles with a mid point resting against one of the border double lines, i.e. largely the same decoration as on the comb *F6*. The distance between the half circles varies. On the largest piece there is a bronze rivet of the same kind as on the comb. The rivet is situated on the innermost of the decoration lines, i.e. below the longitudinal axis of the object. This position supports the interpretation of a comb case. W_{tot} = 4.0 g.

F8. The *head of a bone pin*, calcinated. The head is hemispherical, with a diameter of 10 mm. Only 3 mm remain of the shaft, which is round and of 4 mm diameter in the transition zone. The almost vertical, 3 mm high side of the head bears two tiny horizontal lines 1 mm apart running around the head. Between the lines is a single row of small points running all the way round and spaced c. 1 mm apart. W = 0.5 g.

F9. Two fragments of a *bone spoon handle* (?). The larger fragment is 30 mm long, 7–10 mm wide and 2–3 mm thick. The cross-section tends to be slightly trapezoid, i.e. with a flat rear side. The ornamentation on the front side consists of single border lines, between which there are two rows of non-synchronized points. There is an oblique line between the rows. The smaller fragment is almost triangular in cross-section and has just one row of points, close to one of the lines. W_{tot} = 0.9 g.

F10. A piece of a calcinated *bone needle* (?). L = 41 mm. Wedge-shaped, with almost square cross-section of 5 x 4.5 mm at the top. Both 5 mm wide surfaces are ornamented with double border lines which run downwards for 34 mm, with a 7 mm interruption around the hole. The ornamentation lines are "finer" and were executed with slightly more care on one side. The hole is situated 14 mm down from the top and is oval in form: 3 x 2 mm on the "finer" side, and 4 x 2 mm on the other. The hole also slopes towards the less "finely" ornamented side. W_{tot} = 1.2 g.

F11. Thirteen calcinated *phalanges* of the bear (*Ursus arctos*), of which four are fragmentary. The others vary in length between 26 and 39 mm. W_{tot} = 20.2 g.

F12. One piece of *burnt flint*, grey-white in colour. 60 x 44 x 9 mm in size. W = 24 g.

6.4.3. PRIMARY BURIAL (Pl. 146–147)

As mentioned above, a small inner mound of c. 6 m in diameter and 1 m high, built of more or less "pure" settlement material was present in the bottom centre part of the mound. The bone container was situated in a pit on the edge of this inner mound. This spot was situated 3.4 m below the mound surface. The container was an iron vessel, inside which the burnt grave goods were found. The filling above and in the upper part of the vessel was light sand. Present next to the southern edge of the vessel was birch bark, which continued down into the vessel. The vessel and its contents were transported to Stockholm, where they were excavated in the laboratory by Bengt Schönbäck (1956). The excavation revealed the presence of relatively clean calcinated bones, which filled the vessel to half its height, with only sparse quantities of charcoal amongst the bones, but with rather a lot of charcoal on the bones. The bones had been placed on a layer of birch-bark, which had obviously covered the hole inside and over the mouth of the vessel. The vessel was not standing straight, but was leaning towards the side on which the handle was situated; the bones and the charcoal had also shifted in the direction in which the vessel was leaning.

An osteological analysis was carried out by Elisabeth Iregren (1983) in this case, too. She concluded from the total of 1270 g of calcinated bones that an adult human, probably male, had been buried together with parts of animals. Unfortunately, the skull was poorly represented in the material, but to judge from the fragments it was probably that of an adult male with a narrow nose. The vertebrae do not exhibit any changes attributable to disease. Parts of a pig (*Sus*) older than 3.5 years and a horse (*Equus*) older than 1.5-2 years were found in the vessel. Finally, the presence of two bear (*Ursus arctos*) phalanges (see *F27* below) indicate that the deceased had been provided with a bearskin in this case, too.

6.4.4. FINDS IN THE PRIMARY GRAVE (*700 e*)

F17. Bronze fitting. Rectangular, with rounded corners, measuring 33 x 23 x 2 mm. Five holes without internal symmetry are present; the three middle holes are 3 mm in diameter, and the two holes closer to the border of the fitting have a diameter of 1 mm. Damaged by fire. W = 5.4 g.

F18. Fragment of a *decorated bronze sheet*, 20 x 20 x 0.5 mm. Decorated with both relief bands and "bead rows" covering the whole. No complete pattern. W = 0.2 g.

F19. A small *bronze rivet*. L = 9 mm. Hemispherical head, 5 mm in diameter, and a round, flat washer 6 mm in diameter. The shaft is 3 mm in cross-section. W = 0.3 g.

F20. A *bronze rivet*. L = 12 mm. Hemispherical head, 13 mm in diameter and with iron rust attached to it. Irregular bronze washer, measuring 9 x 10 mm. W = 2.4 g.

F21. An *iron cauldron*. Bowl-shaped, with a diameter of 410 mm at the mouth and a height of 220 mm. Rounded bottom. The cauldron is built up of 7 side plates and 1 bottom plate. The plates are riveted together and are folded into a round form at the edge of the mouth, thereby producing a strong rim. The cauldron is equipped with a hank which is twisted in one way, which imparts an oblique milled pattern, in addition to which it has rolled-up, spiral-shaped terminations. The hank passes through simple erect loops situated above the edge of the mouth. The loops have rectangular fittings which are riveted to the outside of the vessel.

F22. One calcinated fragment of a tooth plate for a *bone comb*. No ledge or decoration is present. The intact upper surface measures 26 x 17 x 3 mm. W = 1.4 g. (According to M. Biörnstad, an 18 mm long part of a *connecting plate* ornamented with lines and concentric circles should also be included here. This fragment was not found again, however).

F23. Three pieces of a tiny *iron chain* (?), two of which are attached by rust to calcinated bones. The links are made of c. 3 mm thick iron thread and are joined to one another by simple folding. The chain pieces are 35, 32 and 21 mm long respectively and are damaged by the fire. W_{tot} = 13.4 g.

F24. Iron nail. L = 35 mm, with a round rusted head 13 mm in diameter. A bone fragment and a small iron fragment are attached by rust to the nail. W = 3.2 g.

F25. Fragment of a connecting plate (?) for a composite *bone comb*, measuring 34 x 12 x 3 mm. Decorated with a group of three parallel lines close to an intact edge. 2 mm from that group is another group of two parallel lines, and on the broken edge there is a double circle with a mid point. W = 10 g.

F26. Two pieces of a band-shaped calcinated bone object, probably a *comb case*. Both pieces have an intact width of 8.5 and 6.5 mm respectively, and both are a little more than 2 mm thick. The larger fragment bears decoration on one side in the form of four lines which tend to converge in one direction. The two middle lines converge on the smaller fragment, and there are only three lines leading to the iron rivet. The rivet measures 11 mm, which probably corresponds to its original length, i.e. the width of the case. W_{tot} = 2.0 g.

F27. Two calcinated *phalanges* of bear (*Ursus arctos*), almost intact, 23 and 21 mm in length respectively. W_{tot} = 2.0 g.

6.4.5. CONCLUSIONS

The *primary burial* belongs to the horizon of the Early Migration Period with its so-called vessel burials (cf. Selinge 1977:261ff). The containers are generally Vestland cauldrons and serve as containers for the cremated bones and grave goods. This form of burial occurs in practically all settled areas of Norway, with a marked concentration in the „Viken" area, SW Norway and Trøndelag (Ekholm 1956), as well as in Central Norrland. At least 7 cases are known in Medelpad (Enqvist 1919, Selinge 1977:261ff). One more unusual burial, which probably belongs to the same group, was found at Bäling in Nordanstig, N. Hälsingland (Ekholm 1955). In more unusual cases the cauldrons were placed in inhumation graves, as in mound No. 2 at Högom, for example (Chap. 4).

The cremation burials of the cauldron horizon are characterized by their relatively rich content of items such as glass, bear phalanges, bone arrowheads and ceramics, with the occasional occurrence of a *solidus*, etc. However, they contain no weapons other than arrows. The cauldron is most often lined with birch-bark and is placed in a small cist made of flat stones. In most cases, the bones appear to have been cleaned after burning.

The difference here is thus that the cauldron is made of iron and is bowl-shaped. Cauldrons other than the Vestland type were used as the container during this horizon in a few cases; in the known cases, the containers were either bronze dishes or wooden buckets. The Högom cauldron has been the subject of scientific study by Tholander (1971), who came to the conclusion that the cauldron was made from 7 iron side plates and one iron bottom plate (Fig. 121). Of the 7 side plates, one is slightly smaller than the others. The different plates were riveted together with almost 30 iron rivets. Tholander's intention was to show that cauldrons of this type were made from the so-called spade-shaped currency bars (cf Hallinder 1978). If he is correct, which seems likely, then 20 currency bars of the Attmar type were needed to make the Högom cauldron. This link between the cauldron and the currency bars is very interesting, and the argument will be used in Sect. 6.7. when the social standing of the burial ground is discussed.

In view of the occurrence of bear phalanges, i.e. a bear fur, in the two graves in mound No. 4 and in the chambered tomb in mound No. 2, it is appropriate to discuss this phenomenon briefly at this point. As mentioned by B. Petré (1980), the presence of bear furs in

the graves continues during most of the Iron Age and is distributed over practically the whole of Scandinavia. The phenomenon does not occur equally and uniformly over time and space, however. Petré's summary relates to Sweden in particular; areas not examined by him include Jämtland (Magnusson 1986:408f) and Ångermanland (Ramqvist 1984), which must be included and reinforce the impression that Central Norrland is well represented with regard to graves with bear furs, especially during the Migration Period. Such graves are also common throughout the whole of the Norwegian region, and nine such finds are recorded in Denmark (Møhl 1977). It is difficult to draw any reliable conclusions from the archaeological material as to whether the bearskins represent a higher status than the graves without skins. One conclusion which should have emerged clearly, however, is that scarcely a single grave of high status in Central Norrland, the Mälar Valley and Norway are without its bear furs. Striking examples of rich Migration Period graves apart from Högom are the East and West mounds at Gamla Uppsala, the Ottarshögen mound at Vendel, and the Norwegian graves at Evebø, Sætrang and Krosshaug, etc.

Petré's investigation also reveals that the bear furs occur in both male and female graves. Within his own area of investigation, the occurrences of bear furs graves datable to the Migration Period are dominated by the Mälar Valley and Central Norrland, whereas the island of Gotland dominates during the Roman Iron Age and, in particular, during the Vendel Period. The material is too little, and a far too unrepresentative basis on which to draw reliable chronological conclusions in respect of the difference in frequency. The remains of bear furs are usually absent from skeleton graves in small and normal sized mounds or stone settings, and such remains can only be identified under extremely good conditions, in consequence of which we should assume that their occurrence was much more frequent than we are able to measure by archaeological means. The material indicates that the dating continues into the Viking Period, however, although such datings are extremely uncommon as far as Central Norrland is concerned, whereas the material is totally dominated by datings from the Roman Iron Age – Migration Period (Petré 1980). As can also be appreciated from Petré's investigation, the combination of bear fur / comb / metal fragments in particular is significant for the graves, with bear furs although, in the case of Central Norrland, there is one more artefact which is encountered very commonly in combination, i.e. the bone arrowhead, which is also indicative of a male grave. The absence of arrowheads from both Högom graves naturally does not mean that women were buried here.

The occurrences of bear furs in graves on Gotland and also in Denmark, where no bears were present during the Iron Age, point clearly to the exchange activities which must have taken place, in this case involving bear furs. The probable area in which furs were processed is, of course, the large Norrland forests and the areas along the Swedish/Norwegian mountain range. These areas probably accounted for a large proportion of those furs, the remains of which we find in the Fenno-Scandinavian graves. However, an area such as the South Swedish Highlands was naturally also important, perhaps for the system of exchange in South Scandinavia.

As far as the iron cauldron is concerned, all that can be established is that it represents an unusual find from this period, and that its best parallel is to be found in the same parish, i.e. the cauldron known as the Valla cauldron (cf. Tholander 1971, Ramqvist 1990a:23, Fig. 15 and Fig. 2 b here). This was found buried in the ground, where it was lying curved over nine spade-shaped currency bars; it thus represents one of the many hoards of iron ingots in Central Norrland. These iron ingots belong to the Early Iron Age, although they cannot be dated more accurately, in spite of the fact that the majority of them were probably manufactured during the Late Roman Iron Age – Migration Period, at a time when iron production in Jämtland was at its peak (Magnusson 1986).

Concerning the dating of the primary burial, no readily identifiable artefacts or features are present. Unfortunately, no clear parallels to the pressed bronze sheet (*F18* Pl. 147) have been found, although this could very well be the sole remaining fragment of a socially significant artefact. As already mentioned, however, the grave is in fact typically representative of the cauldron horizon and is dated generally to somewhere between AD 350 and 450. The comb fragments (*F22* and *F25*) exhibit no typical features other than the fact that there was also a case (*F26*) decorated with horizontal parallel lines.

As proposed above by the osteologist, the primary burial was probably a *male grave*. This is not confirmed in the artefact material, however, although there are no typically female attributes in the grave either.

The *secondary burial* contains more finds which are typical of the Migration Period. This is true of the composite comb fragments with a ridge on the tooth plate (*F6*) and with a stylistically well connected comb case (*F7*). This type of composite bone comb is regarded as being characteristic of Central Sweden in the Migration Period (Ambrosiani *et al.* 1981, Bennett 1987). The grave also contained bone artefacts of more unusual types, such as the fragmentary head of a dress (?) pin (*F8*), the fragmentary handle of a probable spoon (*F9*), and the wedge-shaped needle (*F10*). A number of severely fire-damaged bronze fragments could also be included with these finds. As far as the

dating is concerned, however, it is not possible to get any closer than the very broad span of the Migration Period.

With regard to the sex of the deceased individual in the secondary burial, this could not be determined from the calcinated and fragmented bones (see above). The artefact material points to a *woman's grave*, however, mainly because of the probable dress pin and the needle. This is also supported *ex negativo* by the absence of probable male attributes such as bone arrow points and the like.

It can be stated on the whole that these two cremation graves are naturally characterized to a certain extent, when compared with other cremation graves from that horizon, and in particular the primary grave, by the format of the large mound, but also by the iron cauldron and the interesting bronze sheet, *F18*. Nevertheless, they generally fall in line with the prevailing conditions in the West Scandinavian region.

6.5. ARD MARKS BELOW MOUND No. 4

The ard marks were detected below the mound, on the original surface of the ground. The documentation of the marks consists of photographs (Figs. 122–124) and a short description in the report submitted by Biörnstad in 1956. The following presentation is based on that material.

6.5.1. CHARACTER OF THE ARD MARKS

The area below the mound in which ard marks were present was c. 25 m in diameter and was situated approximately around the centre of the mound.

The ard marks occurred over an area with differing soil conditions (Pl. 148). In the northern part was a house foundation (Sect. 6.6.) with parts of floor material and a settlement layer. The material around the foundation consisted of natural, yellowish sand. The continuity of the sand was disrupted by a band of more silty and greyish soil running in a NW-SE direction. The optimum conditions for documentation were thus encountered in the sandy parts of the area. The ard marks were visible on the foundation in the form of brown stripes against the reddish and sooty settlement layer.

The ard marks exhibited a criss-cross general pattern over the whole area. The furrows were c. 0.05 m wide and up to 0.02 m deep (i.e. below documentation

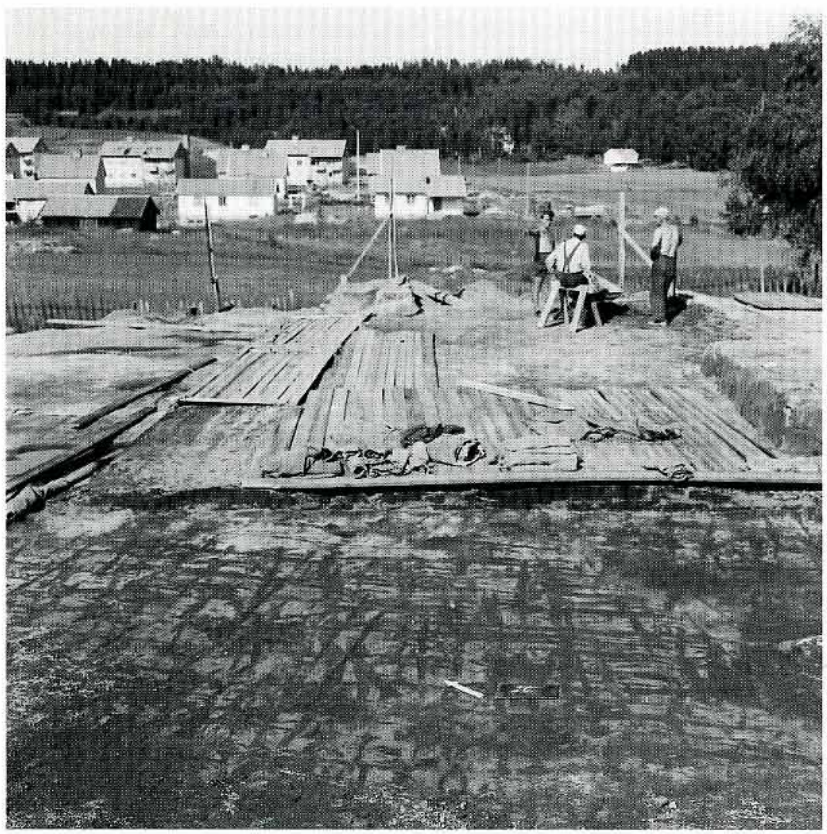


Fig. 122. Preparation of ard marks below mound 4.

Fig. 123. Tower photograph of exposed ard marks below mound 4.

Fig. 124. Photograph showing details of the ard marks below mound 4.

level). According to the photographs from the excavation (Figs. 122–124), it can be assumed that the average distance between the individual furrows in each direction is around 0.5–1 m. It can also be seen that the ground has been ploughed only a couple of times.

6.5.2. INTERPRETATION OF THE ARD MARKS

The ard marks were relatively sparse, and give the impression that the ground was ploughed with the ard only a couple of times. Several Danish and German investigations of fossil arable land, in particular from the pre-Roman Iron Age, have revealed that areas which were ploughed with the ard frequently exhibit a similar, but very much denser square pattern in the middle of the piece of ploughed land. The ard marks are also close together, but parallel, at the edges of the piece of land, i.e. along its boundaries, which may be in the form of a fence, a string of stones or an embankment.

It is not unusual to find ard marks beneath burial mounds, which has led the researchers to speak of ritual ploughing in conjunction with the interment (Pätzold 1960; Rowly-Conway 1987). This phenomenon is not easily interpreted, however, as it is possible for mounds to have been built directly on top of contemporaneous or recently abandoned arable land; a large proportion of the ard marks outside the mound would have been destroyed at the time as a consequence of the removal of the soil material for the mound from that area. The resulting impression is that ploughing only took place on the area immediately beneath the mound. Agricultural activities in more recent times have often taken place around burial mounds, which naturally obliterated every remaining trace of the weak marks left by prehistorical ard ploughing outside the mounds. In other words, it is very often difficult to determine the extent to which the ard marks beneath a mound are the result of everyday agricultural activities, or whether ard ploughing was in fact only performed beneath the mound and was of ritual significance. Another explanation for sparse ard marks of this kind, which is less likely in view of the conditions existing in Norrland, is based on the theory that the ard was used in the cutting of pieces of turf, which were then used as a building material in the burial mound (Rausing 1988).

A couple of other factors should be borne in mind in the case of Högom however; these are the situation of the ard marks and the fact that they are also on top of an earlier house. It is not at all unusual during the pre-Roman Iron Age in Denmark to find that cultivation took place directly on top of abandoned settlements. Advantage was taken in this way, of the improvement in the soil brought about by the various items of waste which had been deposited on the site. This economic-functional interpretation may be entirely correct, and yet does not rule out a practical/functional interpretation based on the fact that the site of this house, which had perhaps recently burnt down, had to be prepared and levelled to provide the space for a large mound. The ard may well have found an ideal use in ground preparation of this kind.

Of course, the Högom case also provides opportunities to place a religious/ritual interpretation on the sparse ard marks. This might mean that an occasional crop grown on the site of a fire where, for example, a person of significance to the society had lived, was regarded as giving a magical harvest in which the characteristics of the person(s) concerned were reborn. Consuming this harvest, or simply using it as seed, could be associated with ensuring continuity of high financial reward or with the reproduction of the relations with higher powers or other powers enjoyed by the deceased individual, or perhaps even with the reproduction in some way within the social group of the major characteristics of the individual concerned. Interpretations of this type harmonize closely with the religious/historical approach (e.g. Ström 1954) which, as far as the Viking Period is concerned, is based on the belief that kings and important men enhanced annual crops and procreation, both in life and in death. Such an interpretation is not contradicted by the palaeo-botanical indications (Sect. 6.6.6.), where it is argued that a permanent field would have produced several seeds in the field (Engelmark & Viklund 1984). The macro-fossil analyses failed to reveal any uncarbonized seeds, which probably would have been the case since the large mound, at the time when it was constructed, created excellent conditions for the preservation of uncarbonized seeds, too.

6.6. HOUSE FOUNDATION BELOW MOUND No. 4

6.6.1. FLOOR LEVEL

The top layer below the mound where the house foundation was situated was clearly discoloured and reddish in colour (Pl. 148). It consisted of burnt material of a silt/clay fraction, and lumps of burnt clay and charcoal fragments were observed to be scattered around the foundation. This was evidently the floor level of the house, and no post holes or other features were noted in that layer. The ard marks had obliterated the clear limits of the foundation.

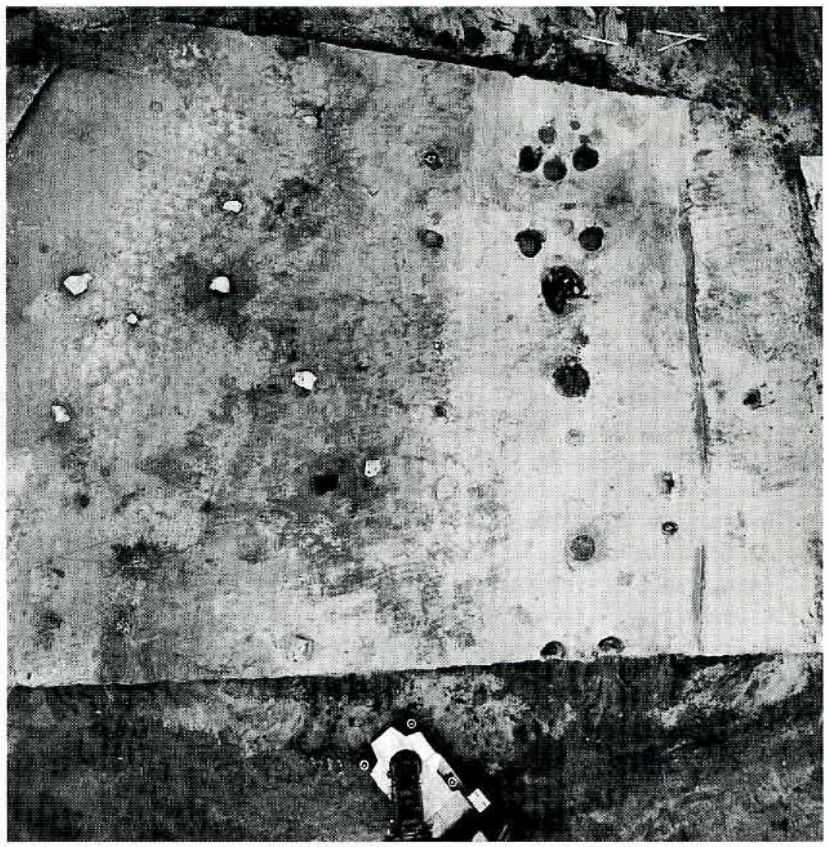


Fig. 125. Tower photograph of the house foundation below mound 4.

6.6.2. LAYOUT

The house foundation was not preserved for its entire length (Fig. 125). Approximately 20 metres were preserved, which probably represent a little more than half the original length of the house (see below). The preservation limits of the foundation coincide mainly with the occurrence of the original surface. This implies that the mound builders destroyed the missing parts of the foundation. The missing parts probably ended up as filling in the mound (cf. Pl. 141). It is mentioned in the excavation report, however, that the SE part of the foundation was damaged by the recent construction of a cellar in this part of the mound. This can be appreciated when the 1943 plan (Fig. 5 and Pl. 139) is compared with the 1956 excavation plan (Pl. 148). The location of the cellar is probably indicated by the angled cut in the foundation which is visible in the E of the excavation plan. This cut corresponds to a pit shown on the 1943 plan (Pl. 139).

As can be judged from the photographs and descriptions in the excavation report, the features of the foundation were very dark and readily distinguishable from the natural soil. This is important from at least two points of view. Firstly because one can be convinced that all the features really were observed, and secondly because the "fresh" colours show that the foundation was covered by the mound relatively soon after it had burnt down. It has been demonstrated elsewhere (Lindqvist 1989:108f), in fact, that the colour, i.e. the visibility of the features in this kind of terrain, was determined largely by subsequent activities on the site and not, as is usually believed, by the possible burning down of a house. However, if an older foundation was once situated on the same spot, its features could very well have been missed by the excavators given the considerable darkness of the dominating features in this case. Very few features have been recorded below mound No. 4, however, which challenge the theory that this is the only foundation. This indicates either that the excavators missed all the features of an earlier building, or, more probably, that there was never another building on this particular location on the site.

The fact that the foundation was burnt down is shown by the content of charred posts and birch-bark linings in the post holes. About 30 different features were recorded within the foundation, which is admittedly a relatively small number (cf. Ramqvist 1983:80). The features consist of post holes for both roof-supporting posts inside the house, as well as mid-

posts, portal posts and posts and trenches in the wall line. Also, 14 hearths of different characters were found on the surface below the mound.

The basic structural element in the three-aisled houses was the trestle, which is regarded in archaeological terms as a pair of usually large post holes situated to either side of the longitudinal axis of the house. A long-house of this size normally has 6–8 such trestles placed at different distances along the house (cf. Ramqvist 1983:59ff; Liedgren 1984, 1992). The trestle construction could also be supplemented with extra posts beside the trestle posts, and with mid-posts along the central axis of the house. There is no trace of the first kind in this foundation, and at Högom the mid-post has come to be used in the same way as in the oldest long-house at Gene (Ramqvist 1983:59ff).

The structural layout of the foundations can be seen from Table 8. The mean width of the preserved part of the house was 8.6 m, with a maximum width of 8.8 m across trestle No. 2. Of the three trestles identified (trestle 1 = post holes *ä* and *ö*; trestle 2 = *r* and *u1*; trestle 3 = *ah* and *q*), the one in the SE is situated at some distance from the other two. The distance between trestles Nos. 1 and 2 is as long as 13.8 m. In order to provide some roof support in that area, one of the two mid-posts was positioned 3.3 m from trestle No. 1.

Table 8. The relationship between the roof-supporting elements in the house foundation below mound No. 4 at Högom. The left hand column shows the supporting elements and the second column the distance between them. H_W = width of house where the supporting element in question is placed. Tr_W = the internal distance between the posts in the trestle, i.e. the width of the middle aisle of the house. The rigth hand column contains the index value which shows the relationship between the width of the house and the width of the middle aisle.

ELEMENT	DISTANCE (m)	H_W	Tr_W	H_W/Tr_W
SE gable		?	?	?
	?			
trestle 1		8.0	2.0	4.0
	3.3			
midpost *af*		8.3	–	–
	10.5			
trestle 2		8.8	2.2	4.0
	2.5			
midpost *ai*		8.6	–	–
	0.5			
trestle 3		8.6	2.1	4.1
	?			
NW gable		?	?	?
House length >16.8 m		M = 8.6	M = 2.1	M = 4.0

6.6.3. ROOF-SUPPORTING ELEMENTS

6.6.3.1. Trestle posts

These posts are the strongest and most important supporting elements of a three-aisled house construction, which is clearly illustrated by their position in the diagram, Figure 126. The different dimensions are summarized in Table 9. Only six post holes forming three trestles were found in the preserved part of the house. Two trestles were relatively close to one another in the NW part, and one trestle was on the SE edge of the foundation (Fig. 127).

Table 9 shows that the average post was 0.33 m in diameter, and that it was placed in a pit measuring 0.82 m in diameter and 0.5 m deep. In at least three cases the dimensions of the posts could be measured with certainty, whereas in the other cases the figures were estimated by the excavator. In no cases was this type of post hole lined with stones. The post ends were lined with birch-bark in all cases except one (Fig. 128). The missing post hole is feature *q*, which could have contained two posts according to the excavation report; this means that it had probably been replaced, and that it may have been set up without the birch bark lining on that occasion.

As is the case with other structural features of this foundation, the posts, post holes and birch bark linings, as well as the dimensions, have their almost exact parallel in house No. 1 at Gene (see below, and for the dimensions of posts, etc., at Gene, Ramqvist 1983:62, Tab. 4:2).

The post pits were dug with vertical sides in every case, and they had a flat bottom surface. As can be seen from the excavation plan (Pl. 148), the positions of the posts in the pits are marked in some cases.

One very interesting find made in conjunction with trestle No. 3 (i.e. the two posts ah and e in NW) is a c. 1.5 m long part of a charred post. M. Biörnstad mentioned this find as belonging to the post in post hole *q*. It could also belong to post *ah*, however, or for that matter it may be part of a collapsed cross-beam of the trestle. If it was part of the post, which is probable, then it provides us with minimal evidence of the free height in this part of the house. It is rarely possible to document this kind of evidence, and the subject has been debated frequently.

6.6.3.2. Mid-posts

The mid-posts are usually of the same size as the trestle posts (Fig. 126). Two of the features along the central axis of the house have been judged to be certain mid-posts; these are post holes Nos. *ai* and *af* (Pl. 148). The other features lying along the central axis are *ull*, *aa* and *y*. Of these, *aa* is a hearth belonging to the central hearth complex, which is also the case for feature *y*. The situation is less clear as far as *ull* is concerned, and it has been rejected on the grounds that it exhibits neither the shape nor the size of a normal mid-post.

Both mid-post holes were 0.9 m in diameter and 0.5 and 0.16 m deep respectively, in addition to which they resemble the trestle posts very closely (Fig. 126). A charred part of the 0.14 m wide post remained in the smaller of the two (*af*). The other mid-post contained only scattered charcoal and some fire-cracked stones. Both pits had vertical walls and flat bottoms. No birch-bark linings are recorded in association with these post holes.

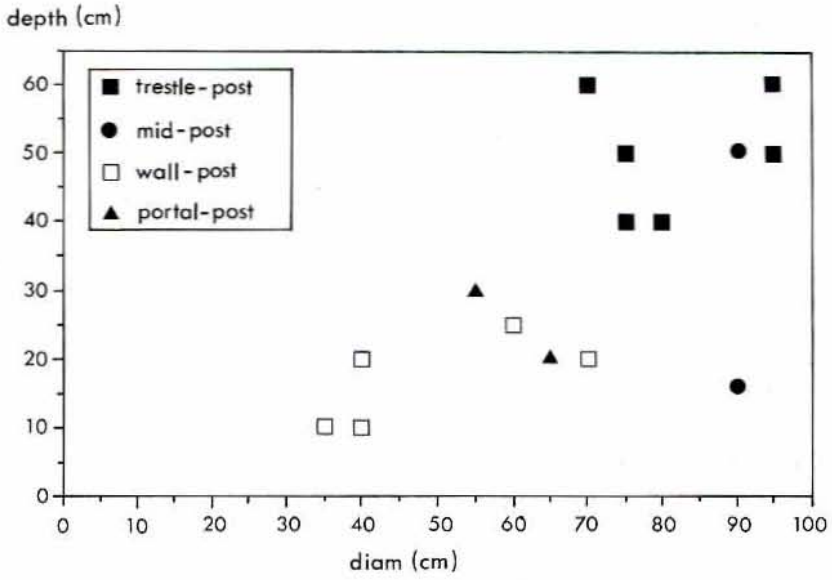


Fig. 126. Plot showing the relationship between the different types of posts represented in the house foundation below mound 4, concerning the diameter and depth of the post holes.

6.6.3.3. Posts and trenches in the wall line

The NE long wall was marked by a trench divided into two features, leaving an opening of 2.1 m for the only entrance to the house to be found. The longest part of the trench in the NW is 12 m long, while the other part is preserved to a length of 5.5 m (Fig. 129). The width of the trench according to the excavation report varies between 0.35 and 0.5 m. The wall line represented by the trench is slightly curved.

Unfortunately, the trench is drawn in highly schematic form on the plan, and its terminations are shown as being quite straight. It can be seen from the photographs (Fig. 129), however, that the outer termination was wavy. This indicates that posts had been placed in the trench, or alternatively in the sill beam that had been placed in the trench. Features of this kind are known from the outer wall of house VIII at Gene (Ramqvist 1983:122ff). In this case the posts were positioned at intervals of about 2 m and had been dug into the trench.

The SW wall line is marked in a totally different way, i.e. with 5 post holes and one stone forming a slightly bent line c. 16.5 m long. The distance between the posts was 3.3 m on average, but the distances vary between 2.2 and 5.0 m. The stone is taken into account as a stone support in these calculations. The stone is placed directly opposite the entrance in the NE wall, which may indicate a change in the character of the wall at that point. An example of this could be observed in the foundation below mound No. 3 (Sect. 5.6.1.4.).

As can be seen from the diagram (Fig. 126), the five post holes in the wall line are of different diameters, but are all shallow, which has been shown to be typical of this type of post (cf. Ramqvist 1983:61, Fig. 4:4 and 82, Fig. 4:24). In two cases (post holes *ag* and *n* in Pl. 142), the pit was dug into the ground with vertical sides and a flat bottom, i.e. in the same way as the trestle posts and mid-posts. These are also the largest post holes in the wall line. The other wall posts have a more or less bowl-shaped profile. Post hole *n* had a light lining of non-fire-cracked stones, and post hole *m* contained a couple of fire-cracked stones which were probably not intended as a stone lining. This means that the capacity of the wall posts to bear the weight of the roof was non-existent or only very small. The

Table 9. Details of the roof-supporting posts of the three trestles in the house foundation below Högom mound No. 4. The number of trestles is shown in the left hand column, followed by the name of the individual posts. The relationship between the pit and the post is given where possible (cf. Pl. 148).

TRESTLE	FEATURE	PIT ⌀	PIT DEPTH	POST ⌀	PIT ⌀/POST ⌀
1	*ä*	0.75	0.50	0.40	1.9
1	*ö*	0.70	0.60	c. 0.40	c. 1.8
2	*r*	0.95	0.60	?	?
2	*ul*	0.80	0.40	>0.17	<4.7
3	*ah*	0.75	0.40	0.40	1.9
3	*q*	0.95	0.50	0.30	3.2
Mean values		0.82	0.50	>0.33	2.7

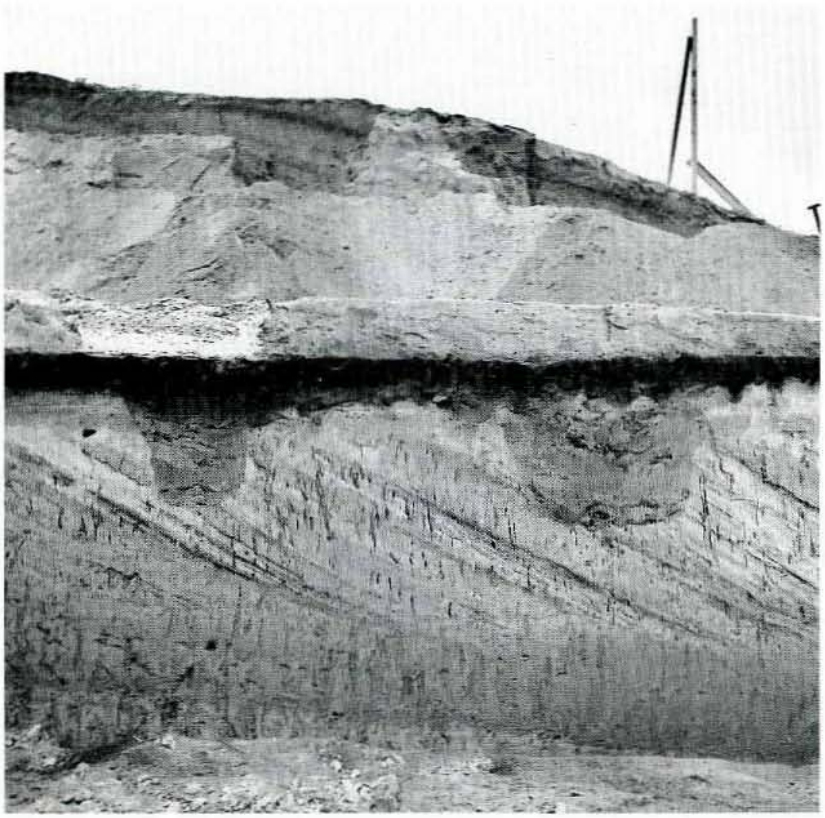


Fig. 127. The edge of trestle 1, i.e. post holes *ä* (to the left) and *ö* were cut by a profile. Viewed from the SE.

only posts that seem to have had some supporting function are thus post holes *ag* and *n*. These two post holes are situated 2.6 m apart at the point where the house had its maximum width. Similar conditions could also be seen in the long-houses at Gene, where some of the post holes in the wall line, predominantly close to the middle of the house or in conjunction with the gables, really are larger than the others.

6.6.3.4. *Portal posts*

Only a single entrance was found in the foundation. This is typically marked by a 2.1 m long opening in the NE wall trench. The edges of the trench are smoothly rounded, indicating that they really were structurally adapted to serve as the entrance. Directly inside this opening were two post holes, 1.2 m apart and set back by c. 1.1 m from the wall line. These were the portal posts, constituting the real entrance.

Both post holes were of the size of the largest wall posts, and both had stones in the filling and a bowl-shaped profile. In one case (*ak*), two 0.25 m large, rounded and non fire-cracked stones accounted for a large part of the filling, for which reason it is possible that the post there may have been a large plank. The other post hole (*ä*) contained two quite large, non fire-cracked stones, in this case 0.2 m in diameter, and also a number of smaller fire-cracked stones. Parts of a charred post or plank with a diameter of 0.15 m were found in the NNW part of the pit.

Both post holes thus exhibit internal similarities in terms of both their size and the stone lining, which confirm their functional similarity. As has been shown to be the case in one of the entrances at Gene, the posts used there were planks of c. 0.3 x 0.1 m in size which were set in relatively shallow pits. Also, the size of the opening and the distance by which the portal posts are set back accurately matches the situation observed in the Gene long-houses.

6.6.3.5. *Undetermined posts*

There are really only two post holes within the foundation that do not fit properly into the construction. These are post holes *ae* and *ai*. Both have a bowl-shaped profile and contained the preserved parts of posts or linings. According to their character, they fit in with the non-supporting wall posts. The nature of their placement in the foundation exhibits a kind of symmetry, although their structural function is difficult to interpret.

One post hole with straight sides and a flat bottom is present outside the northern wall. This was 0.7 m in diameter and 0.2 m deep. Parts of the post were discovered, and it had a minimum diameter of 0.11 m. The pit was lined with partly fire-cracked stones. Interestingly enough, Gene house I contains a parallel with this post outside the entrance (Ramqvist 1983:58, Fig. 4:2). The post hole at Gene was also lined with stones, which is otherwise a very rare feature. However, the post at Gene was positioned a little closer to the door opening.

Fig. 128. Profile of post hole *ö* in trestle 1, with heavy birch-bark lining. *a*) from the SE. *b*) from the NE.

a

b

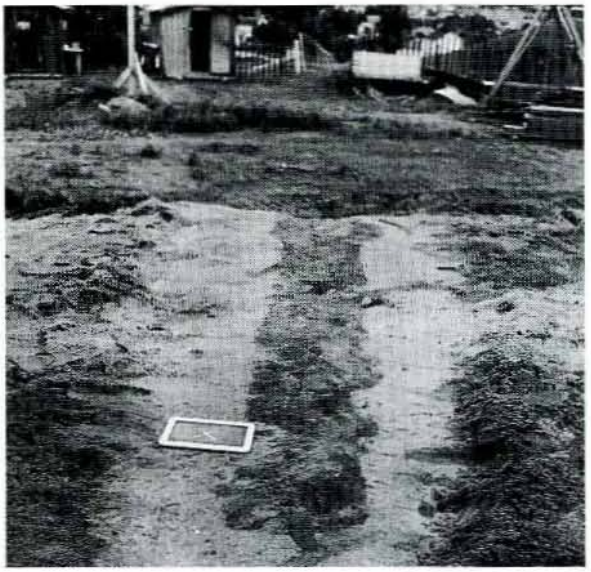


Fig. 129. Part of the trench of the NE long wall in house 4, from the NW.

Since the post holes occur on both sites and in association with houses that also had a great deal in common in other respects, it is probable that these posts have something to do with the house construction, perhaps in connection with the entrance, such as a roof over the entrance or the like.

6.6.4. HEARTHS

A total of 14 hearths or hearth-like features was found on the excavated surface below the mound, both outside and within the foundation (Tab. 10). The most interesting hearths are those situated at the centre of the foundation between trestles Nos. 1 and 2. These hearths, namely *s*, *aa* and *y*, correspond very closely to a long-hearth complex found in the long-houses at Gene and Trogsta, for example.

It should be mentioned that features *aa* and *y* were interpreted as post holes by M. Biörnstad. From the point of view of their shape, position and content, however, they can only have been features belonging to a central hearth complex. The hearths and the pits at the centre (*s*, *aa*, *y*, and also *ac* and *ab*) were all covered with a layer of burnt clay with a maximum thickness of 0.05 m. The shape of the layer was irregular, measuring c. 6 x 3 m (NW-SE). The clay layer contained a relatively large concentration of calcinated bones (c. 155 g). These were confined mainly to the SE edge of hearth *s*, but were also present between the two large hearths *s* and *aa*. Bone fragments were also collected from both hearths.

The two hearths *s* and *aa* were the largest of the hearths, and both were of quite similar nature. Hearth *s* was c. 2 m in diameter and 0.2 m deep and contained a packing consisting of a number of quite small, fire-cracked stones and six larger, non fire-cracked stones. The filling was very dark and sooty between the stones, although not immediately above the stones in the middle of the hearth, where the filling was of red-burnt clay of the same kind as mentioned above.

The other large hearth *aa* was a little smaller, at 1.2 m in diameter and 0.3 m deep, and did not have the central filling of burnt clay encountered in hearth *s*.

Hearth *y* was 0.7 m in diameter and 0.15 m deep and was of a similar nature to the other two hearths mentioned above, but contained no calcinated bones. Hearths *ab* and *ac* were smaller, at 0.4–0.45 m in diameter, and one of them, *ac*, contained some calcinated bones. It is also clear that hearth *ab* was dug into hearth *aa*, and for this reason must be later than the latter. This need not have anything to do with secondary uses, since this hearth complex was probably in use for more than a century, and it is only natural that the hearth would be rearranged from time to time.

Gene offers an excellent parallel to help us better to understand this mid-hearth complex. The mid-hearth complexes in the older house (house I) at Gene are made up of a 3 m long

Table 10. The hearths in and around the house foundation below mound 4 at Högom. BB = burnt bones; BS = burnt stones; x = presence; – = absence.

NO	SHAPE	WIDTH (m)	DEPTH (m)	BB	BS	IN HOUSE	COMMENTS
o	round	0.75	0.15	–	x	?	
p	round	0.45	0.15	–	x	?	
s	round	2.00	0.20	x	x	yes	midhearth
ac	round	0.45	0.15	x	x	yes	midhearth
ab	round	0.40	0.20	–	x	yes	midhearth
t	round	1.25	0.20	–	x	yes	
i	oval	0.60x0.80	0.15	–	–	no	
h	oval	0.45x0.90	0.35	–	–	no	pit around stone
k	double	1.10x0.55	0.18	–	x	no	
l	oval	0.60x0.80	0.20	–	–	no	pit around stone
j	round	0.60	0.12	x	x	no	
aa	round	1.20	0.30	x	x	yes	midhearth
y	round	0.70	0.15	–	x	yes	midhearth

clay-covered complex. The clay covered four different hearths, with and without stones. In the later long-house at Gene (house II), a clay-covered hearth separate from an "ordinary" long-hearth, together form a c. 5 m long complex. Without question, the Högom complex is related most closely to that of the late Gene house. The irregularity of the clay layer at Högom must accordingly be interpreted as a result of secondary activities such as ard ploughing or the deformation of the house by the fire. The clay layer probably covered hearths *s*, *ac*, *ab* and *aa* originally, whereas hearth *y* was situated on the edge. A total of 150 g of calcinated bones and 1 kg of "slag" were found around the mid-hearth complex. The quantity of bone is relatively large in this context, and should be compared with the fewer than 100 g of calcinated and non-calcinated bones that were found on the other excavated area below mound 4.

It is not easy to arrive at an interpretation of the function of such clay-covered hearths. The hearth complex was, of course, the mid-point in the dwelling room, around which most of the household activities took place. The general idea of the clay covering is that it is possible to light fires on it, in so doing producing something like a modern-day hot-plate, specifically designed for cooking and baking, etc. The fact that food was eaten around the hearth is shown not least by the large amount of bones. The stone-filled pits below the clay covering would thus have had a heat storage function. According to an interpretation along these lines, the other ordinary hearths would have had a warming and lighting function.

Another hearth judged as belonging to the foundation is feature *t*. This relatively large hearth is situated in the northern side-aisle of the house. It contained fire-cracked stones and a dark filling. The feature is located quite close to the northern long wall, but has been interpreted as being part of the house. This compares directly with the situation in the two long-houses at Gene, where a similar hearth is situated in the side-aisle of the houses (Ramqvist 1983:58). At Gene, the hearths in question are situated in the room which has been interpreted as a stable for animals other than cows.

Although features *o* and *p* of the hearths are situated inside the house, they have been interpreted as secondary features. Their positions in the foundation are the main grounds for arguing their non-contemporaneity with the house.

A number of hearths and pits was also found outside the foundation. Hearth *j* and double hearth *k* belong to the group of normal hearths. These are constructed in the traditional manner with a charcoal layer in the bottom, on which a layer of fire-cracked stones is placed. Hearths of this kind have been found in their hundreds at the Gene site. It is not a rare occurrence for them to be double, in the form of a figure eight, as in the case of *k*. These hearths can sometimes contain calcinated bones, as in hearth *j*, where minor fragments of bones were found. Their function is probably connected with cooking.

Two features, *h* and *l*, are pits that were dug around a larger stone. They contain no other stones and artefacts, and they are filled with dark soil. Their function is unknown.

Finally, there is one feature, *i*, which is filled with dark soil and contained neither stones nor bones.

6.6.5. FINDS IN THE SETTLEMENT LAYER BELOW THE MOUND (*700 h*) (Pl. 150–152)

6.6.5.1. Notes on the collecting and collection of the artefacts

The collecting of the finds during the excavation took place without resorting to any coordinate system. Each find was carefully mapped in three dimensions, however, and was plotted on the excavation plan (Pl. 149). As far as finds of a more simple nature, such as burnt clay, bones and slag are concerned, however, these have only been grouped either into large categories such as "the settlement layer", or into an area close to a feature or, less frequently, within the feature itself. It is not possible, therefore, to use the last-mentioned find categories as the basis for any spatial analysis of the house foundation.

Unfortunately, the finds with the signature *700 h* ("the cultural layer") have been mixed together, and in every case it was not possible to establish the correct find numbers for the objects. A hand-written note also accompanied one of the boxes of finds, to the effect that "the objects in the six boxes which are bound together with elastic were exhibited in Sundsvall, and it is uncertain whether the objects were put back in the right boxes". We now know that they were placed in the wrong boxes. Some of the finds were not even found later.

6.6.5.2. List of finds

Where the original object was not found in the stores, I have referred to the text of the report (Biörnstad 1958) in the following find list. The reference is followed by "(Not found)". The finds from the settlement layer were numbered 1–31 and 35–36 in the original report. These figures appear in parentheses after the new find numbers used in this paper. The new numbers now embrace 35–67. On the find plan (Pl. 149) the old numbers have been used. The levels, when given, are presented as minus values (–), denoting below the top of the mound.

F35 (1) "Fragment of *iron nail* or rivet 3.2 cm in length. Find level (Lev.) –554". (Not found).

F36 (2) Point of *iron nail* (?). L=55 mm. Lev. –546. W=5.8g.

F37 (3) "Three pieces of *iron rivet*, 1.1, 1.4 and 4 cm in length. Lev. –549". (Not found).

F38 (4) *Rectangular washer* for iron rivet, 26 x 19 mm. Lev. –551. W = 5.4 g.

F39 (5) *Iron fragment*. L = 34 mm. Lev. –550. W = 4.5 g.

F40 (6) *Iron nail*. L = 56 mm. Lev. –549. W = 6.9 g.

F41 (7) Approximately half a *loom-weight* of slightly burnt clay. Original diameter c. 65 mm and c. 30 mm thick. The hole

in the middle is 12 mm in diameter. Very tiny traces of the thread. Lev. ?. W = 59.5 g.

F42 (8) *Iron nail.* Not quite intact. L = 73 mm. The shaft is connected eccentrically to the flat circular head. Lev. –549. W = 11.5 g.

F43 (9) *Rod-shaped iron fragment.* L = 50 mm. Most of it has a circular cross-section 5 mm in diameter. One end is "pointed", with a diameter of 1–2 mm. Lev. –544. W = 3.9 g.

F44 (10) Two pieces of iron, one of which is a *head of a nail or rivet.* Flat and almost triangular in shape, 19 x 16 mm. L = 23 and 20 mm respectively. Lev. ? W_{tot} = 7.5 g.

F45 (11) Fragment of an *iron object* with a tongue (?). L = 47 mm. Lev. –538. W = 5.6 g.

F46 (12) Flat *iron fragment.* L = 40 mm. Lev. –542. W = 6.2 g.

F47 (13) *"Iron bar* with rectangular cross-section, 10.4 cm in length. Lev. –544." (Not found).

F48 (14) "Three pieces of an *iron object*, of which one is from a knife or the like. 3.4 and 6.2 cm long. Lev. –538." (Not found).

F49 (15) "Four pieces of an *iron knife?* Total length 10 cm. Lev. –530." (Not found).

F50 (16) Fragment of an *iron object* with an almost square cross-section, max. 16 mm and min. 12 mm, which decreases in size towards the rounded point. The other end has a concave termination. L = 55 mm. Lev. –524. W = 48.2 g.

F51 (17) *Iron fragment.* L = 24 mm. Lev. –528. W = 2.9 g.

F52 (18) Pointed *iron fragment.* L = 35 mm. Lev. –539. W = 2.6 g.

F53 (19) Flat *iron fragment* in two pieces. L = 35 mm. Lev. –539. W = 2.6 g.

F54 (20) "Three pieces of an *iron point*, 1.0, 2.2 and 5.8 cm in length. Lev. –543." (Not found).

F55 (21) Bent *iron rod* fragment with rectangular cross-section, 5 x 4 mm in size. The rod is slightly flattened at the bend and is 6 x 2 mm in size. L = 41 mm. Lev. –547. W = 5.4 g.

F56 (22) Piece of *iron rivet or nail* with a heavily rusted, probably flat and square head and a thin shaft. L = 31 mm. Lev. –540. W = 6.3 g.

F57 (23) *Lump of rusted iron.* L = 25 mm. Lev. –550. W = 8.7 g.

F58 (24) Three heavily rusted pieces of *iron rod* with a squarish widening at one end. Total length c. 90 mm. Lev. –548. W = 9.2 g.

F59 (25) *Iron chisel* with rectangular cross-section 25 x 16 mm at the top. The straight sides converge and form an edge 25 mm in width. L = 107 mm. Lev. –500. W = 166.5 g.

F60 (26) Heavily rusted fragment of the head of an *iron nail* or rivet. L = 30 mm. Lev. –550. W = 7.6 g.

F61 (27) "Piece of *iron plate.* 15 cm in length. Lev. –571." (Not found).

F62 (28) *Iron nail* with a flat oval head 19 x 13 mm in size. L = 48 mm. Lev. –563. W = 9.2 g.

F63 (29) "Piece of *iron nail* or rivet 6.3 cm in length." Lev. ? (Not found).

F64 (30) Fragment of *iron nail or rivet*, with a flat round head 16 mm in diameter. L = 30 mm. Lev. ? W = 3.6 g.

F65 (31) *"Iron rivet*, 4 cm in length. Lev. –558." (Not found).

F66 (35) Two small *iron nails* (?), one with an intact flat circular head 10 mm in diameter. Both 22 mm in length. Lev. –530. W_{tot} = 4.9 g.

F67 (36) Piece of an angled *iron object* with rectangular cross-section, 7 x 4 mm at one end and 3 x 1 mm at the other. Both terminations are deformed. L = 58 mm. Lev. –548. W = 4.8 g.

6.6.6. PALAEOBOTANICAL ANALYSES

Various types of soil samples were taken in connection with the 1956 excavation. One sampling series was labelled "test series for soil analysis" and embraced a total of 13 samples from different points in and below the mound. The series was numbered from 1–29, and the samples were collected in bags of 1–2 litres in size. Another sampling series labelled "test series for phosphate analysis" was also taken. The samples in that series were numbered 1–6 and were collected in smaller bags (Tab. 11).

Table 11. Sampling series for soil and phosphate analyses taken at the excavation of mound 4 at Högom in 1956. The numbers 1–13 refer to the samples taken for soil analysis and the samples 14–19 refer to the phosphate samples.

No.	COLLECTING SPOT
1	Sand from the filling of the mound
2	Settlement layer from the filling of the mound
3	Settlement layer below the central part of the mound
4	Settlement layer below the S part of the mound
5	Ard marks in clay below the central part of the mound
6	Ard marks in sand below the mound, S of its centre
7	Ard marks in clay below the S part of the mound
8	Claystratum in the settlement layer below the central part of the mound
9	Discoloured sand layer below the floor of the house foundation
10	Barren sand below discoloured sand layer
11	Barren sand below the settlement layer
12	Laminated clay below the settlement layer
13	Settlement soil and light sand from post-hole no. *ö*
14	Settlement layer in the filling of the mound
15	Sand from the filling of the mound
16	The settlement layer
17	The "inner mound"
18	Barren sand below the settlement layer
19	The hearth no. *s*

These 19 samples could be used for analyses of their content of carbonized seeds (Tab. 12) and other macro-fossils. Such an analysis was made by Roger Engelmark and Karin Viklund (1984), of the Department of Archaeology at the University of Umeå.

As can be seen from Tab. 11, different layers and features are present. However, there was no strategic sampling in respect of the house foundation, for example, along the lines in which we select our samples today (Engelmark 1981, 1985; Ramqvist 1983; Wennberg 1985). The samples may accordingly be regarded as pointers to the utilization of resources in general, without any connection with activity areas and the like. Despite the different sampling areas such as the filling, the settlement layer, the ard marks, the house and the area below the floor of the house, there are grounds to believe that all of the samples reflect the situation associated with the foundation beneath mound 4, although not all are from the foundation itself. Of course, a number of question marks could be raised against the filling. It is possible that the filling originates from another house situated nearby on the site, although as was established in mound 3 (see above), there were close links between the filling material and the foundation material.

It is not possible to work out where all the samples were collected, although some can be excluded from the foundation. This is the case for samples Nos. 4, 6 and 7 (Tab. 11). Since the foundation was situated below the northern part of the mound, all samples taken "below the central part of the mound" could very well reflect the situation outside the house. The only certain samples belonging to the foundation itself are Nos. 9, 13 and 19. Of these, Nos. 13 and 19 come from post hole *ö* and hearth *s* respectively. As can be appreciated from Table 12, not a single seed was found in the large mid-hearth *s*. Since this does not fit in very well with the situation of the similar, but smaller hearth in Gene house I, which contained a relatively large number of cereals, it may be dependent on the minimum sampling quantity. This is also true, of course, of all samples Nos. 14–19 and, in actual fact, of all the other samples.

The small sampling quantity is the main reason for the relatively low frequency of seeds. A total of 106 seeds was found, of which the 7 *Chenopodium* seeds in sample No. 2 were not carbonized. Four of the five *cerealia* seeds were fragmentary, although two of them and one intact example could be identified as *Hordeum vulgare*. This was also the only certain *cerealia* that could be reliably identified in the material. However, none of them can be said for certain to have been found directly in the foundation.

The rest of the seed material was divided up by Engelmark & Viklund (1984) into different ecological groups, such as: arable weeds (AW), grassland plants (GP), shore plants (SP), berries and fruits (BF), and others. Of the AW, *Chenopodium album* is the dominant one which occurs in all sampling areas. The GP have a low and even distribution in all sampling areas. The next most frequent seed is *Carex*, belonging to the SP group, which occurs in all the sampling areas, with the exception of post hole *ö* in the house foundation.

In general these distributions and occurrences of species agree with other analyzed sites in Central Norrland, such as Gene, Trogsta and Högom mound 2 (Sect. 4.7.4.). It may be of interest to note certain minor differences, however. As far as the *cerealia* are concerned, only barley (*Hordeum*) is present in the material belonging to mound 4. Oats (*Avena*) and rye (*Secale*) were also present in the material in mound 2 (Tab. 6). A similar difference concerning the *cerealia* was also noticed at Gene, where the oldest house I had only barley, whereas oats was also present in the houses and features belonging to the Migration Period. This could be interpreted as being indicative that the first *cerealia* used on the sedentary farms was barley, and that oats and, occasionally, rye were used during the Migration Period. As mentioned below with regard to the similarity between the house foundations at Högom and Gene, there are considerable grounds to believe that the foundation below mound 4 belongs to the oldest horizon on the farm. As we have seen, this also agrees very closely with the occurrence of the *cerealia*. However, this broadening of *cerealia* species over time must be regarded as a hypothesis, and the number of sites analyzed in this way is still very small.

The occurrence of sedge (*Carex*) has also been discussed in connection with mound 2 (Sect. 4.7.4.). As sedge was one of the most important species for winter fodder, it is very common on the sites. It is spread around the site, but has its marked concentration in the stabling and storage parts of the houses. In this case, however, its absence from post hole *ö* supports the interpretation made above that the SE part of the house was not the stabling area.

As pointed out by Engelmark & Wiklund (1984), it is not at all likely that the seeds which were found would have originated from a burnt field that was dug up after the house fire. The excellent preservation conditions beneath a mound of this size should mean that a lot of non-charred seeds would have survived until today if the field had been in use. In the absence of any such seeds (the 7 in sample 2 came from the filling), it is possible that the field simply had a symbolic or ritual character as mentioned in Sect. 6.5.2.

Table 12. The samples in Table 11 which contained carbonized seeds.

SAMPLING AREA	SETTLEMENT FILLING			SETTLEMENT LAYER			ARD MARKS		HOUSE	BELOW FLOOR	TOT
Sample No. Cf Tab. 11	2	17	14	3	4	8	5	6	13	9	
CULTIVATED PLANTS (CP)											
Hordeum vulgare (barley)	–	–	–	–	1	1	–	1	–	–	3
Cerealia indet	–	–	–	–	–	1	–	–	–	1	2
ARABLE WEEDS (AW)											
Chenopodium album (fat hen)	7	1	1	–	1	16	1	–	1	3	31
Galium aparine coll. (goose-grass)	–	–	–	–	1	–	–	–	–	–	1
Galium (galium)	–	1	–	–	–	–	1	1	–	–	3
Polygonum aviculare (knot-grass)	–	–	–	1	–	–	–	–	–	–	1
Stellari media (common chickweed)	–	–	1	1	–	–	–	–	–	–	2
Ranunculus repens (creeping buttercup)	–	–	–	–	–	2	–	–	–	–	2
GRASSLAND PLANTS (GP)											
Luzula (wood-rush)	–	–	–	–	–	–	–	–	–	1	1
Poaceae (meadow grasses)	1	–	–	–	–	–	–	–	–	–	1
Potentilla (cinquefoils)	–	–	–	–	–	–	–	–	–	1	1
Ranunculus (buttercups)	–	–	–	–	–	1	–	–	–	–	1
Rhinanthus (vattles)	–	–	–	–	–	–	–	–	1	–	1
Rumex acetosella (sheep's sorell)	–	–	1	–	–	–	–	–	1	2	4
Trifolium (clovers)	–	–	–	1	–	1	2	–	–	–	4
Thalictrum (rues)	–	–	–	–	–	–	1	–	–	2	3
Vicia (vetches)	–	–	–	–	–	–	1	–	–	–	1
SHORE PLANTS (SP)											
Carex (sedge)	2	1	3	4	–	7	3	1	–	3	24
Carex distigmaticae	–	–	–	2	–	–	–	–	–	–	2
BERRIES & FRUITS (BF)											
Juniperus (juniper)	–	3	–	–	–	–	–	–	–	1	4
Rosa (roses)	–	–	–	–	–	–	–	–	1	–	1
Indet.	1	–	–	1	1	1	4	–	–	3	11
OTHERS											
Cruciferae (cruciferae)	–	–	–	–	–	–	–	–	–	1	1
Salix (willows)	–	–	–	–	–	1	–	–	–	–	1
TOTAL	11	6	6	10	4	31	13	3	4	18	106

6.6.7. ROOM DIVISION

The investigation of the foundation below mound 4 was carried out to a high standard for the time. However, later methodological development has shown that it is necessary to incorporate several scientific strategies where the internal division and functions of a prehistoric house are concerned (Ramqvist 1983:151ff). Two such scientific strategies are firstly the systematic collection of phosphate samples along the foundation, for example at an interval of 1 m, and secondly the systematic collection of macro-fossil samples in the post holes, hearths and wall features of the foundation. These two methods have been found to be very important complements to more traditional archaeological observations in respect of: constructional details, hearth placement in the foundation, and the distribution of different categories of artefact throughout the foundation.

The two scientific strategies are missing in this case, and we are thus obliged to work with purely archaeological observations. Two other limitations make the analysis even more difficult, however. Firstly, as already mentioned above (Sect. 6.6.5.1.), the excavators did not use a coordinate system, and the finds in the settlement layer were accordingly not related to different locations on the site. This is true of the finds of a quantitative nature, such as burnt clay, bones and slag, etc. These types of artefact have been shown to have great significance in relation to the room division inside a long house. Secondly, the finds as a whole were relatively few on the site, which also reduces the opportunity to obtain detailed information about the room division.

From the point of view of constructional elements and the placement of features, it is possible to form a general idea of the function of the largest part of the preserved foundation. As already mentioned above (Sect. 6.6.4.), the hearth complex along the central axis of the foundation is typical of the dwelling part of a long-house. The distance between trestle 1 and trestle 2, which are positioned to either side of the mid-hearth complex, is no less than 13.8 metres. In order to make constructive compensation for this, a mid-post (*af*) has been included on approximately the same level as the entrance (Pl. 148). This area, which measures c. 177 m^2, was probably a dwelling-room. This must be compared with the data which emerged for Gene houses I and II, where the dwelling areas covered c. 100 and 75 m^2 respectively (Ramqvist 1983:157ff). The area of the dwelling-room at Högom was thus approximately twice as large, in addition to which, when compared with house I at Gene, which has a trestle in the dwelling-room, the room at Högom was free from posts, except for the mid-post *af*. It can also be established that the single reliably identified entrance at Högom was positioned relatively centrally in the dwelling-room, which was not the case at Gene, where most of the entrances were instead positioned in association with trestles and dividing walls. This means that the largest proportion of what has been preserved at Högom is the dwelling room itself, and that there is not a great deal to be said about the flanking rooms. The house foundation cannot be missing for a distance of more than a few metres to the NW; by analogy with houses I and II at Gene, this gable room was intended for some form of human activity, whereas the equivalents at Gene to that half of the house which is missing in the SE, were used almost exclusively for economic purposes such as stabling and storage, etc. This means that mound 4 was positioned, deliberately or otherwise, over that part of the house which was intended for humans. This is precisely the same situation as beneath mound 3 (Chap. 5). The existence of two such cases is taken to indicate that this may have been done deliberately, in which case it affects the interpretation of the relationship between house and grave.

6.6.8. FOUNDATION AND ITS PARALLELS

As will have been appreciated, the house foundation beneath mound 4 exhibits very considerable similarity with house I at Gene (Ramqvist 1983:59ff, 1987). There are so many consistent details that the houses cannot possibly have been built without a common approach to their construction (Fig. 130). A further consideration is the fact that similar agreement could not be demonstrated outside Central Norrland (Ramqvist 1983:163f). Surprisingly great similarity exists for the following points with regard to construction details and elements between house I at Gene and the house foundation below mound 4 at Högom: 1) the width of the house; 2) the position of the entrances; 3) the position of the entrance posts in relation to the wall; 4) the different shape of the two long walls of the houses; 5) the use of mid-posts; 6) the positioning of the roof-supporting posts, and 7) the complexity of the mid-hearths.

If the floor plans of the houses drawn to scale are superimposed one on top of the other (Fig. 130c), it can also be seen that the preserved part of the Högom house forms what is referred to in the house at Gene as the livestock part. It is also possible to conclude, from the width of the house and the curvature of the long side, that the two houses were originally of approximately the same length, i.e. just under 40 metres. As far as the seven points referred to above are concerned, several of them have been discussed previously (Ramqvist 1983:138ff), although it is here that atten-

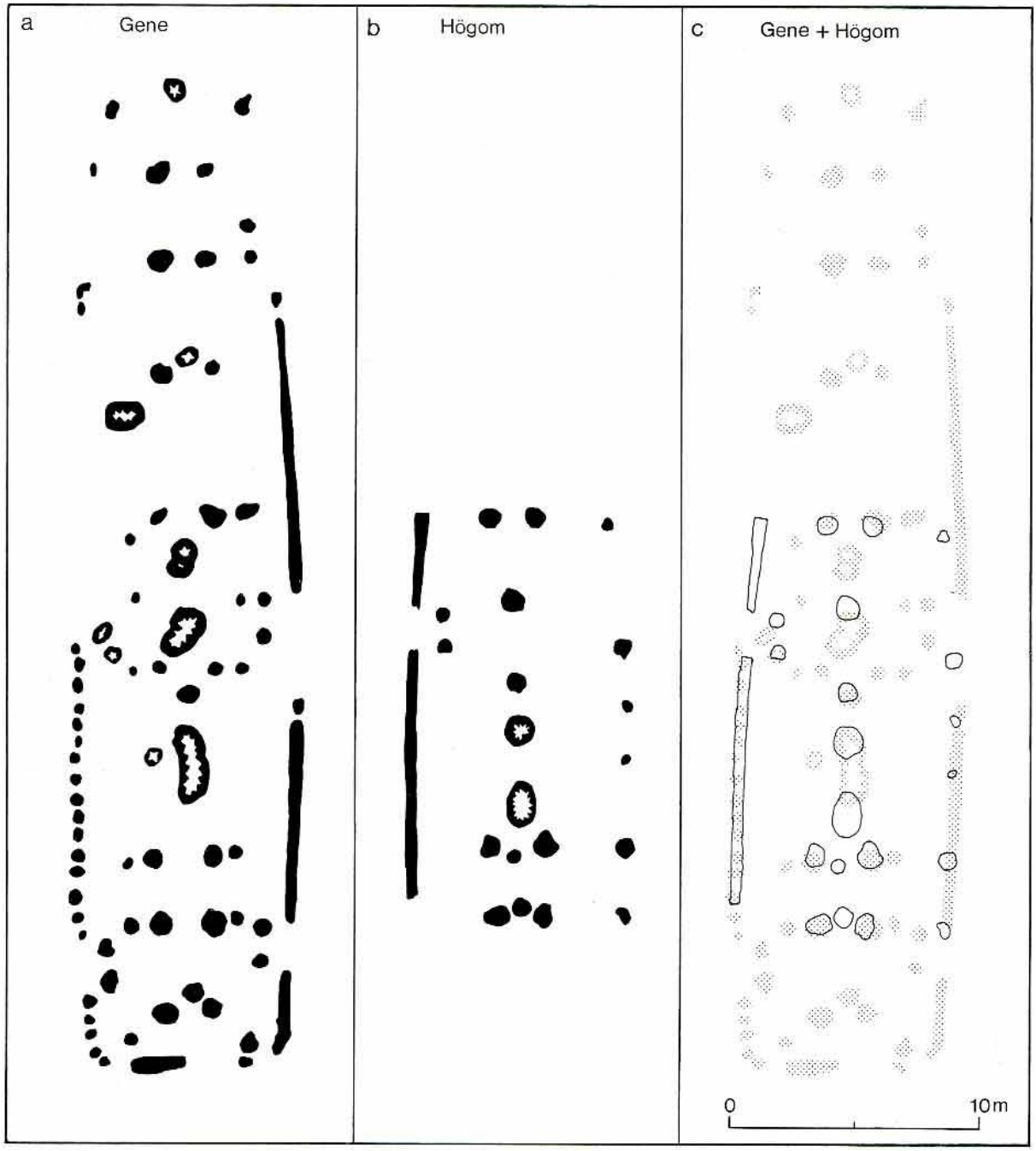


Fig. 130. Comparison between house foundation I at Gene (*a*) and the house foundation below mound 4 at Högom (*b*). In Fig. (*c*), the house foundations have been projected one on top of the other to the same scale.

tion is drawn for the first time to point 4 above, i.e. the difference in the shape of the long walls of the house. This is an interesting and still mysterious aspect of the housebuilding practices of Central Norrland (to the extent that we can now claim to be familiar with this from the small number of house foundations which have been investigated as yet). The difference in the construction of the walls is revealed through one of the long walls of the house being marked by posts spaced sparsely or densely in a row, whilst the other is marked by a trench probably intended for a sill beam. There is good evidence of this state of affairs at Gene, where it occurs during the earliest phase of the site, i.e. from the second century to the middle of the fourth century AD,

although it is not present in the houses from the fifth and sixth centuries. The phenomenon is again met at Högom, where it is also found in the house below mound 3 (Sect. 5.6.1.4.). *This constructional detail appears to be linked to a certain period and would thus date the houses at Högom to some time between c. 100 and 350.* The dating is not contradicted by the finds which have been made at both Högom houses, even though several of the finds, especially beneath mound 3, point to the later part of this period. The nature and the character of the finds in the house foundation beneath house 4 are highly reminiscent of the situation of the older house I at Gene.

There are at least a couple of conceivable reasons why the two long walls in the houses were the subject of different construction. The first reason is related to the difference between the front and the rear sides of the house. It is possible to imagine, for example, that the front of the house, i.e. that side of the house first encountered by a presumptive visitor, was built using a "finer" technique, whereas the long wall on the rear side was made more simple. The front side of the houses at Högom must be regarded as the side facing the communications route, i.e. the present-day River Selångersån (Fig. 4). This long wall is characterized by rows of posts in both the Högom houses, whereas the wall of the rear side, which faces towards the contemporaneous cultivated fields, is built on sill beams. If applied to Gene, this interpretation would mean that front side of the long house faces to the west, i.e. towards the grave field (Ramqvist 1983:21, Fig. 3.1.). At Gene, too, in this case, the rear side of the house would thus have faced towards the contemporaneous cultivated fields.

The other reason why the long walls of the houses are of different construction could also be of a *functional* nature. In view of the fact that at least the houses at Gene had a very long period of use (more than 200 years), it is conceivable that the side of the house which was most exposed to the weather and the wind may have had to be replaced at some stage. The most logical explanation is that the wall which rests on the sill beam was replaced; this faces to the NE at Högom and to the E at Gene. It is not known whether these respective positions were particularly unfavourable from the point of view of preservation. No evidence of walls having been replaced could be found in the investigated cases, however, and this is consequently not a particularly credible interpretation.

Another important feature of the oldest long house at Gene is the presence of the two mid-posts in the supporting structure. This is a feature which is also found in the house foundation beneath mound 4 at Högom (Pl.148). The fact that we are, in fact, concerned with mid-posts can be appreciated with the desired degree of clarity from the fact that they are displaced by a certain distance in relation to the posts where they occur in conjunction with a pair of posts. The Högom house has two mid-posts along the centre line, positioned to the NW and the SE of the mid-hearth complex. It will be appreciated that two mid-posts are also present at Gene. In the Högom house, the distance between the two trestles to either side of the mid-hearth complex has a length of 13.8 m (Tab. 8), which must be compared with the corresponding feature in house I at Gene, which was exactly one half the length, strangely enough, at 6.9 m (Ramqvist 1983:60, Tab. 4:1). The wish at Högom was clearly to create an open room twice as large as the corresponding room at Gene.

6.7. CONCLUSIONS

The structures connected to mound 4 are discussed below from a chronological and a social perspective. The chronological aspects are later synthesized with the site as a whole, in Chap. 8.

No fewer than four different structures were superimposed one on top of the other, from the oldest to the youngest, on the site of this mound: the house foundation, the ard marks, the primary burial and the secondary burial. In spite of this, major difficulties are faced in determining the time span between the different activities and in arranging them in absolute chronological sequence. From the chronological point of view, the analysis of the house foundation has revealed that it probably belongs to the time span from AD 100 to 350. It also seems probable that a short time elapsed between the burning down of the house and the symbolic ploughing which took place on top of it, and that the site of the house after ploughing was covered more or less directly by the mound. As it was not possible during the excavation to identify any pit in the mound leading to the secondary grave, there need not be any real time difference between the primary and secondary graves. Therefore, the minimum period separating the house foundation and the secondary grave is the time taken to construct the monument; there is also reason to believe that the ploughing was a part of the burial ceremony.

The dating of the foundation is based exclusively on a comparison with house I at Gene, which represents the oldest building technique at that site. It is, of course, quite possible that the Högom house could have survived into the fifth century, since each house was able to survive for several centuries. No definite *terminus post quem* is available for the primary grave, therefore, although it is probably situated during the

fourth or at the beginning of the fifth century. This is also not contradicted by the artefacts in the graves. There is no reason to believe, however, that the graves are as young as the horizon for Style I, the start of which is put by Haseloff (1981) at the second half of the fifth century. With regard to the chronological indications of this mound, it can be concluded that it was erected at some point during the period between 350 and 450, which also coincides well with the so-called cauldron grave horizon.

Another important aspect of the house and the mound is their *social* implications. As previously mentioned, the monument itself bears witness to the high social rank of the deceased, although we must ask whether evidence of this can also be found in the graves and the foundation? If we take the foundation first, there are a couple of things to be noted. One of these, for example, is the wish to have a very large open central room in the long-house. As has been established, the room in the Högom house is twice the size of the similar room in house I at Gene. Could this mean that the room was intended to hold more people, such as local leaders from the surrounding region, or a continuous stream of visitors from other regions, etc?

Another interesting feature, which is associated indirectly with the foundation, is the ploughing of the feature after the fire. Was this associated with the house and its function, or with the persons buried in the primary grave, or are all three things connected? Contrary to the situation described above in mound 3 (Chap. 5), the foundation below mound 4 was not at all rich in artefacts, and there is no reason to believe that a person was trapped by the fires and killed in the foundation, as in the case below mound 3. A spatial connection does appear to exist, however, between the foundation and the mound, as was the case in mound 3. It also seems plausible, therefore, that the plough marks essentially had to do with the burial ceremony, and as such were associated with both the physical and "mental" preparation of the soil prior to the burial. As a matter of fact, similar traits can also be seen in the other two excavated large mounds. In these cases, however, the preparation of the ground took the form of levelling with clean sand and gravel, cf. the profiles of mound 3 on Pl. 114 and the short profile of mound 2 on Pl. 109:2. It must be remembered, however, that the previous small-scale excavations and observations made below mound 2 indicate that ard marks were present below that mound, too (Sect. 4.2.7.).

The burial practice itself, i.e. a cauldron with artefacts, bear fur, birch-bark lining and the calcinated bones buried in a large mound, is normally associated with more or less extraordinary artefacts such as glass, bronze and sometimes gold, and definitely represents a higher social stratum of the society. In these cases, however, the artefacts themselves are not of especially high class, with the exception of the pressed bronze sheet (*F18*). As far as I am aware, the iron cauldron found in mound 4 is unique among the large containers from the cauldron burial horizon. This could very well be an indication of considerable interest if we associate this observation with two other important features, namely that the iron cauldron was probably made of spade-shaped currency bars, and that those currency bars were of major economic and political significance to Central Norrland.

The presence of the iron cauldron at Högom could provide a link to our understanding of the spatial distribution of the currency bars in Scandinavia. It is important to mention in this connection that the only known parallel with the cauldron at Högom was found at Valla, in the parish of Selånger, only a couple of kilometres from Högom (see Fig. 2b). In that case, however, it was a hoard, in which the cauldron had been buried in the ground and placed inverted over 9 spade-shaped currency bars. The Valla cauldron was of similar construction, but had been riveted together from one small and three large side sheets and one bottom sheet. It was also slightly larger and had a volume of c. 20 litres compared with the c. 15 litre volume of the Högom cauldron (Tholander 1971). These finds could be interpreted as pointers to the district which had control of the manufacture and distribution of these currency bars. In this case, Högom mound 4 should be taken as a pointer to the site and the individual or family, or one of them, that exercised control over the distribution of iron. Similar aspects, based on other material and arguments, were identified by Magnusson (1987).

The spade-shaped iron bars (Hallinder 1978) appear to be a product manufactured in Central Norrland. They occur primarily in Central Norrland, but also along the Swedish East Coast as far down as Bornholm, only exceptionally in Trøndelag, and not at all along the rest of the Norwegian coast. A map (Fig. 131) showing the distribution of the spade-shaped bars is again published here, in the interests of completeness, since the iron bars from Bornholm published by Watt (1979) and a find from Torneå, in the north of Österbotten, Finland (Mäkivuoti 1987), were not previously included (cf. Hallinder 1978; Magnusson 1986; Ramqvist 1987a). The map in this form naturally places greater emphasis on the more southerly features, although the local finds in Central Norrland still predominate. It must be borne in mind that the iron bars were products for consumption, at least according to the interpretation of the majority, and that we should accordingly not really expect to encounter them to any great extent outside the areas of production.

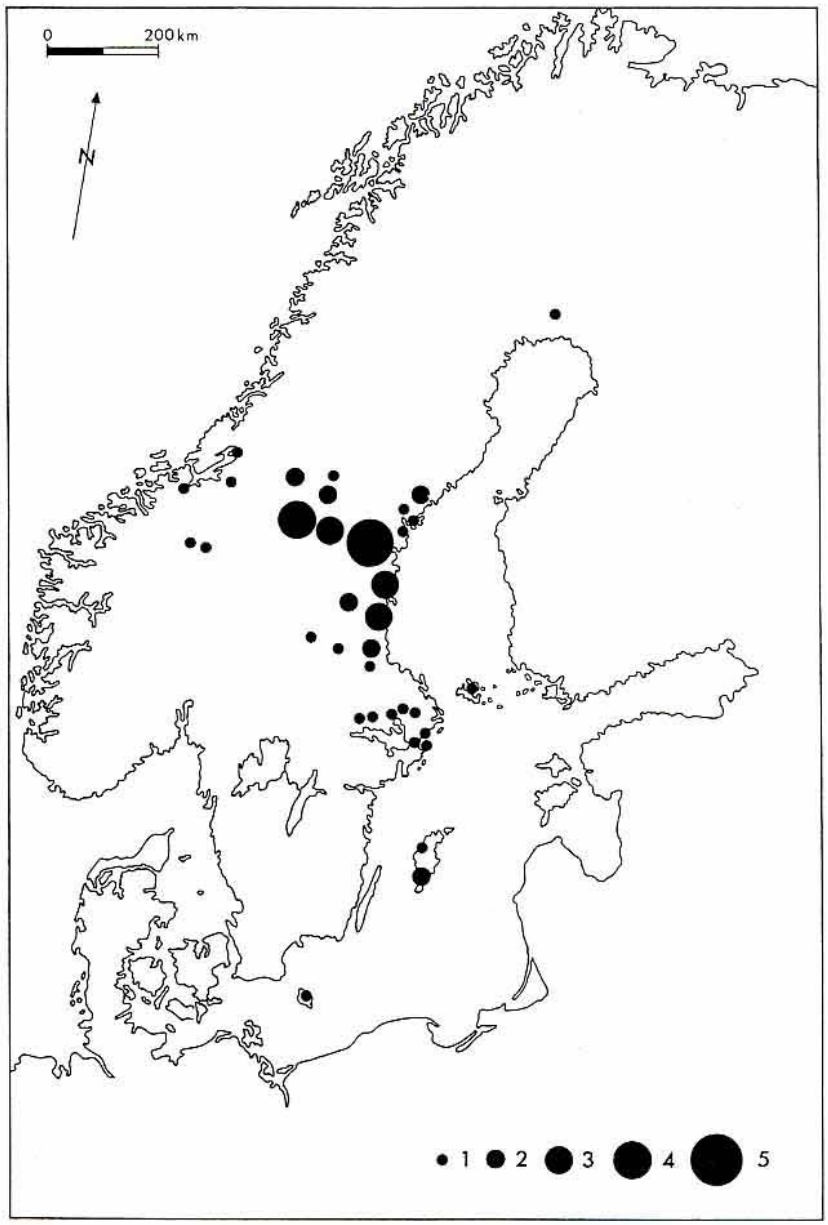


Fig. 131. Distribution of the spade-shaped iron bars in accordance with the present-day source position (revised in accordance with Hallinder 1978:33, Fig. 3). 1 = one find location, 2 = 2–5 find locations, 3 = 6–10 find locations, 4 = 11–15 find locations, 5 = 16–20 find locations. The total quantity of individual iron bars is approximately 1500, distributed over just more than 90 find locations. A find location can include a single iron bar as well as hoards consisting of more than 120 individual iron bars.

The distribution pattern probably indicates only a part of the actual flow of these iron products, and it is obvious that the southern features were predominant. This is all the more credible in the light of the numerous finds of iron production sites made in Trøndelag in recent years (Farbregd *et al.* 1985; Stenvik 1987), where there was no demand for iron from other areas, unlike in the Mälar Valley, for example. It is for this reason that the map illustrating the flow of spade-shaped iron bars differs from the overall western orientation of status-related objects found in Central Norrland during the Migration Period, which can be taken to indicate that the links to the south were predominantly of a socio-*economic* nature, whereas those to the west were predominantly of a socio-*political* nature (Ramqvist 1991a). In one respect, the cauldron grave in mound 4 at Högom, with its cauldron made of iron bars beneath a large mound situated centrally in the landscape from the point of view of communications, is actually a fantastic synthesis of these links.

7. MOUNDS Nos. 5 AND 11

7.1. INTRODUCTION

The following presentation of the excavation is based on the report submitted to the ATA on 21 October 1954 by the excavator, Björn Ambrosiani. Direct quotations are taken from Ambrosiani (1954). The find descriptions, however, are made from personal observations.

7.2. EXCAVATION

As in the case of the other excavations at Högom, this excavation came about through the restoration of the site as a whole. It took place during June 1954, and was the second in the series of excavations on the site. Mounds 5 and 11 and a number of test trenches in suspect locations were investigated during the excavation.

The excavation report contains no mention of the technique used in the excavation, but according to Björn Ambrosiani (personal comment) the excavation was done by hand, using shovels as the main tool. The burial layer, however, was excavated with trowels. No sieving of the filling took place, and the original filling was put back in the mound after the excavation.

As can be seen from the phosphate map (Fig. 14), there is a slight concentration of phosphates at one of the sampling points between mounds 4 and 5. This indication, and the proximity to the house foundation below mound 4, mean that the area below and around mound 5 probably also had houses built on it or was used as an activity area.

7.3. RESULTS

7.3.1. MOUND No. 5

Mound 5 is situated on the easternmost edge of the cemetery (Figs. 4–5). The terrain at that point slopes slightly towards the E and the SE. The height of the mound appears much larger, therefore, when viewed from that direction. The mound was described as follows in the 1943 mapping exercise:

> Mound, height c. 2.5–3 m. Damaged in part by gravel extraction. The damaged areas are up to 0.2 m deep. A farm building has been erected above the W-SW part of the mound. A large number of mountain ashes are growing on the mound.

The mound drawn on the plan (Fig. 5) is shown to have a diameter of just under 10 metres. The description of his excavation subsequently given by Ambrosiani refers to a height measurement of 2.3 m, although the true filling of the mound is said to be only c. 1 metre. The diameter of the mound was then c. 12 m. The differences from 1943 can be explained by the fact that a lot of ground work took place at the site during the intervening period, with a view to organizing the grave field (Janson 1990:9f).

The mound had suffered considerable damage from later buildings and digging activities. Amongst other things, a barn had stood on the SW part of the mound until the later 1940s; this was visible on the 1943 map (Fig. 5). A row of flat stones (running NW-SE) was found just below the surface of the mound and in a depression to the NW of the mound. These stones were parts of the bedding for the barn. Three large post holes, which had been cut through the mound and down into the C horizon, were also found to the NE of the site of the barn. These post holes were c. 1 metre wide and 1.3–1.4 m deep, and were lined with stones in two places, namely at the bottom and at the top.

According to unverified sources, these features were due to recent activities, which is confirmed by the filling in the post holes, which contained modern glass, porcelain and iron, etc.

A couple of large pits in the mound were filled with recent scrap, as was the depression just NW of the mound. An oblong stone plastering measuring 2.4 x 0.75 m, which consisted of sharp-edged and partly fire-cracked stones of 0.1–0.3 m in size, was found below the scrap of the last-mentioned depression on the original surface. Charcoal was found beneath the stones, especially below the eastern part where a lot of large charcoal pieces occurred. The feature was interpreted by Ambrosiani as a recent hearth. The interpretation is, of course, impossible to check, although it could be part of the Iron Age settlement layer which was established below the mound and in the filling of the mound (see below).

The *filling* of the mound consisted mainly of the sand from the surrounding esker, but Ambrosiani also mentions occasional elements of darker layers. These are probably parts of a settlement layer, which was shovelled into the filling when the mound was built. The phosphate mapping exercise of 1984 (Chap. 3) indicates that the Early Iron Age settlement once extended all the way to this eastern part of the esker. No mention is made of finds from the filling in the excavation report. Also observed beneath the mound was a "humus layer", which was the original surface, although no description is given of its depth and nature.

An oval stone plastering measuring 4.5 x 3.5 m (running NE-SW) occurred below the filling. This had a pointed, c. 2 m long extension to the west, forming an almost heart-shaped plastering. The plaster was carefully laid, and consisted of 0.3–0.9 m large stones. The stone plastering sloped slightly to the ENE.

The grave was found almost in the middle of the stone layer. It consisted of a bottom stone slab measuring 0.8 m long, 0.3 m wide and 0.25 m thick, and a top stone slab of similar size. The latter rested on rounded edge stones, thus forming the almost oval grave room measuring c. 0.3 x 0.5 m (Fig. 132). The top slab was locked in place by a couple of smaller stones. The stone-free area between the flat stone slabs was filled with sand only up to a depth of about 0.15 m. 0.7 litre of *calcinated bones* and three fragments (c. 30 mm in total) of a calcinated *bone arrow* point were found. The arrow point has a three-sided cross-section, with 8 mm broad sides, and is of an ordinary Early Iron Age type (Pl. 153).

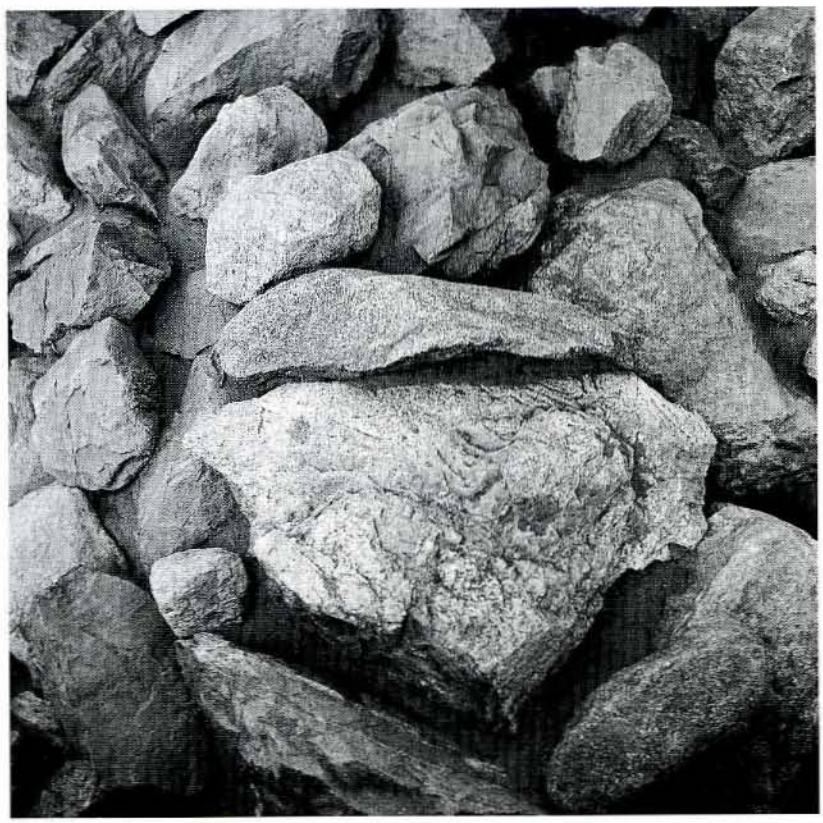


Fig. 132. The stone "cist" in mound 5 in the course of excavation. Under the slab the few artefacts were found.

Parts of a foot chain of 0.3–1.0 m large stones were detected at the edge of the mound. This was only intact in 1–3 m long fragments in the SW, S and E parts of the mound, but had originally been between 10 and 12 m in diameter, with the grave room at the centre. The easternmost part of the intact foot chain was broadened in a triangular form towards the centre of the mound. The stone plaster of the triangle consisted of 0.3–0.5 m large stones, while its edge stones were clearly larger, ranging in size between 0.6 and 0.75 m. This plastering has been damaged by recent pits, however, with the result that it is now impossible to judge whether or not it was a separate structure, for example a secondary grave, in the mound. No finds were made in or below this stone plaster.

It may be stated in summary that, in spite of the severe damage suffered by the feature and the small number of finds which have been discovered, the grave is typical of the Early Iron Age graves in Central Norrland. This is true of the bone arrow point, of course, although it can probably also be extended to include the grave form. It has been established by Selinge (1977:231) that stone settings or low mounds with a well-constructed stone edge belong to the Early Iron Age. This is confirmed by subsequent investigations, for example of grave 11 at Gene (Lindqvist 1985:446, Fig. 5).

There are good grounds in support of a more accurate dating than the Early Iron Age, since this grave form is usually dated to the Later Roman Iron Age or the Migration Period. It is not unusual, however, for such graves to contain more grave goods. The likely explanation is that the grave belongs to the Later Roman Iron Age, although neither the Early Roman Iron Age nor the Migration Period can be excluded.

7.3.2. GRAVE No. 11

This feature was situated on the SE edge of the ridge plate, only c. 4 metres NE of mound 12, and was very modest in its external form. Nevertheless, it had already been observed and mapped in the course of the special mapping exercise in 1943, although it was shown with broken lines to have a diameter of c. 3.5 metres. It was described as follows:

> Mound? Height c. 0.3 m. A natural raised area on the surface of the ground. Boundary unclear. One pine tree is growing on the feature. A grave?

Ambrosiani described the feature as being 0.2–0.3 metre high with a diameter of c. 3 metres. A ring of stones c. 1.1 metre in diameter (Fig. 133) was found immediately beneath the turf in a thin humus layer. The stones were 0.2–0.4 metres in size, and at the centre of the stone ring, only 0.2 metres beneath the turf, was a layer of quite large pieces of charcoal. This was found to contain a small number of fragments of *burnt bone*, a number of *potsherds* of light brown or totally weathered material, a *blue glass bead* with a maximum diameter not exceeding 7 mm, and a fused fragment of a further, similar *bead* (Pl. 153–154).

As far as I am aware, a feature of this type, i.e. with a stone ring at the centre, is not previously known in Central Norrland. It occurs occasionally, however, in graves dating from the Migration Period in the Mälar Valley (Bennett 1987:45ff), and on the island of Lovö stone circles in the middle of the features which limit the fire layer are even known to date from the Vendel Period (Petré 1984:34f). Such stone circles are encountered as a rule in the form of well-constructed stone settings, whereas the filling in grave 11 consisted of soil. It is not known whether stone circles also occur in the Mälar Valley during earlier periods.

As far as grave 11 is concerned, this is a phenomenon which is quite unusual for the conditions in Central Norrland. The amount of ceramic sherds found was so large that it was possible to construct the basic form of the vessel by a great deal of trial and error with the fragile ceramic material (Pl. 154). The vessel is rough, and the material is tempered with sand mixed with quartz. Coarse grains of quartz are visible in many places. It had almost straight, possibly slightly convex walls, with an external diameter of c. 14 cm and a height of 10 cm. The base was completely flat, with a standing surface of c. 11 cm in diameter. The wall of the vessel was c. 10 mm thick, and the thickness was about 13 mm at the base. The rim is uniformly rounded.

This type of ceramic ware must be regarded as an everyday item, which is commonly found at sites. Material exhibiting this form and character occurs in practically all periods during the Iron Age, and over wide areas. Similar vessels dominated the material on Helgö (Reisborg 1981) and are described by Petré (1984b:86, Fig. 46) as ceramic of an ordinary type at the Lunda grave field on Lovö. The type is thus common in Central Sweden, both in sites and in graves. This is not the case in Central Norrland, however, which makes it interesting in this context. Settlement pottery does not occur other than in the form of bucket-shaped vessels on the sites in Central Norrland dating from the Early Iron Age (Ramqvist 1983). The bucket-shaped vessels can scarcely be regarded as domestic ceramics, and must have been vessels with a very special function. The absence of ordinary settlement ceramic is also believed to have been the case during the Late Iron Age, which is the case at least on the recently investigated farm at Arnäs in Northern Ångermanland dating from the Vendel Period/Viking Period (Ramqvist 1989).

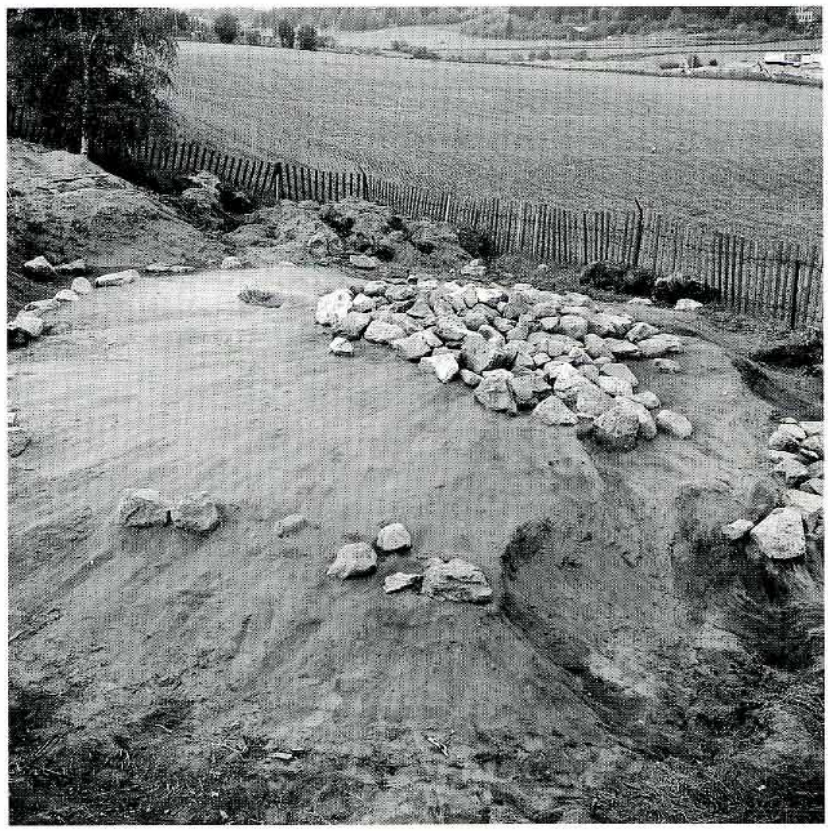


Fig. 133. Mound 11 in the course of excavation.

Although pottery is encountered as a receptacle for bones in graves, this custom cannot be said to be common in Central Norrland (Slomann 1950; Selinge 1977:251ff). The majority of the grave pottery from Central Norrland with which we are now familiar consists of so-called Norwegian types, i.e. handle vessels, narrow, high-necked vessels and beaded ceramic, all of which are decorated and of good quality as a general rule. It is thus possible that the vessel in grave 11, in spite of its coarseness and its poor quality, represents an exotic object in this environment. Its character can be taken to represent at least a Central and South Scandinavian tradition.

All that can be said about the two glass beads is that their colour places them in the most common type during the Later Roman Iron Age and the Migration Period, although the type naturally occurs throughout the whole of the first millennium.

Nothing definite can be said about dating in this context, and in principle the grave may belong to any of the periods of the Iron Age, although the context naturally indicates dating to the Early Iron Age. It can be argued that, if the grave was constructed during the Migration Period, then considerably more objects should have been placed in the grave, bearing in mind the status of this site during the period, and if it belonged to the Viking Period, for example, then there should perhaps have been rather more beads. Then there is the simple, but well-constructed stone ring, which, as far as I am aware, is absent in other contexts, and the position of the grave in the grave field (see Chap. 8). The consequence of the latter is that the grave was constructed in the earliest part of the grave field, and at a guess this grave may be dated to the oldest period of the site, perhaps even to the transition between the Early and the later Roman Iron Age.

7.3.3. OTHER TRENCHES IN 1954

In conjunction with the investigation of graves 5 and 11, several trenches were also sunk at places where, according to earlier details and notes, traces of archaeological remains may be expected to occur. Nine trenches in all were dug, all of which may be regarded as

unproductive, and as having produced information only about more recent activities and locations which were believed to have been entirely unaffected both by present-day and prehistoric activities.

One trench was dug parallel with and three metres to the south of the trench in grave 11, where the layers of soil were totally undisturbed. A trench was dug to a point 8 metres from the centre of mound 7, as a prolongation of the NE-SW profile in mound 5. Finally, 7 trenches were dug through the area between mounds 3 and 9 above the site occupied by the recently demolished farmhouse (cf. Fig. 5). All these trenches were unproductive, however, from a prehistoric point of view.

7.4. CONCLUSIONS

These two graves thus represent the majority of the graves on the grave field (which we know to have contained 16 features originally), and both proved difficult to date due to the small number of objects which they contained. Nevertheless, there can be no doubt that grave No. 5 belongs to the Early Iron Age, and it fits well into the Central Norrland picture of this period. As far as grave 11 is concerned, however, the Central Swedish elements are noticeable in that the ceramic ware and perhaps even the grave form exhibit southern characteristics. The dating is uncertain.

8. CHRONOLOGICAL AND CULTURAL HISTORICAL CONCLUSIONS

8.1. MUTUAL RELATIONSHIP BETWEEN THE FEATURES

The investigation of the so-called horizontal stratigraphy on the grave-field is made more difficult by the fact that the graves are not superimposed. It will have been appreciated, however, that the graves overlap the sites of settlement, which is of some interest in this context.

Other observations can be made not only from the mapping exercises carried out by Fager (Pl. 1), but also from the measurements of the depth of the topsoil made in 1984 (Fig. 134). The fact that the area around the graves has been ploughed means that the original topography of the ground has been changed. There is a tendency for all hollows and ridges to be smoothed out, so that the hollows are filled with earth and the tops are taken off the ridges. By measuring the depth of the topsoil, we are thus able to form some idea of the nature of the original topography as it was at the time when the mounds were finished. This map may then be compared with Fager's map.

As will be appreciated from the topsoil map (Fig. 134), the depth is considerable in many places, and topsoil depths in excess of 1 metre are not uncommon. The normal depth is around 30 cm, but on several places around the graves many anomalies from the normal are found. The dark areas on Fig. 134 mark especially where much soil has been taken and probably been used as building material in the mounds. Soil has not been taken regularly throughout the esker. For example it can be noted that not much soil has been taken in the areas S-SSW of both mounds Nos. 2 and 4. This can also be seen on the topographical map (Fig. 4) in the form of small ridges running from the mounds a bit down in the slope. On the other hand, especially much soil have been taken away around the not excavated large mound No. 1. As can be seen on the photograph (Fig. 135) and the topographical map of the grave-field (Fig. 4) the foot of this mound is situated around two metres lower than the rest of the grave-field. It means that a lot of soil was taken from this area prior to the building of mound No. 1. In other words the topographical situation of the grave-field suggests that mound No. 1 was the last to be built on the site.

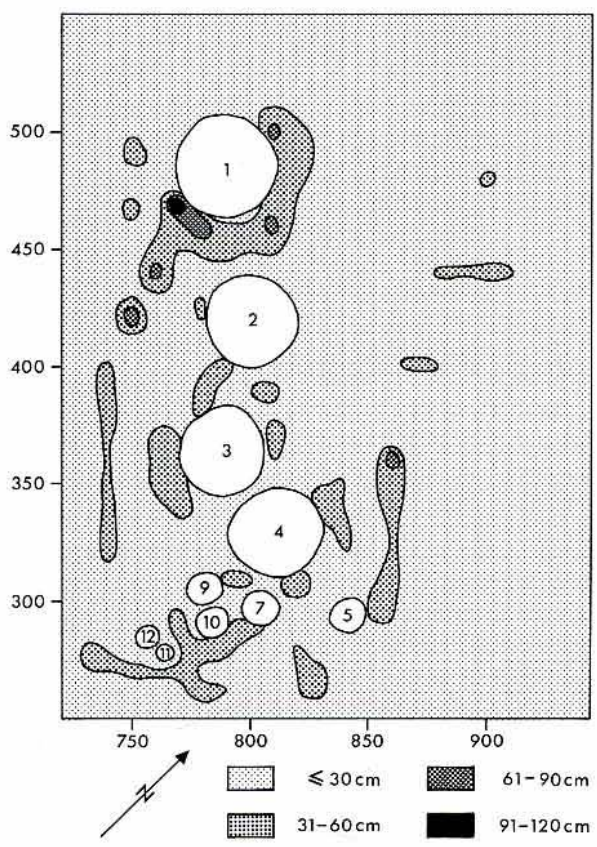


Fig. 134. Depth of topsoil around the graves at Högom.

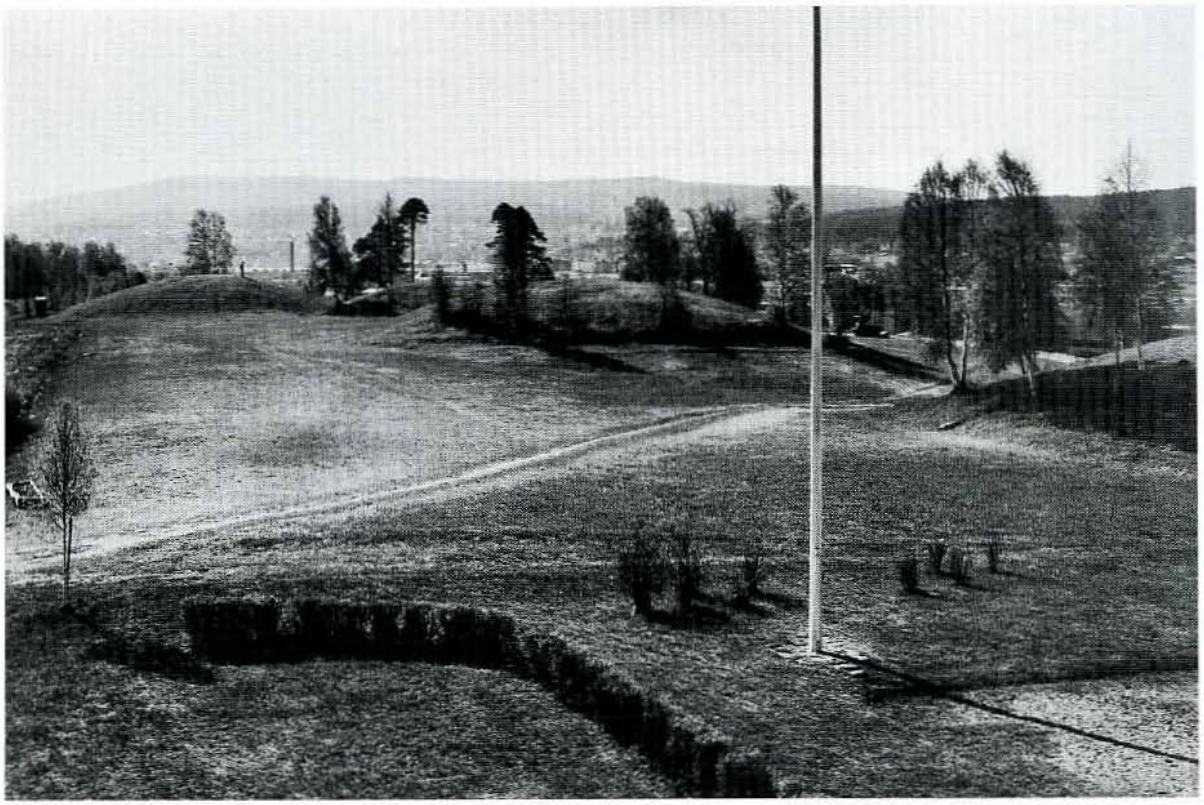


Fig. 135. Photograph of the Högom grave field from the NNE. Mound 1 can be seen on the right edge of the picture, followed to the left by mounds 2, 3 and 4. Note that the foot of the mound No. 1 lies much lower than the others.

8.2. DATINGS

As far as datings at Högom are concerned, there are three possibilities which may be of interest. Firstly, we must take account of the land elevation conditions in the area. The fact that the graves and the site lie 21–22 m above sea level means that they theoretically cannot date from any earlier than c. 200 BC. However, it is naturally inconceivable that the farm was established at such an early date, because only the actual crest of the ridge would have been exposed at the time. The situation probably only became suitable for settlement during the first centuries AD. The conditions underwent major changes as the narrow sound which had been present to the NE of the grave field, between the island and the mainland, silted up. The possibility also cannot be excluded that the first settlement on the site was established at a time when it was still an island (Fig. 11a). This means that soil suitable for cultivation and pasture use was exposed close to the farm, as a result of which all the necessary economic conditions for the farm's production were fulfilled. The land elevation conditions thus tell us that the conditions for the establishment of the farm did not exist before about AD 100.

A second method for dating the site is based on ^{14}C-analyses. As yet, however, this has not been carried out in more than a single case at Högom. This single ^{14}C-dating relates to a piece of wood from the grave chamber in mound 2, which was sent in by Dagmar Selling in the early 1950s and produced the dating AD 380±70 (Östlund 1957). This single dating from the chamber tomb is not in itself especially informative, although it does not deviate in any way from the dating obtained with the help of find comparisons. A number of ^{14}C-samples, mainly from the settlement layers beneath the mounds, will nevertheless be analyzed and published in a forthcoming volume. This will enable us to establish the time when the farm was established.

The third method of dating is, of course, the customary procedure of associating the finds with known find horizons. The work of establishing such find chronologies has occupied archaeologists for some time, and a relatively effective chronology has now been achieved for certain periods and areas, whereas the situation is considerably less clear in other areas and time intervals. A problem commonly associated with these chronologies is the fact that major differences can arise between the date of manufacture of an object and the time of its deposition. In other words, the period for

which an object is used may vary and may at times be lengthy. This is true of several of the objects in mound No. 2 at Högom. Lying side by side here are objects which were already old at the time when they were placed in the grave (the glasses, the bronze cauldron and the bowl) and finds which were probably newly manufactured (the clasp buttons on the sleeves and the mouth piece for the sword scabbard). Because everything contained in the grave was placed there at the same time, it is thus the youngest find in the grave which dates the grave as a whole. In the case of the chamber grave No. 2, it is the clasp buttons (Pl. 67), the mouth piece (Pl. 22:a) and the shears case (Pl. 82) which occupy the position of the youngest items. A dating to around the year AD 500, or the immediately preceding period (Ramqvist & Müller-Wille 1988) has been suggested on the basis of the animal ornamentation. As an example of the difficulties associated with these find chronologies, we can toy with the notion that, if the clasp buttons on the sleeves, the shears case and the sword scabbard had not been placed in the grave at the time of the burial, the most probable dating for the chambered tomb would instead have been around AD 400, since the dating would have had to be based on the glasses (Pl. 89), the cauldron (Pl. 92) and the animal heads on the bridle (Pl. 41) and the wooden rod end (Pl. 101). An even more striking example of the effect of chance on the dating of finds is the grave at Ross, Sæbø Søndhordland in Norway (Schetelig 1912:83ff). An apparently good representative example of the so-called cauldron grave horizon, which is usually datable to c. AD 350–450, was found here. Apart from the traditional bone objects, the finds also included a worn *solidus* from the time of Gratianus (375–383). Had there been nothing else, the grave would have been dated without further ado to c. AD 400; however, two small silver fragments with Style I motifs were found, and the dating had to be amended to c. AD 500 instead. This illustrates the need, when arriving at archaeological datings for the Migration Period in Fenno-Scandinavia, to maintain a critical approach towards datings which are based on only a single method, and instead to have recourse to a number of mutually independent methods of dating.

Whereas the chamber tomb can be dated relatively reliably to the period around the year AD 500, the rest of the phenomena at Högom are by no means as straightforward. In the case of the cauldron grave in mound 4, however, we can assume that it predates the chamber tomb. This is based on the fact that it can be included in what Selinge (1977:261ff) refers to as the cauldron grave horizon. The dating of this horizon can be narrowed down to the decades around the year 400 from finds of a number of gold coins, for which reason a rough dating of c. 350–450 would be appropriate. The circumstances are usually the same in Norway (Schetelig 1912), although it is necessary in this case to bear in mind the source-critical examples referred to above. Cauldron graves were used, at least in Norway, in conjunction with Style I, that is to say into the sixth century. Often these cauldron graves contain fragments of combs, bone arrow points, fragments of spoons made of bone, and bear phalanges. Mound 4 at Högom fits very closely into this picture, in spite of the fact that what we are concerned with at Högom is an iron cauldron, whereas the others almost always contained a Vestland cauldron of bronze as the receptacle for the bones. In other words it is probable, but not certain, that mound No. 4 was constructed in around the year AD 400.

The house foundation below mound 4 is thus older than the dating referred to above, although there is nothing in the sparse find material from the site to provide us with a more precise indication of how much older the house foundation is; as was to emerge from the comparison of the house foundations, however, the construction of the house foundation agrees very closely with houses at Gene dating from the period from c. AD 100–350.

As far as mound No. 3 is concerned, however, we have nothing to go on. On the other hand, the site beneath the mound has yielded many finds which can be dated generally to the Migration Period. The find material in the form of hair pins, comb fragments and bone arrow points accords wholly with the finds in the cauldron graves, and the likely explanation is that the house foundation burned down in the fifth century. The necklace, which can possibly be dated to the fourth century, falls outside this context, although there is nothing to challenge the possibility that it may have remained in use for a long time. The find material is thus difficult to date more accurately than to the Migration Period, and the absence of Style I objects need not denote that the house burned down before the sixth century. A probable dating is the fifth century, however, although in this case, too, the dating may extend into the sixth century.

As already mentioned, one of the smaller graves can only be dated generally to the Early Iron Age. It can be stated as a preliminary conclusion, however, that the smaller graves in the SE part of the grave field are those which were established first, and which correspond most closely in terms of their appearance and number to a relatively large farm grave field in this region (Liedgren 1992). The large mounds 4 and 2, and finally mound 1, were built later. There is some evidence for this sequence in the material, and the claim that mound 1 was built after the others is also supported by

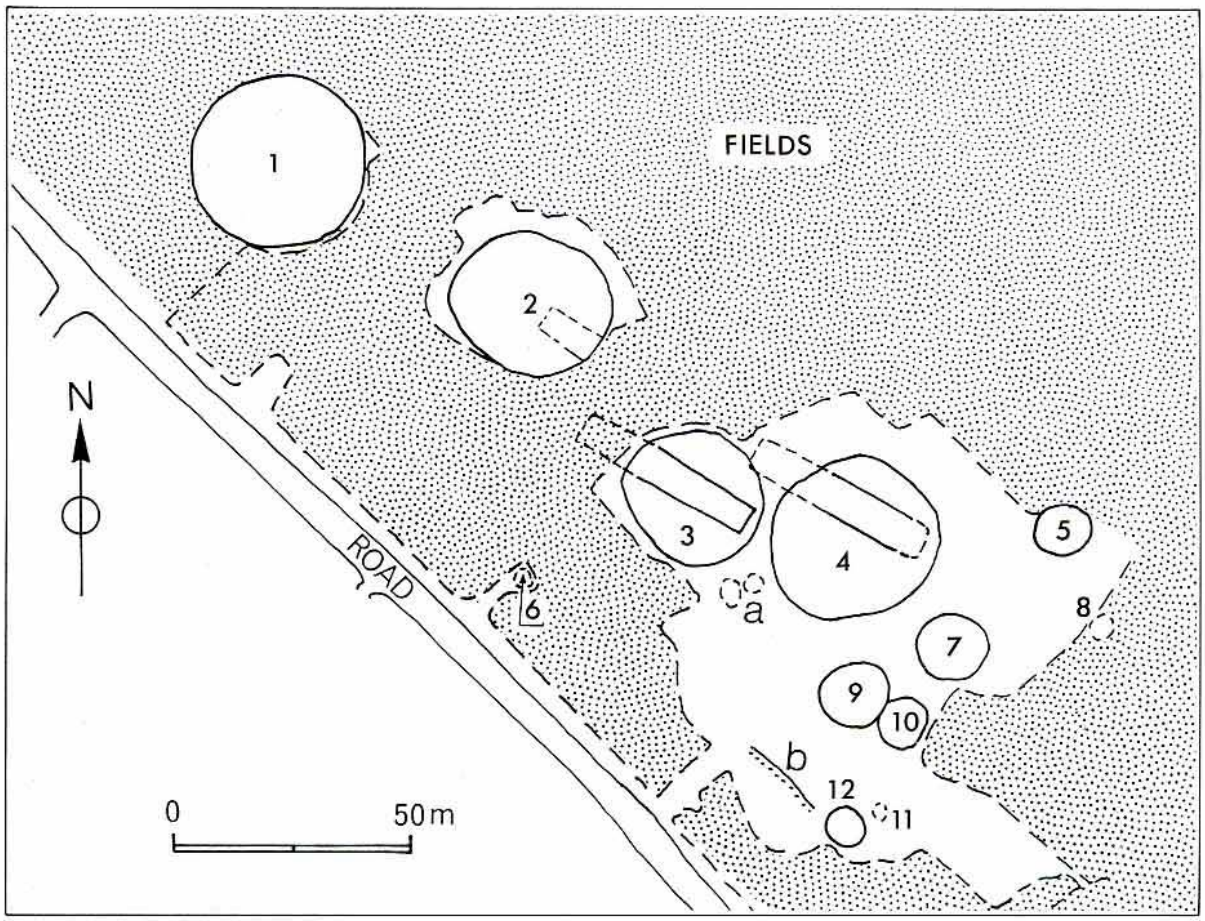


Fig. 136. Plan of the Högom grave-field, showing the relationship of the house foundations to the mounds.

the above description, namely that it lies in an excavated part of the ridge. The foot of the mound is situated c. 2 metres lower than those of the other large mounds (Pl. 1 and Fig. 135). These three mounds must, therefore, be regarded externally from a morphological point of view (approximately identical in size) and from the point of view of layout (situated in a row) as being a succession of large mounds which was planned and erected with the aim of creating a total monument with a communicative purpose. Where mound 3 is to be placed in the sequence is uncertain. The mound is slightly smaller than the others, contains no central grave, and is in an incorrect relationship with the others from the point of view of layout. As can be appreciated from Figure 136, the house beneath mound 3 may well have been in use at the same time as mounds 2 and 4 were being built. On the other hand, the house beneath mound 4 must have been older than both mound 4 and mound 3, if its correct length is in accordance with my previous assumption (Fig. 136).

It should thus be possible to arrive at a synthesis in relation to the coming into being of the archaeological remains at the site. The establishment of the farm itself is uncertain, of course, although excellent conditions existed during the third century, as stated above. The house beneath mound 4 may belong to the establishment horizon in terms of its position in relation to the smaller graves, which may themselves be regarded as belonging to the first two centuries of the farm's existence. Account must also be taken of the fact that other, smaller houses of the farm building type were present on the ridge, including beneath mound 2, and perhaps also at other locations around the mounds which have as yet not been identified. The date of the fire at house 4 is not clear. If we assume that the houses at Gene had a useful life of c. 250 years, it is not impossible that more or less the same assumptions may apply here. The house which incorporates the old technique of the mid-post may have remained standing until the middle of the fifth century. The house be-

neath mound 3 may have been built at around this time, although not as a replacement for house 4, but as a house with other socio-political functions. Mound 4 was built in c. 450, and mound 2 in c. 500, and mound 1, which as yet has not been investigated, must have been constructed at some point thereafter, perhaps one generation later. In formulating this hypothesis, I have consciously compressed the material to fit into a large mound sequence extending over c. 100 years, which corresponds roughly to three generations, but without taking mound 3 into account. This period from c. AD 450–550 could be regarded as a critical period of crisis for Central Norrland society, when this petty kingdom was faced by difficult conflicts primarily with the Mälar Valley. The political and military leadership was based permanently at Högom during this period of crisis, which was not the case in calmer periods, when a form of visiting round probably took place *inter alia* in conjunction with the large mounds which were distributed throughout the districts. The three mounds may thus be taken to represent three petty kings, whose political power had gradually increased, and who had gradually felt the increasing need for socio-political manifestations. The difference in the grave goods between grave 4 and grave 2 can be interpreted in this way. This could be taken to mean that mound 1 is likely to produce a setting of the symbols and grave goods similar to those found in the rich mound 2, but is younger by one generation.

8.3. INTERREGIONAL CONNECTIONS

As will have been appreciated from the find reports, the material from Högom contains a large number of objects which were originally manufactured on the Continent. Both Western and Eastern Europe were the source of objects which eventually found their way to Högom. This is not now seen as unusual for the period, but simply as characteristic. The objects in question are generally known as import finds, and have been discussed by a number of researchers (Ekholm 1956, Näsman 1984). Graves which are as completely equipped as grave 2 at Högom are without doubt the exception, however. It is not unusual for graves which were originally rich to have been plundered, during both modern and prehistoric times. The fact that graves were already being plundered during prehistoric times indicates that some form of break in continuity occurred in society, probably on a political plane. It has sometimes been established that Migration Period graves were plundered during the Vendel Period (J-P. Lamm 1973:80f), that is to say precisely in the period during which it is claimed here that a structural change took place in society.

The interesting finds of bronze craft-work, although few in number, found in the fillings of mounds 2 and 3 indicate that bronze casting, and presumably also gold and silver smithing, occurred at the site. Regrettably only a few fragments of casting moulds survive, and it has not been possible to fit casting moulds and artefacts. Similar finds from *inter alia* Helgö and Gene nevertheless show that the production of jewellery was both the same and different in parts (Ramqvist 1990b). For example, a certain type of pin (with a profiled head) was manufactured at both places, and also at Högom (Pl. 117:2). In the case of the relief brooches, however, different types were manufactured. This, in conjunction with the fact that the residue from bronze castings have been found at considerably more places than previously assumed, means in the first place that the production of jewellery was not centrally controlled, for example from the Mälar Valley, a conclusion which does not, moreover, agree with the existence of a large number of petty kingdoms during the Early Iron Age suggested in the introduction to this work. It presumably also means that so-called itinerant craftsmen did not travel from the Mälar Valley, for example, to different regions, where they would manufacture jewellery; this is a view which has won a large number of supporters (Steuer 1987; Sjøvold 1988). A more likely explanation, however, is that each petty kingdom had its own craftsmen, perhaps in a subordinate social position to the leading stratum, who may conceivably have visited the different local chieftains within their own petty kingdom, for whose account they then manufactured some jewellery. This is felt to offer a better explanation for the relatively abundant occurrence of small amounts of casting residues, at the same time as which an explanation is given for the aforementioned regional differences in production. However, in the same way that various objects were exchanged between the Mälar Valley and Central Norrland, for example, it is also possible that a certain proportion of local jewellery production was exchanged or copied between the areas concerned. This research is still at an early stage, however, due to a lack of find material, as a consequence of which no reliable conclusions can be reached at the present time. The interpretation to which I prefer to subscribe under the present circumstances is that the production of relief brooches, for example, took place in every petty kingdom, and that every region corresponding to a petty kingdom in this way also manufactured typically specific brooches. The casting method and the technology themselves are accordingly of an interregional character, whereas the cast artefacts are regional. In studies of this kind it is necessary to find the workshops and to examine the casting moulds in order to establish what types were cast, which is still not easy to do because of the small number of workshop finds (Ramqvist 1990b).

If we attempt in the usual way to categorize the finds which have been made in the course of the investigations at Högom using terms such as eastern and western, etc. To begin with we approach the problem from a Scandinavian perspective.

EAST SCANDINAVIA	WEST SCANDINAVIA
clasp buttons (not var. IX)	bucket-shaped vessels
handle combs	beaded vessel
belt bag	gold foil beads
ceramics in grave 11	hair pins, house 3
casting mould for pins	vestland cauldron
Style I B	repaired glass
	the tub baleens

If we then adopt an European viewpoint taking South-East Europe and Western Europe as the two poles, the following pattern emerges:

SOUTH-EAST EUROPE	WESTERN EUROPE
glass beakers	vestland cauldron
gold foil beads	bronze dish
saddle (?)	sword
dyestuff (Polish cochineal)	obol custom

These lists clearly show the different directions taken by the areas of contact with which Högom was actively involved. It can also be appreciated that the characteristics of the different objects are entirely different depending on whether their parallels lie to the east or to the west. It is also clear that many of the objects with places of origin in SE Europe reached Central Norrland via western routes; it was via the western routes in particular that all the finds which can be described as prestige objects came, the principal function of which was within the socio-political sphere of society. Irrespective of whether the types of object come from the SE or have their best parallels in Western Europe, the finds in Norway, and in particular SW Norway and Trøndelag, always act as connecting links with Central Norrland. The objects with their East Scandinavian stamp are of a more simple nature and reflect other types of connections. I have also discussed this in conjunction with other types of find, including spade-shaped currency bars, in other contexts (Ramqvist 1991a), from which I have arrived at the conclusion that Central Norrland's western links were essentially of a political nature, and its southern links mainly of an economic nature.

This brief description of the characteristics of the inter-regional links must be accepted as an example of the wide network of contacts and the flexibility which existed during the Roman Iron Age and Migration Period. It is not possible to establish precisely in what form these contacts occurred, although it is probable that the exchange of luxury goods or prestige goods took place predominantly or exclusively between the leading strata within the respective petty kingdoms, and that objects gradually made their way up by this route into our area. They may then also have been distributed further to chieftains in the individual territories. One should also not entirely dismiss the notion that groups from Central Norrland were involved directly as mercenaries, and perhaps as officers, in the Roman army for a number of years, after which time they returned with their pay and booty, and perhaps also with customs and ideas. The troubled conditions prevailing along the *Limes* at the end of the fourth century and the beginning of the fifth century meant that the Romans were increasingly obliged to rely on Germanic forces for their own defence. Germanic individuals occasionally held very high military rank, and even made up whole legions; they were naturally recruited first and foremost from the frontier areas, although history does not tell us how far north the Germanic people joined either the Roman legions or, for example, in the attacking of other German or Hunnish forces.

REFERENCES

Abbreviations:

AmS	Arkeologisk museum i Stavanger
ATA	Antikvarisk-Topografiska Arkivet (Antiquarian-Topographical Archives), Stockholm
BMÅ	Bergen Museums Årbok
dnr	Diariennummer (official register-number of documents)
KVHAA	Kungl. Vitterhets Historie och Antikvitets Akademien (Royal Swedish Academy of Letters, History and Antiquities)
MLUHM	Meddelanden från Lunds universitets historiska museum
Raä	Riksantikvarieämbetet (Central Board of National Antiquities), Stockholm
SHM	Statens Historiska Museer (National Historical Museums), Stockholm
SMÅ	Stavanger Museums Årbok
UV	Uppdragsverksamheten

Åberg, N. 1953. *Den historiska relationen mellan folkvandringstid och vendeltid.* KVHAA. Stockholm.

Albrectsen, E. 1956. *Fynske jernaldergrave* II. Ældre romersk jernalder. København.

Albrectsen, E. 1968. *Fynske jernaldergrave* III. Yngre romersk jernalder. København.

Almgren, O. 1903. Ett guldmynt från en gotländsk graf. *Studier tillegnade Oscar Montelius 9. 9. 1903*:89–98. Stockholm.

Ambrosiani, B. 1954. *Rapport över undersökningen av gravarna nr. 5 och 11 samt provschakt på gravfältet vid Nyhem, Högom, Selånger sn, Medelpad, 1954.* Unpublished report, ATA, dnr 5135/54. Stockholm.

Ambrosiani, B. & Bennett, A. & Brynja, E. & Ferenius, J. 1981. Projektet Mälardalens folkvandringstid. *Fornvännen* 76, 1981:178–185.

Ambroz, A.K. 1973. Stremena i sedla rannego srednevekovja kak hronologiceskij pokazatel (IV–VIII ss). *Sov. Arh.* 1973/4:81–98.

Andrae, R. 1973. Mosaikaugenperlen. Untersuchung zur Verbreitung und Datierung karolingerzeitlicher Millefioriglasperlen in Europa. *Acta praehistorica et archaeologica* 4. 1973:101–198.

Arrhenius, B. 1973a. Kring två slipade glasbägare funna i Bohuslän. *Göteborgs arkeologiska museum.* Årstryck 1972–1973:35–48.

Arrhenius, B. 1973b. East Scandinavian style I – a review. *Medieval Archaeology* Vol. XVII, 1973:26–42.

Arrhenius, B. 1981. Zu den Filigranblechen der Bügelfibeln aus Donzdorf, Grab 78. In: Haseloff, G. *Die germanische Tierornamentik der Völkerwanderungszeit.* Band III:711–717. Berlin – New York.

Arrhenius, B. 1983. The chronology of the Vendel graves. *Vendel Period.* The Museum of National Antiquities (SHM), Stockholm, studies 2:39–68.

Arrhenius, B. 1985. *Merovingian garnet jewellery.* Emergence and social implications. KVHAA. Stockholm.

Arwidsson, G. 1942. *Valsgärde 6. Die Gräberfunde von Valsgärde I.* Uppsala.

Arwidsson, G. 1954. *Valsgärde 8. Die Gräberfunde von Valsgärde II.* Uppsala.

Arwidsson, G. 1977. *Valsgärde 7. Die Gräberfunde von Valsgärde III.* Uppsala.

Baatz, D. 1983. Lederne Gürteltaschen römischer Soldaten? *Archäologisches Korrespondenzblatt* 13, 1983:359–361.

Bakka, E. 1976. *Arktisk og nordisk i bronsealderen i Nordskandinavia.* Det Kgl. Norska Videnskabers Selskab. Museet. Miscellania 25. Trondheim.

Baudou, E. 1974. Hälsinglands forntid. *Hälsingland* 1974: 33–48. Allhems landskapsböcker. Malmö.

Baudou, E. 1986. Ortnamn och nordliga kulturprovinser under järnålder och medeltid. *Tre kulturer* 3:7–39. Medlemsbok för Johan Nordlander-sällskapet. Umeå.

Baudou, E. 1989. Hög – gård – helgedom i Mellannorrland under den äldre järnåldern. *Arkeologi i Norr* 2:9–43.

Becker, C. J. 1990. *Nørre Sandegård. Arkæologiske undersøgelser på Bornholm 1948–1952.* Historisk-filosofiske Skrifter 13. Det Kongelige Danske Videnskabernes Selskab. København.

Behmer, E. 1939. *Das zweischneidige Schwert der germanischen Völkerwanderungszeit.* Stockholm.

Beltz, R. 1911. Ein spätgermanisches Grabfeld von Kittendorf in Mecklenburg. *Prähistorische Zeitschrift II.* Band 1910:195–197.

Bennett, A. 1987. *Graven som religiös och social symbol. Strukturer i folkvandringstidens gravskick i Mälarområdet.* Theses and papers in North-European archaeology 18. Stockholm.

Biörnstad, M. 1958. *Rapport över undersökningen av grav nr. 4 på gravfältet vid Nyhem, Högom, Selånger sn, Medelpad. 1956.* Unpublished report. ATA. dnr 2036/58. Stockholm.

Biörnstad, M. 1962. Uppkomsten av den sydskandinaviska järnåldersygden i Storsjöområdet i Jämtland. Storsjöbygden under vendeltiden. Storsjöbyden under vikingatid. *Jämtlands och Härjedalens historia. Arkeologisk inledning.* 1962:73–137. Stockholm.

Biörnstad, M. 1984. Att gräva en grav. Medelpad. *Svenska turistföreningens årsskrift* 1984:53–60.

Blindheim, C. 1947. Drakt og smykker. *Viking* 11:1–139.

Boe, J. 1926. Norsk gravguld fra ældre jernalder. *BMÅ.* Historisk-antikvarisk rekke. Nr. 2, 1926.

Boe, J. 1931. *Jernalderens keramikk i Norge.* Bergens Museums skrifter 14. Bergen.

Böhme, H. W. 1986. Das Ende der Römerherrschaft in Britannien und die angelsächsische Besiedlung Englands im 5. Jahrhundert. *Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz.* 33. Jahrg. 1986, Teil 2:469–574.

Bóna, I. 1976. *Der Anbruch des Mittelalters. Gepiden und Langobarden im Karpatenbecken.* Budapest.

Boon, G. 1977. Gold-in-glass beads from the ancient world. *Britannia,* Vol. VIII, 1977:193–202.

Born, H. 1977. Material und Herstellungstechnik antiker Melonenperlen. Festschrift Hans-Jürgen Hundt zum 65. Geburtstag. *Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz.* 22. Jahrg. 1975:134–140.

Broadbent, N. 1985. New knowledge of Early Iron Age settlement in Northern Sweden. Cooperation between the university of Umeå and the Västernorrland County Museum. *In Honorem Evert Baudou.* Archaeology and Environment 4, 1985:387–393. Umeå.

Broholm, H. C. 1952. To fynske gravfund fra romersk jærnalder. *Fra Nationalmuseets arbejdsmark* 1952:14–24.

Brown, D. 1977. Firesteels and pursemounts again. *Bonner Jahrbücher.* Band 177:451–477.

Bruce-Mitford, R. L. S. 1975. *The Sutton Hoo ship burial.* Vol. 1. London.

Bunte, K. 1961. A new bridle find from Sösdala. *MLUHM* 1961:194–206.

Callmer, J. 1977. *Trade beads and bead trade in Scandinavia ca. 800–1000 A.D.* Acta archaeologica Lundensia. Series in 4°. No. 11. Lund.

Carpelan, C. 1978. Om asbestkeramikens historia i Fennoskandien. *Finskt Museum* 85, 1978:5–25.

Chadwick Hawkes, S. & Page, R. I. 1967. Swords and runes in South-East England. *The Antiquaries Journal* 1967, Vol. 47, Part I:1–26.

Christlein, R. 1978. *Die Alamannen. Archäologie eines lebendigen Volkes.* Stuttgart.

Danielsson, K. 1971. *Flata nålar av benhorn från Västsverige under perioderna V och VI.* Unpublished paper. Dept. of archaeology, University of Stockholm.

Danielsson-Ambrosiani, K. 1974. Hövdingens skedar – en kvinnas hårprydnader. *Fornvännen* 69, 1974:194–197.

Danielsson, E. 1988. *Vedanalys. Träkol från järnåldershus längs norrlandskusten.* Unpublished paper. Dept. of archaeology, university of Umeå.

Dedekam, H. 1926. To tekstilfund fra folkevandringstiden. Evebø og Snartemo. Med et tillæg om hægtespænders anvendelse i dragten. *BMÅ,* historisk-antikvarisk rekke nr. 3, 1924–25.

Doppelfeld, O. & Weyres, W. 1980. *Die Ausgrabungen im Dom zu Köln.* Römisch-Germanisches Museum, Köln. Kölner Forschungen, Band 1. Köln.

Edgren, B. & Herschend, F. 1979. (In collaboration with E. Arén). *Nya gamla hus. Rekonstruktionsarbetena i Eketorps borg.* Central board of national antiquities. Rapport 1979:3. Stockholm.

Ekholm, G. 1955. Kejsartidsfynd från Bäling i Hälsingland. *Fornvännen* 50, 1955:256–260.

Ekholm, G. 1956. En västlig och en östlig importgren i Nordens järnålder. *Viking* 20:71–96.

Ekholm, G. 1961. *Handelsförbindelser mellan Skandinavien och Romerska riket.* Verdandis skriftserie 15. Stockholm.

Ekholm, G. 1965. Als orientalisch angenommene Gläser Skandinaviens aus dem ersten bis sechsten Jahrhundert n. Chr. *Antikvariskt arkiv* 26:1–27.

Ekholm, G. 1967. Glasbägarna av Högom-typ. *Tor* 11:9–14.

Engelhardt, C. 1863. *Thorsbjerg mosefund.* Kjøbenhavn.

Engelhardt, C. 1865. *Nydam mosefund.* 1959–1863. Kjøbenhavn.

Engelhardt, C. 1867. *Kragehul mosefund.* Et overgangsfund mellem den ældre og mellem-jernalderen. Fynske mosefund No. I. Kjøbenhavn.

Engelhardt, C. 1869. *Vimose fundet.* Fynske mosefund No. II. Kjøbenhavn.

Engelmark, R. & Viklund, K. 1984. *Makrofossilanalys grav 4, Högom.* Unpublished report. Dept. of archaeology, university of Umeå.

Engelmark, R. 1978. The comparative vegetational history of inland and coastal sites in Medelpad, N Sweden, during the Iron Age. *Early Norrland* 11:25–62. KVHAA. Stockholm.

Engelmark, R. 1981. Carbonized plant material from the Early Iron Age in N Sweden. *Wahlenbergia* 7:39–43.

Engelmark, R. 1985. Carbonized seeds in postholes. A reflection of human activity. *Iskos* 5:205–209.

Enqvist, A. 1919. Några norrländska gravfynd från äldre folkvandringstid. Norrländska gravfynd. *Arkiv för norrländsk hembygdsforskning.* Härnösand.

Erä-Esko, A. 1965. *Germanic animal art of Salin's style I in Finland.* Finska Fornminnesföreningens Tidskrift 63. Helsinki.

Erä-Esko, A. 1986. Domburg – Gulldynt. *Finskt Museum* 1986:54–84.

Ethelberg, P. 1986. *Hjemsted. En gravplads fra 4. & 5. årh. e. Kr.* Skrifter fra museumsrådet for Sønderjyllands amt, 2. Haderslev.

Ethelberg, P. 1990. *Hjemsted 2. Tre gravpladser fra 3. og 4. årh. e. Kr.* Skrifter fra museumsrådet for Sønderjyllands amt, 3. Haderslev.

Evison, V. 1976. Sword rings and beads. *Archaeologia* 1976:303–315.

Fabech, Ch. 1987. *Krigsbytteoffer. Religiös ceremoni eller politisk manifestation?* En undersøgelse af de sydskandinaviske krigsbytteofferfund og en vurdering af denne offerskiks karakter samt funktion i yngre romertids og ældre germanertids samfund. Unpublished thesis. Århus

Fabech, Ch. 1990. Sjörup – an old problem in a new light. *MLUHM* 1989–1990:101–119.

Farbregd, O. 1980. Perspektiv på Namdalens jernalder. Undersøkningar på Veiem, Sem, Værem og Bertnem. *Viking* 43:20–80.

Farbregd, O. & Gustafson, L. & Stenvik, L.F. 1985. Undersøkelsene på Heglesvollen. Tidlig jernproduksjon i Trøndelag. *Viking* 48:103–129.

Fett, P. 1938–39. Arms in Norway between 400 and 600 A.D. *BMÅ*, historisk-antikvarisk rekke nr. 2, 1938 (Part I) and *BMÅ*, historisk-antikvarisk rekke nr. 1, 1939 (Part II).

Flink, G. 1990. Fornminnesinventeringen 1987 i Västernorrlands län. *Arkeologi i Sverige 1987*:197–211. Raä och SHM, Rapport 1990:1. Stockholm.

Fremersdorf, F. 1941. Zwei germanische Grabfunde des frühen 5. Jahrhunderts aus Köln. *Germania* 25, 1941:180–188.

Fries, S. 1984. Spännvidden mellan namnets och bebyggelsens ålder i övre Norrland. *Bebyggelsers og bebyggelsenavners alder.* Norna-rapporter 26, 1984:248–259.

Garam, E. 1987. Pferdegräber des awarenzeitlichen Gräberfeldes in Tiszafüred. Angaben der spätawarenzeitlichen Pferdebestattungen. *Alba Regia* 23:65–136.

Gaustad, F. 1966. Til bevæpningens historie i nordisk folkevandringstid og merovingertid. *Viking* 30, 1966:97–132.

Geißlinger, H. 1967. *Horte als Geschichtsquelle dargestellt an den völkerwanderungs- und merowingerzeitlichen Funden des südwestlichen Ostseeraumes.* Offa-Bücher. Band 19. Neumünster.

Gejvall, N-G. 1951. *Djurben funna i Högom-graven, på markytan under röset.* Unpublished report. ATA. Stockholm.

Gejvall, N-G. 1955. Building 18. *Vallhagar* I:213–226. Stockholm.

Gejvall, N-G. 1956. *Bestämning av benmaterialet från gravarna i Högom, Selånger sn, Medelpad.* Unpublished report. ATA. Stockholm.

Gejvall, N-G. 1961. *Preliminärbestämning av brända och obrända ben från hög III i Nyhem Högom, Selånger sn, Medelpad.* Unpublished report. ATA, dnr 7421/61. Stockholm.

Gjessing, G. 1942. *Yngre steinalder i Nord-Norge.* Institutt for sammenlignende kulturforskning. Serie B, XXXIX. Oslo.

Gorecki, J. 1975. Studien zur Münzbeigabe in römerzeitlichen Körpergräbern zwischen Rhein, Mosel und Somme. *Bericht der Römisch-Germanischen Kommission* Band 56, 1975:179–467. Mainz.

Grodde, B. 1989. *Hölzernes Mobiliar im vor- und frühgeschichtlichen Mittel- und Nordeuropa.* Europäische Hochschulschriften. Reihe 38, Archäologie, Vol 26. Frankfurt am Main – New York – Paris.

Gräslund, A-S. 1966. Charonsmynt i vikingatida gravar? *Tor* 1965/1966:168–197.

Gräslund, A-S. 1984. Beutel und Taschen. *Birka II:1*:141–154. Systematische Analysen der Gräberfunde. KVHAA. Stockholm.

Gustafson, G. 1890. Evebøfundet og nogle andre nye gravfund fra Gloppen. *Bergens Museums Aarberetning* for 1889:I. Bergen.

Gustawsson, K. A. 1965. *Fornminnesvård. Vården av våra fornminnen i landskapet.* Stockholm.

Haarnagel, W. 1979. *Die Grabung Feddersen Wierde. Methode, Hausbau, Siedlungs- und Wirtschaftsformen sowie Sozialstruktur.* (Text- und Tafelband). Römisch-Germanische Kommission des archäologischen Instituts zu Frankfurt am Main und Niedersächsisches Landesinstitut für Marschen- und Wurtensiedlung in Wilhelmshaven. Wiesbaden.

Hagberg, U. E. 1967a. *The archaeology of Skedemosse I.* The excavations and the finds of an Öland fen, Sweden. KVHAA. Stockholm.

Hagberg, U. E. 1967b. *The archaeology of Skedemosse II.* The votive deposits in the Skedemosse fen and their relation to the Iron-Age settlement on Öland, Sweden. KVHAA. Stockholm.

Hallinder, P. 1978. Iron currency bars in Sweden. Spade-shaped currency bars. *Excavations at Helgö* V:I:30–37. KVHAA. Stockholm.

Hallström, G. 1942. Norrlands bebyggelsehistoria och förhistoriska utveckling. *Norrland. Natur, befolkning och näringar.* 1942:191–232. Stockholm.

Haseloff, G. 1981. *Die germanische Tierornamentik der Völkerwanderungszeit. Studien zu Salin's Stil I.* Band I–III. Berlin – New York.

Herteig, A. E. 1955. Gilefunnene på Østre Toten. *Viking* 19, 1955:49–72.

Hines, J. 1984. *The Scandinavian character of Anglian England in the pre-Viking Period.* BAR British Series 124. Oxford.

Hoffmann-Krayer, E. 1931. (Ed). *Handwörterbuch des deutschen Aberglaubens.* Band III. Berlin – Leipzig.

Holmqvist, W. 1951a. *Tauschierte Metallarbeiten des Nordens aus Römerzeit und Völkerwanderungszeit.* KVHAA handlingar, del 70:2. Stockholm.

Holmqvist, W. 1951b. Dryckeshornen från Söderby-Karl. *Fornvännen* 46, 1951:33–65.

Holmqvist, W. 1972. Relief brooches. A comparative analysis of the A-B-C elements at the Helgö workshop. *Excavations at Helgö IV.* Workshop, part I:230–255. KVHAA. Stockholm.

Horedt, K. & Protase, D. 1972. Das zweite Fürstengrab von Apahida (Siebenbürgen). *Germania* 50, 1972:174–220.

Hougen, B. 1935. *Snartemofunnene. Studier i folkevandringstidens ornamentikk og tekstilhistorie.* Norske oldfunn VII. Oslo.

Hougen, B. 1959. *Valdres bygdebok* 2, 1959.

Hunter, J. R. 1975. Glasses from Scandinavian burials in the first millenium AD. *World Archaeology* 7/1:79–86.

Hyenstrand, Å. 1984. *Fasta fornlämningar och arkeologiska regioner.* Raä och SHM. Rapport 1984:7. Stockholm.

Ilkjaer, J. & Lønstrup, J. 1983. Der Moorfund im Tal der Illerup-Å bei Skanderborg in Ostjütland (Dänemark). *Germania* 61, 1983:95–116.

Iregren, E. 1983. *Medelpad, Selånger, Nyhem, Högom. Sammanfattande resultat av osteologisk genomgång 4a och 4e.* Unpublished report. ATA. Stockholm.

Janson, S. 1990. Fornvård, landskapsvård, miljövård. En inledning. In: Ramqvist, P. H. *Högom.* 1990:7–12. Raä. Stockholm.

Janson, S. & Selling, D. 1955. En stormansgrav från Högom i Selångers socken. *Medelpad* 1953–1955:60–87. Sundsvall.

Janssen, W. 1981. Die Sattelbeschläge aus Grab 446 des fränkischen Gräberfeldes von Wesel-Bislich, Kreis Wesel. *Archäologisches Korrespondenzblatt* 11, 1981:149–169.

Jansson, S. O. 1936. Mått, mål och vikt i Sverige till 1500-talets mitt. Maal og vægt. *Nordisk kultur* 30:1–57. København – Oslo – Stockholm.

Johansen Kleppe, E. & Simonsen, S. E. 1983. *Bucket-shaped pots – a West-Norwegian ceramic form. Experiments with production methods.* AmS-skrifter 10. Stavanger.

Johansen, O-S. 1979. Jernaldergårder i Nord-Norge. *På leiting etter den eldste garden. Nye metoder i studie av tidlig norsk bosettningshistorie.* 1979:95–115. Oslo.

Kiss, A. 1984. Archäologische Angaben zur Geschichte der Sättel des Frühmittelalters. *Alba Regia* 21:189–207.

Krogh, S. 1966. Thorsbjerghovedtøjet. *Kuml* 1966:59–73.

Krogh, S. 1970. *Foreløbig rapport over forsøg med rekonstrueret rideutstyr af jernaldertype udført juli 1970.* Nyt fra Lejre (Rel) 1970:I. Historisk-arkæologisk forsøgscenter. Lejre.

Kürti, B. & Menghin, W. 1985. Katalog. *Awaren in Europa. Schätze eines asiatischen Reitervolkes 6.–8. Jh.* Museum für Vor- und Frühgeschichte Frankfurt am Main, 1985:24–86. Frankfurt a. M.

Lagerquist, K. 1963. *En stormansgrav från Fullerö.* Unpublished paper. Dept. of Archaeology, Stockholm university. Stockholm.

Lamm, J-P. 1972. *Undersökningar på Lovö 1958–1966.* Arkeologiska rapporter och meddelanden från institutionen för arkeologi, särskilt nordeuropeisk vid Stockholms universitet. Stockholm.

Lamm, J-P. 1973a. *Fornfynd och fornlämningar på Lovö.* Theses and papers in North-European Archaeology 3. Stockholm.

Lamm, J-P. 1973b. En folkvandringstida kammargrav vid Torsätra. *Fornvännen* 68, 1973:81–89.

Lamm, J-P. & Axboe, M. 1989. Neues zu Brakteaten und Anhängern in Schweden. *Frühmittelalterliche Studien* 23. Band 1989:454–477.

Lamm, K. 1969. Svensk konstindusri för 1500 år sedan. *Helgö den gåtfulla ön* 1969:111–146. Stockholm.

Lamm, K. 1972. Clasp buttons. *Excavations at Helgö IV.* Workshop I:70–131. KVHAA. Stockholm.

Lamm, K. 1977. Early medieval metalworking on Helgö in Central Sweden. *Aspects of early metallurgy.* Proceedings of a symposium held at the British Museum on 22 and 23 April 1977:97–116. London.

Lamm, K. & Lundström, A. 1976. East Scandinavian style I: An answer to Birgit Arrhenius. *Medieval Archaeology* Vol. XX, 1976:15–25.

László, G. 1943. Der Grabfund von Koroncó und der altungarische Sattel (German summary). *Archaeologica Hungarica* 27, 1943:107–191.

Liedgren, L. 1981. Järnåldersgårdar i Hälsingland. *Gårdar, borgar och hamnar i det äldsta Hälsingland.* 1981:39–72. Hudiksvall.

Liedgren, L. 1984. Iron Age settlements in Hälsingland. *Papers in Northern Archaeology.* Archaeology and Environment 2:93–112. Umeå.

Liedgren, L. 1985. Gustaf Hallström's excavations at Onbakken, Hälsingland 1923. *In Honorem Evert Baudou.* Archaeology and Environment 4:339–352. Umeå.

Liedgren, L. 1987. Synpunkter på den sedentära bebyggelsens etablering i Norrland. Samer och germaner i det förhistoriska Norrland. *Bebyggelsehistorisk tidskrift* nr. 14, 1987:83–104.

Liedgren, L. 1989. Bebyggelseutvecklingen i Forsa under den äldre järnåldern. *Arkeologi i Norr* 2:45–81.

Liedgren, L. 1992. *Hus och gård i Hälsingland. En studie av agrar bebyggelse och bebyggelseutveckling i norra Hälsingland Kr.f. – 600 e.Kr.* Studia archaeologica universitatis Umensis 2. Umeå.

Lindqvist, A-K. 1985. The Gene investigation. Some new results. *In Honorem Evert Baudou.* Archaeology and Environment 4:441–447. Umeå.

Lindqvist, A-K. 1989. Att göra osynliga hus synliga. *Arkeologi i Norr* 2:107–120.

Lindqvist, A-K. 1991. En ångermanländsk jakt- och fångstboplats från romersk järnålder. Nya rön om stenteknologins kvardröjande. *Markkontakt* nr 1, 1991:19–22.

Lindqvist, S. 1936. *Uppsala högar och Ottarshögen.* KVHAA. Stockholm.

Lorange, A. 1875. *Samlingen av norske oldsager i Bergens museum.* Bergen.

Lund Hansen, U. 1987. *Römischer Import im Norden. Warenaustausch zwischen dem Römischen Reich und dem freien Germanien während der Kaiserzeit unter besonderer Berücksichtigung Nordeuropas.* Det Kongelige Nordiske Oldskriftselskab. København.

Lundström, A. & Lindeberg, I. 1964. Beads. *Excavations at Helgö II.* Report for 1957–1959:133–136. KVHAA. Stockholm.

Lundström, A. 1970. Beads. *Excavations at Helgö* III. Report for 1960–1964:78–79. KVHAA. Stockholm.

Lundström, A. 1981. Survey of the glass from Helgö. Glass, iron and clay. *Excavations at Helgö* VII:1–38. KVHAA. Stockholm.

Magnus, B. 1975. *Krosshaugfunnet. Et forsøk på kronologisk og stilhistorisk plassering i 5. årh.* Stavanger museums skrifter 9. Stavanger.

Magnus, B. 1983. How was he dressed? New light on the garments from the grave at Evebø/Eide in Gloppen, Norway. *Studien zur Sachsenforschung* 4:293–303.

Magnusson, G. 1986. *Lågteknisk järnhantering i Jämtlands län.* Jernkontorets Bergshistoriska skriftserie, Nr. 22. Stockholm.

Magnusson, G. 1987. Järn, kolonisation och landskapsutnyttjande i Norrlands inland. Samer och germaner i det förhistoriska Norrland. *Bebyggelsehistorisk tidskrift* nr. 14, 1987:127–136.

Mäkivuoti, M. 1987. Om den förhistoriska järnframställningen i Nordfinland. *Nordkalotten i en skiftande värld – kulturer utan gränser och stater över gränser.* Studia historica septentrionalia 14:2:59–71. Rovaniemi.

Malmros, C. 1991. *Bestemmelse af hud og hvalbarde fra stormandsgrav: Grav 2 ved Högom, Selånger, Medelpad, Sverige.* Nationalmuseets Naturvidenskabelige Undersøgelser, rapport nr. 12. 1991. Unpublished report. København.

Marstrander, L. 1983. *Inntrøndelag i romertid. Gravfunn og bosetning.* Gunneria 43. Trondheim.

Marstrander, S. 1956. Hovedlinjer i Trøndelags forhistorie. *Viking* 20, 1956:1–69.

Meinander, C. F. 1969. Dåvits. En essä om förromersk järnålder. *Finskt Museum* 1969:27–69.

Meinander, C. F. 1977. Forntiden i Svenska Österbotten. *Svenska Österbottens historia,* del I:11–43. Vasa.

Melander, J. 1989. Analys av lerklining från ett järnåldershus i Hälsingland. *Arkeologi i Norr* 2, 1989:83–94.

Menghin, W. 1983. *Das Schwert im frühen Mittelalter. Chronologisch-typologische Untersuchungen zu Langschwertern aus germanischen Gräbern des 5. bis 7. Jahrhunderts n. Chr.* Nürnberg.

Miller, U. 1982. Kyrkesviken: Orienterande biostratigrafiska undersökningar samt strandförskjutningen i norra Ångermanland. *Bottnisk Kontakt* I:11–14. Örnsköldsvik.

Mo, E. 1969. Den högre floran i Själevads kommun. *Själevads hembygdsförenings skriftserie* 7:5–38. Örnsköldsvik.

Møhl, U. 1977. Bjørnekloer og brandgrave. Dyreknogler fra germansk jernalder i Stilling. *Kuml* 1977:119–129.

Møllerup, O. 1961. Foreløpig meddelelse om et smedgravfunn fra Vestly i Time. *SMÅ* 1960:5–14.

Møllerup, O. 1966. Vestly, Time, Rogaland. *Inventaria Archaeologica.* Norway. 1. set N1–N3. Migration Period graves. Bonn.

Müller-Wille, M. 1972. Pferdegrab und Pferdeopfer im frühen Mittelalter. (Mit einem Beitrag von H. Vierck: Pferdegräber im angelsächsischen England). *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek.* Jahrgang 20–21, 1970–1971:119–248.

Müller-Wille, M. 1982. Königsgrab und Königskirche. Funde und Befunde im frühgeschichtlichen und mittelalterlichen Nordeuropa. *Bericht der Römisch-Germanischen Kommission* 63, 1982:350–412.

Müller-Wille, M. 1983. Royal and aristocratic graves in Central and Western Europe in the Merovingian Period. *Vendel Period studies.* The Museum of National Antiquities, Stockholm studies 2:109–116. Stockholm.

Müller-Wille, M. 1992. Monumentale Grabhügel der Völkerwanderungszeit in Mittel- und Nordeuropa. Bestand und Deutung. *Mare Balticum. Beiträge zur Geschichte des Ostseeraums in Mittelalter und Neuzeit.* Festschrift zum 65. Geburtstag von Erich Hoffmann. Kieler Historische Studien, Band 36:1–20. Kiel.

Munch, J. S. 1962. *Boplasser med asbest-keramikk på Helgelandskysten.* Acta Borealia. B. Humaniora no. 7. Tromsø museum. Tromsø.

Myhre, B. 1980. *Gårdsanlegget på Ullandhaug* I. AmS-skrifter 4. Stavanger.

Myhre, B. 1987. Chieftain's graves and chiefdom territories in South Norway in the Migration Period. *Studien zur Sachsenforschung.* Band 6:169–187.

Näsman, U. 1978. Die Herstellung von Glasperlen. In: Bencard, M. *et al.* Wikingerzeitliches Handwerk in Ribe. Eine Übersicht. *Acta Archaeologica* Vol. 49, 1978:124–133.

Näsman, U. 1984. *Glas och handel i senromersk tid och folkvandringstid. En studie kring glas från Eketorp-II, Öland, Sverige.* Archaeological studies. Uppsala university, institute of North-European archaeology 5. Uppsala.

Nerman, B. 1935. *Die Völkerwanderungszeit Gotlands.* KVHAA. Stockholm.

Nicolaissen, O. 1901. Undersøgelser i Nordlands amt 1901. *Foreningen til norske fortidsmindesmærkers bevaring. Aarsberetning* for 1901:90–104. Kristiania (Oslo).

Nockert, M. 1991. *The Högom find and other Migration Period textiles and costumes in Scandinavia. Högom Part II.* Archaeology and Environment 9. Umeå.

Norberg, R. 1929. Om förhistoriska sadlar i Sverige. *Rig* 1929:97–113.

Norberg, R. 1931. Moor- und Depotfunde aus dem 5. Jahrhundert nach Chr. in Schonen. *Acta Archaeologica.* Vol. 2, 1931:104–111.

Nordén, A. 1929. *Östergötlands järnålder* I. Enskilda fyndgrupper och problem. Stockholm.

Nordiska ministerrådet 1977. *Naturgeografisk regionindelning av Norden.* NU B 1977:34. Stockholm.

Nordman, C. A. 1945. Vapnen i Nordens forntid. Vaaben. *Nordisk kultur* XII:B:1–66. Stockholm.

Norling-Christensen, H. 1951. Jærnaldersgravpladsen ved Himlingøje. *Fra Nationalmuseets arbejdsmark* 1951:39–46.

Odenstedt, B. 1984. The Chessel Down runic inscription. *Papers in Northern archaeology.* Archaeology and Environment 2:113–126. Umeå.

Ørsnes, M. 1984. *Sejrens pris.* Våbenofre i Ejsbøl mose ved Haderslev. Haderslev Museum.

Ørsnes, M. 1988. *Ejsbøl I. Waffenopferfunde des 4.–5. Jahrh. nach Chr.* Nordiske fortidsminder. Serie B. Bind 11. Det Kongelige Nordiske Oldskriftselskab. København.

Östlund, H.G. 1957. Stockholm natural radiocarbon measurements I. *Science* 126, No. 3272, 1957:493–497.

Oexle, J. 1984. Merowingerzeitliche Pferdebestattungen. Opfer oder Beigaben? *Frühmittelalterliche Studien* 18. Band 1984:122–172.

Olsson, E. 1984. Rika gravar från folkvandringstid och vikingatid i Hälsingtuna. *Rapport UV,* 1984:2. Raä, Stockholm.

Pätzold, J. 1960. Rituelles Pflügen beim vorgeschichtlichen Totenkult – ein alter indogermanischer Bestattungsbrauch? *Prähistorische Zeitschrift* 38. Band, 1960: 189–239.

Paulsen, P. 1967. *Alamannische Adelsgräber von Niederstotzingen (Kreis Heidenheim).* Veröffentlichungen des staatlichen Amtes für Denkmalpflege Stuttgart. Reihe A, Vor- und Frühgeschichte. Heft 12/I. Stuttgart.

Périn, P. & Kazanski, M. 1986. Le mobilier funeraire de la tombe de Childeric. Etat de la question et perspectives. *Bull. Liaison Arch. Mérov.* 10, 1986.

Pescheck, Ch. 1986. Germanische Gürtel- und Handtaschen in Mainfranken. *Aus Frankens Frühzeit. Festgabe für Peter*

Endrich. Mainfränkische Studien. Band 37:153–163. Würzburg.

Petersen, J. 1941. Oldsaksamlingens tilvekst 1939. *SMÅ* 1939–40:35–73.

Petersen, J. 1951. *Vikingetidens redskaper.* Oslo.

Petersen, J. 1955. Oldsaksamlingens tilvekst 1954. *SMÅ* 1954:7–38.

Petersen, Th. 1923. *Melsdalsfunnene.* Norske Oldfunn IV. Kristiania (Oslo).

Petré, B. 1980. Björnfällen i begravningsritualen – statusobjekt speglande regional skinnhandel? *Fornvännen* 75, 1980:5–14.

Petré, B. 1984a. *Arkeologiska undersökningar på Lovö. Del 2. Fornlämning Raä 27, Lunda.* Acta universitatis Stockholmiensis. Studies in North-European archaeology 8. Stockholm.

Petré, B. 1984b. *Arkeologiska undersökningar på Lovö. Del 4. Bebyggelsearkeologisk analys.* Acta universitatis Stockholmiensis. Studies in North-European archaeology 10. Stockholm.

Petré, R. 1963. *Rapport över undersökningen av grav nr 3 på gravfältet vid Nyhem, Högom, Selånger socken, Medelpad.* 1960. Unpublished report, ATA, dnr 2537/1963. Stockholm.

Prokop(ius). 1903. *Gothenkrieg.* Leipzig.

Raddatz, K. 1987. *Der Thorsberger Moorfund.* Katalog. Teile von Waffen und Pferdegeschirr, sonstige Fundstücke aus Metall und Glas, Ton- und Holzgefäße, Steingeräte. Offa-Bücher. Band 65. Neumünster.

Raknes Pedersen, I. 1983. The textiles from the Migration Period grave at Evebø/Eide in Gloppen, Sogn og Fjordande, Norway. *Studien zur Sachsenforschung* 4:304–313.

Ramqvist, P. H. 1983. *Gene. On the origin, function and development of sedentary Iron Age settlement in Northern Sweden.* Archaeology and Environment 1. Umeå.

Ramqvist, P. H. 1984. *Den arkeologiska undersökningen av Vägsnäsgraven. En folkvandringstida grav och dess sammanhang.* Med osteologiskt avsnitt av Margareta Backe-Högberg. Själevads Hembygdsförenings skriftserie, nr. 10. Örnsköldsvik.

Ramqvist, P. H. 1987a. Mellannorrland under äldre järnålder. Några aspekter på samhällsstrukturen. Samer och germaner i det förhistoriska Norrland. *Bebyggelsehistorisk tidskrift* nr 14, 1987:105–126.

Ramqvist, P. H. 1987b. The Norrland coast in the Iron Age. *Swedish Archaeology* 1981–1985:69–90. The Swedish archaeological society. Stockholm.

Ramqvist, P. H. 1988. Högom. Nya undersökningar av bebyggelsespår. *Arkeologi i Norr* 1:103–127.

Ramqvist, P. H. 1989. Arnäsbacken. Från äldre järnålder till medeltid. *Mänsklighet genom millennier.* En vänbok till Åke Hyenstrand. 1989:187–195. Stockholm.

Ramqvist, P. H. 1990a. *Högom.* Riksantikvarieämbetet. Stockholm.

Ramqvist, P. H. 1990b. Helgö. Unikt handelscentrum eller vanlig bondgård? *Fornvännen* 85, 1990:57–67.

Ramqvist, P. H. 1991a. Über ökonomische und sozio-politische Beziehungen der Gesellschaften der nordischen Völkerwanderungszeit. *Frühmittelalterliche Studien* 25. Band, 1991:45–72.

Ramqvist, P. H. 1991b. Synpunkter på den bebyggelsemässiga bakgrunden till vissa medeltida företeelser. *Faxeholm och nordsvensk medeltid.* Ett idéseminarium i Söderhamn 11–12 april 1991:45–50. Gävle.

Ramqvist, P. H. 1991c. *Klassificering av bränd lera från Gene, Själevad sn, Ångermanland.* Manuscript.

Ramqvist, P. H. 1992. Building traditions in Northern and Northeastern Europe during the Iron Age. *Contacts across the Baltic Sea during the Late Iron Age (5th–12th centuries).* Baltic Sea Conference, Lund October 25–27, 1991. University of Lund, institute of archaeology. Report series No. 43:73–83.

Ramqvist, P. H. & Müller-Wille, M. 1988. Regionale und überregionale Bedeutung des völkerwanderungszeitlichen Gräberfeldes von Högom, Medelpad, Nordschweden. Ein Vorbericht. *Germania* 66, 1988, 1:95–134.

Rau, H. G. 1972. Körpergräber mit Glasbeigaben des 4. nachchristlichen Jahrhunderts im Oder-Weichsel-Raum. *Acta Praehistorica et Archaeologica* 3:109–214.

Rausing, G. 1967. *The bow. Some notes on its origin and development.* Acta archaeologica Lundensia. Series in 8°. No. 6. Lund.

Rausing, G. 1988. More on the ard marks. *Antiquity.* Vol. 62:285.

Reichstein, J. 1975. *Die kreuzförmige Fibel. Zur Chronologie der späten römischen Kaiserzeit und der Völkerwanderungszeit in Skandinavien, auf dem Kontinent und in England.* Offa-Bücher. Band 34. Neumünster.

Reisborg, S. 1981. The pottery from building group 4 and the pottery from building group 3. Glass, iron and clay. *Excavations at Helgö* VII:107–177. KVHAA. Stockholm.

Renberg, I. & Segerström, U. 1981. The initial points on a shoreline displacement curve for Southern Västerbotten, dated by varvecounts of lake sediments. *Striae* 4:174–176.

Ringstad, B. 1987. *Vestlandets største gravminner. Et forsøk på lokalisering av forhistoriske maktcentra.* Bergen.

Rolfsen, P. 1986. Asbest – et helsefarlig mineral. *Viking* 44, 1985–1986:97–111.

Rowley-Conwy, P. 1987. The interpretation of ard marks. *Antiquity.* Vol. 61:263–266.

Rudberg, S. 1962. Naturlandskapet. *Västernorrland. Ett sekel 1862–1962.* Del I:11–61. Härnösand.

Rydh, H. 1917. S.k. eldslagningsstenar från järnåldern. *Fornvännen* 1917:172–190.

Rygh, K. 1913. Über einige Feuerzeuggeräte in norwegischen Gräberfunden aus der älteren Eisenzeit. *Opuscula archeoligica Oscari Montelio* septuagenario dicata d. IX sept. 1913:327–334.

Rygh, O. 1885. *Norske oldsager.* Kristiania (Oslo).

Sällström, F. 1943. Lilla Jored-fyndets gravanläggning. *Antikvariska studier* 1:5–60. KVHAA, Handlingar del 55. Stockholm.

Särlvik, I. 1982. *Paths towards a stratified society.* A study of economic, cultural and social formations in South-West Sweden during the Roman Iron Age and the Migration Period. Stockholm studies in archaeology, 3. Stockholm.

Schach-Dörges, H. 1970. *Die Bodenfunde des 3. bis 6. Jahrhunderts n. Chr. zwischen unterer Elbe und Oder.* Offa-Bücher 23. Neumünster.

Schetelig, H. 1912. *Vestlandske graver fra jernalderen.* Bergens Museums skrifter. Ny Række. Bd. II. No. 1. Bergen.

Schetelig, H. 1917. Nye jernaldersfund paa Vestlandet. *BMÅ* 1916–1917. Hist.-antikv. række nr. 2. Bergen.

Schmidt, B. 1961. *Die späte Völkerwanderungszeit in Mitteldeutschland.* Veröffentlichungen des Landesmuseums für Vorgeschichte in Halle. Heft 18. Halle.

Schmidt, B. 1980. Zur Sachsenfrage im Unstrut-Saale-Gebiet und im Nordharzvorland. *Studien zur Sachsenforschung* 2:423–446. Hannover.

Schönbäck, B. 1963. *PM angående tömningen av järngryta från 1956 års hög i Högom.* Unpublished report. ATA. Stockholm.

Schönbäck, B. 1968. Penningväska och pung. *Kulturhistoriskt lexikon för nordisk medeltid från vikingatid till reformationstid.* Band 13:186–190.

Schulze, M. 1982. Spätkaiserzeitliche Gürteltaschen mit Knebelverschluß. *Archäologisches Korrespondenzblatt* 12, 1982:501–509.

Selinge, K-G. 1977. Järnålderns bondekultur i Västernorrland. *Västernorrlands förhistoria* 1977:153–459. Härnösand.

Selinge, K-G. 1979. *Agrarian settlement and hunting grounds, a study of the prehistoric culture systems in a North Swedish river valley.* Theses and papers in North-European Archaeology 8. Stockholm.

Selinge, K-G. 1983. Modeller för landskapsutnyttjande inom fångstkultur och tidig agrar kultur. Exempel från mellersta Norrland. *Folk og ressurser i Nord.* Foredrag fra Trondheims-symposiet om midt- og nordskandinavisk kultur 1982:73–106. Trondheim.

Selling, D. 1952. Hövdingasvärdet från Högom. *Arkeologiska forskningar och fynd.* Studier utgivna med anledning av H.M. Konung Gustav VI Adolfs sjuttioårsdag 11.11.1952:354–361. Svenska arkeologiska samfundet. Stockholm.

Selling, D. 1960. *Arkeologisk undersökning av gravar vid Hov 4:3, Selånger sn, Medelpad.* Unpublished report. ATA. Stockholm.

Silvén, U. 1956. Gotländsk vapengrav med charonsmynt? *Gotländskt arkiv,* 28, 1956:97–110.

Sjörs, H. 1967. *Nordisk växtgeografi.* (2nd edition). Stockholm.

Sjøvold, T. 1962. *The Iron Age settlement of arctic Norway. A study in the expansion of European Iron Age culture within the artic circle. I, Early Iron Age (Roman and Migration Periods).* Tromsø Museums skrifter, Vol. X, 1. Tromsø/Oslo.

Sjøvold, T. 1988. The northernmost Migration Period relief brooch in the world and its family connections. *Trade and exchange in the prehistory. Studies in honour of Berta Stjernquist.* Acta Archaeologica Lundensia, Series in 8°, No. 16:213–223. Lund.

Slomann, W. 1948. Et sverdhåndtak fra Sundsvall. *Viking* 12, 1948: 21–29.

Slomann, W. 1950. Medelpad og Jemtland i eldre jernalder. *Universitetet i Bergen årbok, historisk-antikvarisk rekke* 2, 1948:5–78. Bergen.

Slomann, W. 1959. *Sætrangfunnet. Hjemlig tradition og fremmede inslag.* Norske oldfunn IX. Oslo.

Slomann, W. 1961. Buckelurnen aus der Völkerwanderungszeit in Norwegen. *Die Kunde.* Neue Folge 12, 1961:2–15.

Slomann, W. 1977. Der Übergang zwischen der späten Kaiserzeit und der frühen Völkerwanderungszeit in Norwegen. *Beiträge zur Chronologie der Völkerwanderungszeit.* Antiquitas, Reihe 3. 20:61–64. Bonn.

Sörling, E. 1939. Penningväskor från vikingatiden. *Fornvännen* 34, 1939:45–57.

Speake, G. 1989. *A Saxon bed burial on Swallowcliffe Down.* Archaeological Report no. 10. English Heritage. Historic Buildings & Monuments Commission for England.

Stenberger, M. 1964. *Det forntida Sverige.* Stockholm.

Stenvik, L.F. 1987. Tidlig jernproduksjon i Midt-Norge. *Nordkalotten i en skiftande värld – kulturer utan gränser och stater över gränser.* Studia historica septentrionalia 14:2:99–119. Rovaniemi.

Steuer, H. 1970. Historische Phasen der Bewaffnung nach Aussagen der archäologischer Quellen Mittel- und Nordeuropas im ersten Jahrtausend n. Chr. *Frühmittelalterliche Studien* 4. Band 1970:348–383.

Steuer, H. 1980. *Die Franken in Köln.* Köln.

Steuer, H. 1986. Helm und Ringschwert. Prunkbewaffnung und Rangabzeichen germanischer Krieger. Eine Übersicht. *Studien zur Sachsenforschung.* Band 6:189–236. Hildesheim.

Steuer, H. 1987. Der Handel der Wikingerzeit zwischen Nord- und Westeuropa aufgrund archäologischer Zeugnisse. *Untersuchungen zu Handel und Verkehr der vor- und frühgeschichtlichen Zeit in Mittel- und Nordeuropa.* Teil IV. Der Handel der Karolinger- und Wikingerzeit. Abhandl. Akad. Wiss. Göttingen, Philol.-Hist. Kl., F3. Göttingen.

Stjernquist, B. 1951. *Vä under järnåldern.* Skrifter utgivna av Kungl. humanistiska vetenskapssamfundet i Lund. XLVII. Lund.

Stjernquist, B. 1955. *Simris. On cultural connections of Scania in the Roman Iron Age.* Acta archaeologica Lundensia. Series in 4°. No. 2. Lund.

Stjernquist, B. 1974. Das Opfermoor in Hassle Bösarp, Schweden. *Acta Archaeologica.* Vol. 44, 1973:19–62.

Stjernquist, B. 1976. Grophusproblem. *Iskos* 1:72–79.

Stolpe, Hj. & Arne, T. J. 1912. *Graffältet vid Vendel.* KVHAA. Stockholm.

Straume, E. 1977. Glasgefäße mit Reparatur in norwegischen Grabfunden der Völkerwanderungszeit. *Marburger Studien* 1:273–282.

Straume, E. 1984. *Fasettslipte glass i nordiske graver fra 4. og 5. århundre e.Kr.* Unpublished thesis. Oslo.

Straume, E. 1987. *Gläser mit Facettenschliff aus skandinavischen Gräbern des 4. und 5. Jahrhunderts n. Chr.* The institute for comparative research in human culture. Serie B: Skrifter 73. Oslo.

Ström, F. 1954. *Diser, nornor, valkyrior. Fruktbarhetskult och sakralt kungadöme i Norden.* KVHAA, handlingar. Filologisk-filosofiska serien 1. Stockholm.

Svenberg, E. 1984. *Adam av Bremen. Historien om Hamburgstiftet och dess biskopar.* Stockholm.

Tempelmann-Maczyńska, M. 1985. *Die Perlen der römischen Kaiserzeit und der frühen Phase der Völkerwanderungszeit im mitteleuropäischen Barbaricum.* Römisch-Germanische Forschungen Band 43. Römisch-Germanische Kom-

mission des Deutschen Archäologischen Instituts zu Frankfurt a. M. Mainz.

Tholander, E. 1971. En teknikers funderingar om Norrlandsjärn och Tröndelags-salt i förhistoriskt handelsutbyte. *Fornvännen* 66, 1971: 1–17.

Thrane, H. 1984. En lille broncering fra Vedel Simonsens samling. *Fynske minder* 1983:51–64.

Thrane, H. 1991. Om Gudmes funktion. En tolkningsskitse. *Samfundsorganisation og regional variation. Norden under romersk jernalder og folkevandringstid.* Jysk Arkæologisk Selskabs Skrifter XXVII. 1991:259–266. Århus.

Thunmark-Nylén, L. 1981. Möbler. *Vikingatidens ABC.* 1981:177. Historia i fickformat. SHM. Stockholm

Tihelka, K. 1963. Das Fürstengrab von Blučina, Bez. Brno-Land, aus der Zeit der Völkerwanderung. *Památky archeologické* 54, 1963:467–498.

Törnblom, M. 1985. *Me, Selångers sn, Högom, grav 2, F15. Analys av guldplatt.* Unpublished report. Raä och SHM. Stockholm.

Törnquist, E. 1986. *Konserveringsrapport. Me, Selånger sn, Högom, Grav 2.* Sektionen för analys och allmän konservering. Tekniska institutionen. Dnr A 0078. Unpublished report, Raä och SHM. Stockholm.

Törnquist, E. 1989. Om konservering av järn och bronsföremål från Högom grav 2 (with a contribution of Mille Törnblom). *Konservering i fokus.* Museiarkeologi 4:18–25. SHM. Stockholm.

Varenius, C. 1961. En stormansgrav i Norrala. *Hälsingrunor* 1961:13–33.

Vierck, H. 1972. Prunksättel aus Gellep und Ravenna. *Archäologisches Korrespondenzblatt 2,* 1972:213–217.

Viklund, K. 1989. Jordbrukskris i Norrland i slutet av den äldre järnåldern? *Arkeologi i Norr* 2:95–105. Umeå.

Waller, J. & Hallinder, P. 1970. Cemetery 150. *Excavation at Helgö III.* Report for 1960–1964:160–199. KVHAA. Stockholm.

Walton, P. 1988. Dyes and wools in Iron Age textiles from Norway and Denmark. *Journal of Danish Archaeology* Vol. 7, 1988:144–158.

Watt, M. 1979. Depotfund fra Tingsted, Vestermarie. *Nyt fra Bornholms museum* 1978–79:28–32.

Wegraeus, E. 1973. Pilspetsar under vikingatid. *Tor* 1972–1973:191–208.

Weinhold, K. 1901. Über die Bedeutung des Haselstrauchs im altgermanischen Kultus und Zauberwesen. *Zeitschrift des Vereins für Volkskunde.* Elfter Jahrgang 1901:1–16.

Welinder, S. 1990. *Människor i Västeråstrakten för 1000 år sedan.* Västerås kulturnämnds skriftserie nr. 22. Västerås.

Wennberg, B. 1985. Iron Age agriculture at Trogsta, North Sweden. *Fornvännen* 80, 1985:254–262.

Werner, G. & Norgren, E. 1990. *Rapport, Me, Selånger sn, Högom. Föremål tillhörande Högom inlämnade för röntgen.* Unpublished report. Dnr 3772/90 RIK. Raä och SHM, tekniska institutionen. Stockholm.

Werner, J. 1956. *Beiträge zur Archäologie des Attila-Reiches.* Bayerische Akademie der Wissenschaften. Philosophisch-Historische Klasse. Abhandlungen, neue Folge, Heft 38 A. München.

Werner, J. 1973. Bemerkungen zur mitteldeutschen Skelettgräbergruppe Hassleben-Leuna. Zur Herkunft der ingentia auxilia Germanorum des gallischen Sonderreiches in den Jahren 259–274 n. Chr. *Festschrift für Walter Schlesinger.* Band I:1–30. Mitteldeutsche Forschungen. Band 74/I. Köln – Wien.

Werner, J. 1978. Blučina. *Reallexikon der Germanischen Altertumskunde.* Band 3:76–77.

Werner, J. 1986. Nachlese zum Schiffsgrab von Sutton Hoo. Bemerkungen, Überlegungen und Vorschläge zu Sutton Hoo Band 3 (1983). *Germania* 64, 1986:465–497.

Westfal, U. 1978. En tidig bondgård i Trogsta, Forsa sn, Hälsingland. *Hälsingerunor* 1978:54–60. Hudiksvall.

Willroth, K-H. 1992. *Untersuchungen zur Besiedlungsgeschichte der Landschaften Angeln und Schwansen von der älteren Bronzezeit bis zum frühen Mittelalter. Eine Studie zur Chronologie, Chorologie und Siedlungskunde.* Siedlungsarch. Unters. Angeln u. Schwansen 1. Offa-Bücher 72. Neumünster.

PERSONAL COMMUNICATION

Ambrosiani, B. National Historical Museum. Stockholm.

Biörnstad, M. Central Board of National Antiquities. Stockholm.

Kroll, H. & Tafel, E. Institut für Ur- und Frühgeschichte, Christian-Albrechts-Universität. Kiel.

Lindqvist, A-K. University of Umeå, Department of archaeology. Umeå.

Nockert, M. Central Board of National Antiquities and National Historical Museum, department of textile. Stockholm.

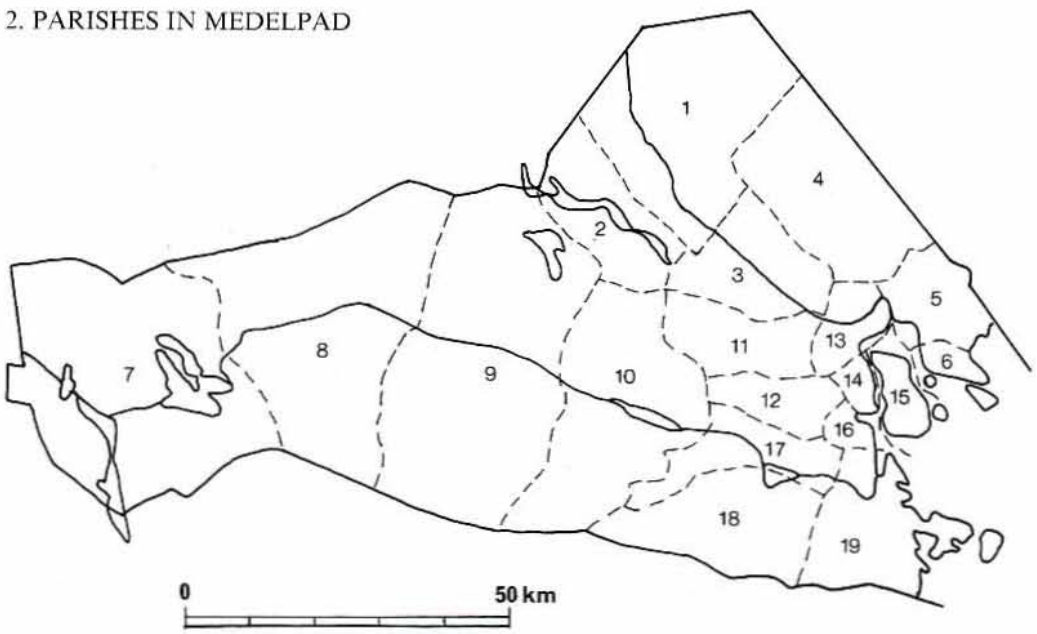
Petré, R. Institute of Archaeology. Univer

GUIDANCE FOR THE READER

1. ABBREVIATIONS USED IN TEXT

AD	Anno Domini
ATA	Antikvarisk-Topografiska Arkivet (Antiquarian-Topographical Archives), Stockholm
AW	Arable weeds
B	Breadth
BB	Burnt bones
BC	Before Christ
BF	Berries and fruits
BS	Burnt stones
CP	Cultivated plants
DLAM (⌀)	Diameter
dnr	Diarienummer (official register-number of documents)
DL	Documentation level
fr	fragment
GP	Grassland plants
H_W	House width
INT	Internal
L	Length
Lev	Level
LH	Left-hand
M	Mean value
m a.s.l.	metre above sea level
n	number of observations
No	Number
P^O	Phosphate degree
Raä (raä)	Riksantikvarieämbetet (Central Board of National Antiquities)
RH	Right-hand
SHM	Statens Historiska Museer (National Historical Museums)
SP	Shore plants
Tr_w	Trestle width
W	Weight
W_{tot}	Total weight
VOL	Volume

2. PARISHES IN MEDELPAD



1. Liden
2. Holm
3. Indal
4. Ljustorp
5. Hässjö
6. Tynderö
7. Haverö
8. Borgsjö
9. Torp
10. Stöde
11. Sättna
12. Selånger
13. Timrå
14. Skön
15. Alnö
16. Sundsvall
17. Tuna
18. Attmar
19. Njurunda

3. PLANT NAMES MENTIONED IN TEXT AND TABLES

Botanical name	English	Swedish
Atriplex	orache	mållor
Avena sativa	oats	havre
Carex	sedge	starr
Chenopodium album	fat hen	svinmålla
Cruciferae	cruciferae	korsblommig
Eleocharis palustris	common spike-rush	knappsäv
Erysimum cheiranthoides	wild mustard	åkerkårel
Galeopsis bifida cf	hemp-nettle	toppdån
Galium	galium	måra
Galium aparine	goose-grass	snärjmåra
Graminae	grass	gräs
Hordeum vulgare	barley	korn
Isatis tinctoria	woad	vejde
Juniperus	juniper	en
Linum usitatissimum	flax	lin
Luzula	wood-rush	fryle
Plantago major	greater plantain	groblad
Poaceae	meadow grasses	gräs
Polygonum aviculare	knot-grass	trampört
Polygonum convolvulus	black bindweed	åkerbinda
Polygonum lapathifolium	pale polygonum	pilört
Potamogeton	pondweed	nate
Potentilla	cinquefoil	fingerört
Prunella vulgaris	prunella, self-heal	brunört
Ranunculus repens	creeping buttercup	revsmörblomma
Reseda luteola	weld	vau el. färgreseda
Rhinanthus	vattles	skallror
Rosa	roses	rosväxter
Rubia tinctoria	madder	krapp
Rubus idaeus	raspberry	hallon
Rumex acetosella	sheep's sorrel	bergsyra
Rumex crispus	curled dock	krusskräppa
Salix	willows	viden
Secale cereale	rye	råg
Stachys	woundwort	syskor
Stellaria media	common chickweed	våtarv
Thalictrum	rues	rutor
Trifolium repens	white clover	vitklöver
Vicia	vetch	vicker

4. CHRONOLOGICAL TERMS USED IN TEXT

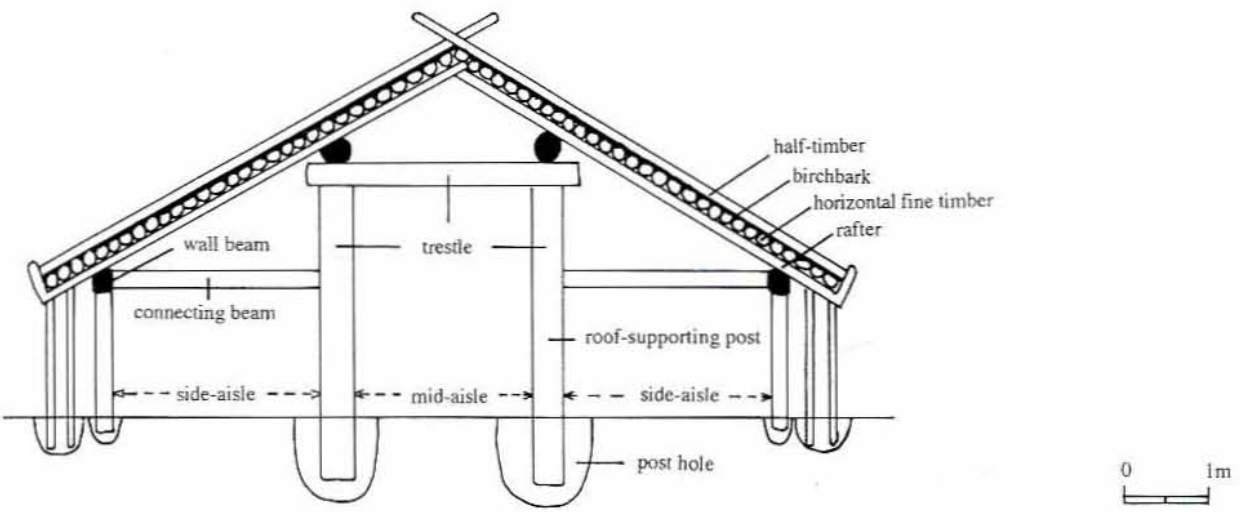
Bronze Age 1800–500 BC

Pre-Roman Iron Age 500–1 BC

Early Iron Age AD 1–600.
- Early Roman Iron Age AD 1–200
- Late Roman Iron Age AD 200–400
- Migration Period AD 400–600

Late Iron Age AD 600–1100
- Vendel Period AD 600–800
- Viking Period AD 800–1100

5. HOUSE CONSTRUCTION TERMS



PLATES 1–154

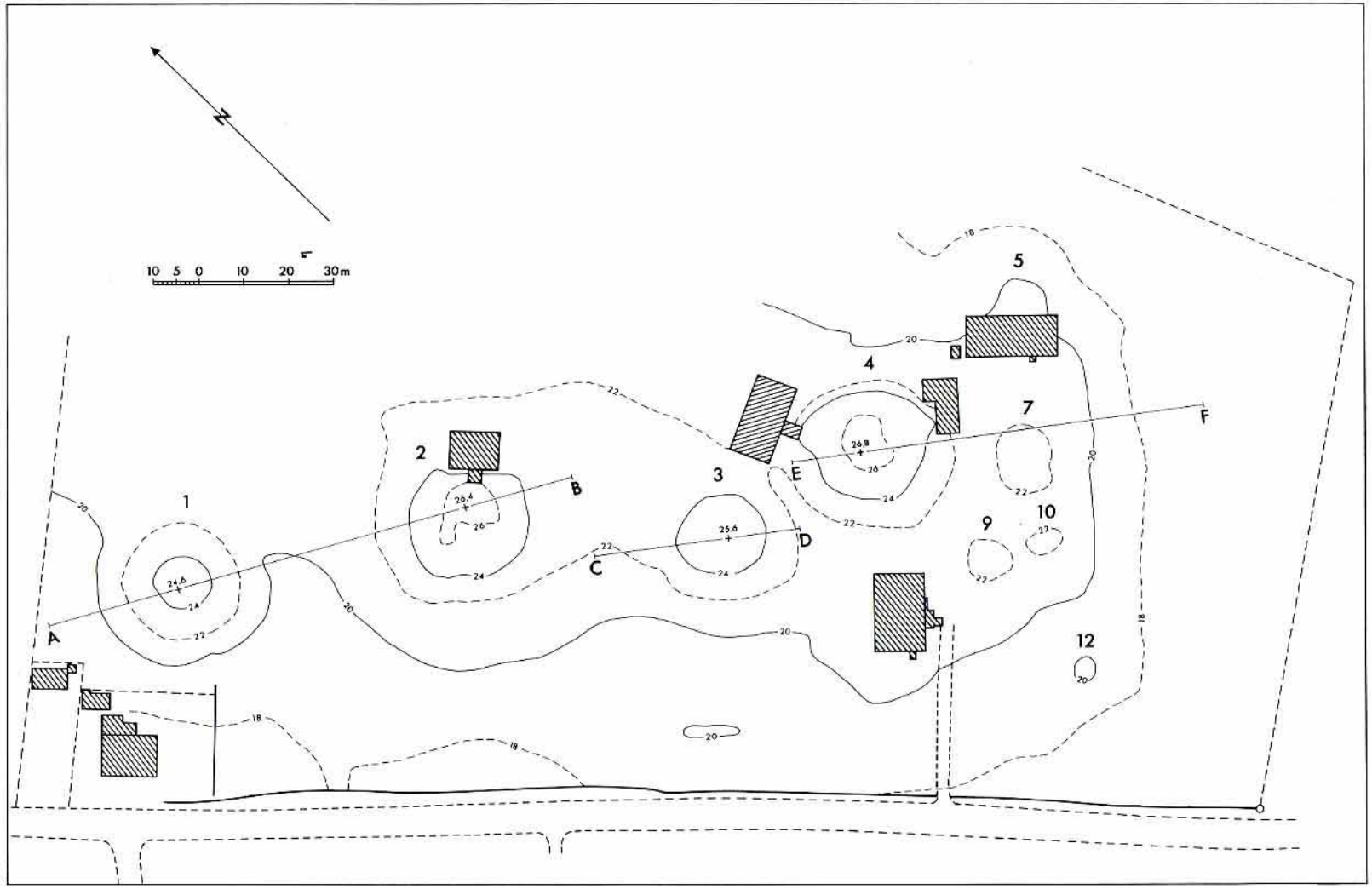


Plate 1. Harry Fager's documentation of the Högom grave-field in 1946. *a*) level map with 1 m equidistance and the buildings existing at the time. *b*) profile of mound 1, 2, 3 and 4, and the edge of mound 7 from the SSW.

Plate 2. Finds in the filling of mound 2. The intact crucible.

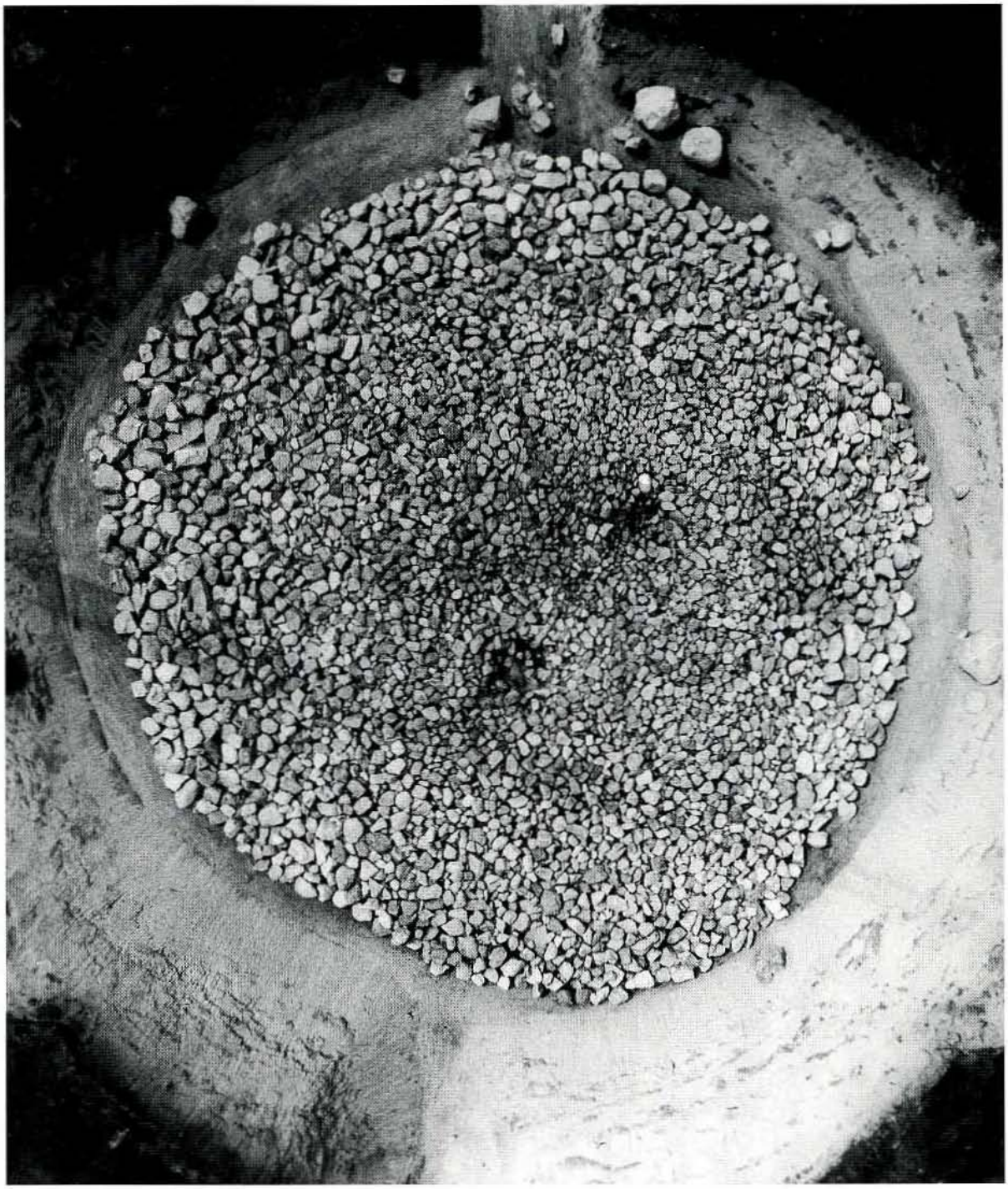


Plate 3. Tower photograph of the central cairn in mound 2.

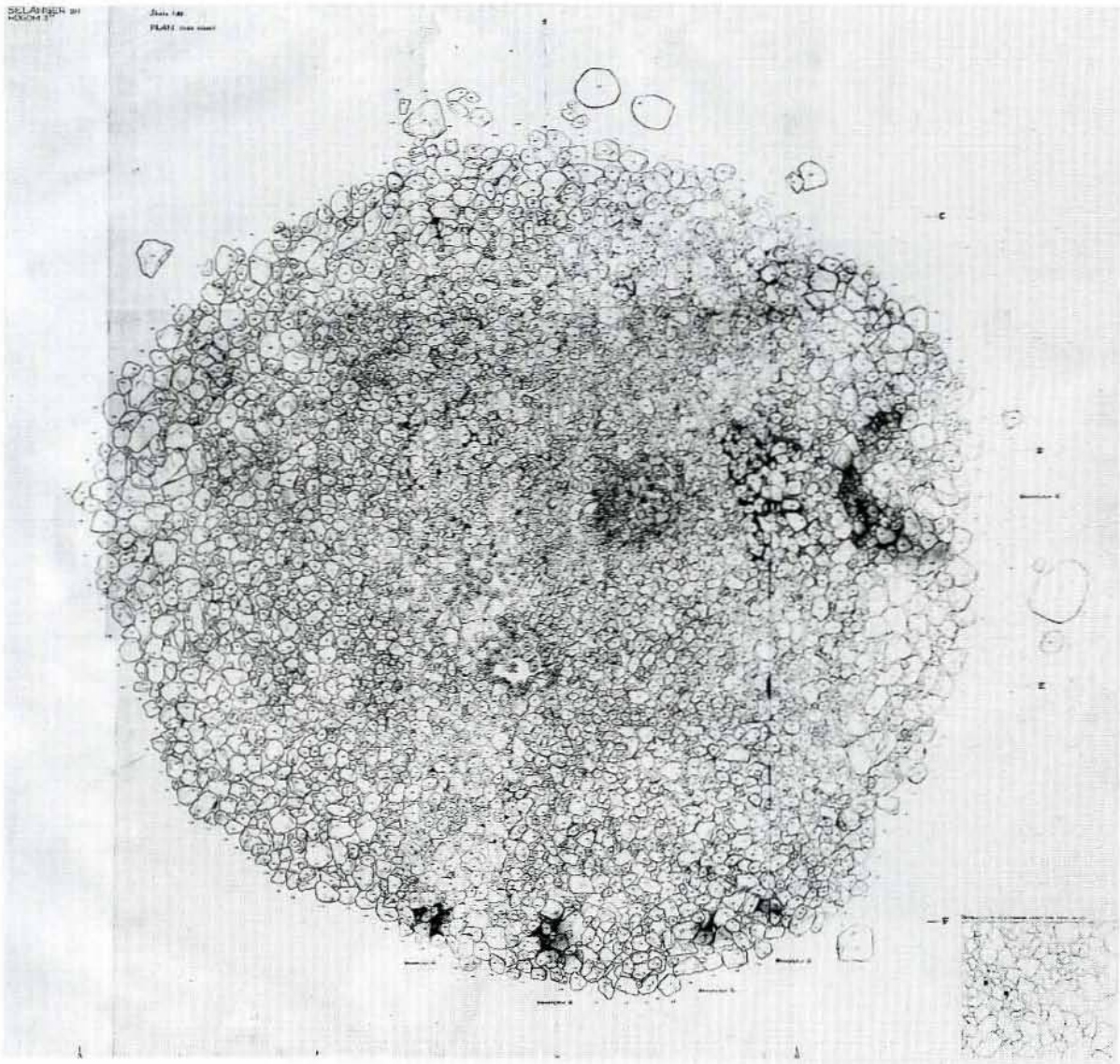


Plate 4. Plan drawing of the central cairn in mound 2.

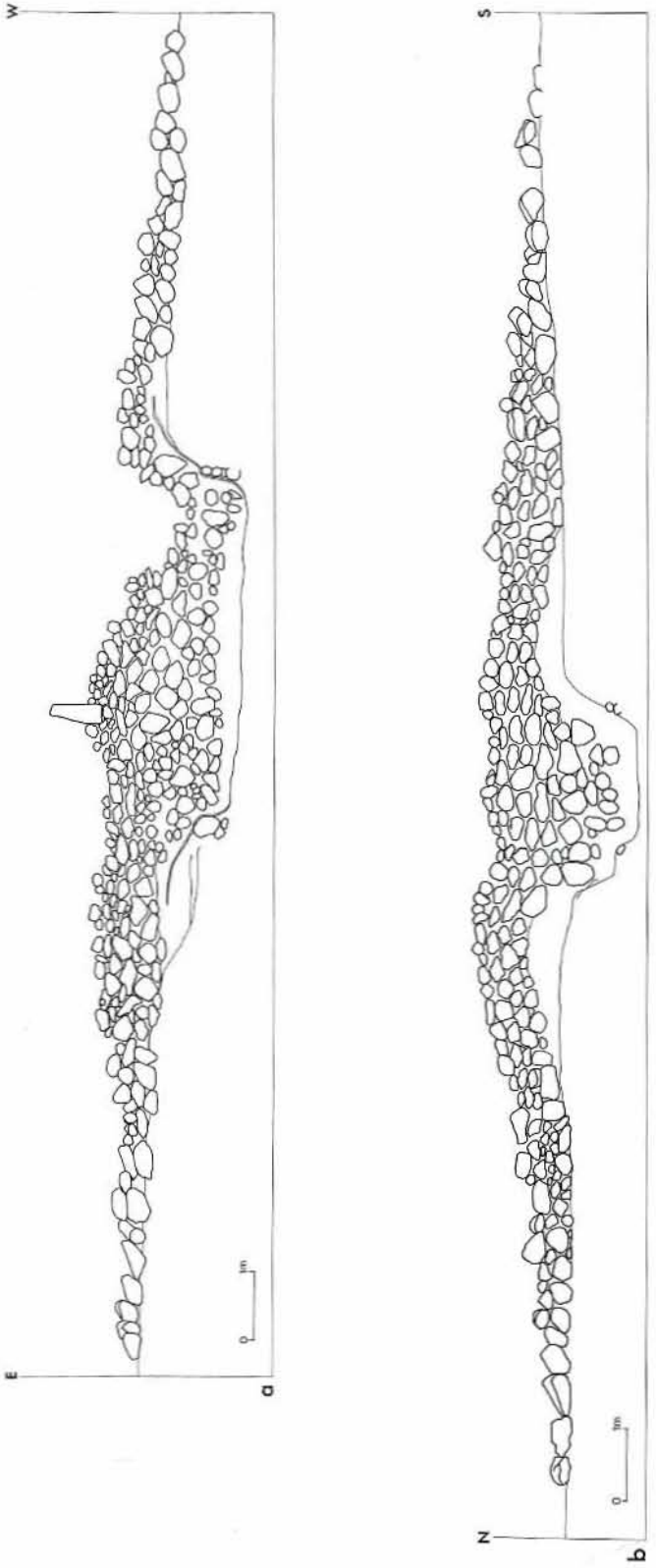


Plate 5. Profiles of the central cairn. *a*) E–W direction. *b*) N–S direction.

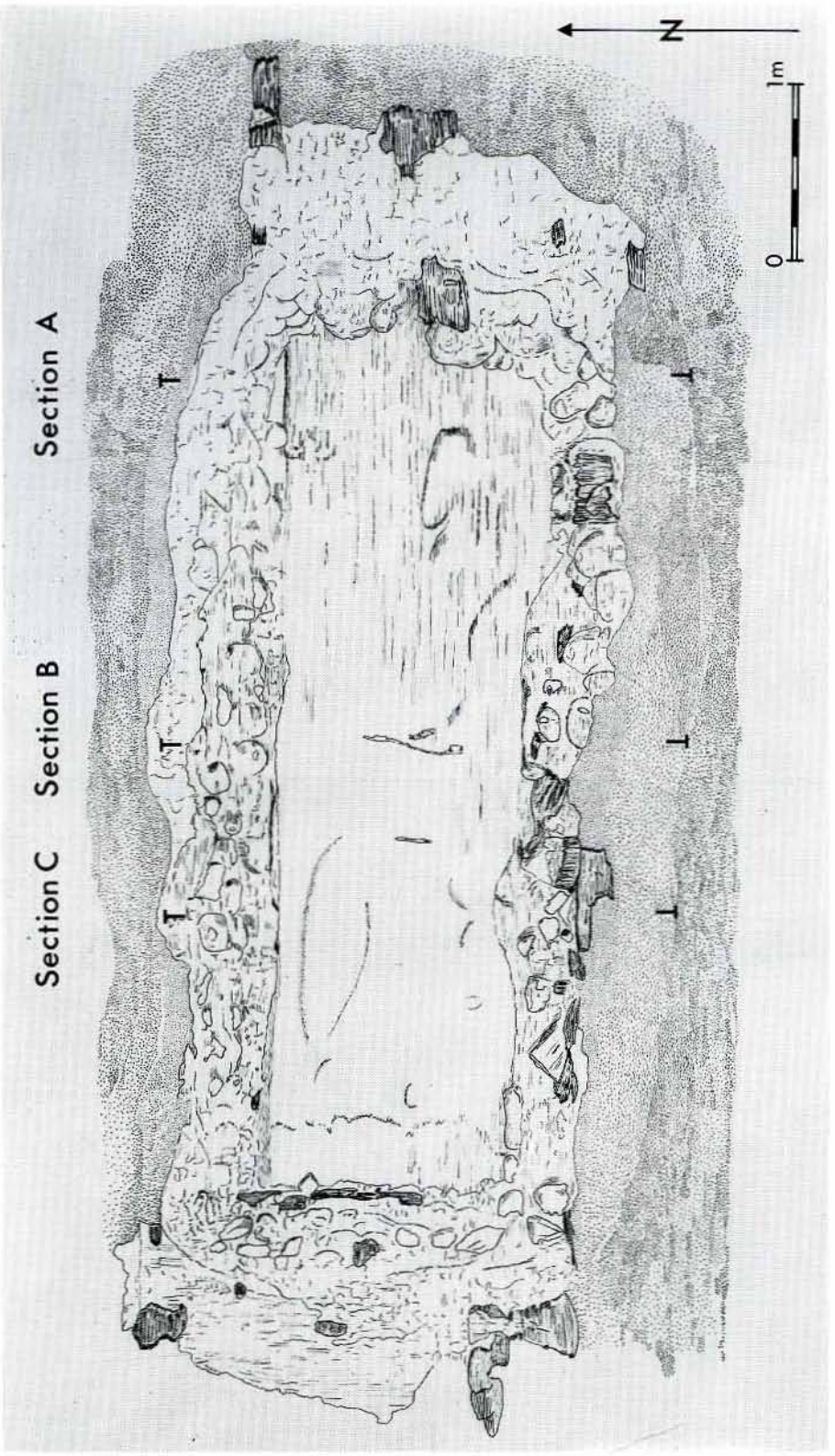
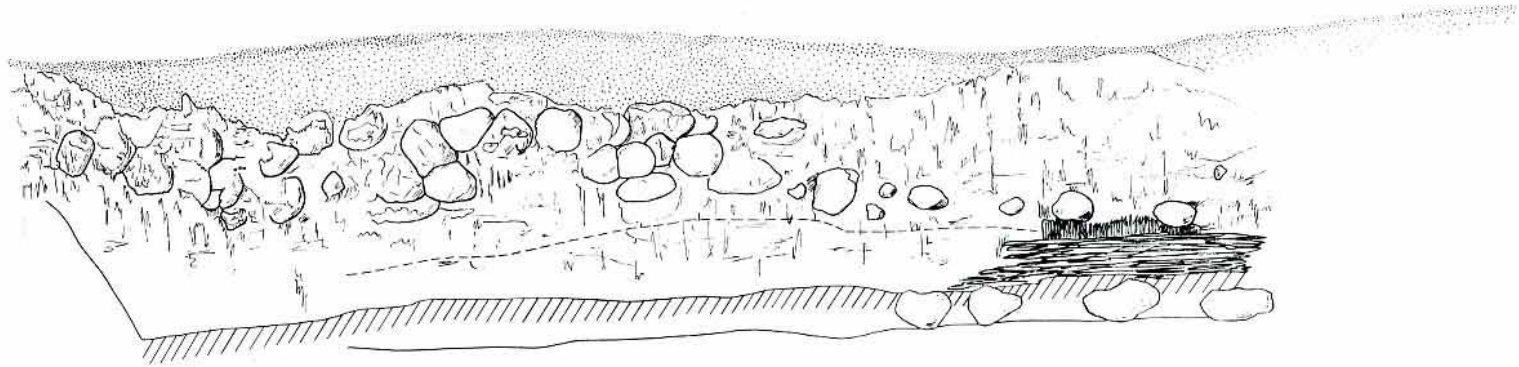


Plate 6. Field plan of the chamber.



From S

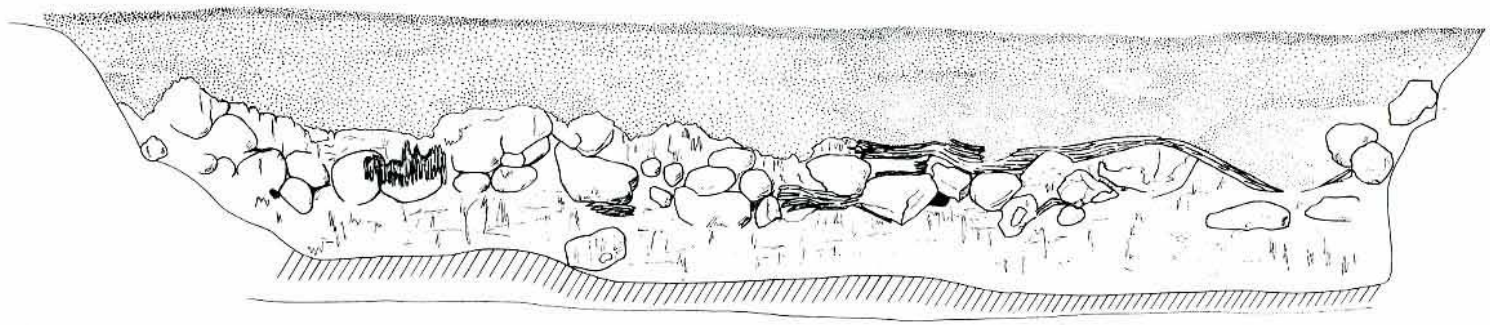


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Plate 7. Length-sections through the chamber. *a*) north side of the chamber. *b*) south side of the chamber.

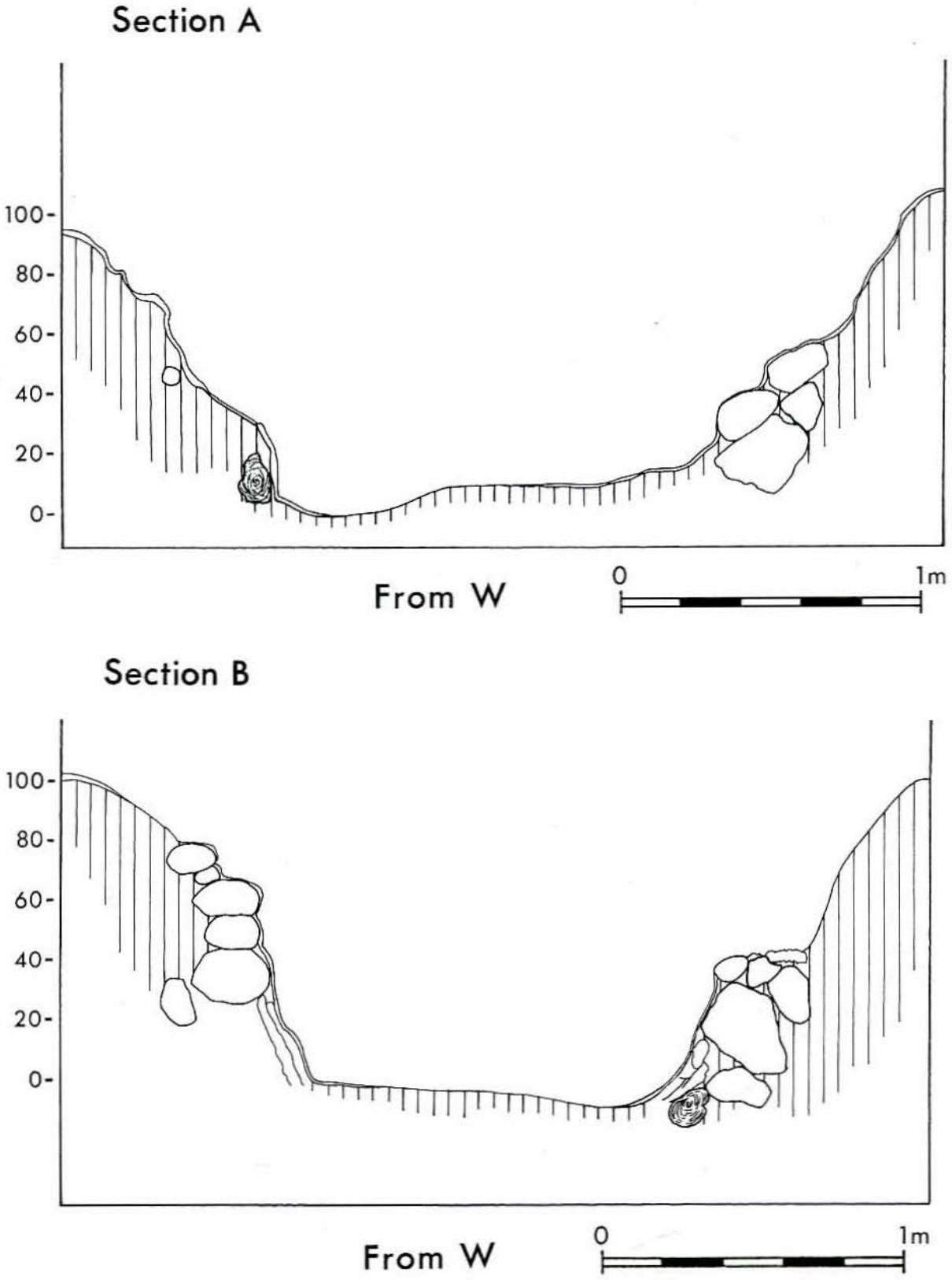


Plate 8. Cross-sections A and B through the chamber, (cf. Pl. 6).

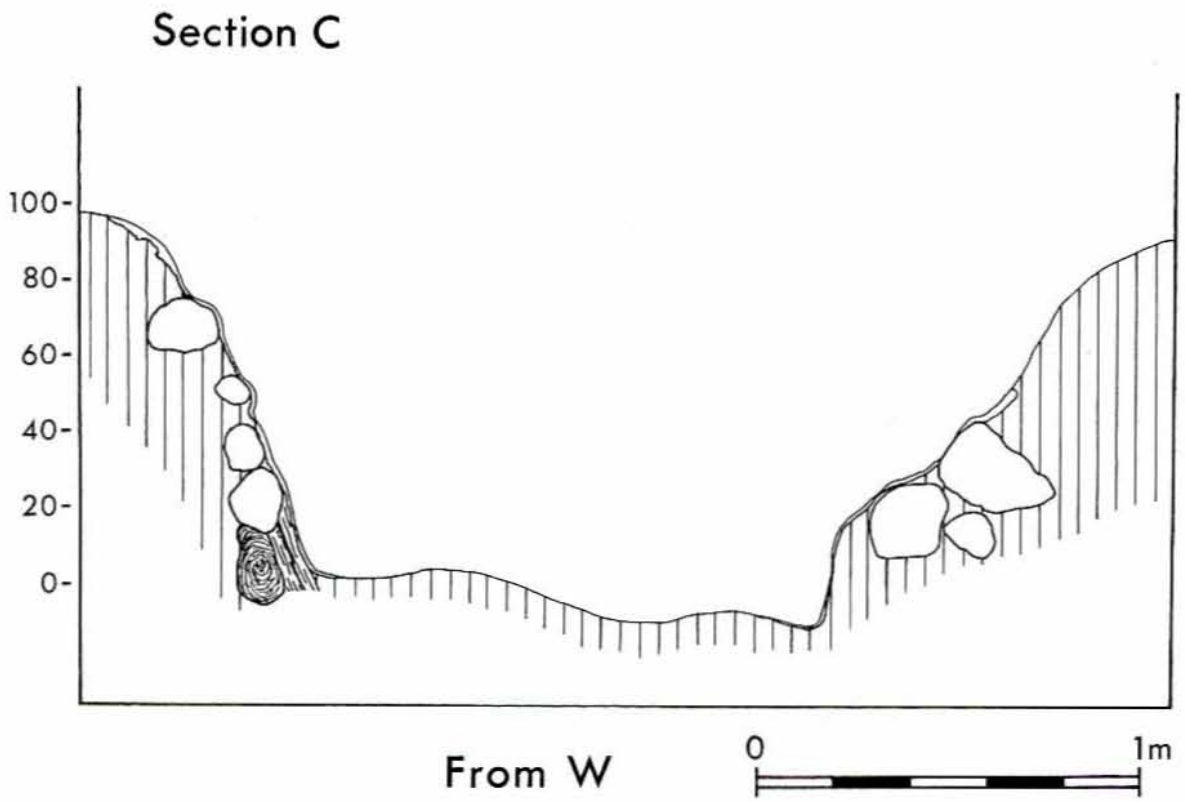


Plate 9. Cross-section C through the chamber, (cf. Pl. 6).

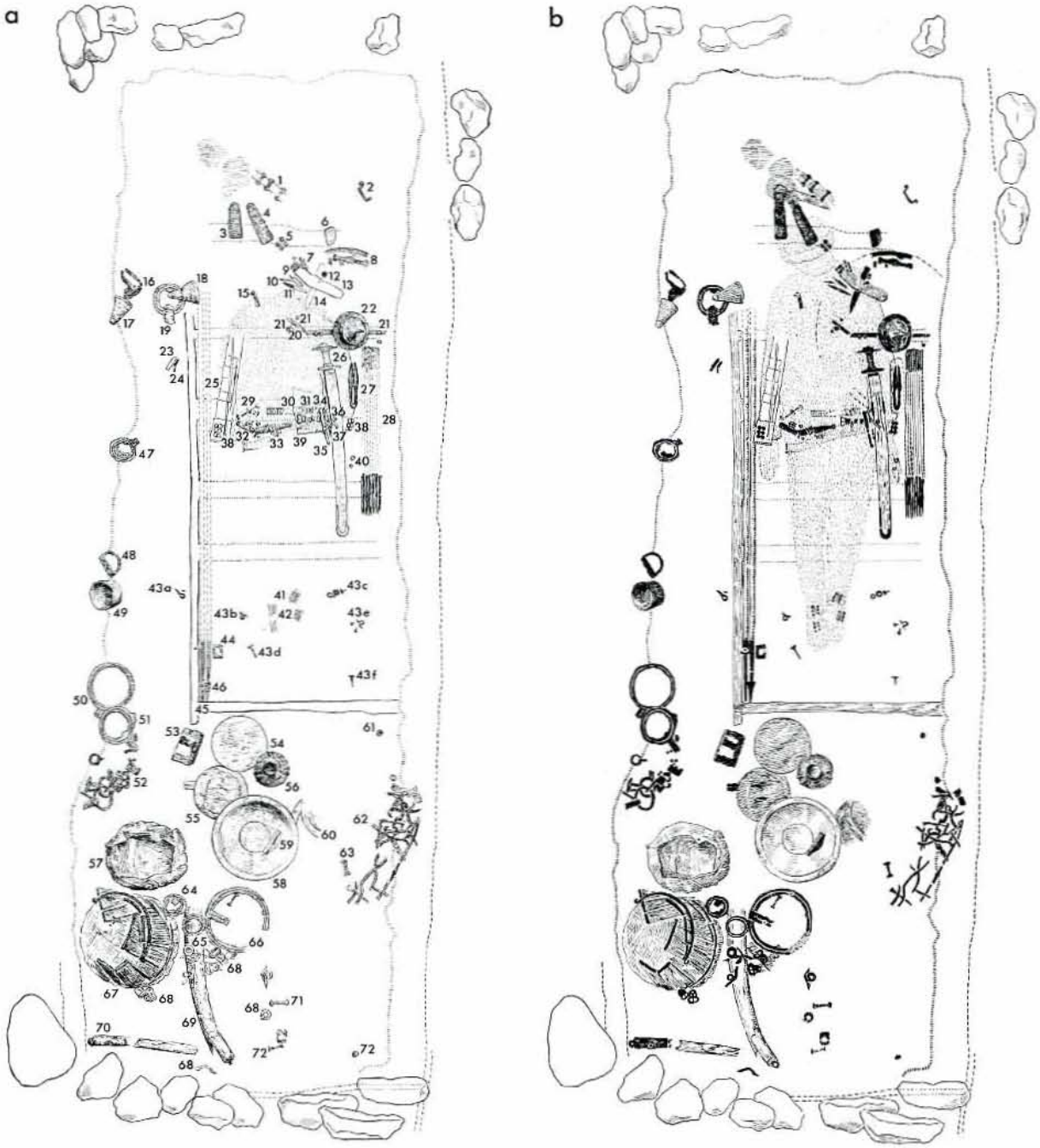


Plate 10. Selling's plans of the burial chamber in mound No. 2. *a*) plan showing the find numbers. These numbers are not used in this work. *b*) a more elaborate plan without find numbers and with the position of the deceased shown according to Selling's interpretation.

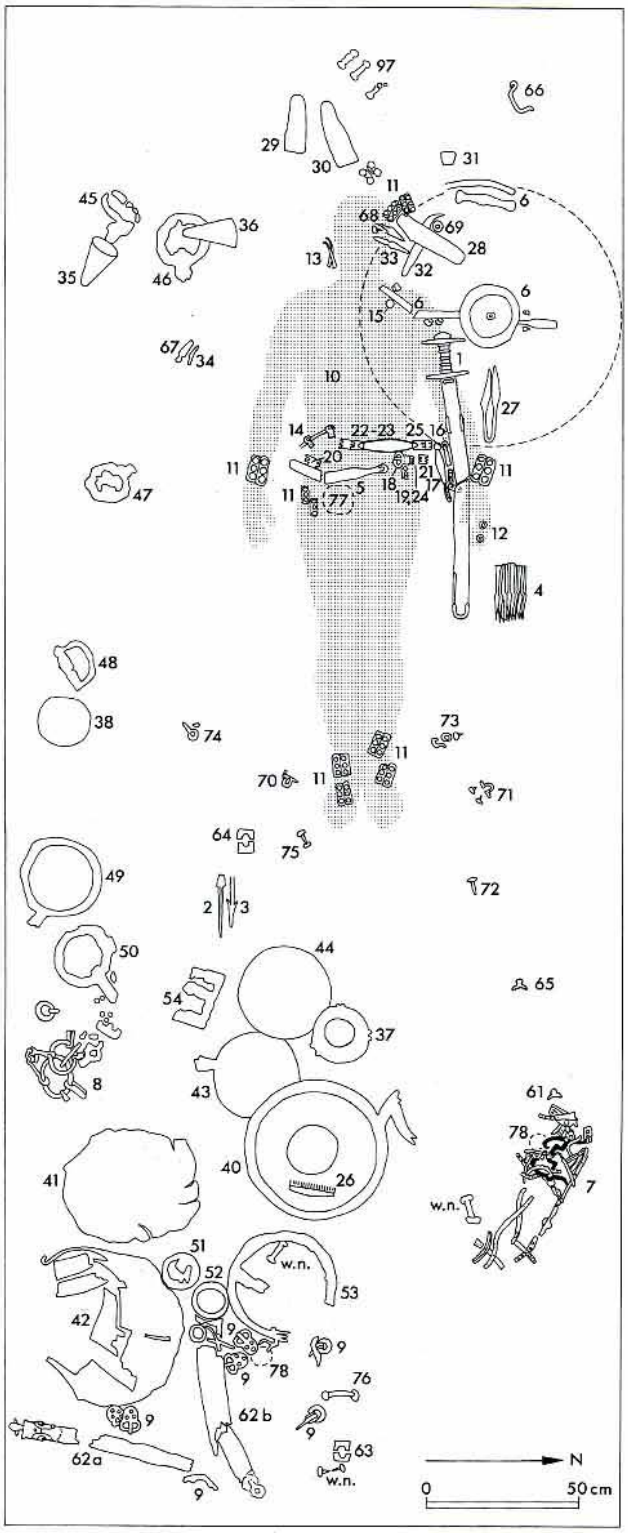
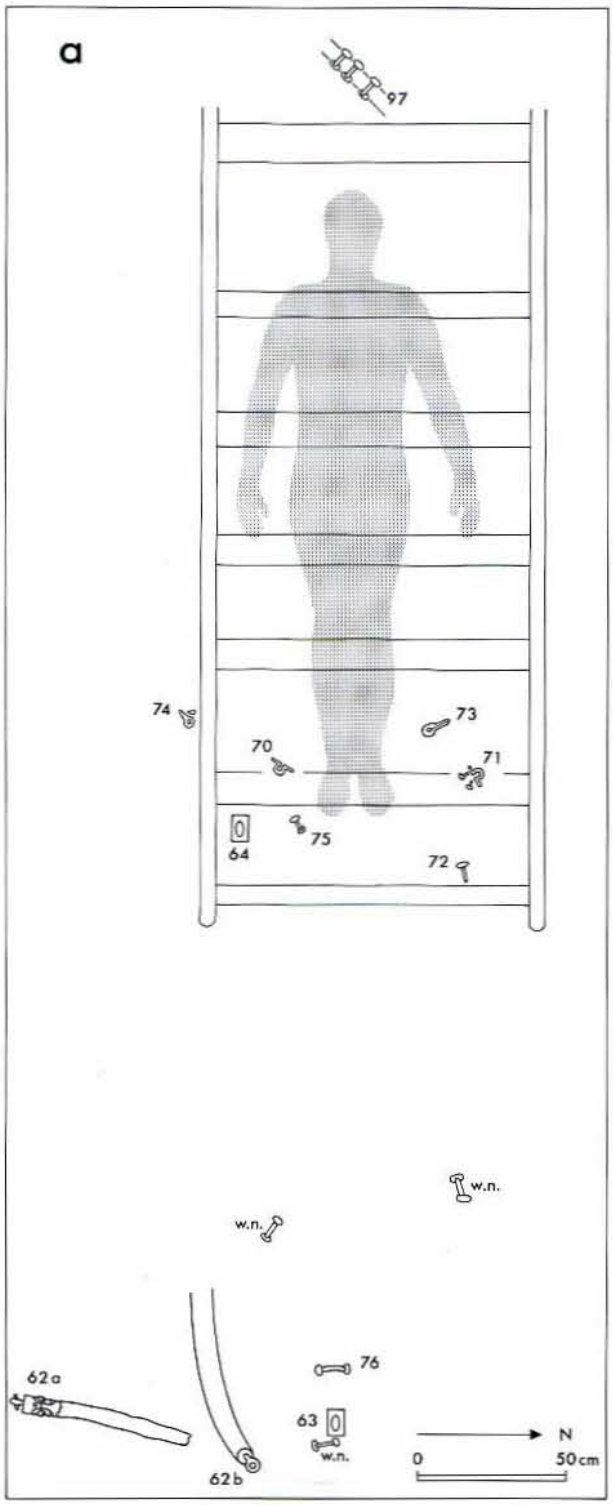


Plate 11. Find plan of the chamber in mound No. 2, prepared on the basis of X-ray photographs, showing the find numbers used in this work. The position of the deceased as it is interpreted by the author is shown shaded. I = iron, B = bronze, S=silver, G = gold.

1 Sword
2 Lance point, I
3 Spear point, I
4 Arrow points, 36, I
5 Fighting knife, I
6 Shield, boss and mounts, I
7 Battle bridle, I, B
8 Common bridle, I
9 Saddle, mounts, B
10 Remains of clothing, textiles
11 Clasp buttons, 68 examples, S, B
12 Two finger rings, G
13 Two pendants, G
14 Two small gold bars (in the belt bag), G
15 Tablet, G
16 Tweezers, S
17 Fire tool, I
18 Belt buckle, B
19 Strap end mount, B (under Nos. 18, 21)
20–21 Strap mounts, B
22–23 Strike-a-light stone with mounts, B
24 Strap mounts, B (under Nos. 18, 21)
25–26 Two combs, bone
27 Shears, I
28 Shears, I, in wooden case
29–30 Two axes, I
31 Whetstone
32–33 Two knives, I
34 Awl (?), I
35 Glass beaker, with facets
36 Glass beaker, with ovals
37 Black-polished beaded ceramic vessel
38 Bucket-shaped ceramic vessel
39 (Not used)
40 Dish, B
41 Vestland cauldron, B
42 Wooden tub, with iron fittings
43–44 Two wooden dishes
45–54 Resin caulkings of swept vessels
55–60 Resin caulkings of swept vessels (position not shown)
61 Spur, I
62 Wooden rod with animal head
63–64 Mounts, I
65 Spur, I
66 Handle, I
67 Implement (?), I
68 Knife (?), I
69 Ring for the leather pouch, B
70–75 Eyelets, nails and rivet for the bed, I
76 Rivet, I
77 Hazelnuts, 25–30 in a leather pouch by the belt
78 Two hazelnuts
79–89 Fragments of organic material (position not shown)
90 Fragment, I, (position not known)
91–96 Fragments of organic material (position not shown)
97 Rivets belonging to the bed (?), I
w.n. = without number. The find spot of these objects are known, but they have not been found again neither in the stores nor by old notes by Selling.

Plate 12. The bed in the course of excavation in the laboratory.



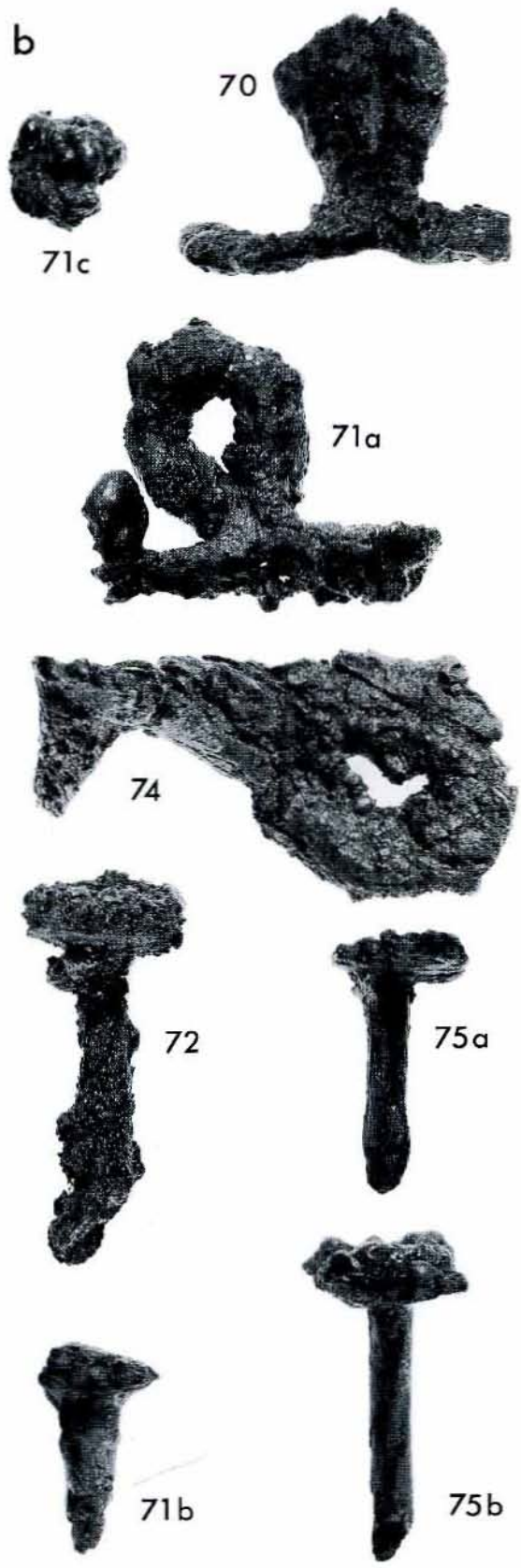


Plate 13. The bed with rivets, nails and fittings and other possible pieces of furniture. *a*) the position of the bed and the possible accessories in the chamber. *b*) iron eyelets and nails belonging to the bed.

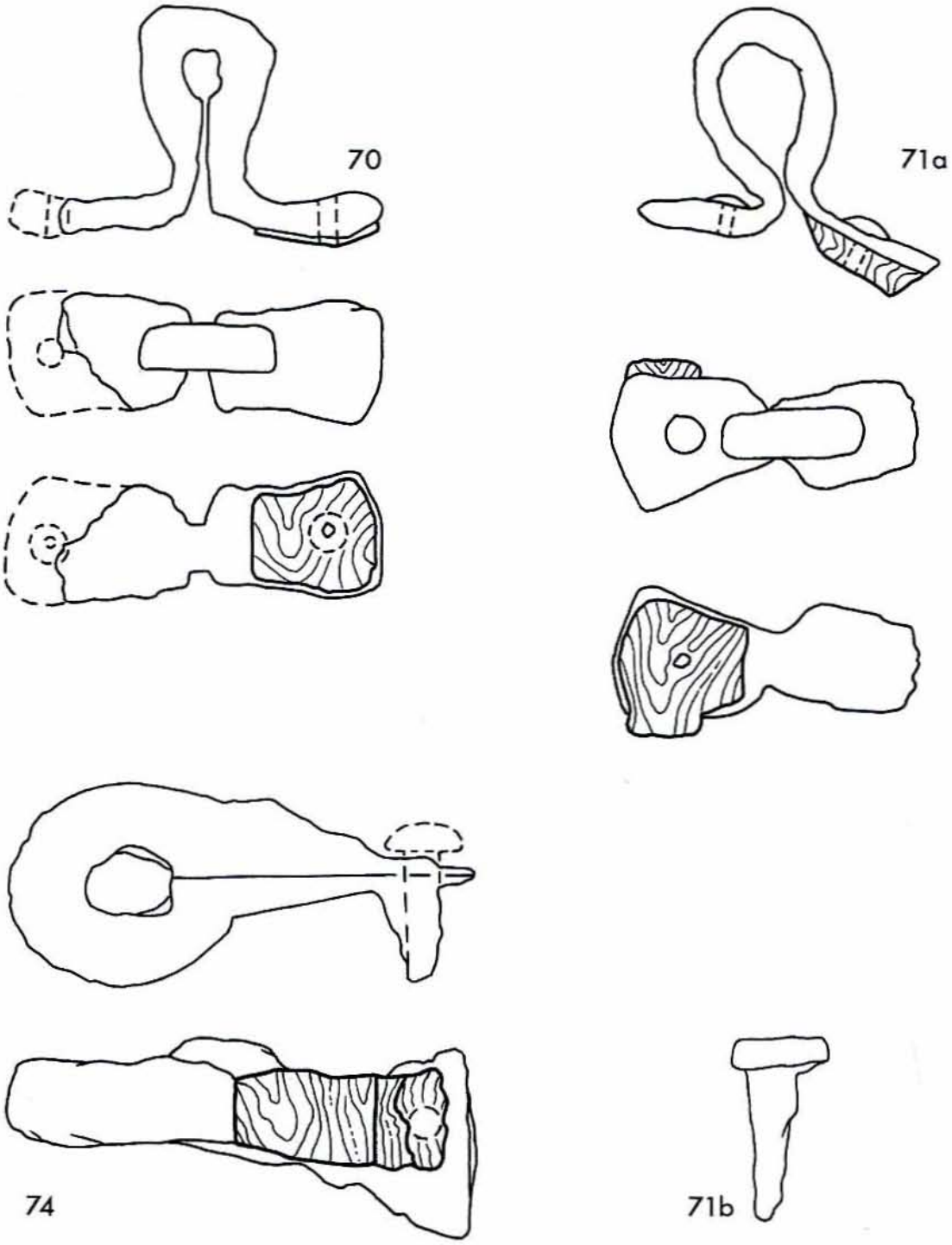


Plate 14. Drawing of the iron eyelets from the bed.

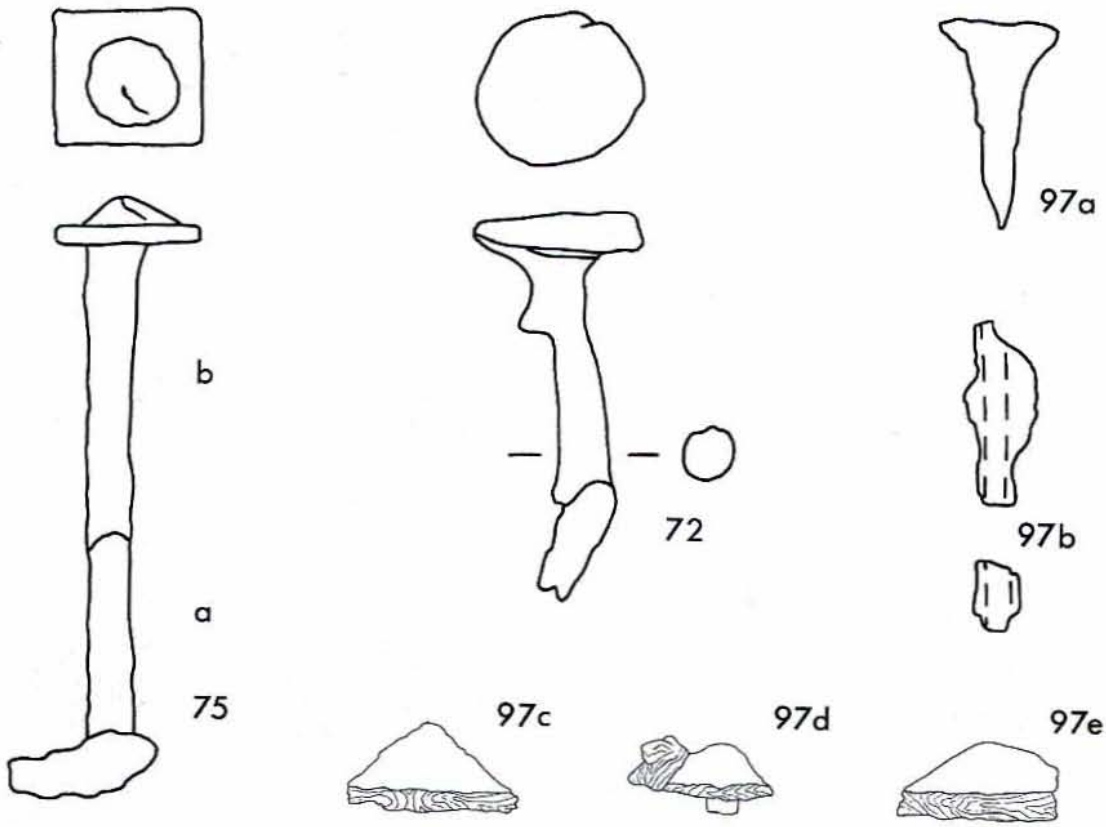


Plate 15. Drawing of the nails and rivets from the bed.

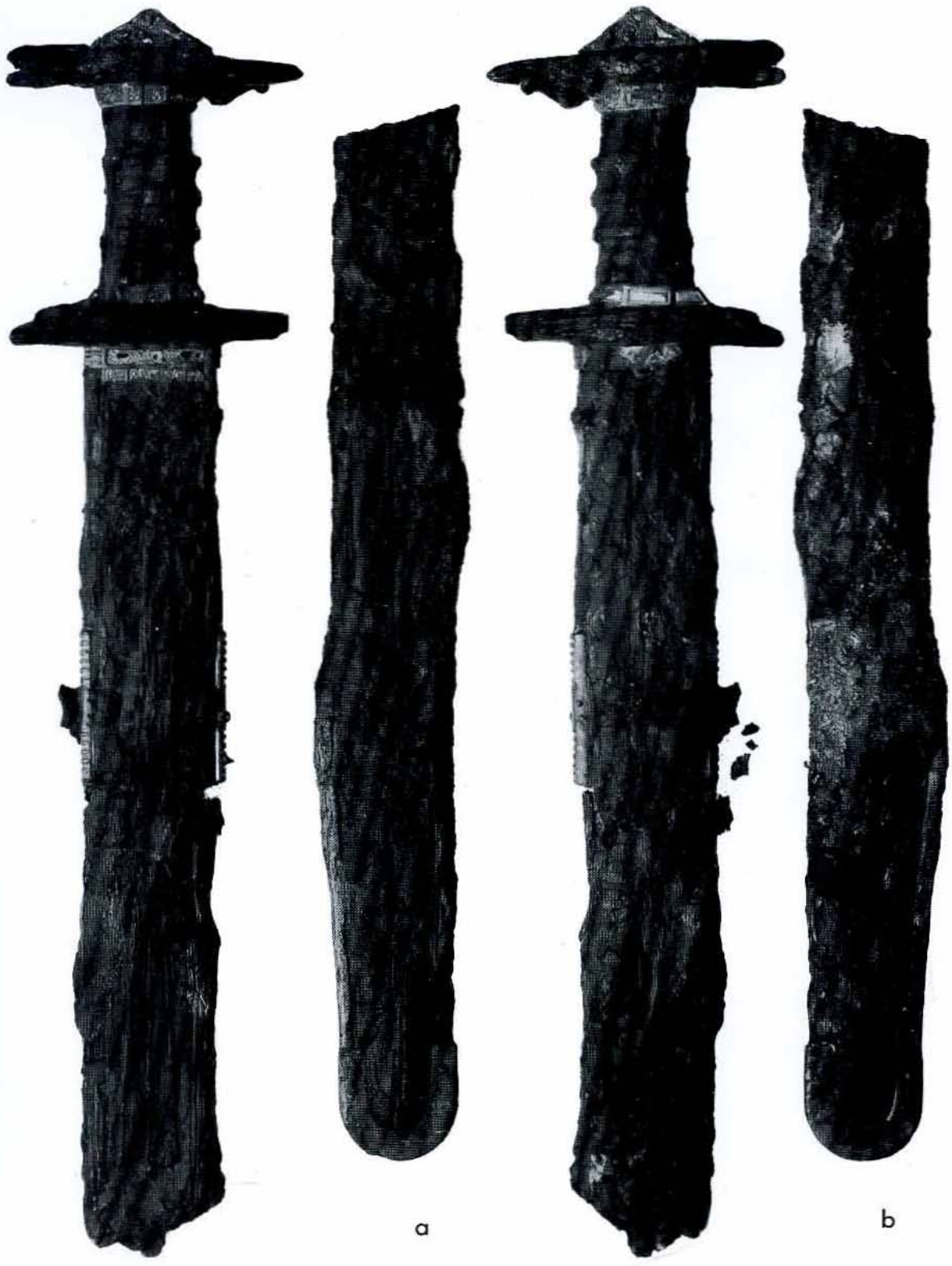
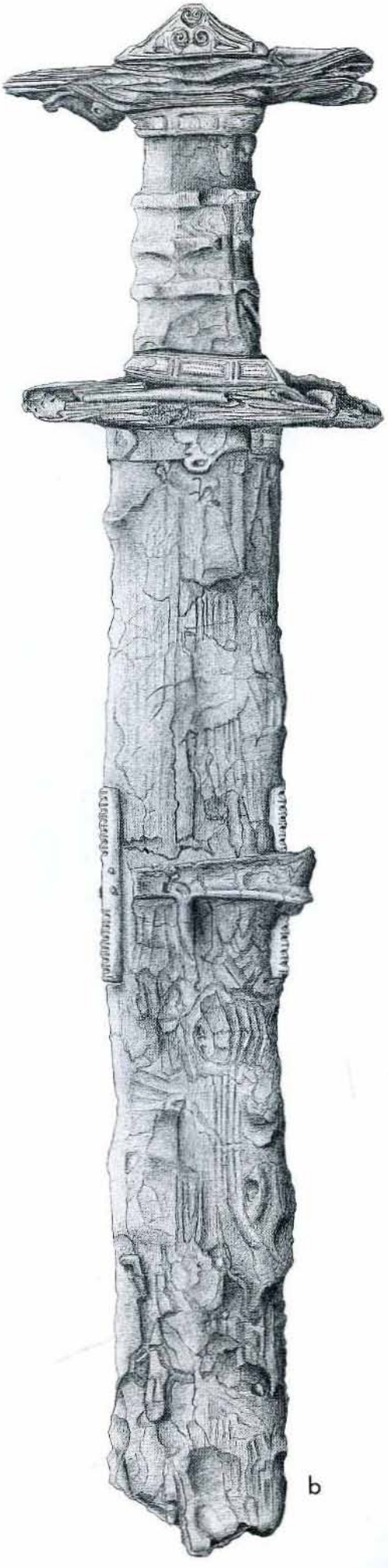


Plate 16. The sword. *a*) front side *b*) rear side.

a



b

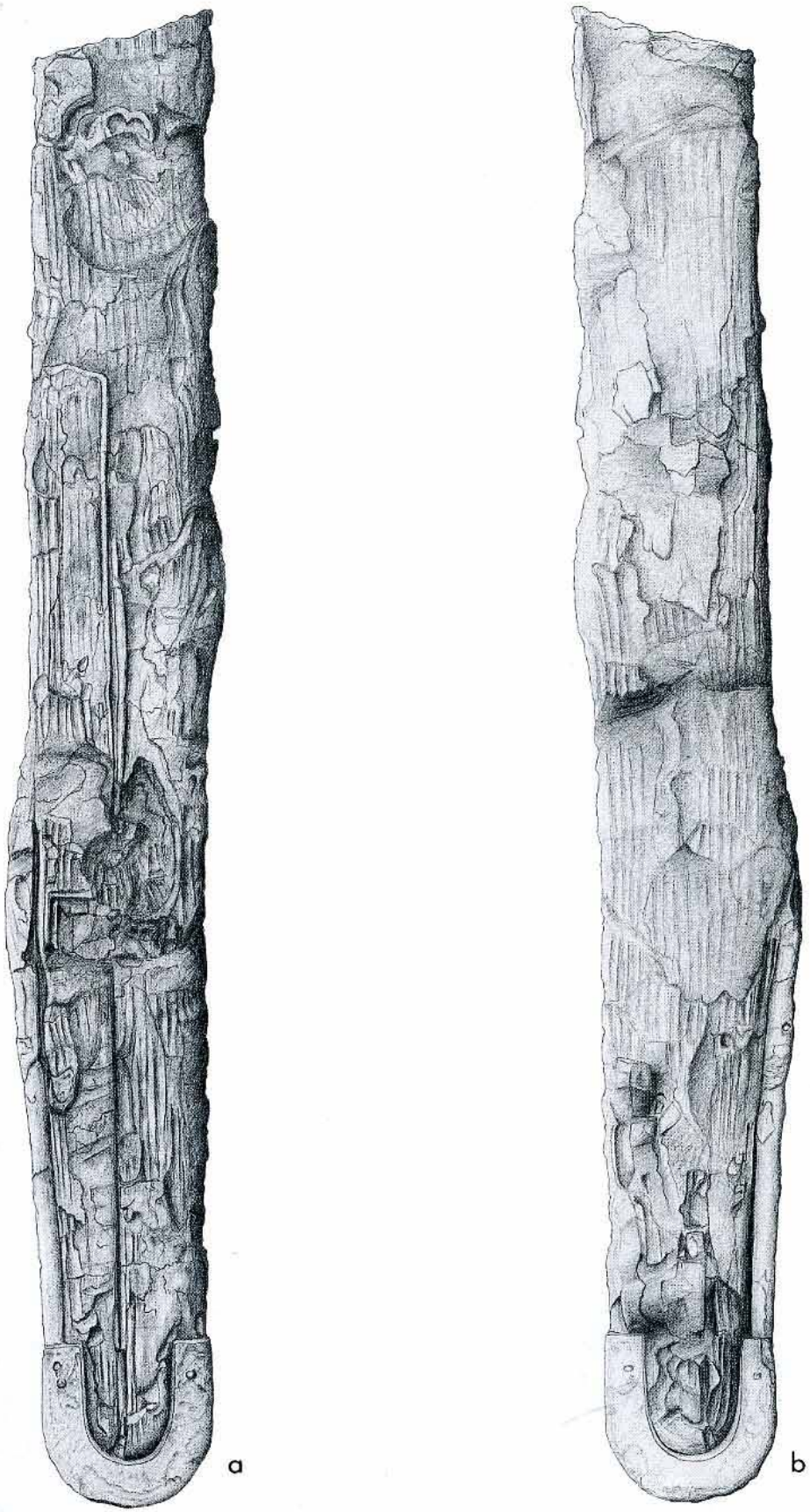


Plate 17. Drawing of the sword. *a*) front side *b*) rear side.

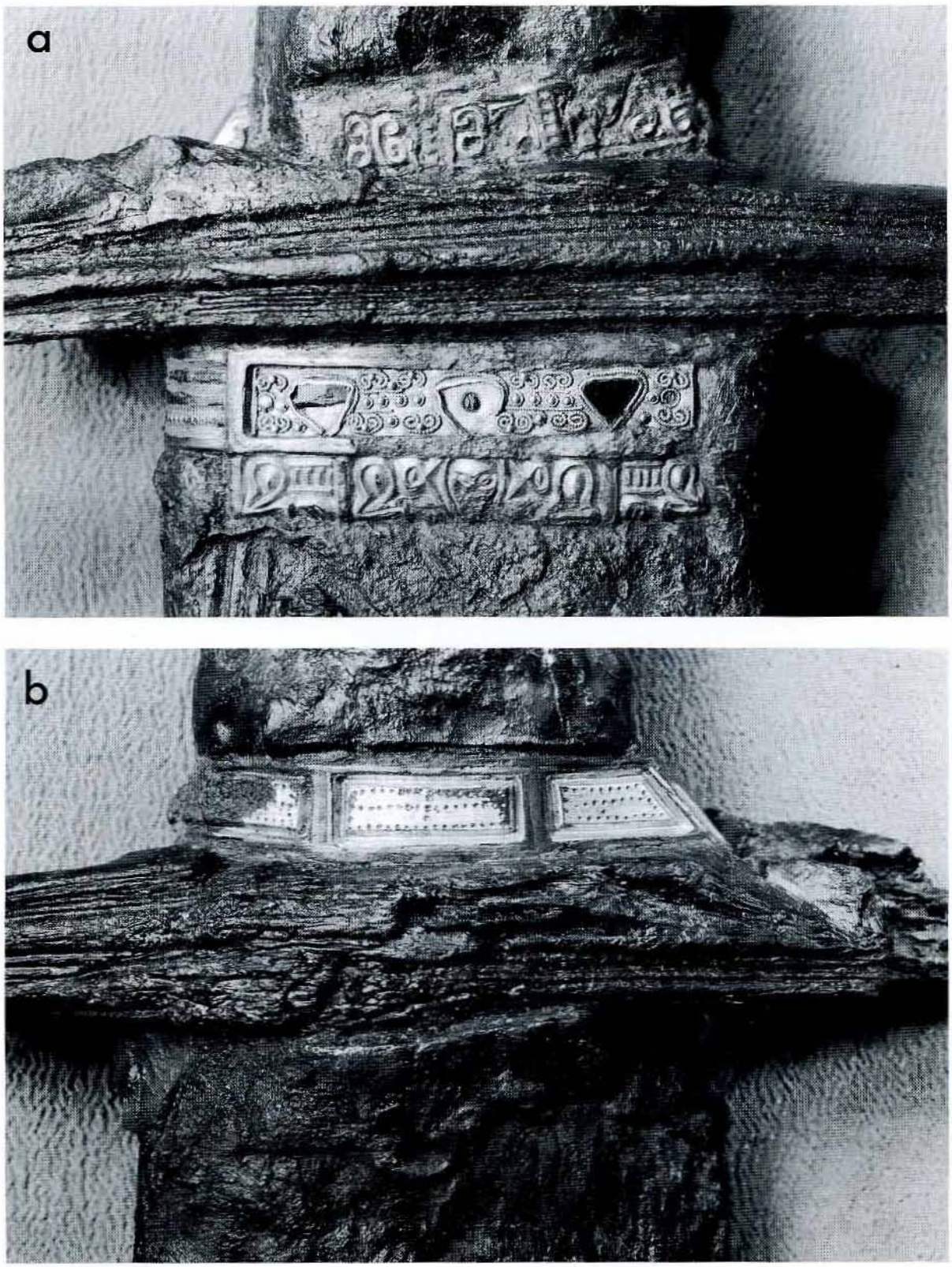


Plate 18. Mouth piece of the sword. *a*) front side *b*) rear side.

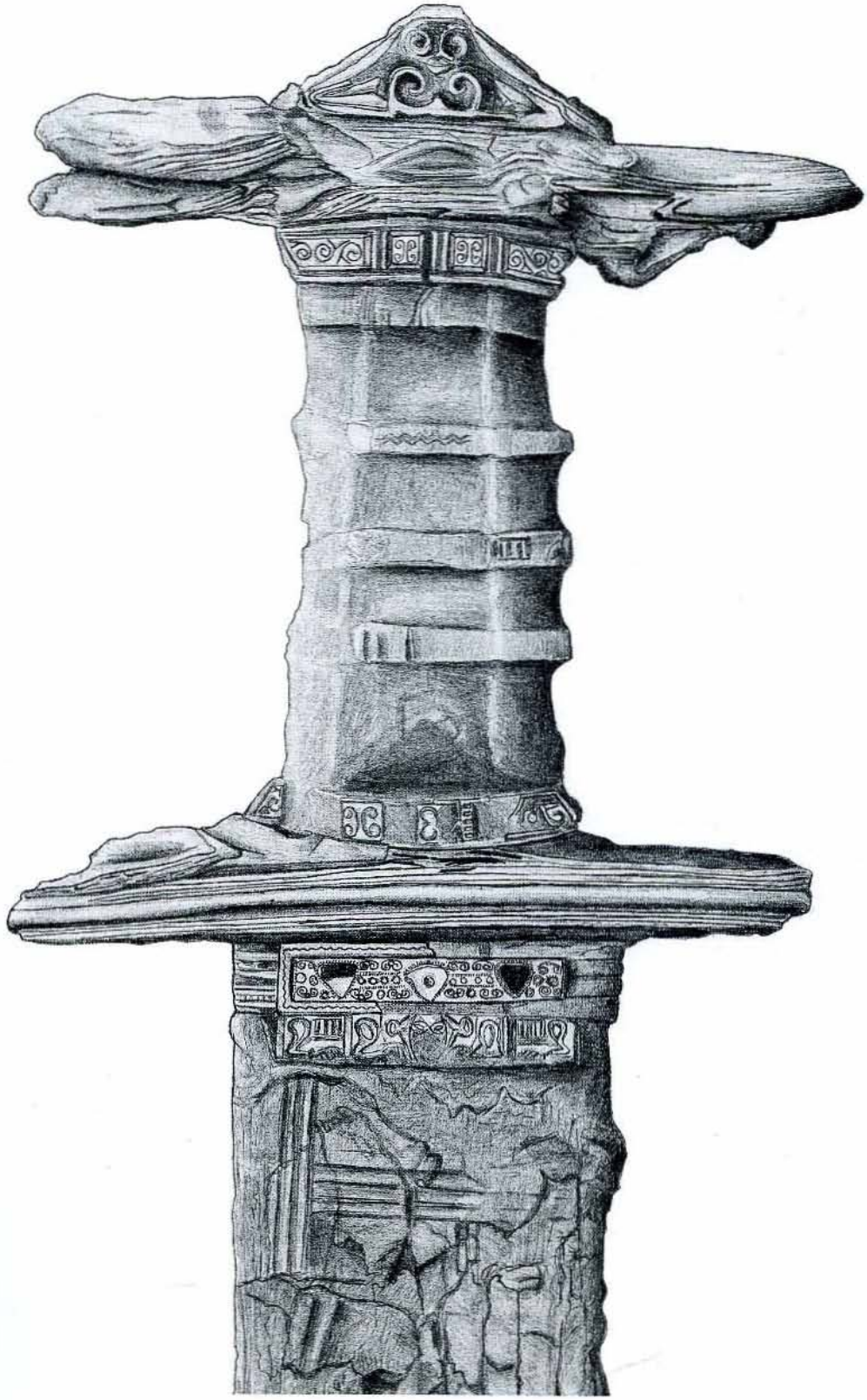


Plate 19. The sword hilt, front side.

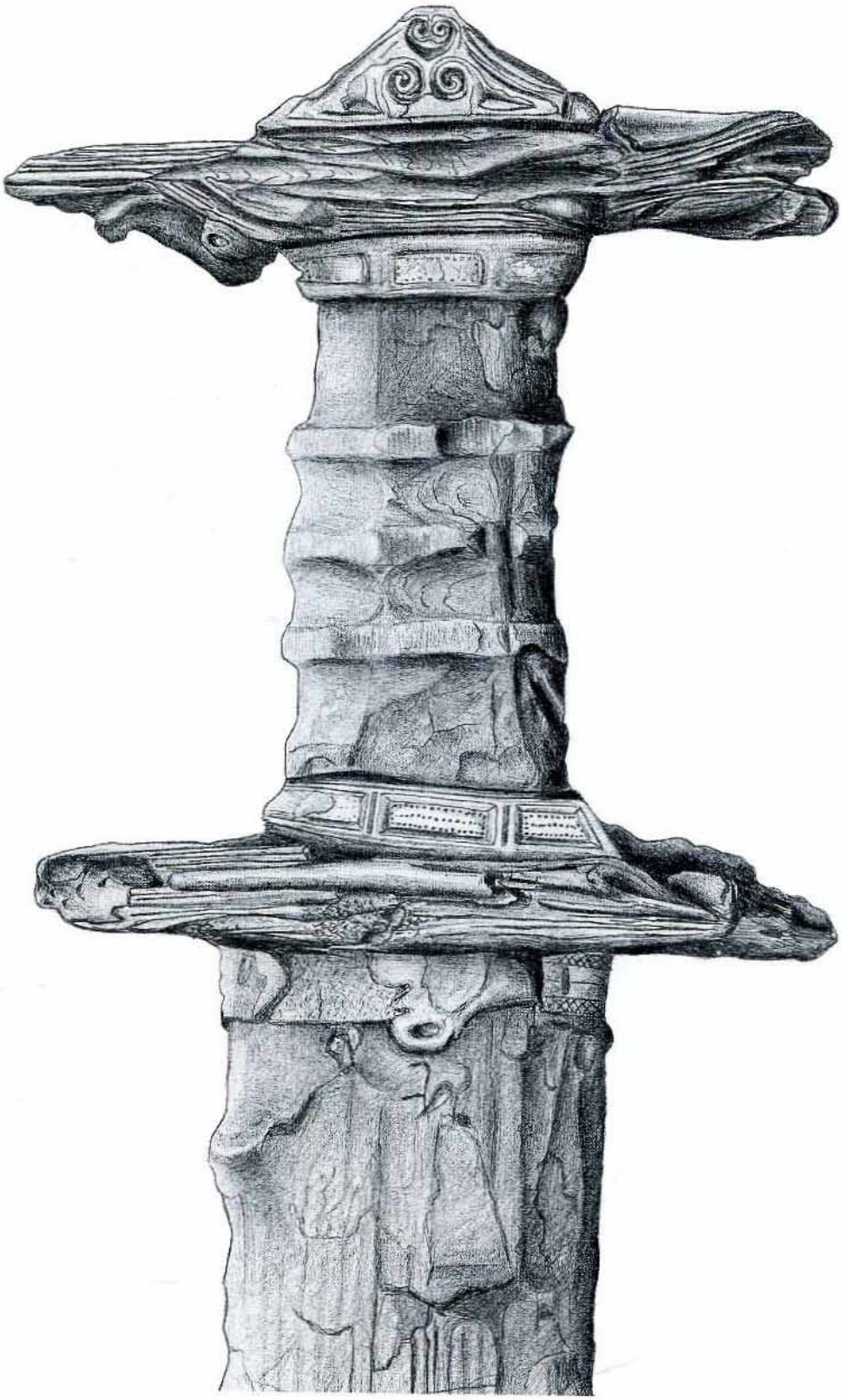


Plate 20. The sword hilt, rear side.

Plate 21. Details of the sword. *a*) the sword pommel, viewed at an angle from above. *b*) the sword pommel from the front.

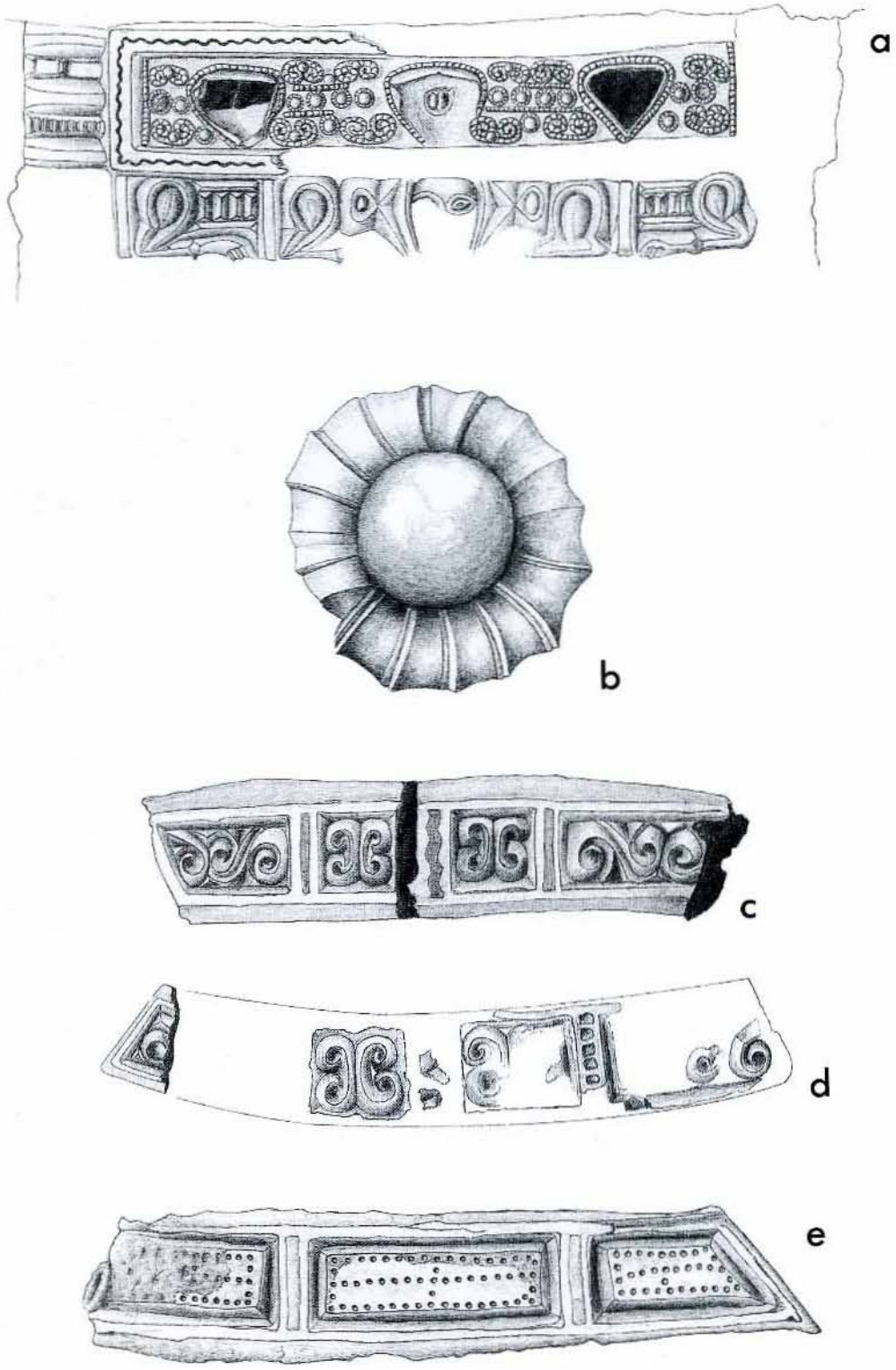


Plate 22. Details of the sword. *a*) front side of the mouth piece (2:1). *b*) a granulate surrounded by a filigree collar from the upper frieze of the mouth piece (c. 20:1). *c*) upper mount of the hilt with relief decoration, front side (2:1). *d*) lower mount of the hilt with relief decoration, front side (2:1). *e*) lower mount of the hilt, rear side (2:1).

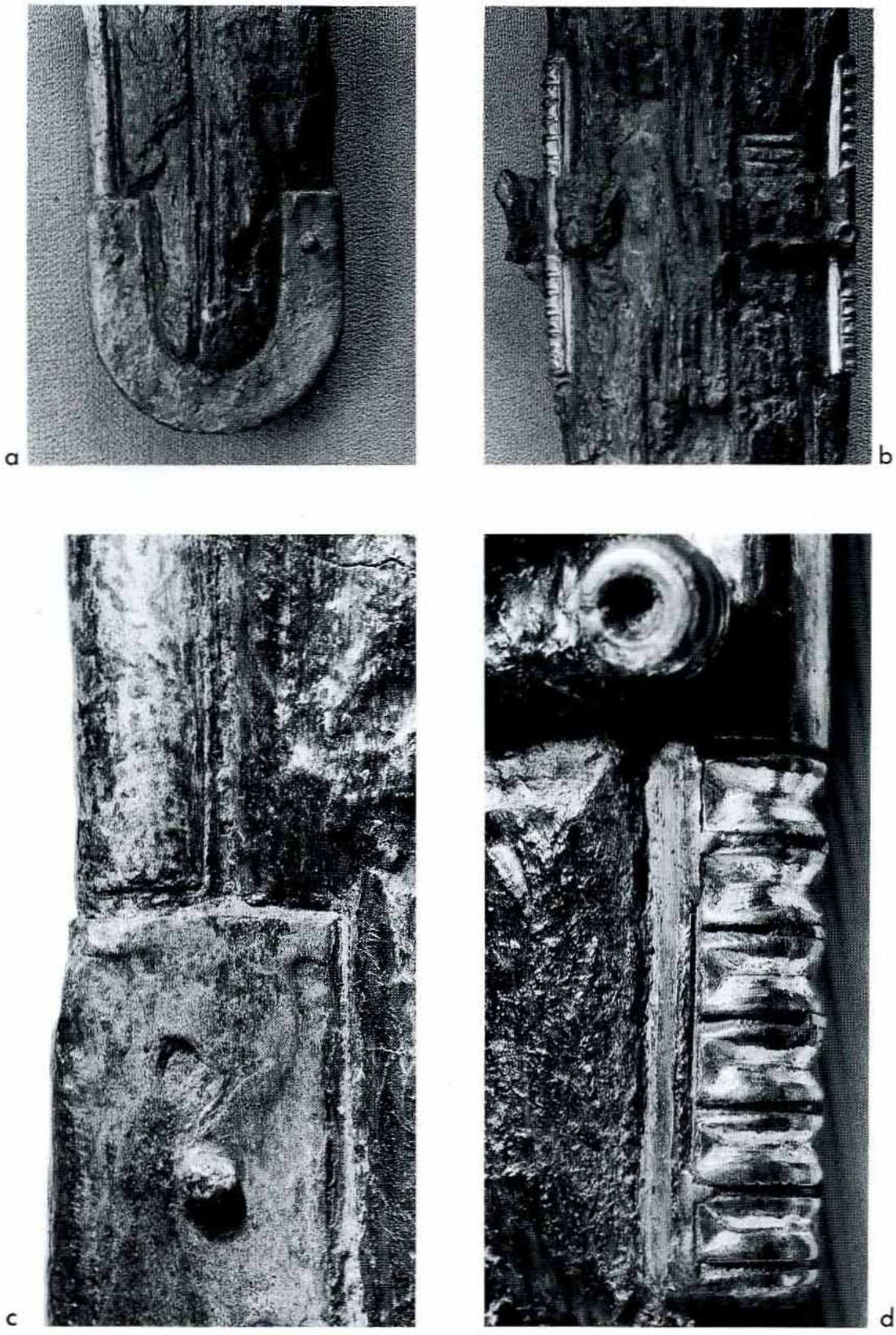


Plate 23. Details of the sword. *a*) the U-shaped ferrule, viewed from the front. *b*) edge mounts for hanging the sword, with remains of the leather straps, viewed from the front. *c*) detail of the repaired ferrule, viewed from the front (3:1). *d*) detail of the right hand edge mount, viewed from the front (3:1).

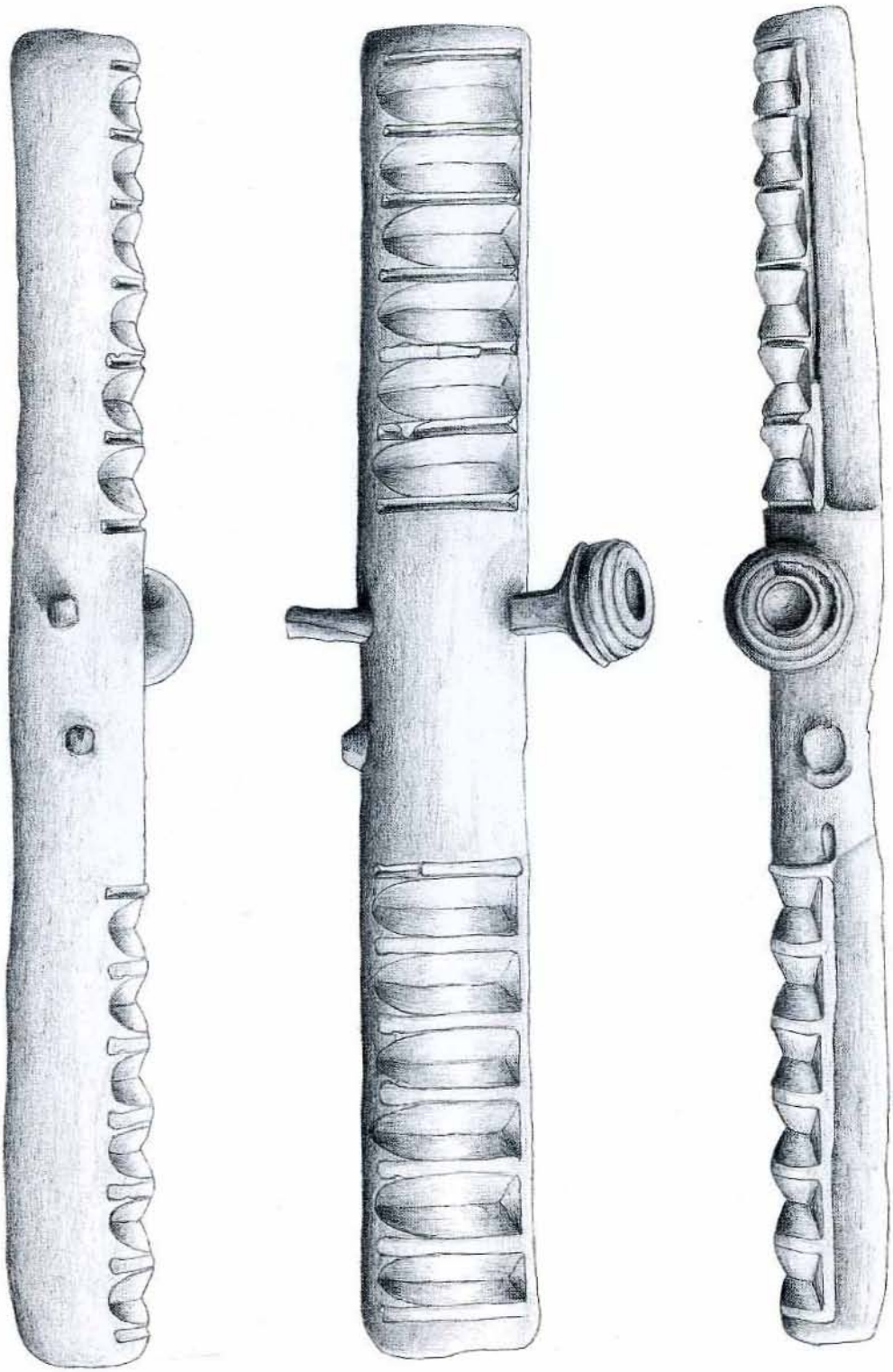
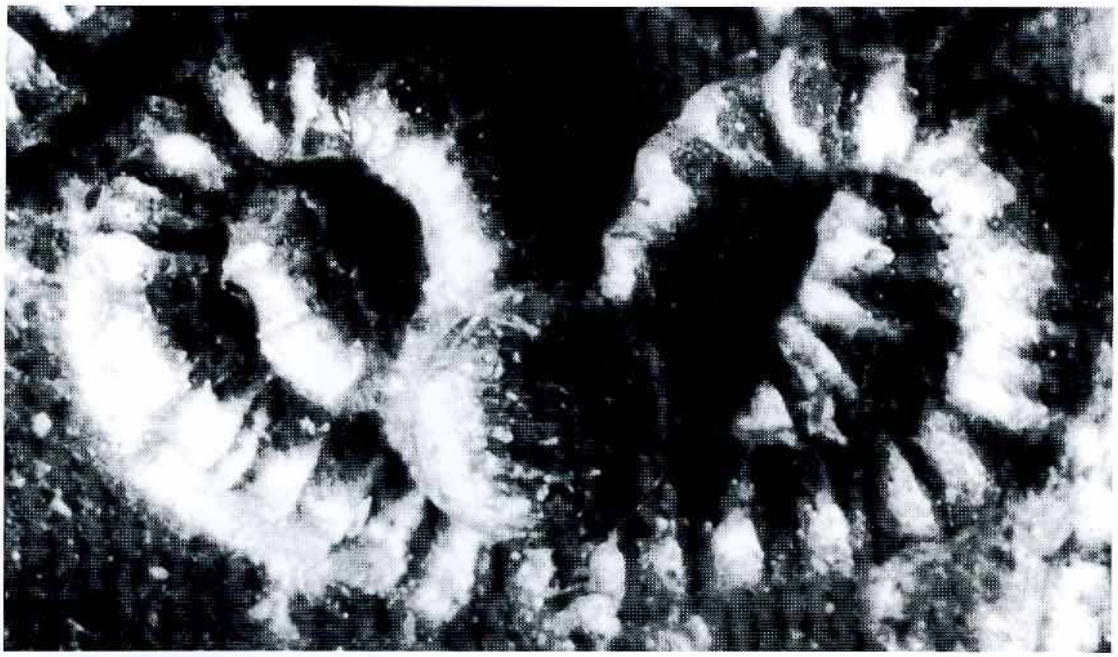
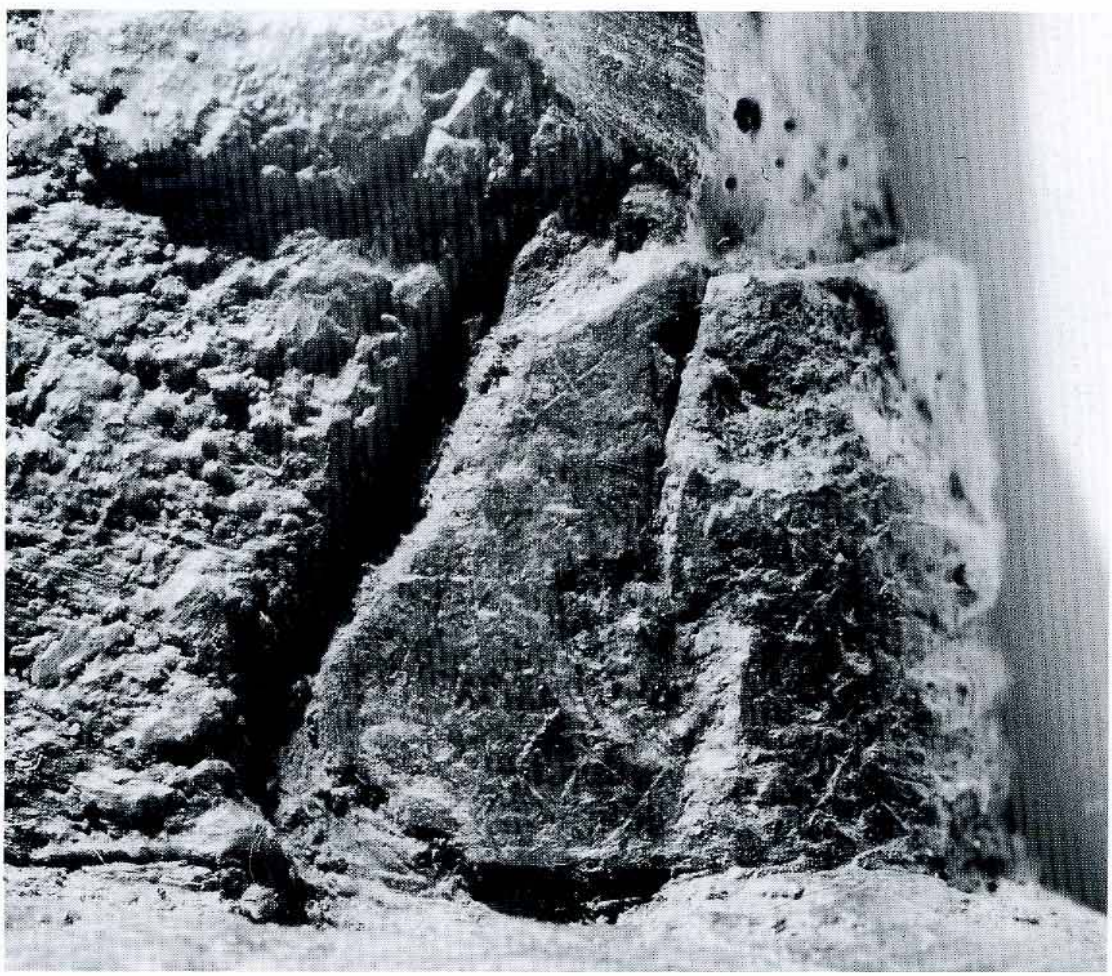


Plate 24. Detail of the sword. The right hand edge mount with an intact rivet (4:1).



a



b

Plate 25. Ornamentation details on the mouth piece. *a*) filigree spirals on the upper frieze of the mouth piece (c. 30:1). *b*) engraved square pattern on the rear side of the mouth piece (c. 8:1).

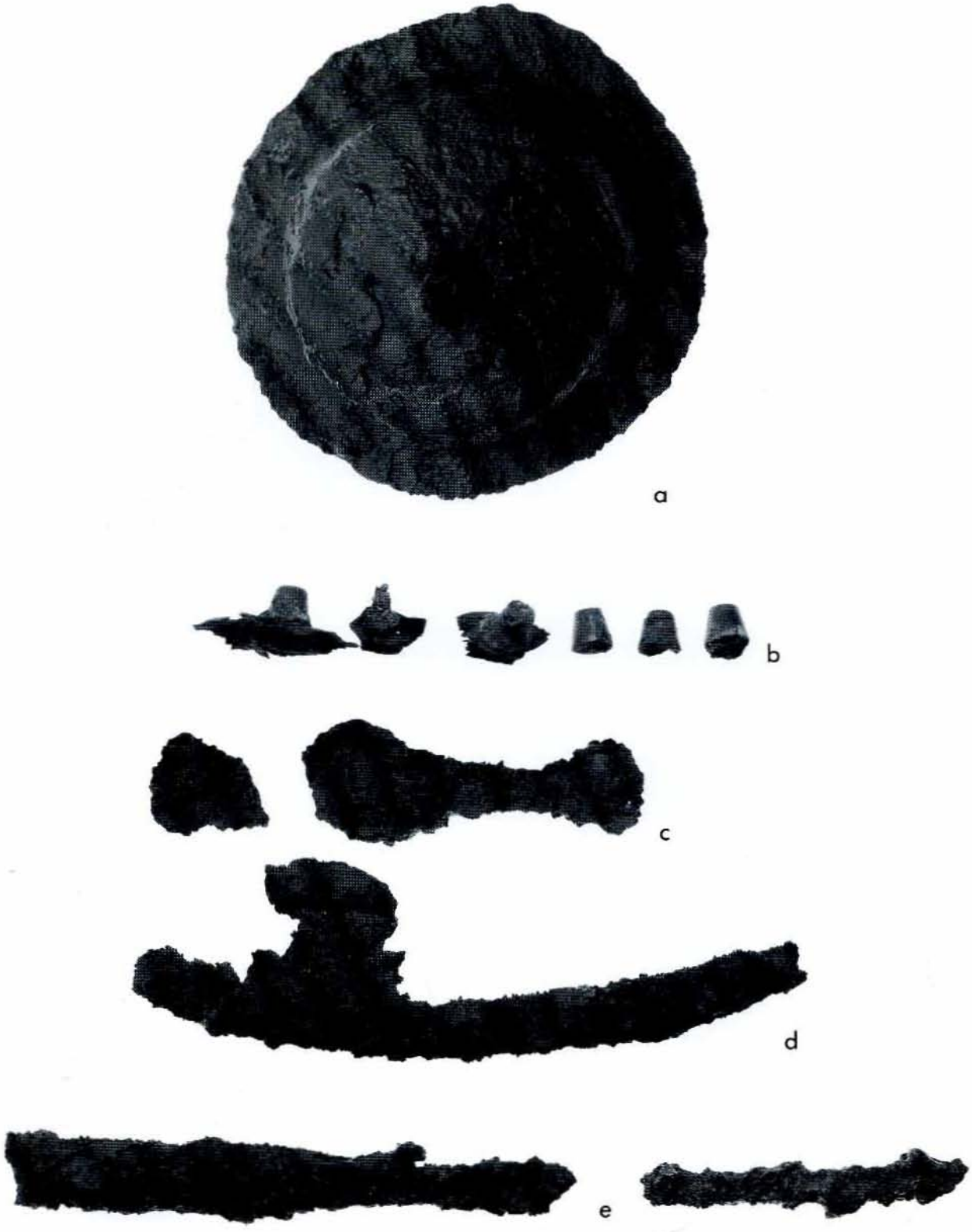


Plate 26. The shield. *a*) shield boss. *b*) conical rivet heads made of bronze. *c*) iron mount. *d*) edge mount of iron. *e*) hilt of iron. *f*) edge mount of iron (*a–f* 1:2).

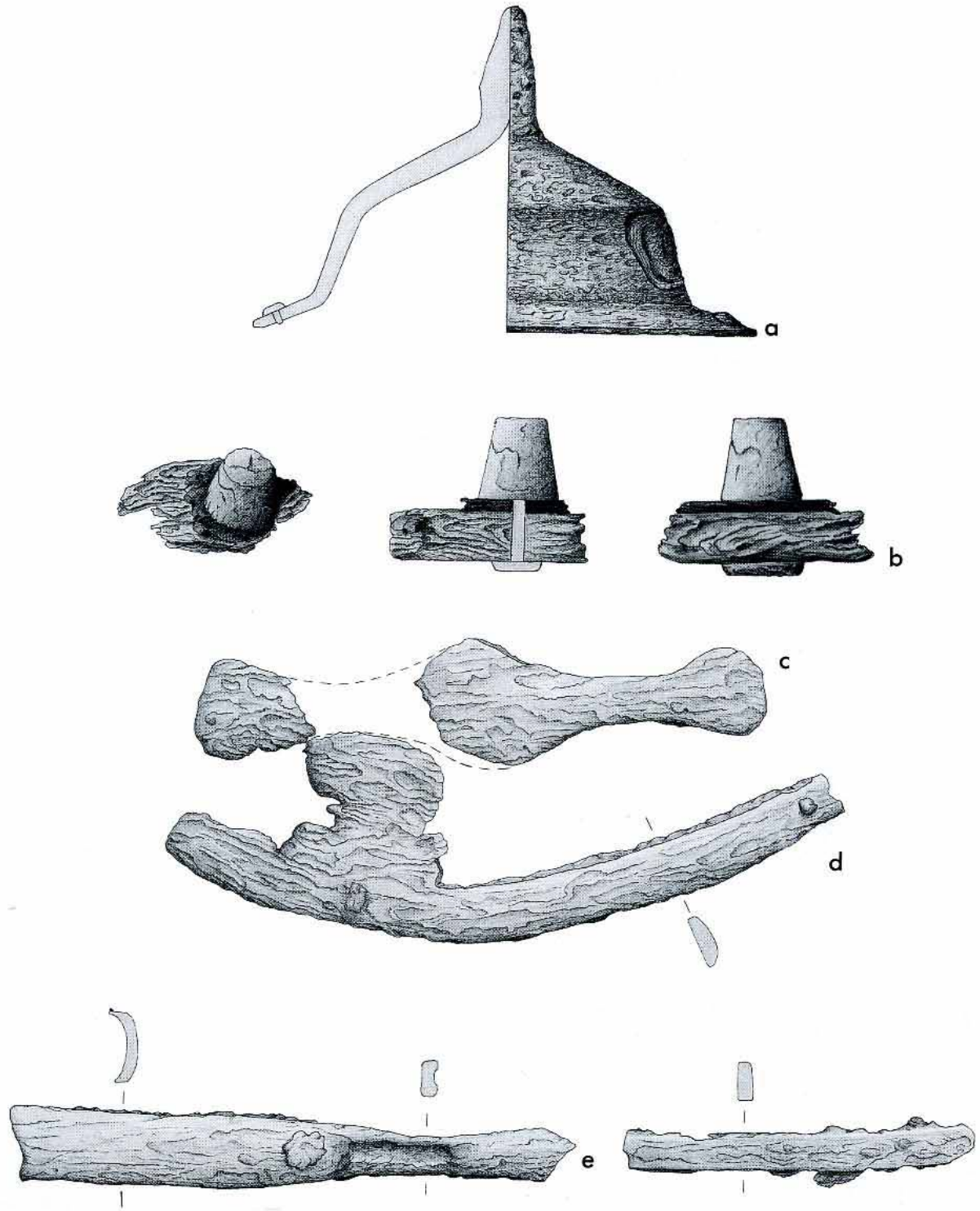


Plate 27. The shield. *a*) shield boss (1:2). *b*) conical rivet heads made of bronze (1:1). *c*) iron mount (1:2). *d*) edge mount made of iron (1:2). *e*) hilt made of iron (1:2). *f*) edge mount made of iron (1:2).

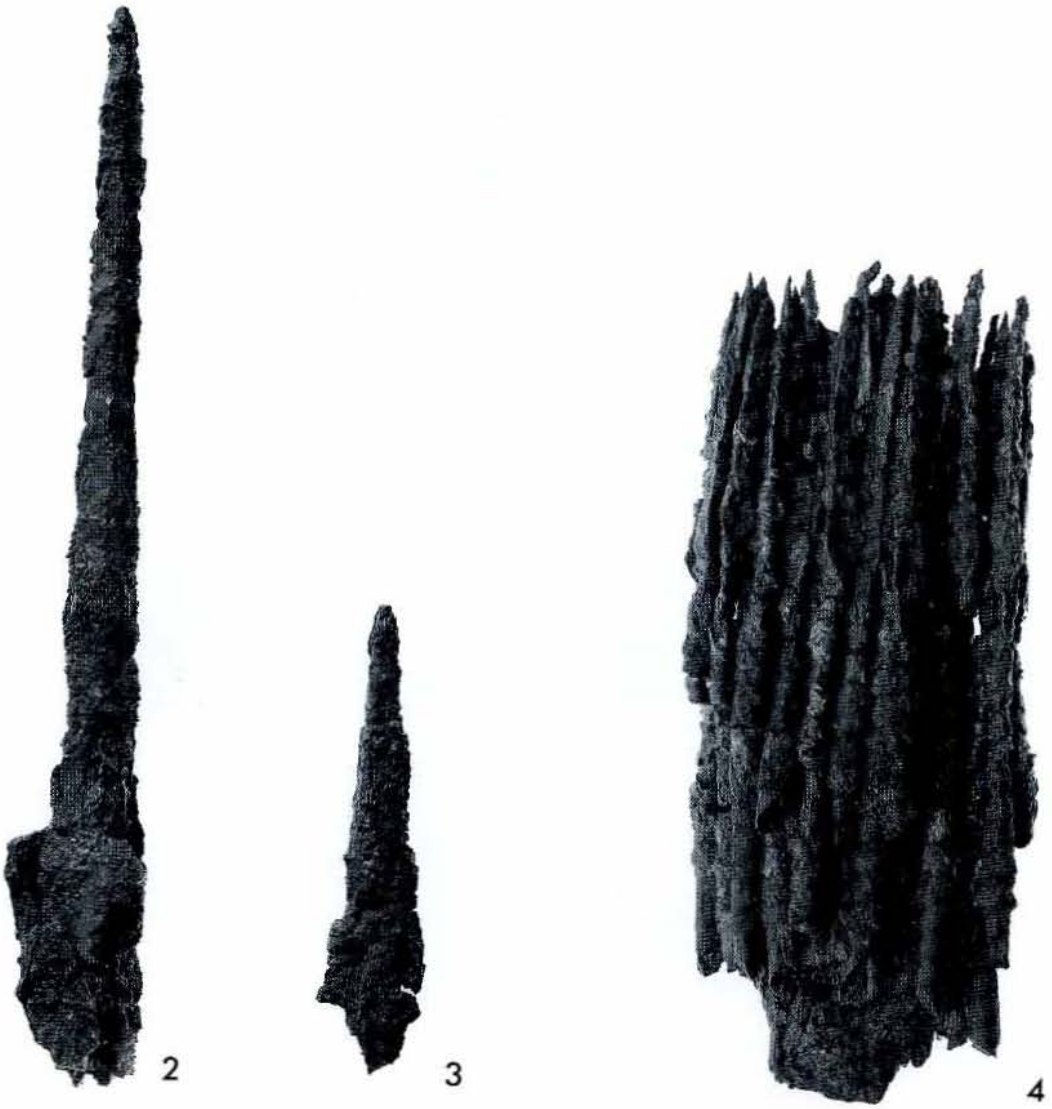


Plate 28. Lance point *F2*, spear and group of arrow points *F4* (1:2).

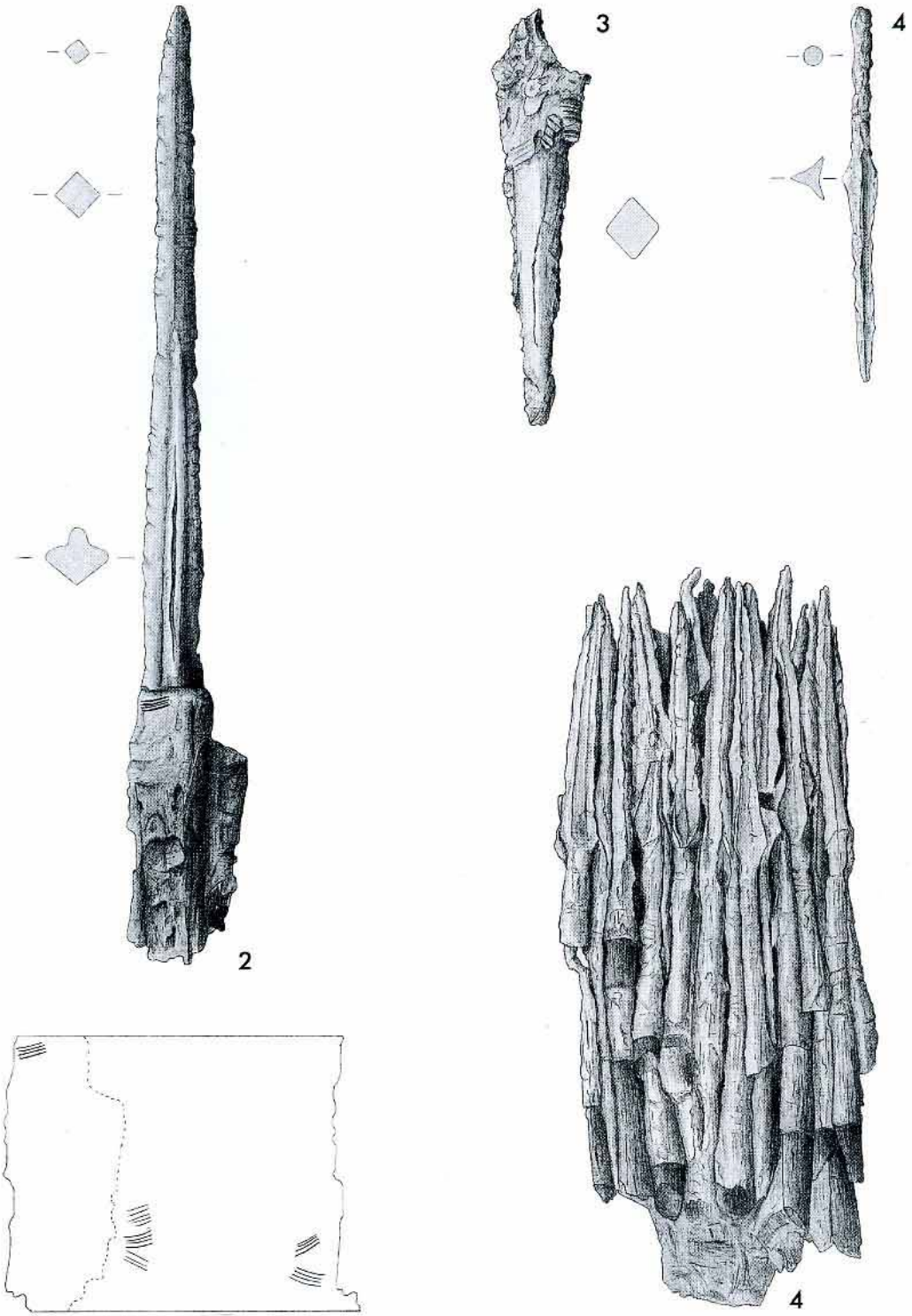
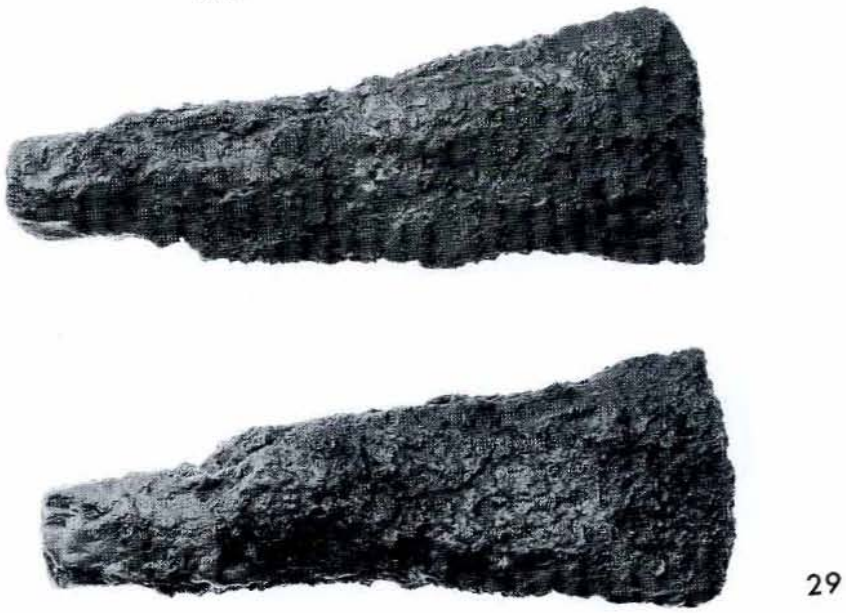


Plate 29. Lance point *F2*, spear point *F3*, bundle of arrow points (*F4*) and a loose arrow point. Traces of the thread (linen?) which probably held the lance to the shaft can be seen beneath the lance. The pattern of the thread is depicted in unfolded perspective (1:2).



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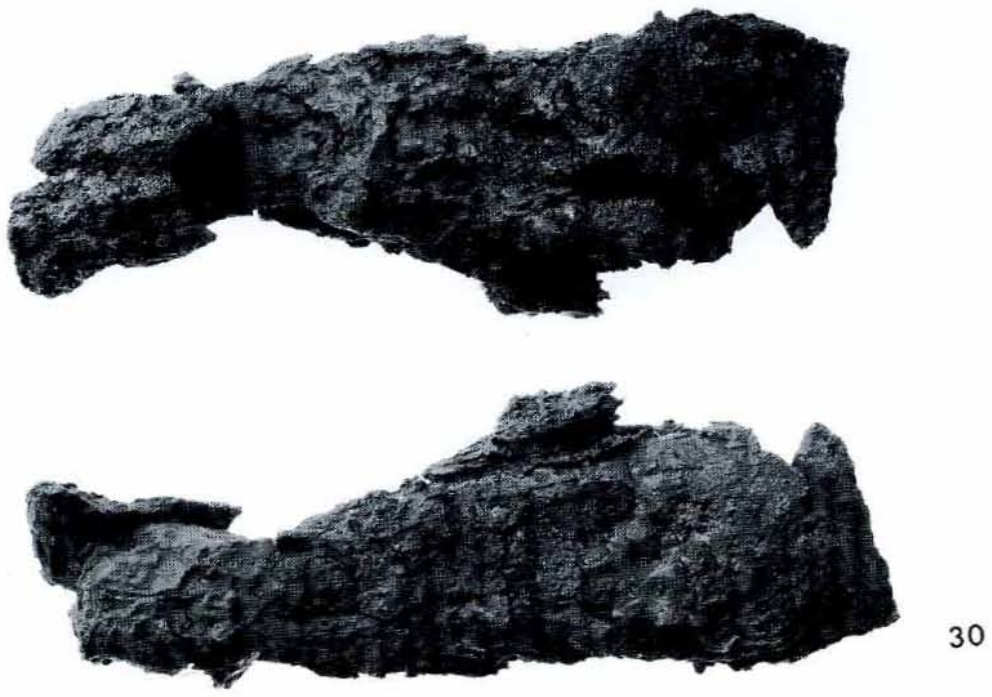

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Plate 30. Axes *F29* and *F30*, front and rear sides (1:2).

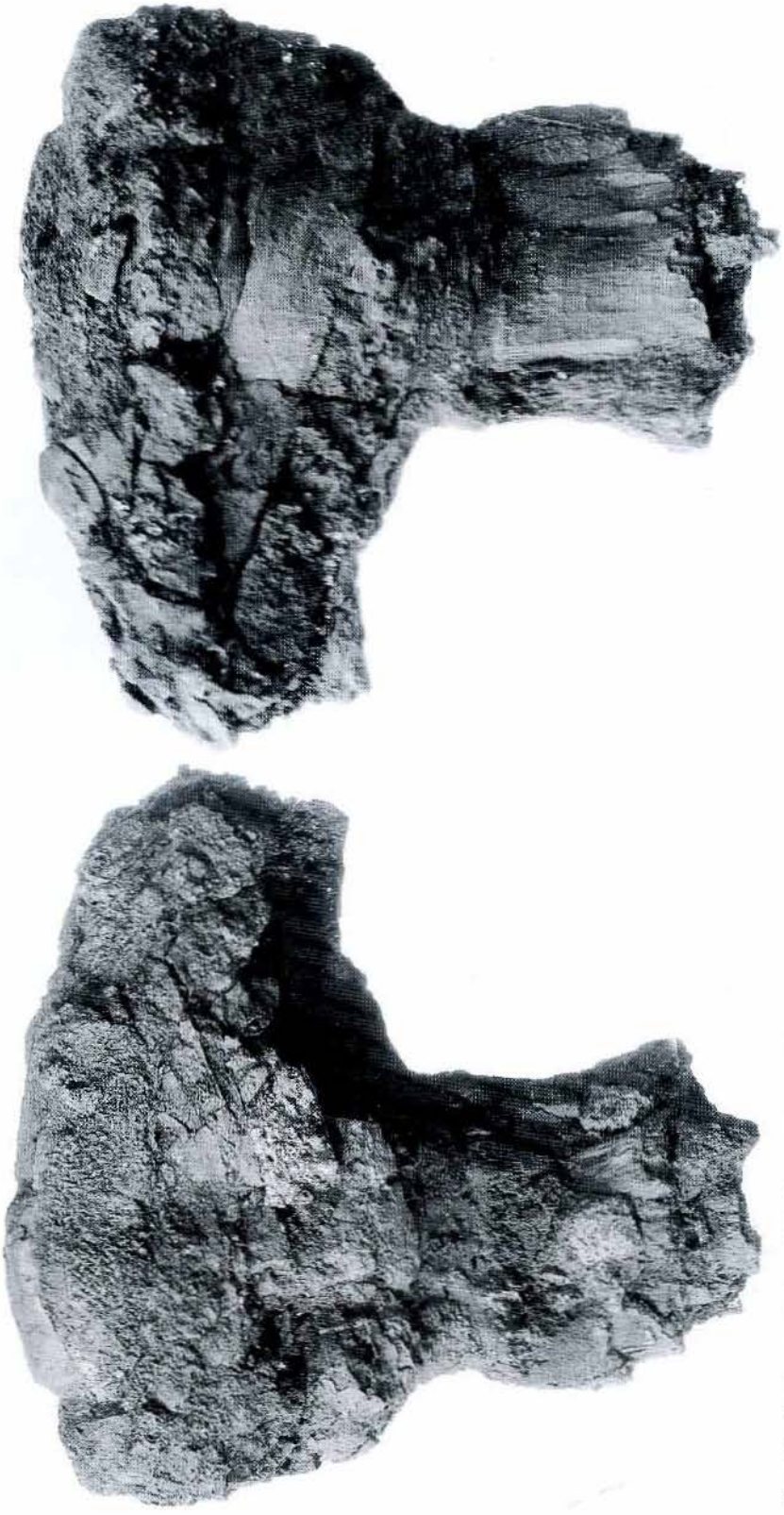
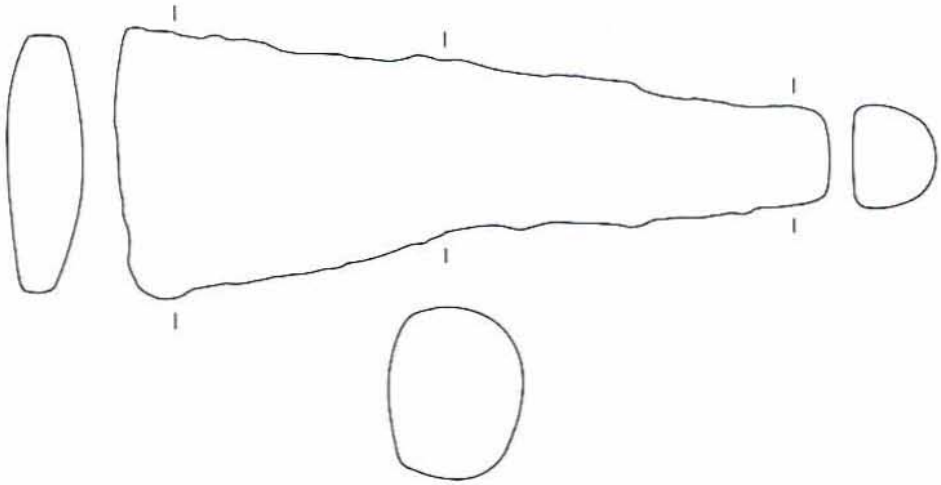


Plate 31. Shaft parts for axe *F30*, front and rear sides.



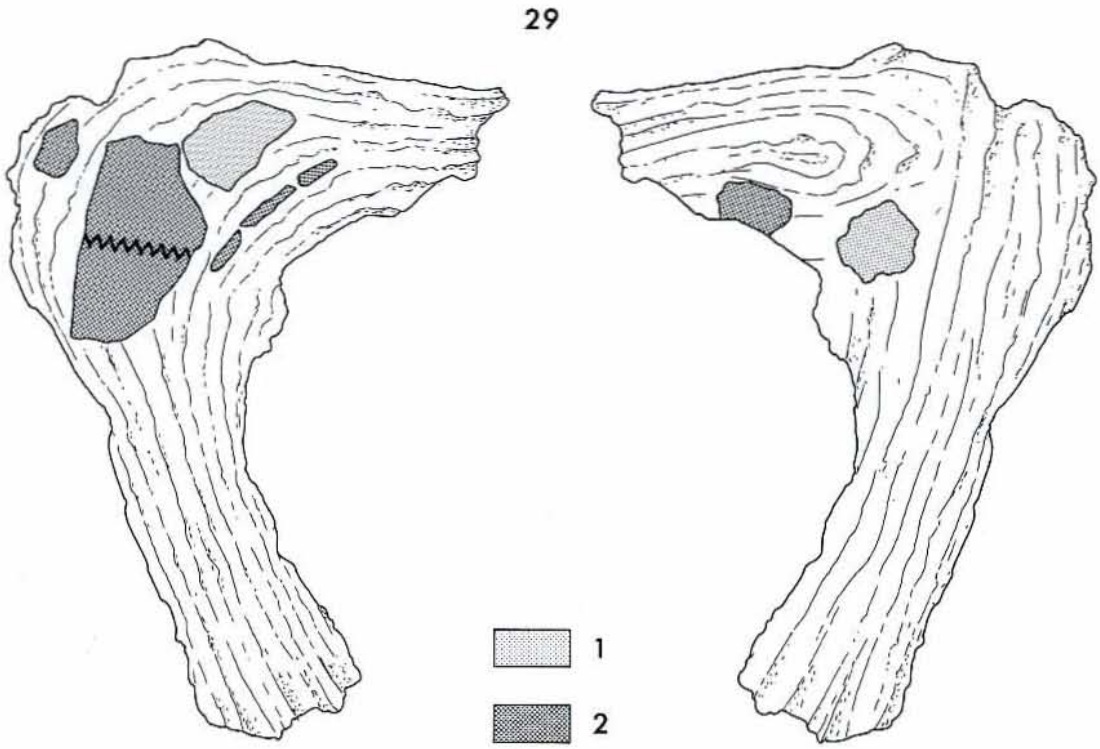
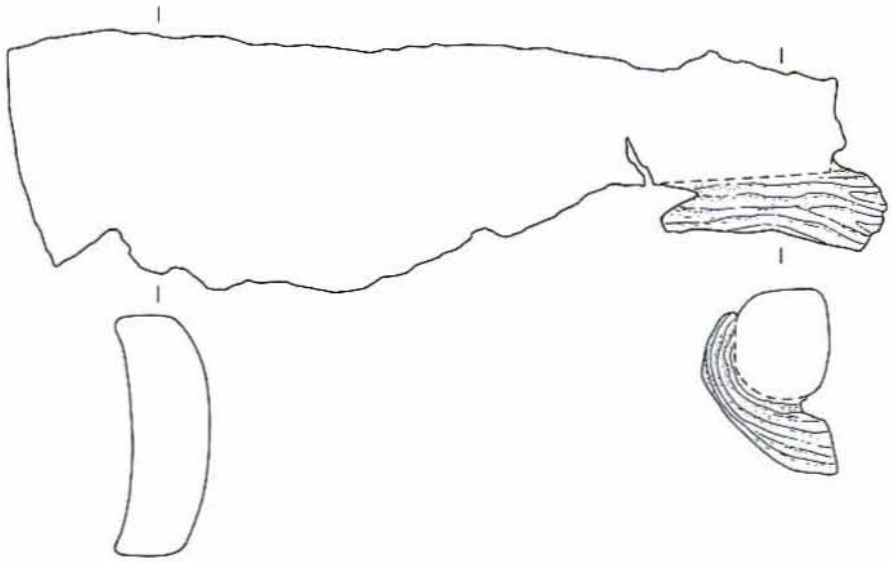


Plate 32. Axe *F29* with associated shaft parts. 1 = leather, 2 = iron (1:2).



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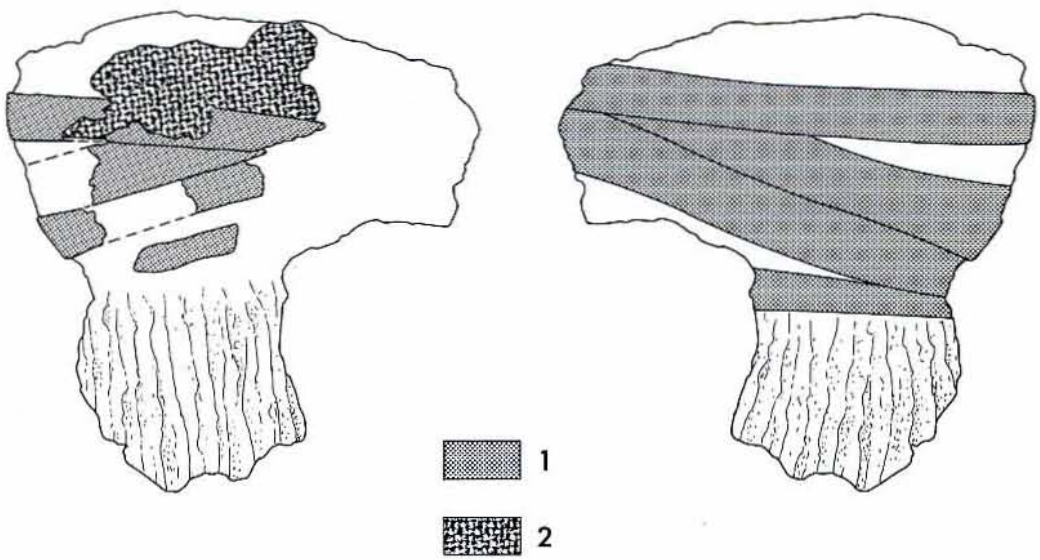


Plate 33. Axe *F30* with associated shaft parts. 1 = leather strap? 2 = textile remains (1:2).

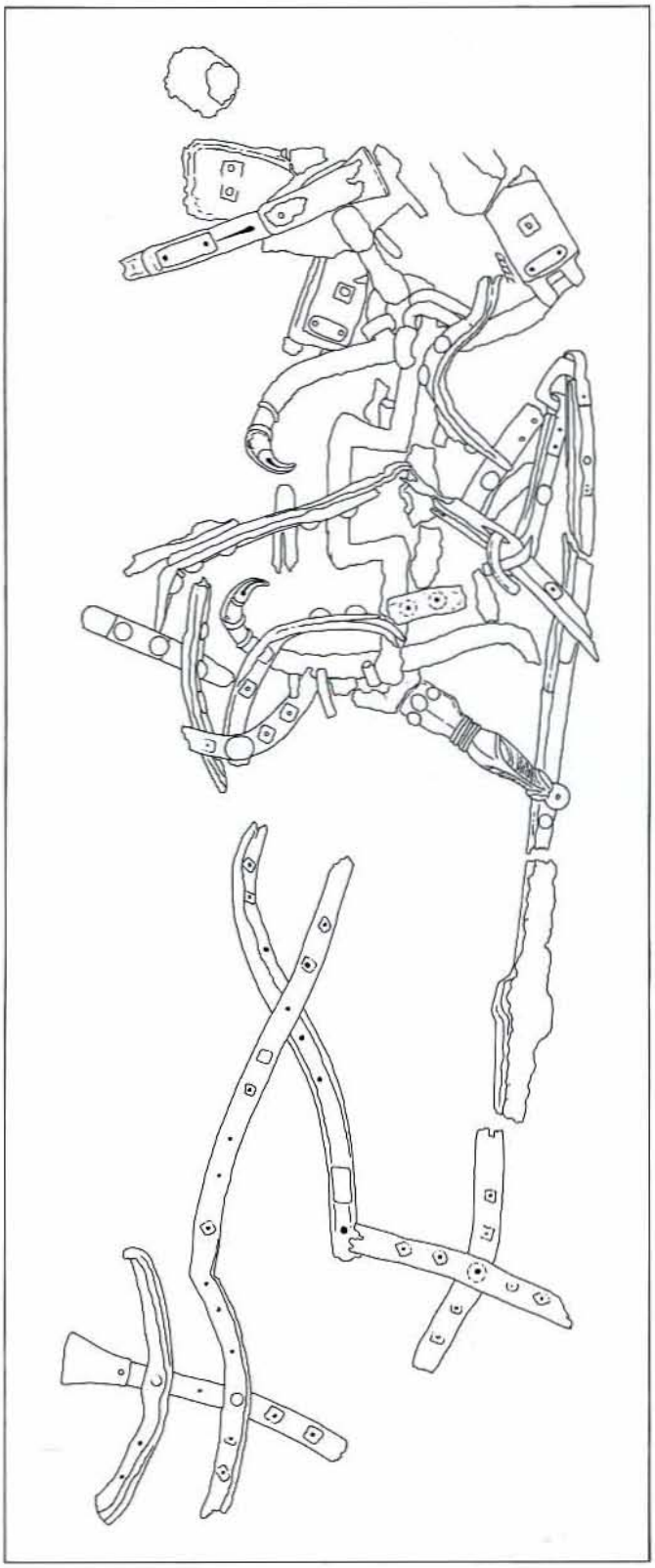


Plate 34. Fair copy of Selling's drawing of the positions of the battle bridle *F7* (1:2).

Plate 35. Battle bridle. *a*) mouth bit and side bars. *b*) detail drawing of the ornamentation on the hinge attachment.

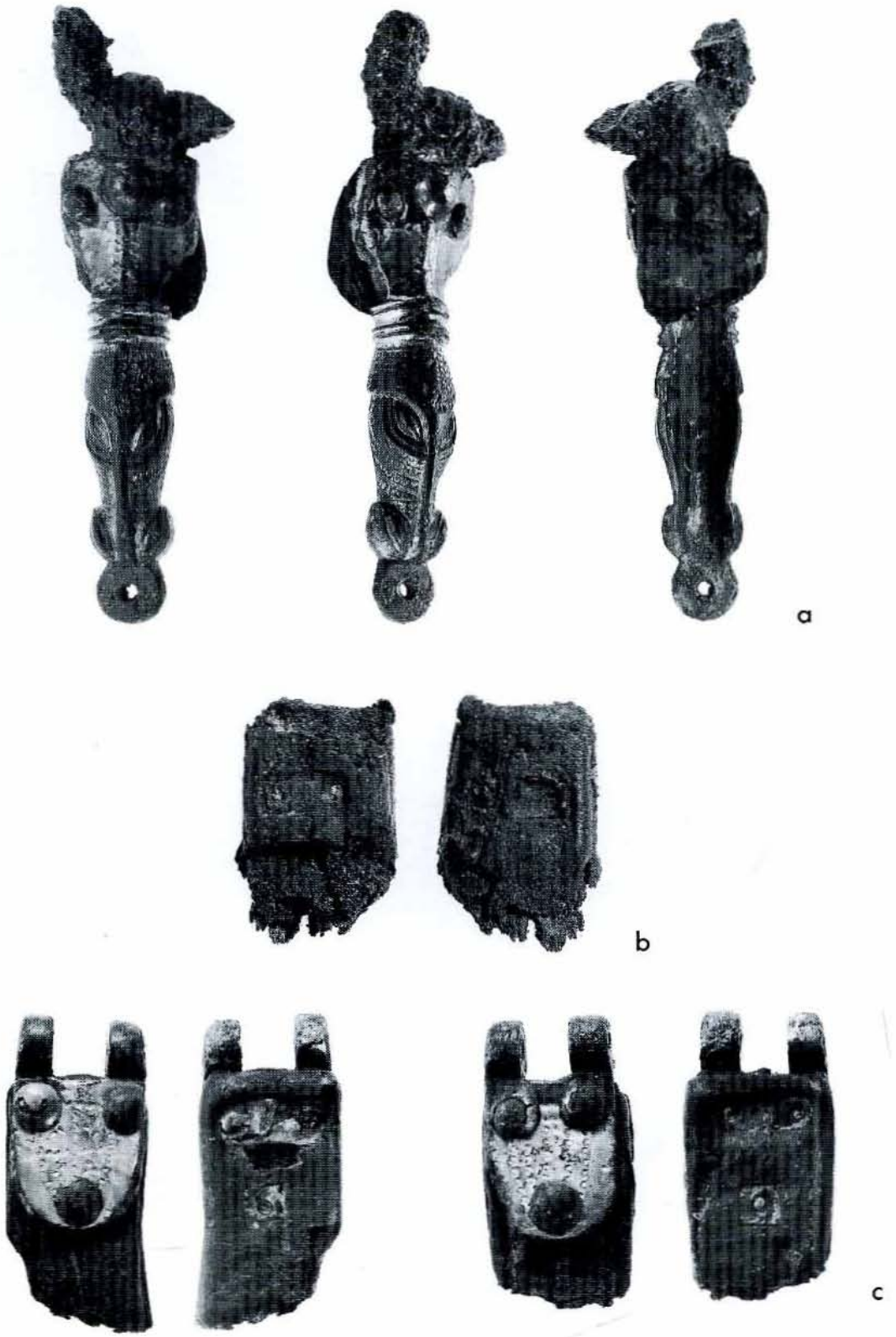


Plate 36. Battle bridle. *a*) the rein mount in the form of an animal head, viewed from above, at an angle from above, and from below. *b*) leather fragments *F89*. *c*) the two hinge grips, viewed from above and from below.

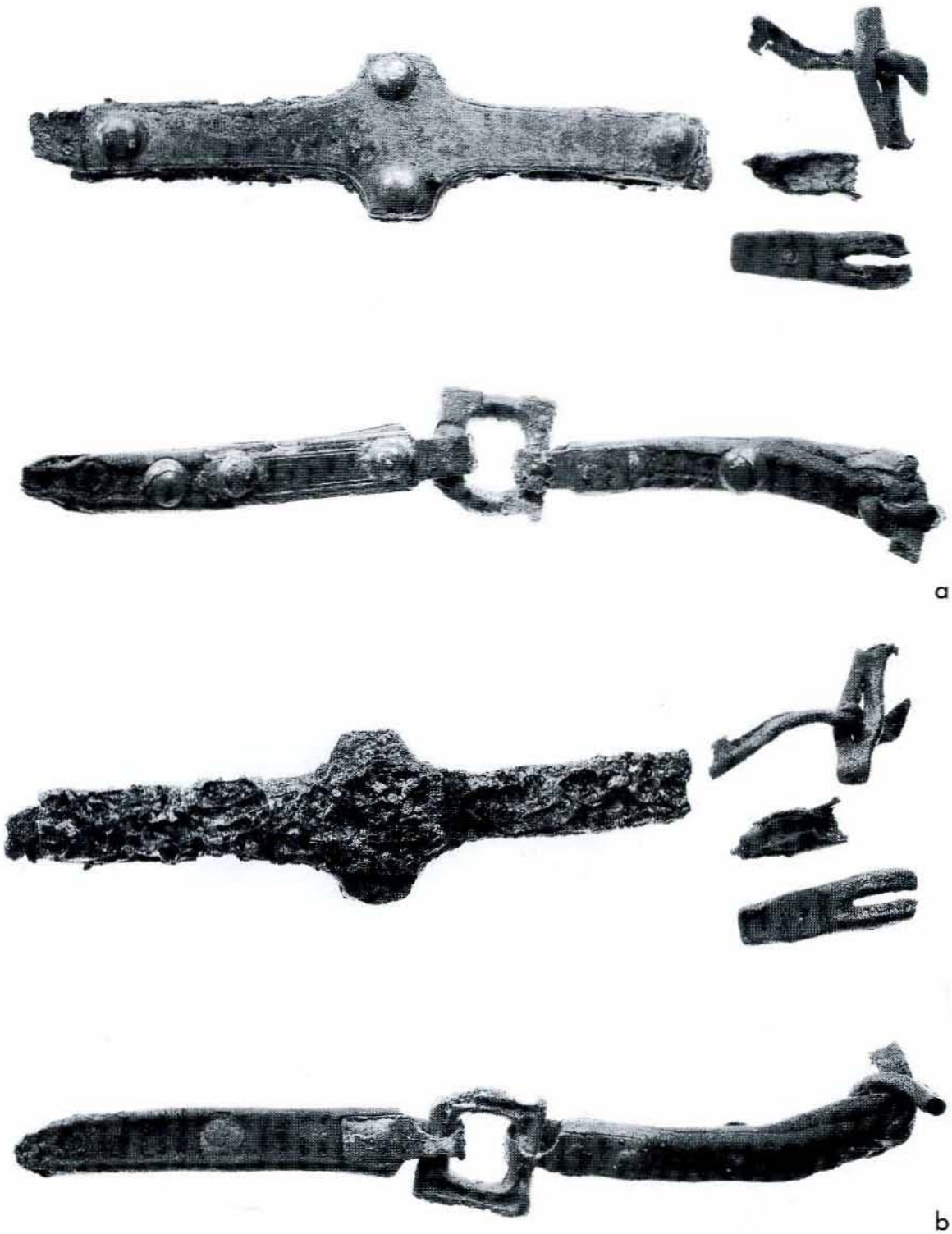


Plate 37. Battle bridle. *a*) strap mount, strap divider and strap fragment, from above. *b*) the same, from below.

a

b

Plate 38. Battle bridle. *a*) strap ends and strap cross, from above. *b*) from below.

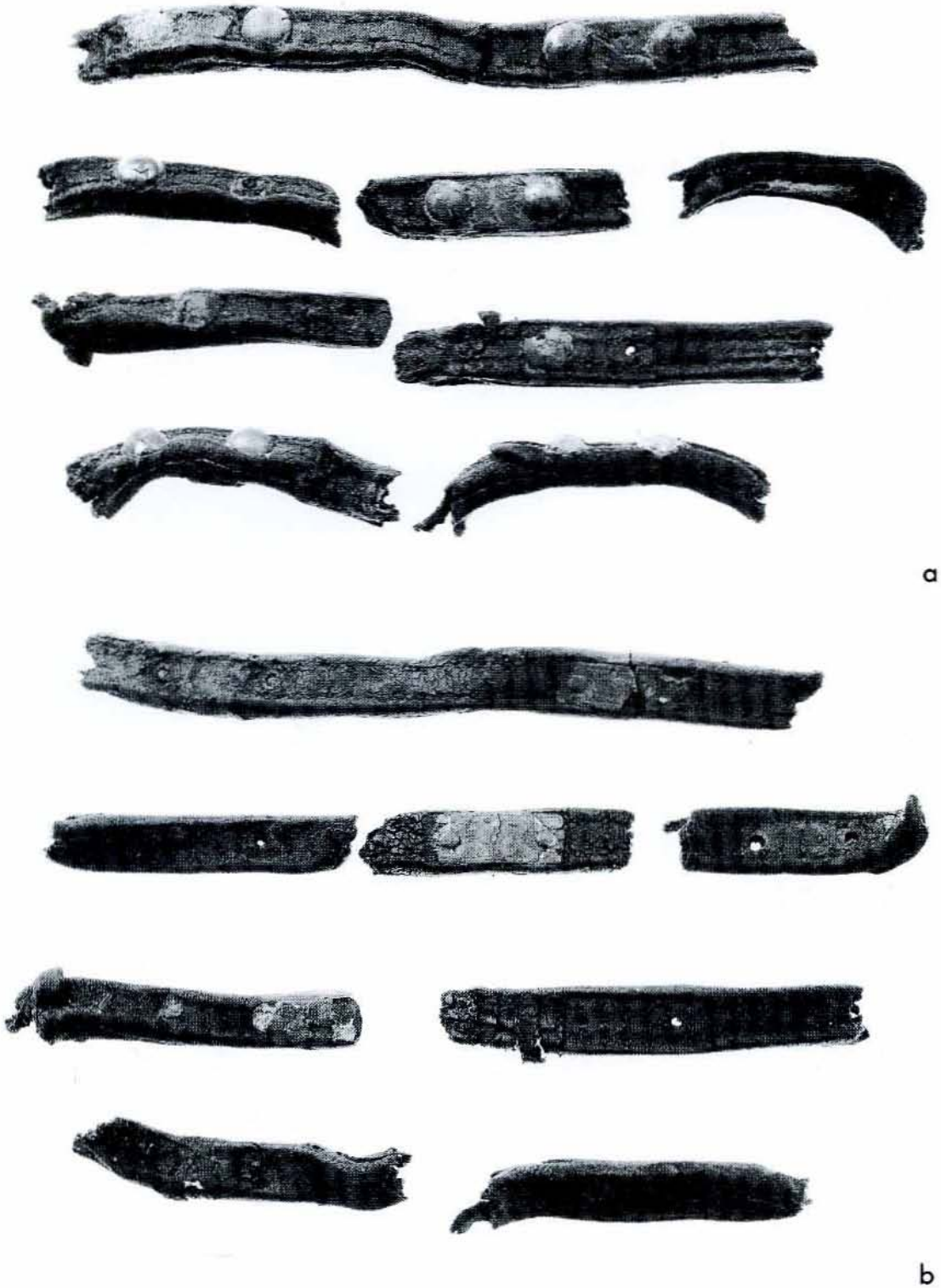
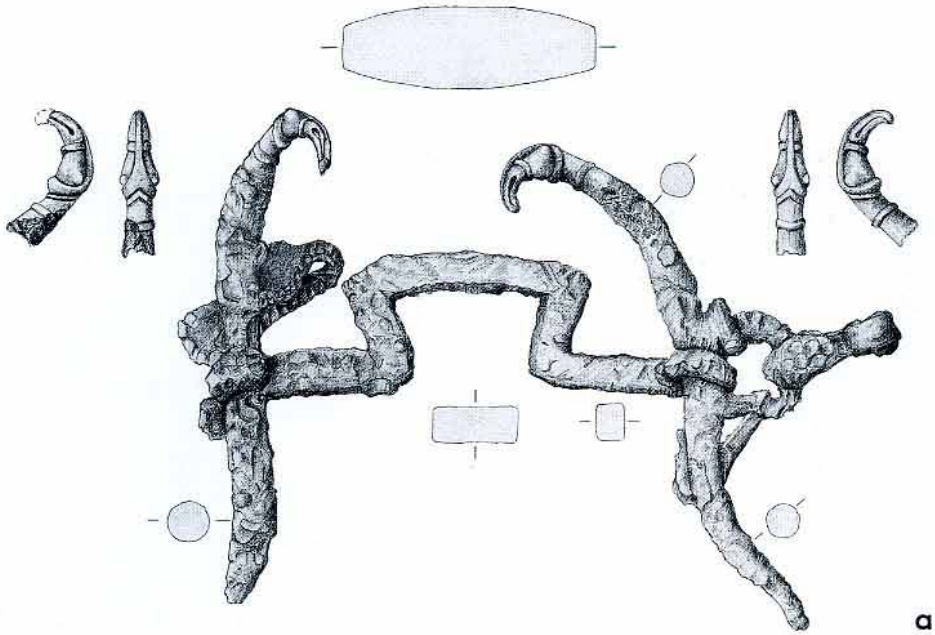


Plate 39. Battle bridle. *a*) strap fragments, from above. *b*) the same, from below.

a

b

Plate 40. Battle bridle. *a*) strap crosses, from above. *b*) the same, from below.



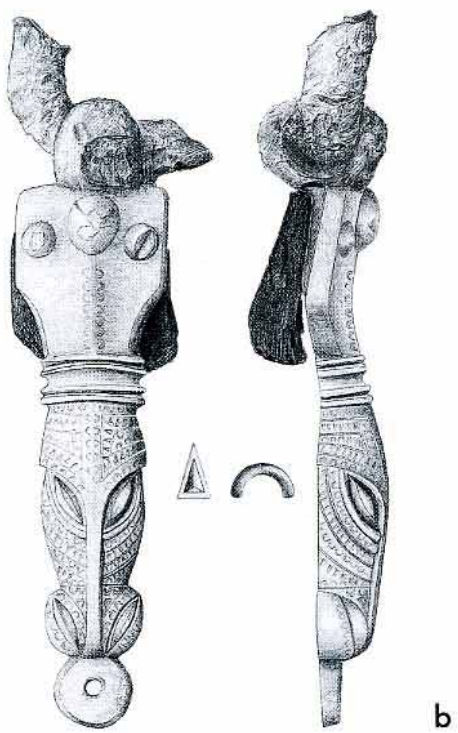


Plate 41. Battle bridle. *a*) mouth bit and side bars (1:2). *b*) the rein mount in the form of an animal head, from above and from the side. The types of punched ornaments is shown between the two projections.

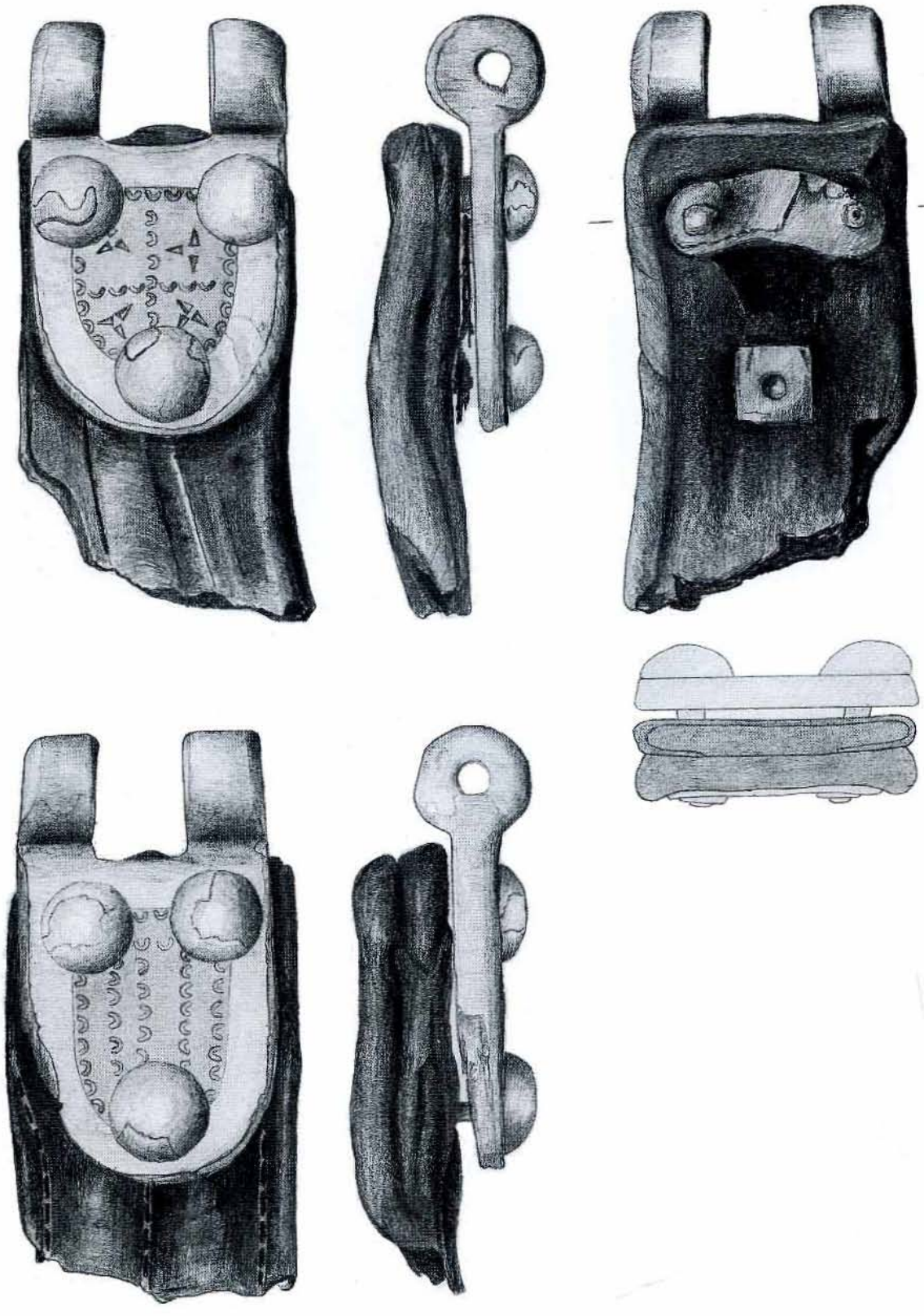


Plate 42. Battle bridle. The two hinge mounts (2:1).

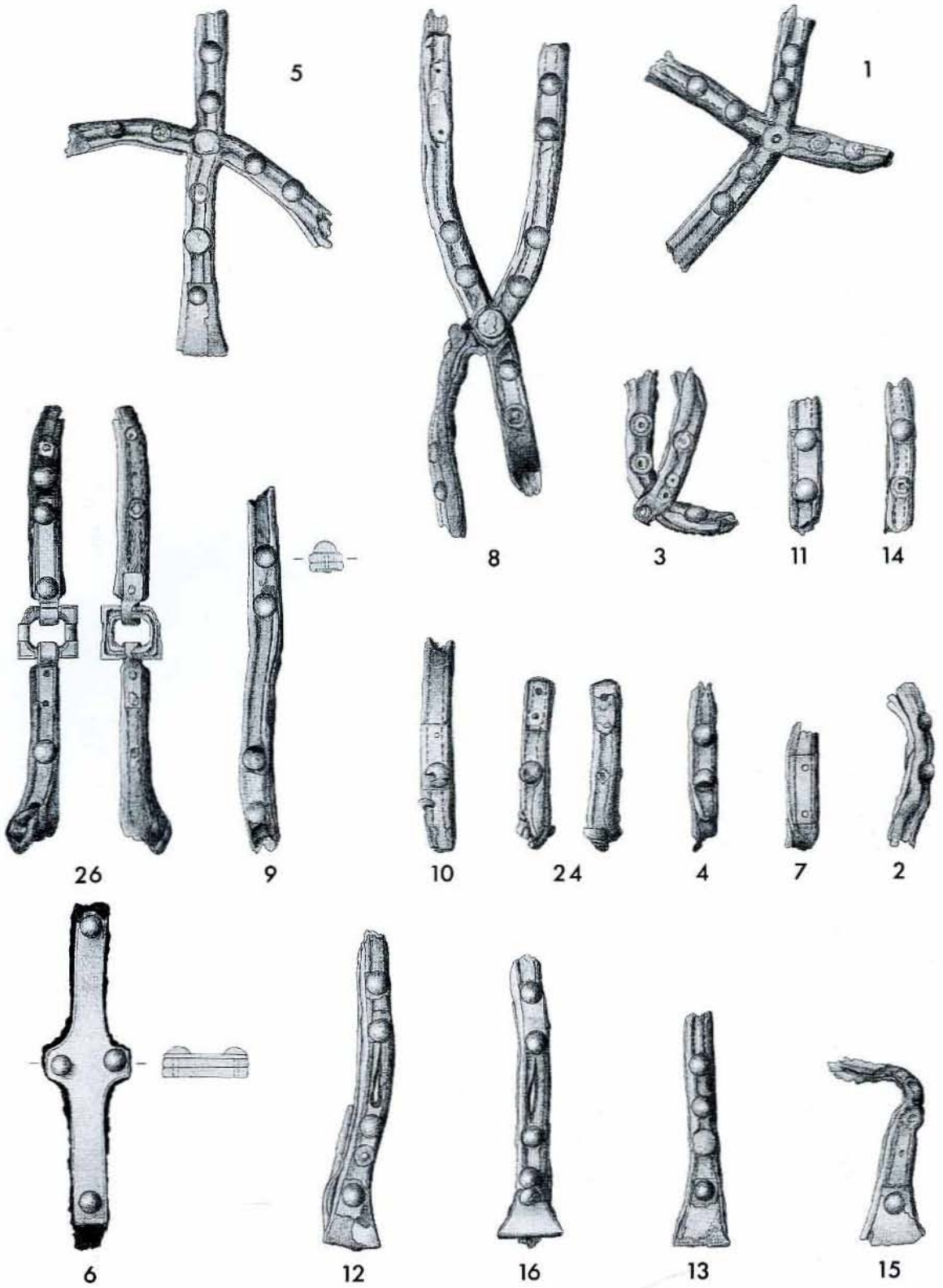


Plate 43. Battle bridle. Strap cross, strap divider, strap ends and strap fragments (1:2), (cf. Fig. 41).

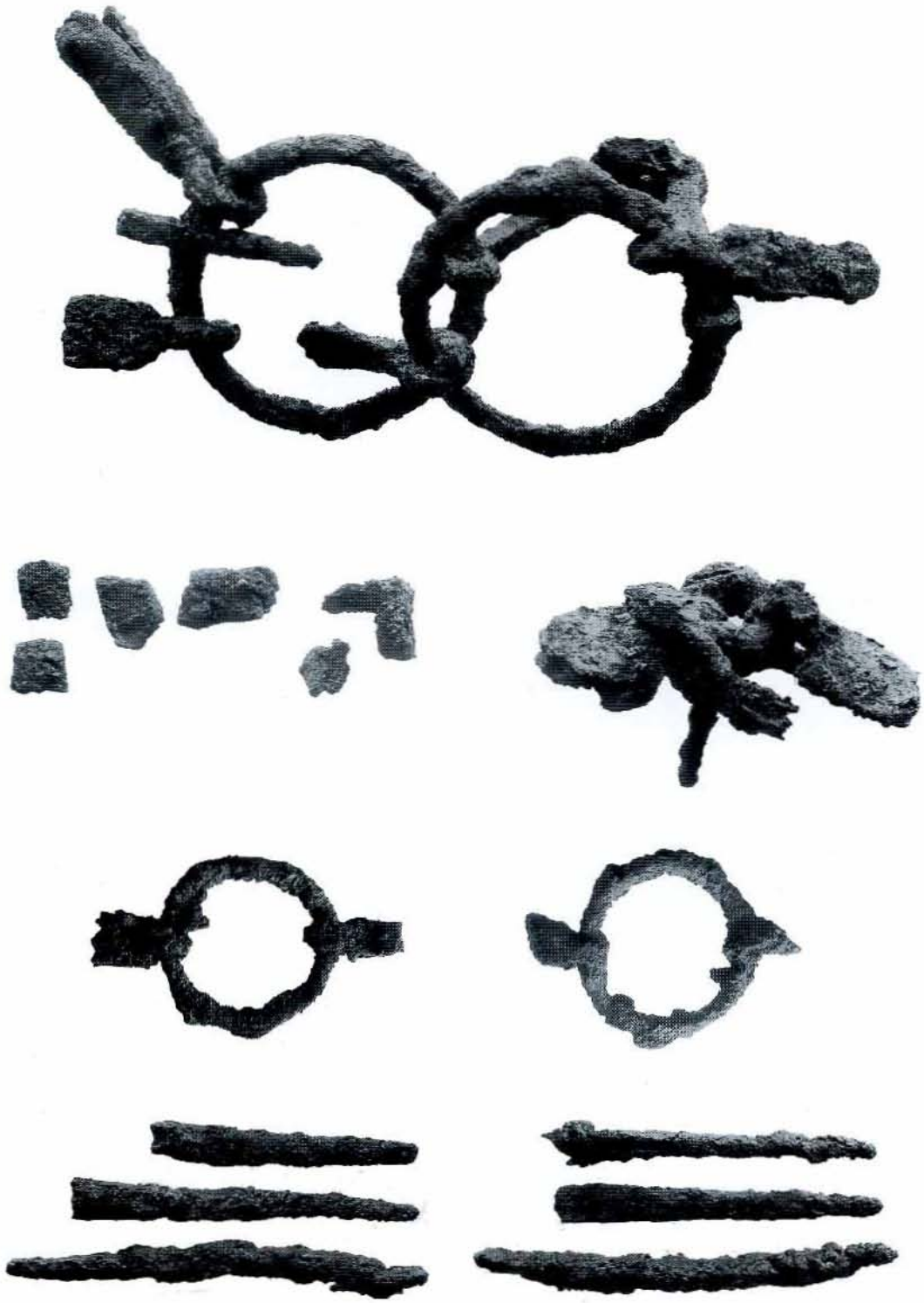


Plate 44. Ring bridle of iron with accessories (c. 1:2).

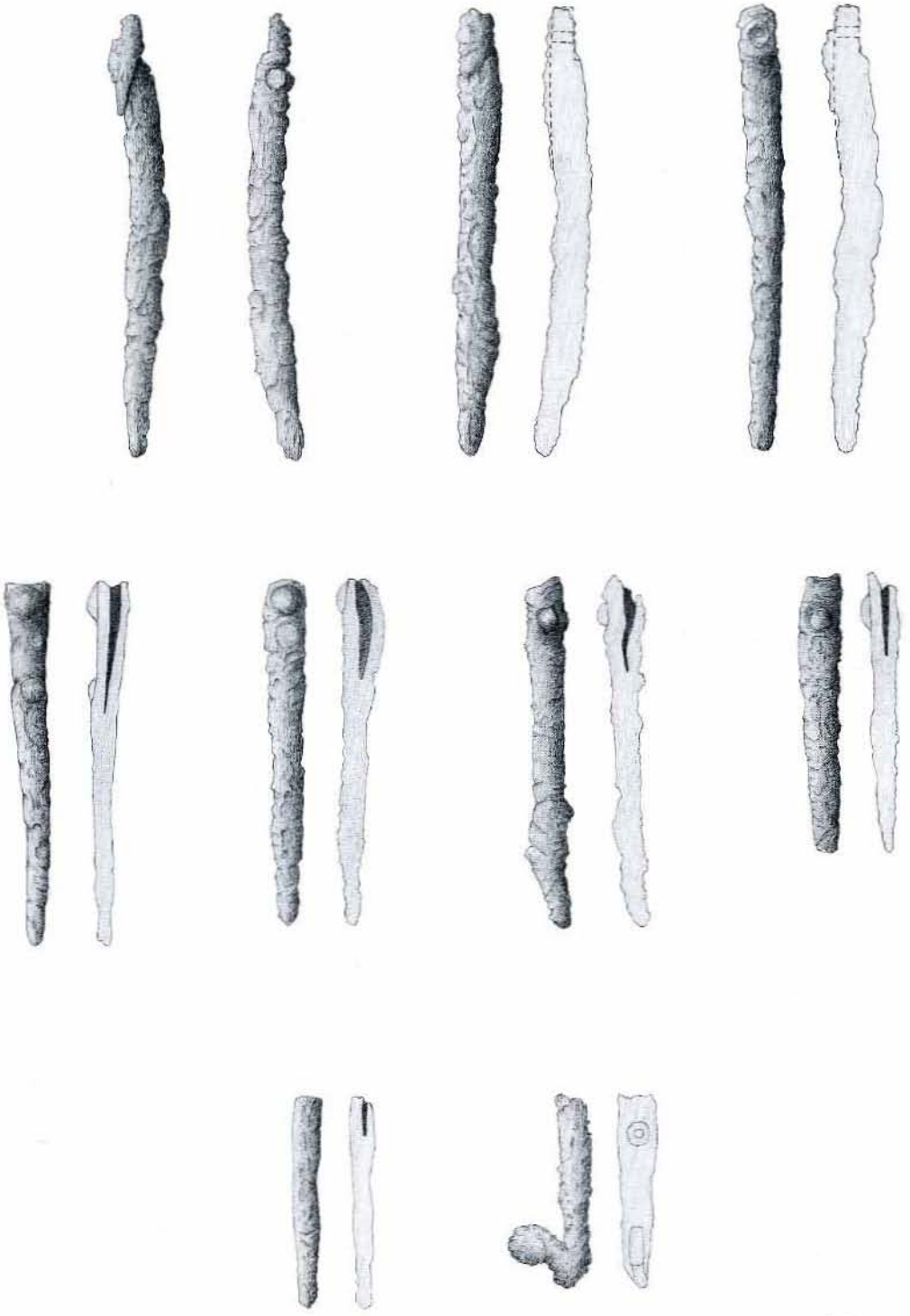
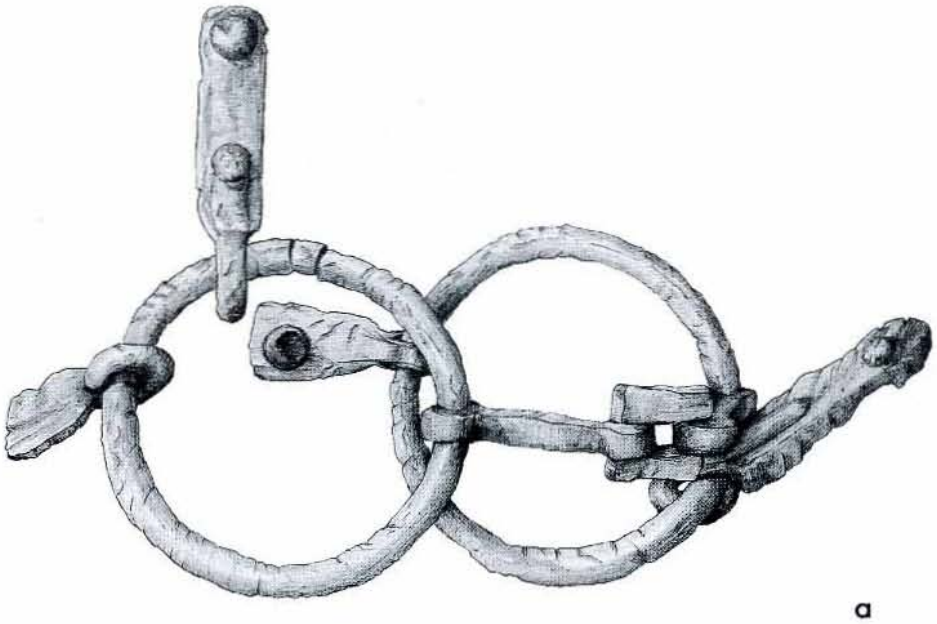
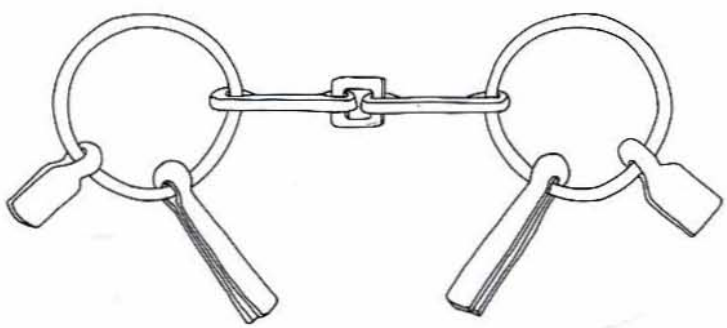


Plate 45. The iron pendants (1:2).



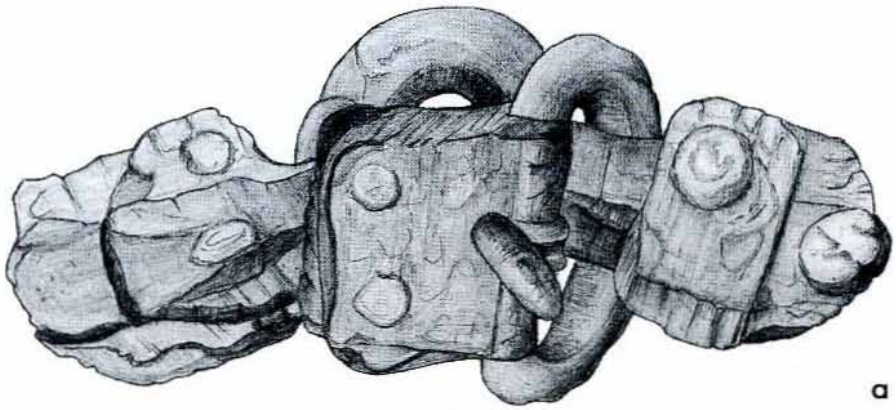
a

b



c

Plate 46. Ring bridle (1:2). *a*) mouth bit and side rings. *b*) the smaller rings. *c*) mouth bit in unfolded state (c. 1:4).



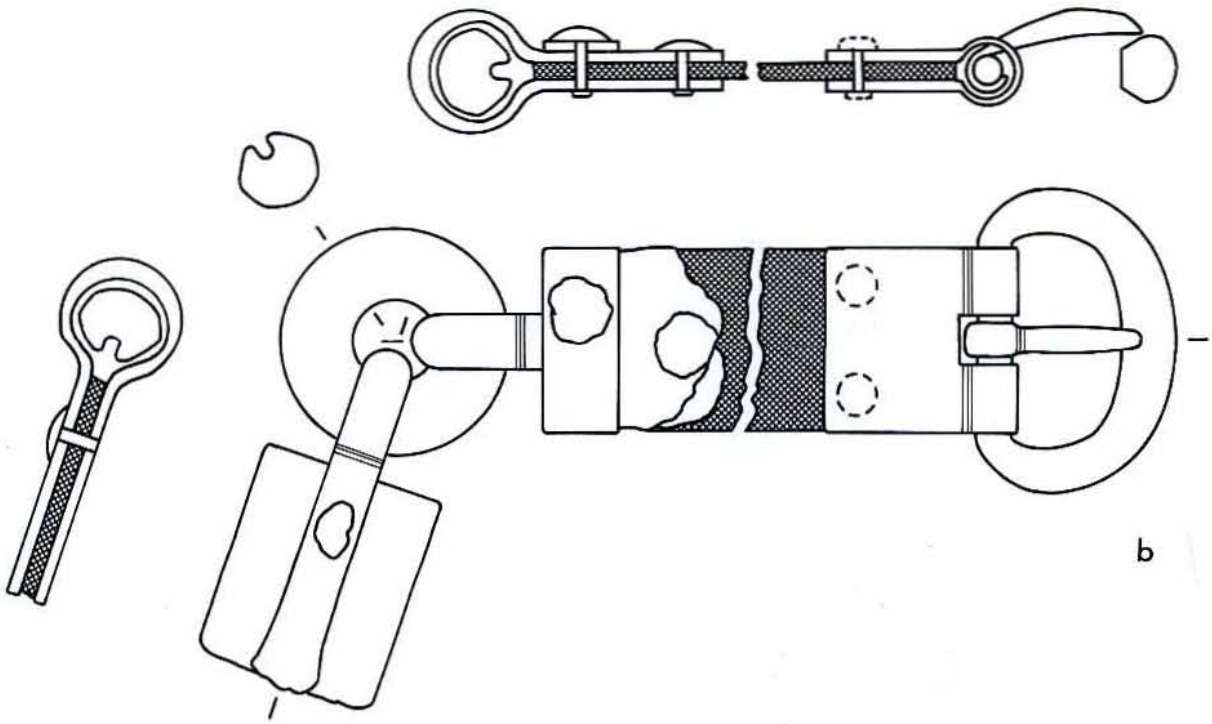


Plate 47. a) buckle and strap mount found next to the bridle, possibly belonging to a saddle. *b*) the buckle and the strap mount in the unfolded state (3:4).

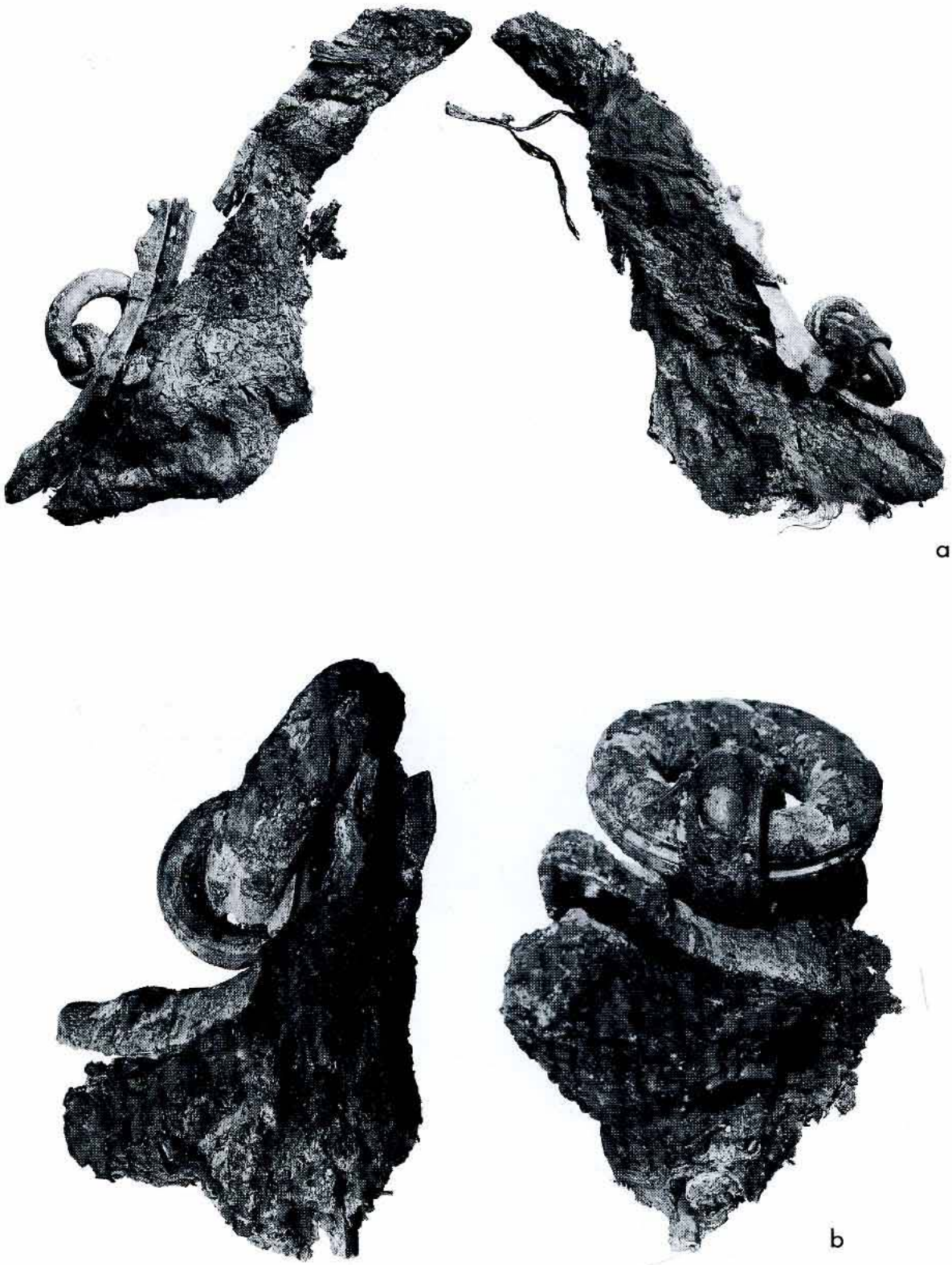


Plate 48. The saddle. *a*) the preserved remains of the front saddle bow (c. 1:3). *b*) the preserved remains of the rear saddle bow.

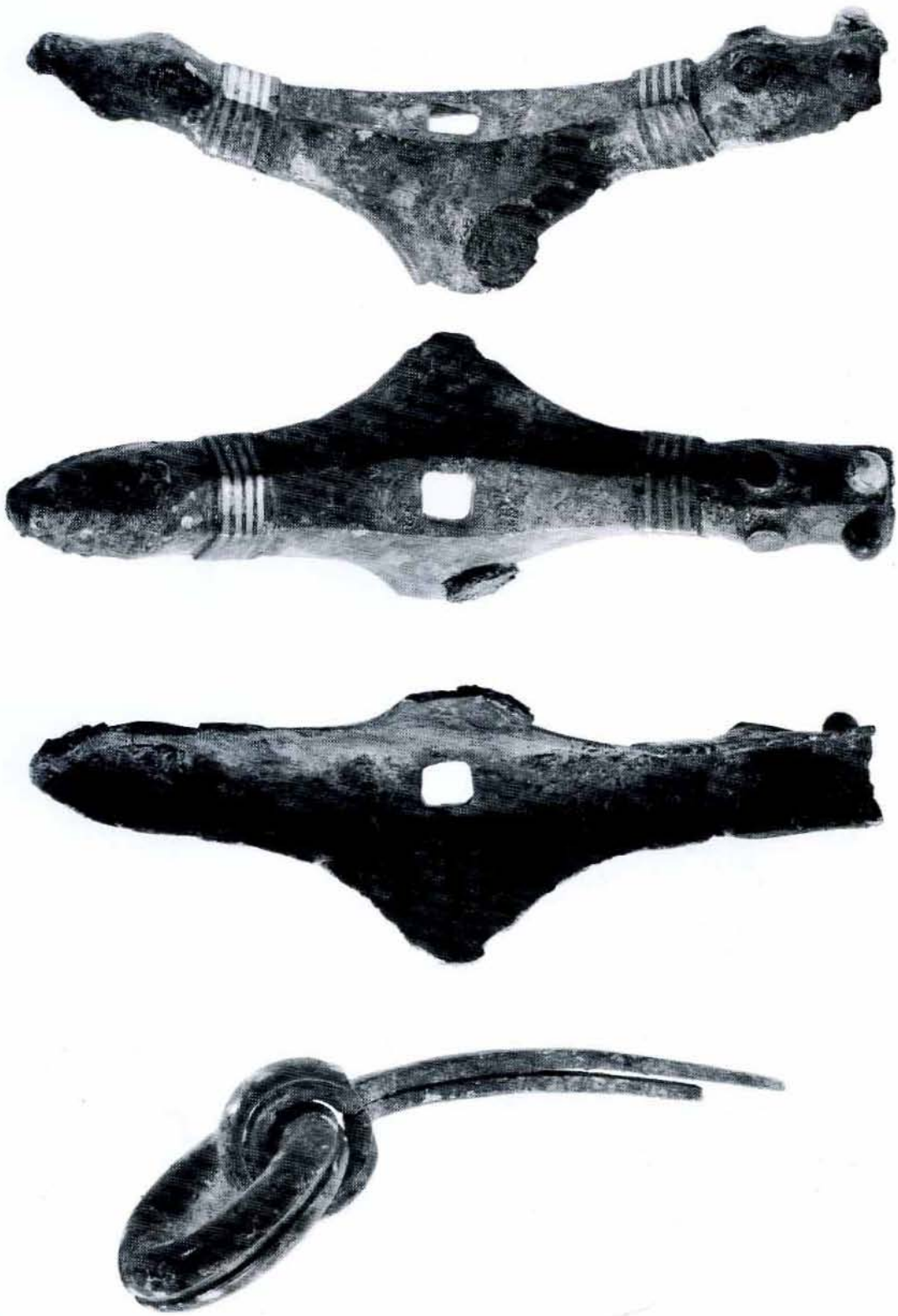


Plate 49. The saddle. One of the mounts for the front saddle bow.

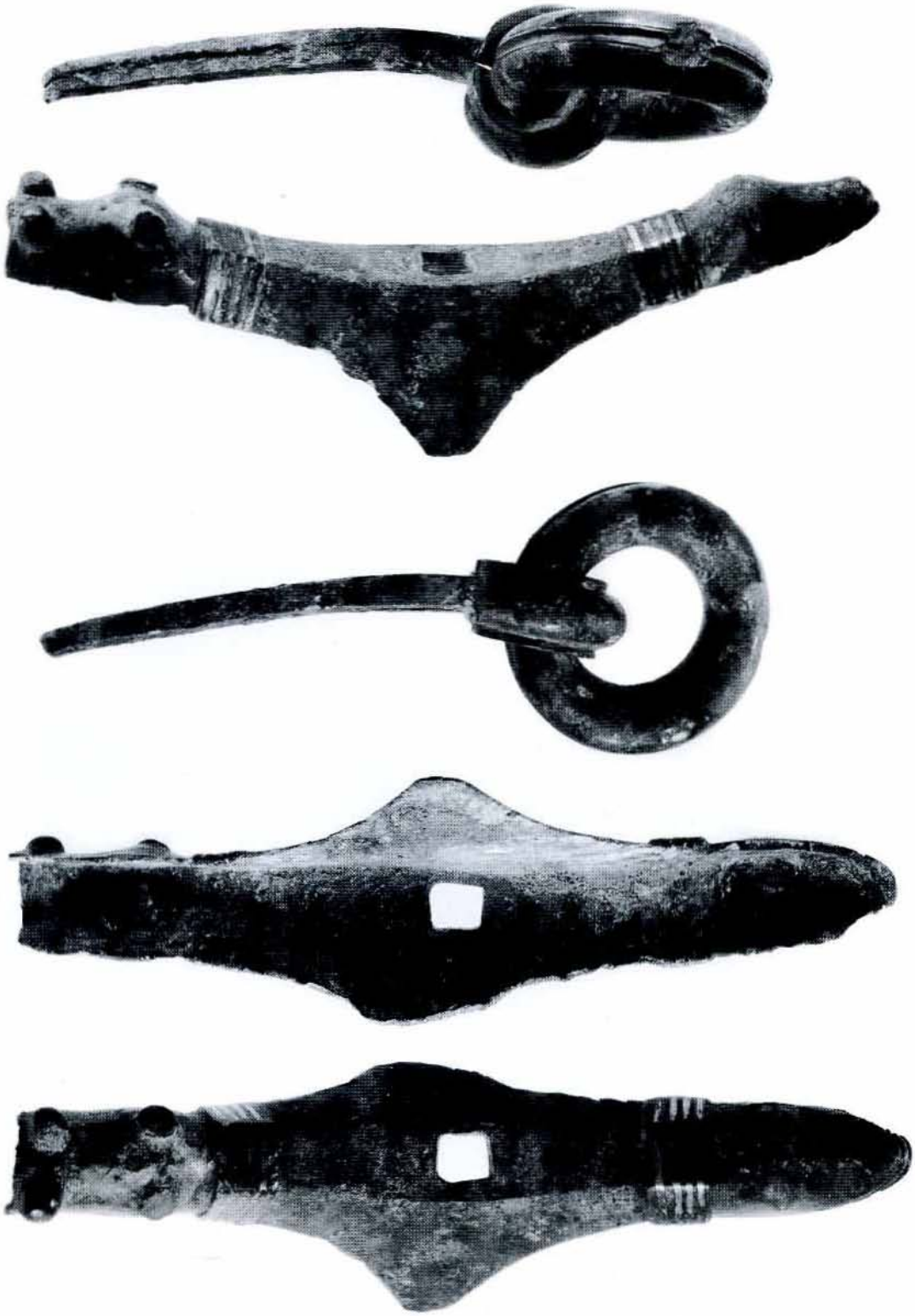


Plate 50. The saddle. The other mount for the front saddle bow.

Plate 51. The saddle. One of the mounts for the rear saddle bow.

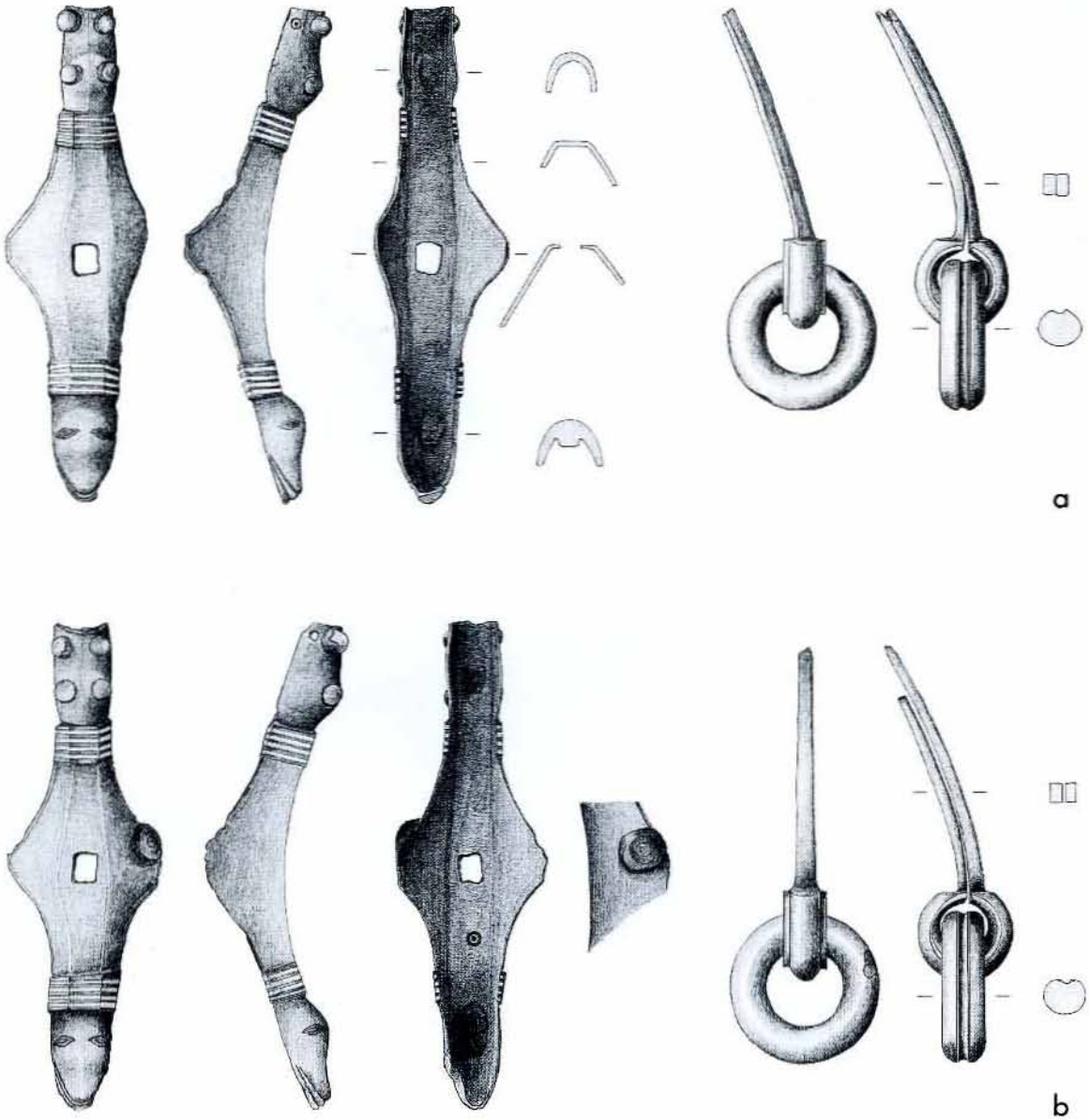


Plate 52. The saddle. The two mounts for the front saddle bow (1:2).

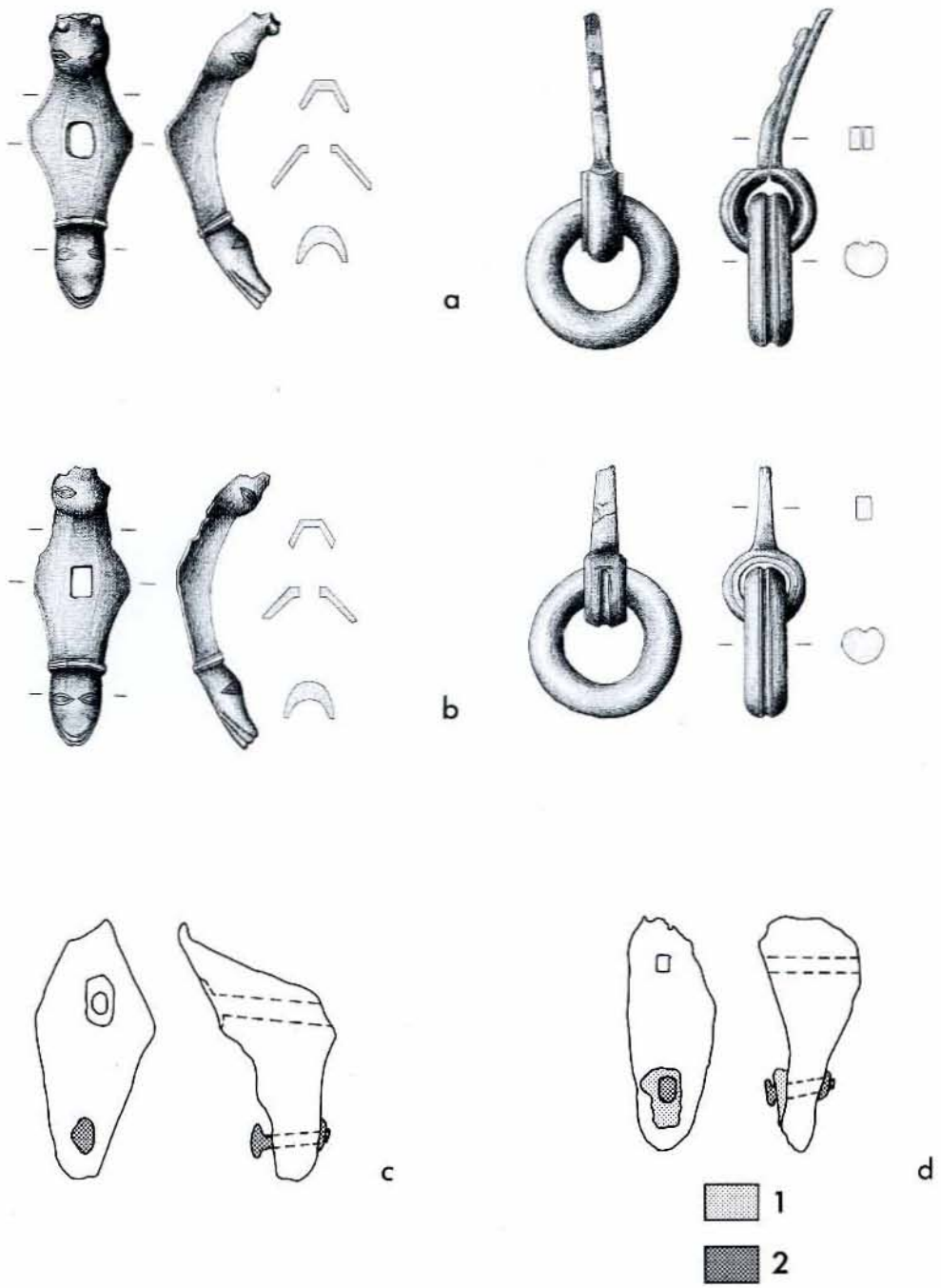


Plate 53. The saddle (1:2). *a–b*) the two mounts for the rear saddle bow. *c–d*) parts of the rear saddle bow, on which the mounts sat. 1 = bronze, 2 = bronze corrosion.

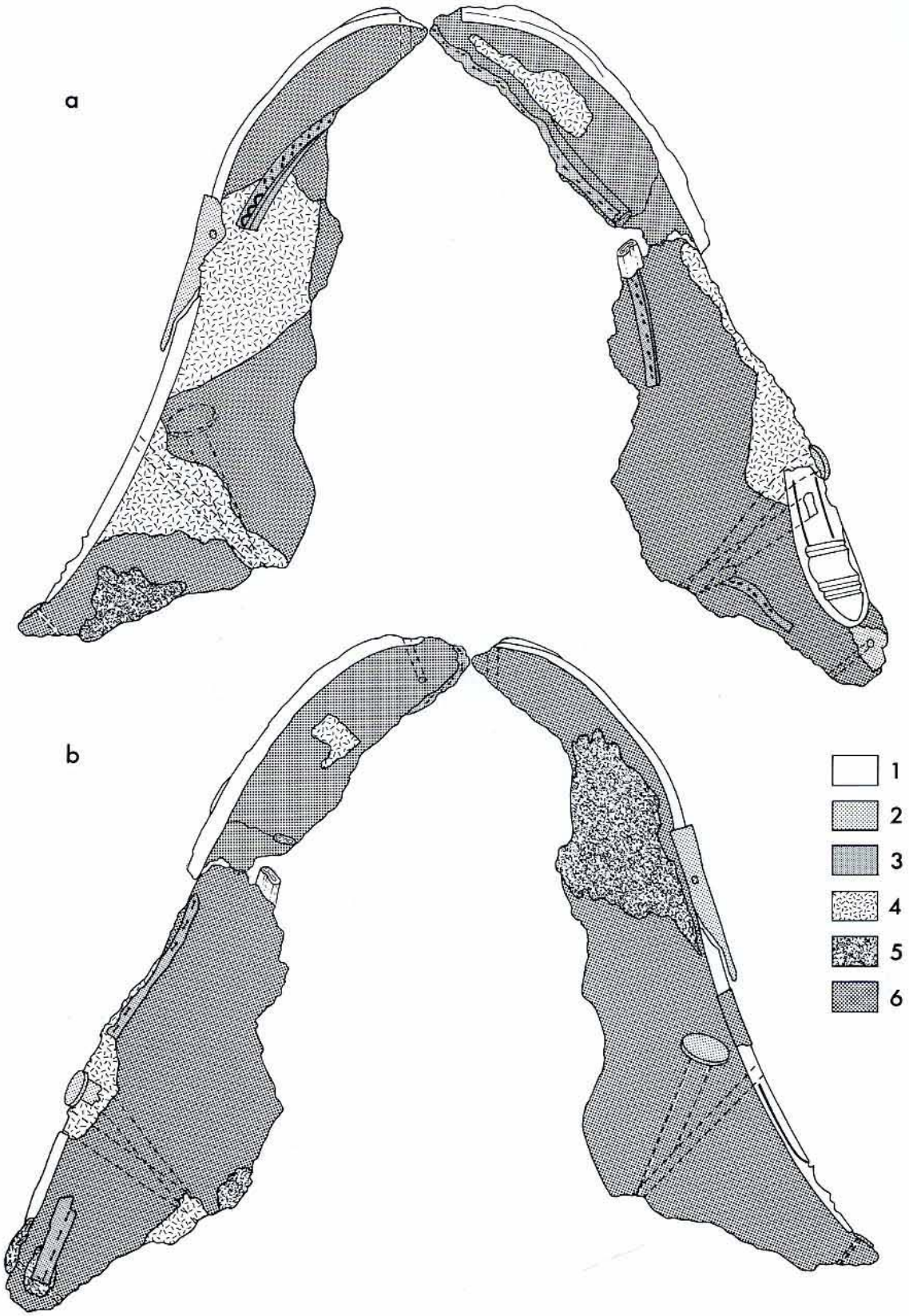


Plate 54. The saddle. Analysis drawing of the front saddle bow. *a*) front side. *b*) rear side. 1 = wood, 2 = bronze, 3 = leather seams, 4 = visible straw filling, 5 = animal fur (secondary), 6 = leather.

Plate 55. The saddle. The bronze rails for the front saddle bow. *a*) the left hand part seen from front and rear sides respectively. *b*) the top side of the right hand part from the front side.

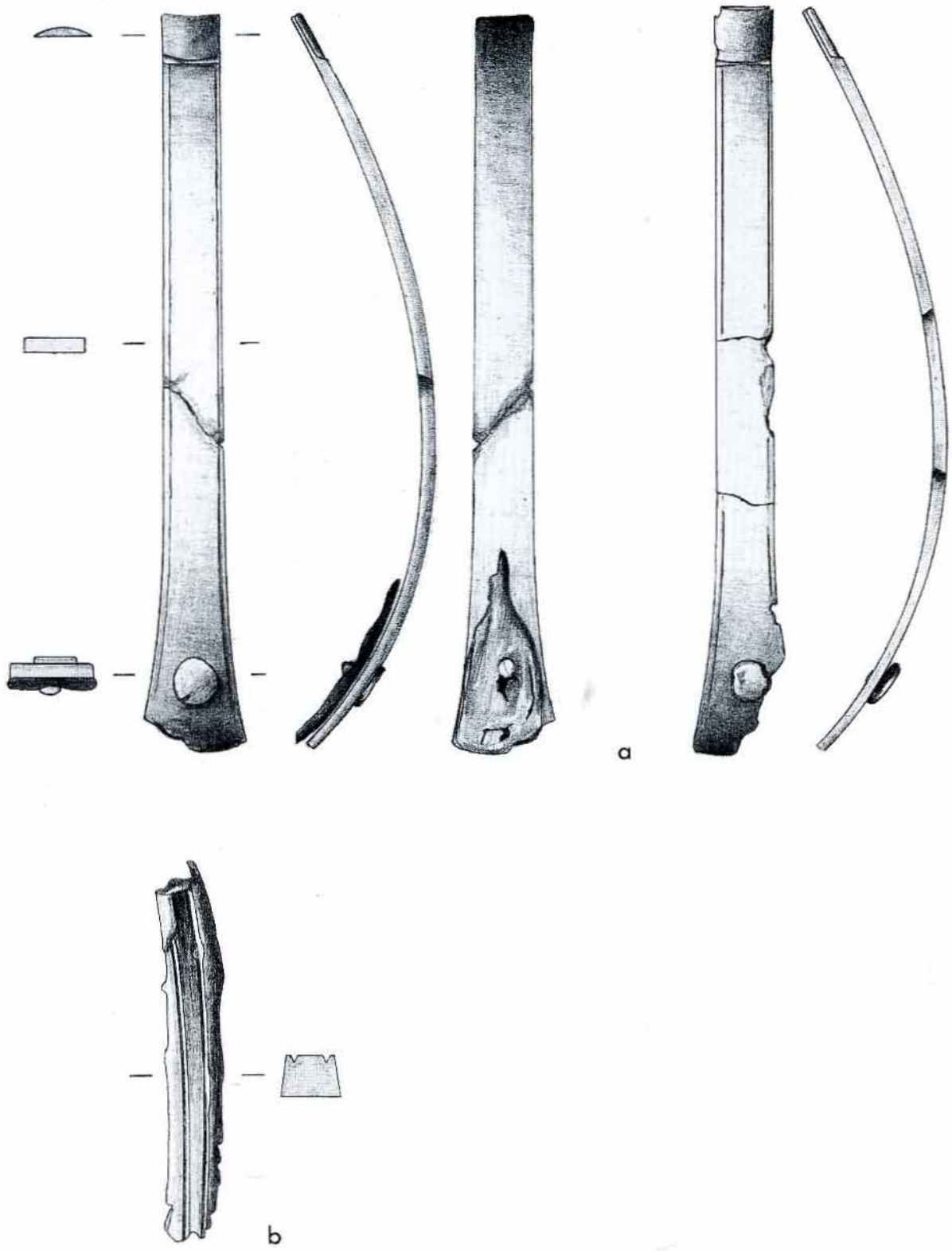


Plate 56. The saddle. *a*) the two bronze rails. *b*) fragment of the wooden edging of the front saddle bow.

Plate 57. The saddle. Two of the saddle-girth buckles. Top and bottom sides and an associated leather fragment, viewed from above and below.

Plate 58. The saddle. The other two saddle-girth buckles. Top and bottom sides and an associated leather fragment, viewed from above and below.

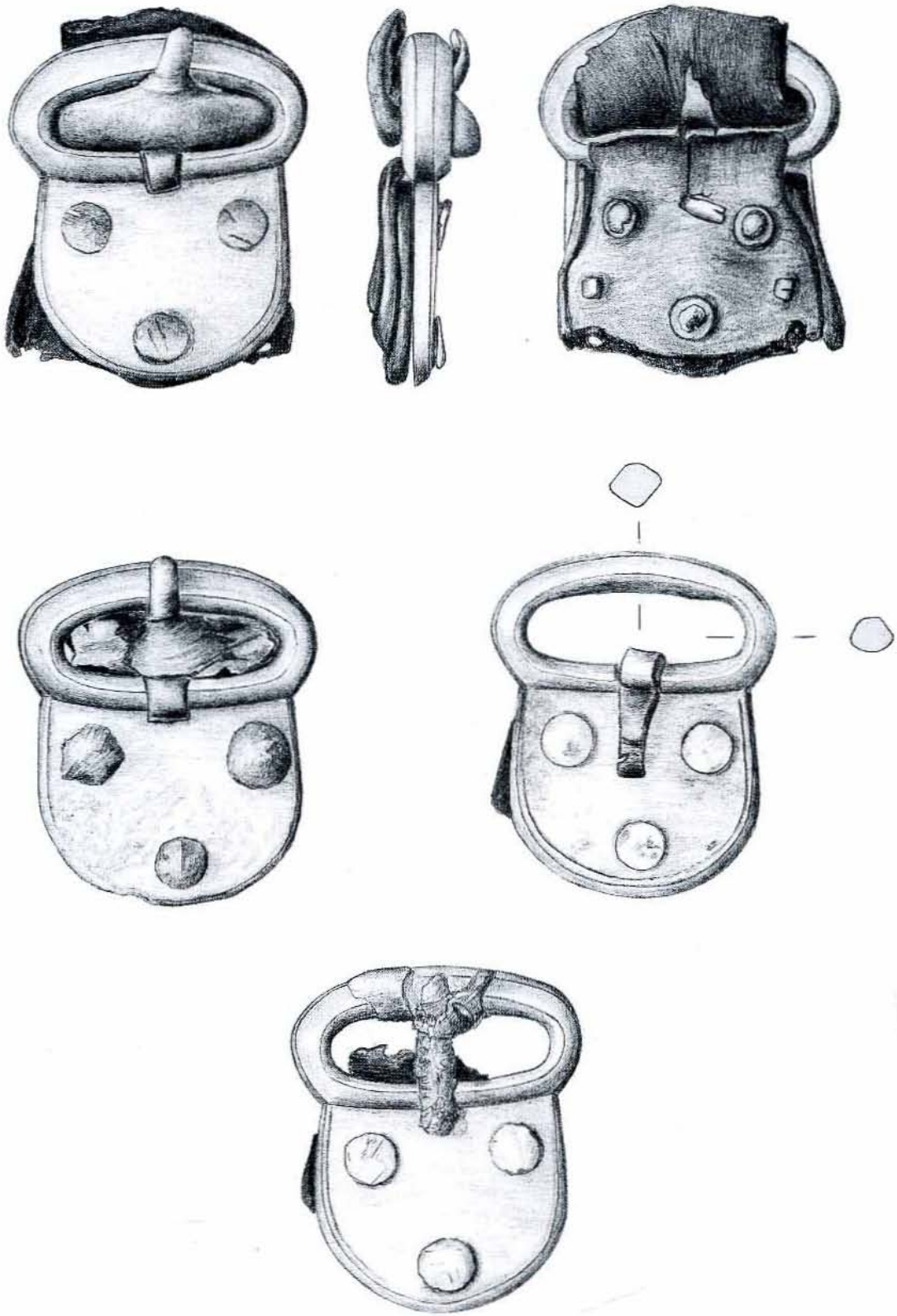


Plate 59. The saddle. The four saddle-girth buckles.

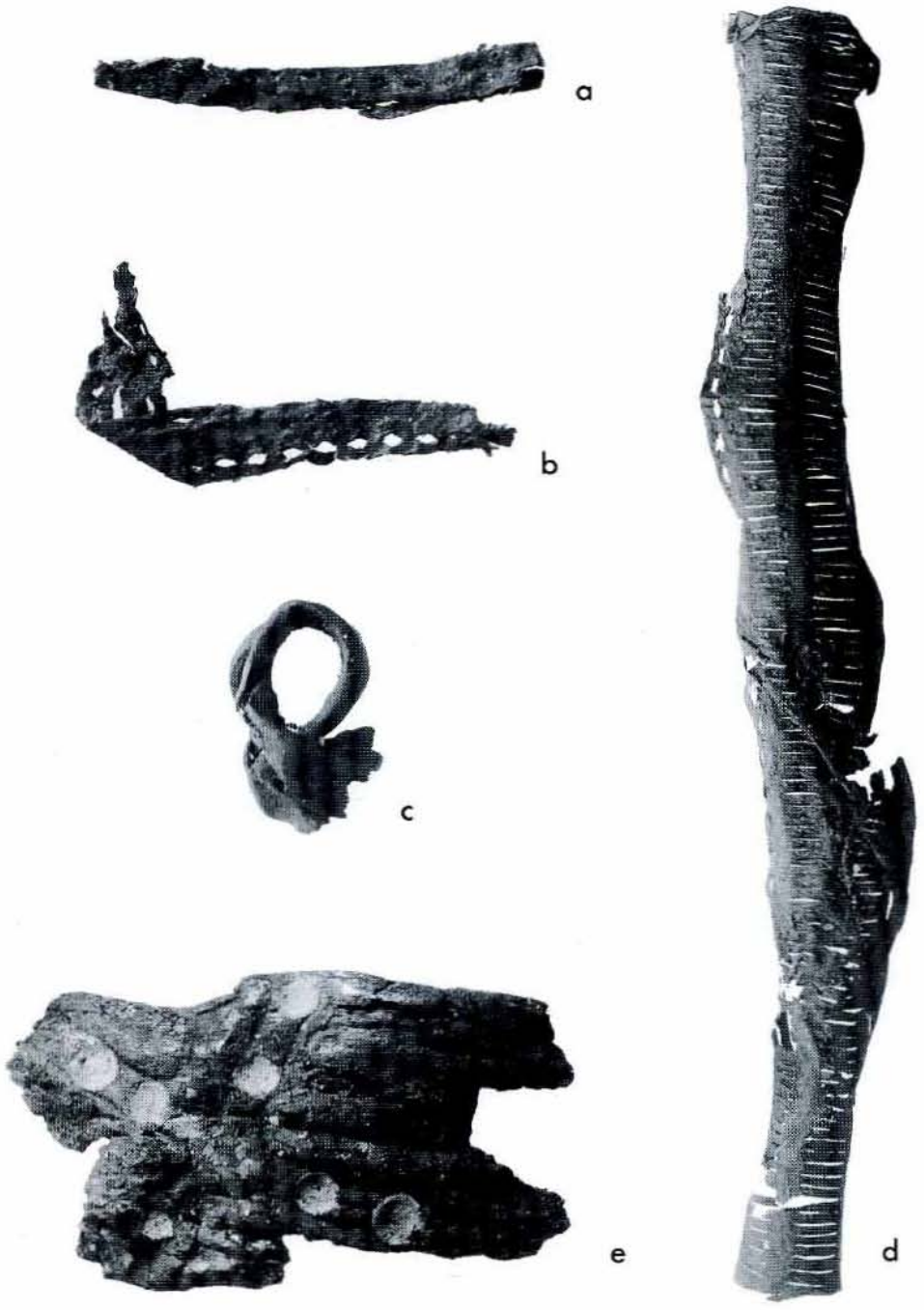
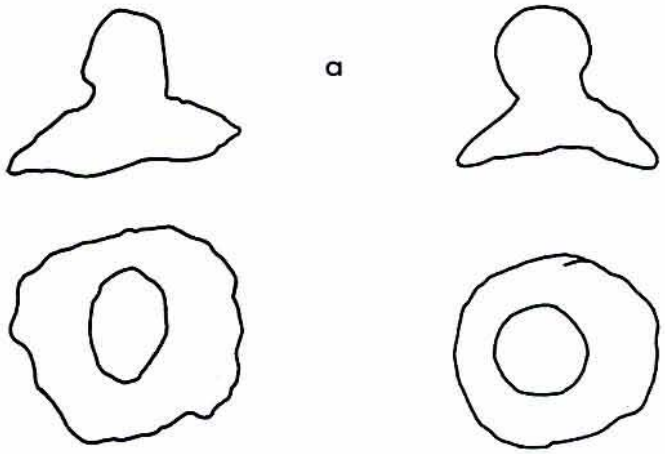
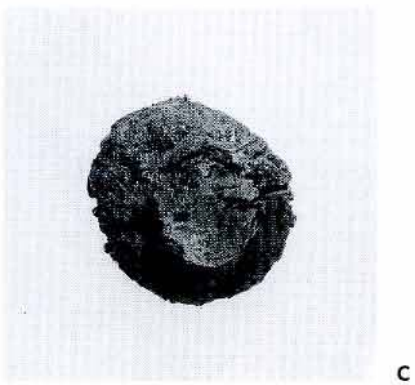


Plate 60. Leather fragments from the saddle and the bridle. *a*) fragments of leather from the saddle. *b*) fragment of a leather seam for the front saddle bow. *c*) leather eye for the bridle. *d*) stripped leather strap with edge seams from the saddle (cf. Fig. 86). *e*) impression of strap cross belonging to the bridle; the silver rivets have left circular impressions.





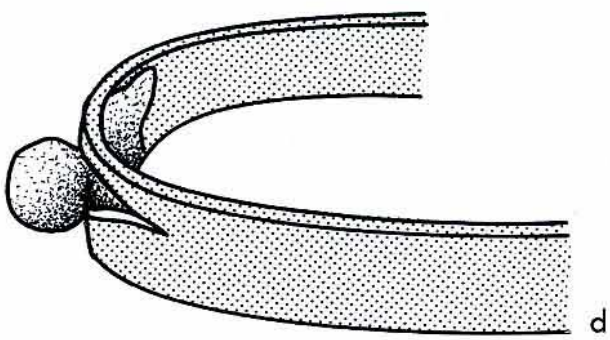


Plate 61. Spurs. *a*) *F61* and *F65*. *b*) X-ray photograph of *F65*. *c*) *F65*, photographed from above. *d*) suggested attachment of the spurs.

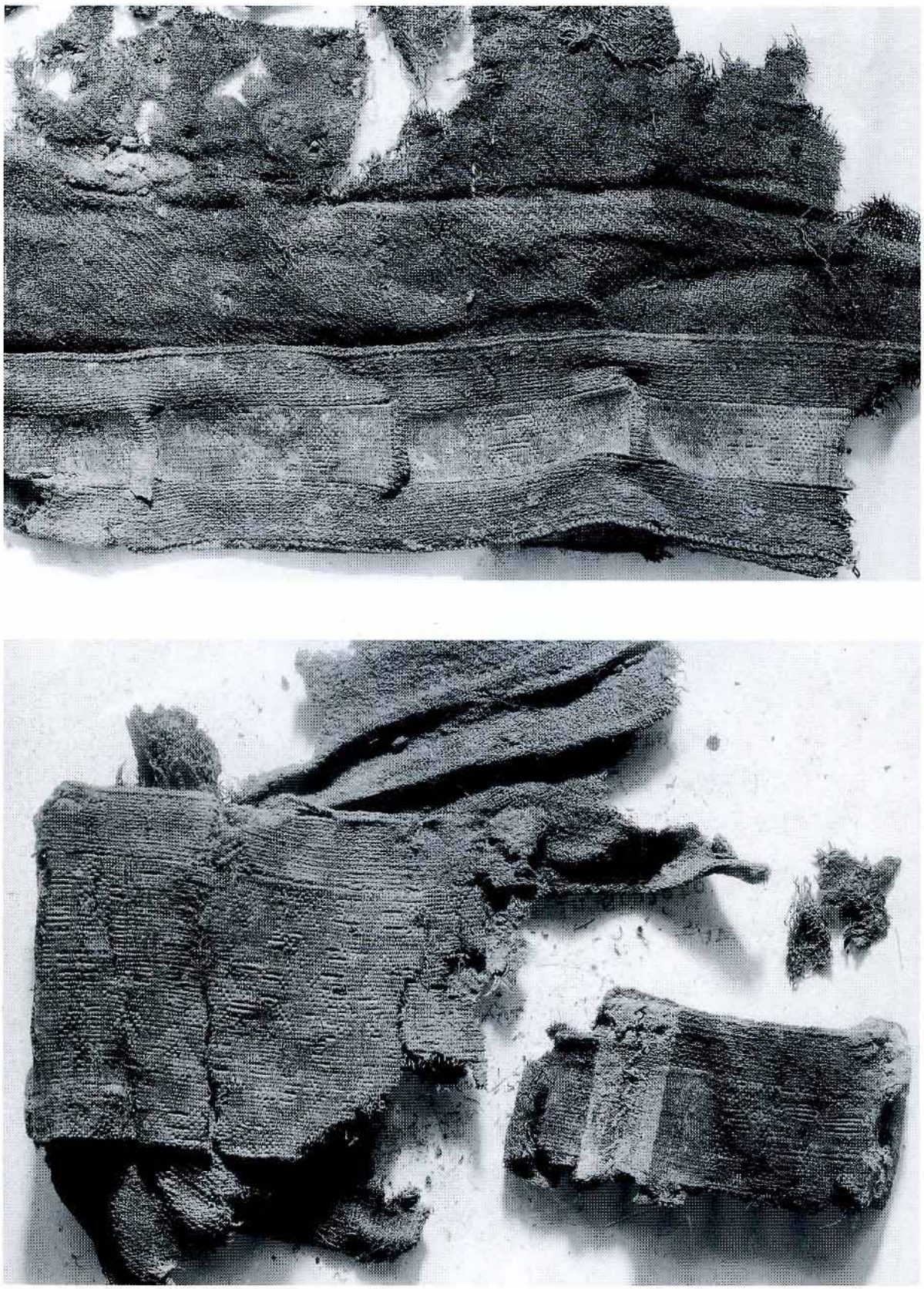


Plate 62. Textiles and tablet-woven band belonging to the tunic.

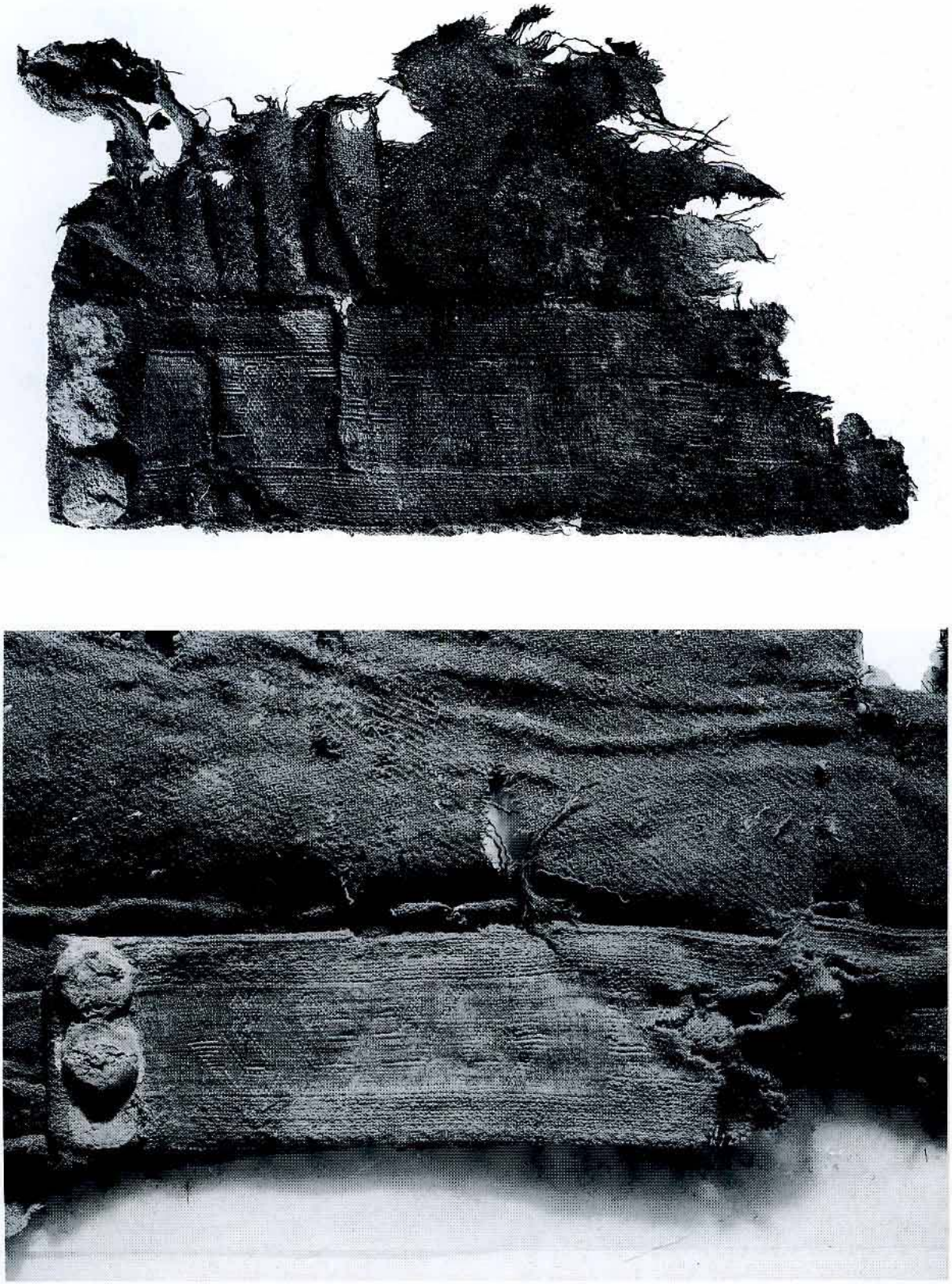


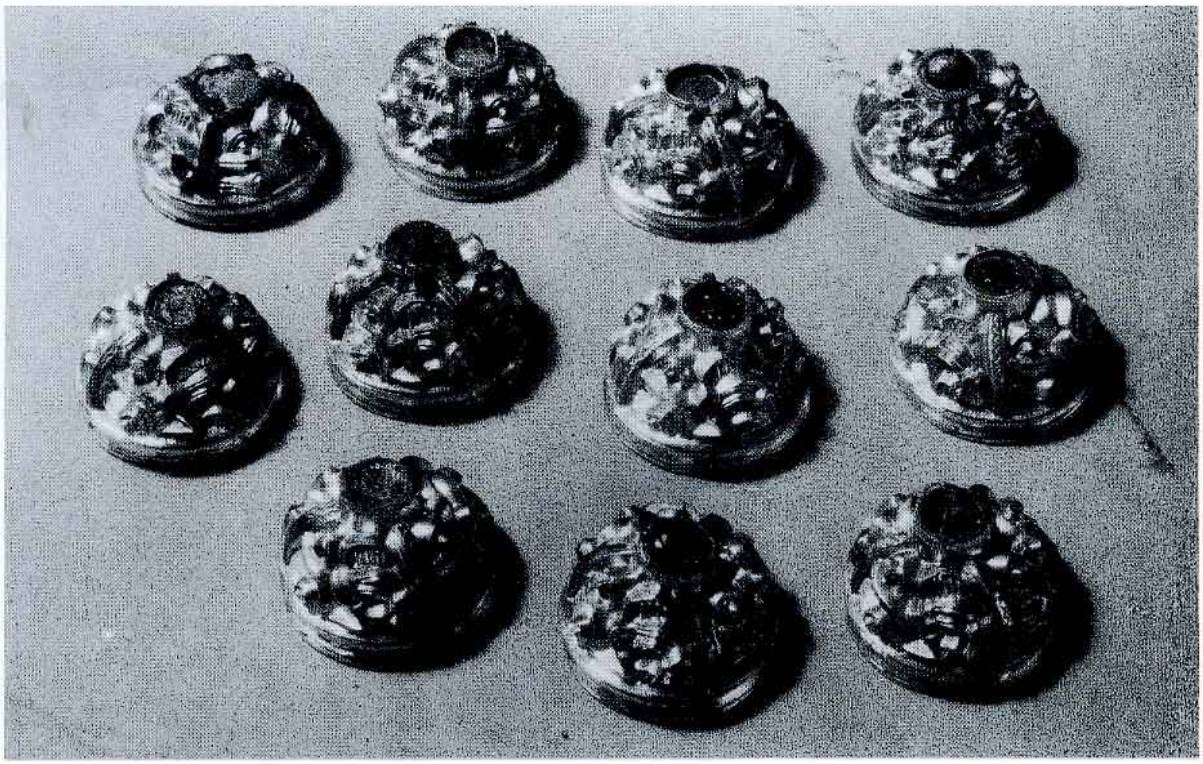
Plate 63. Textiles and tablet-woven band belonging to the tunic with heavily fragmented clasp buttons on the side slit of the tunic.

a

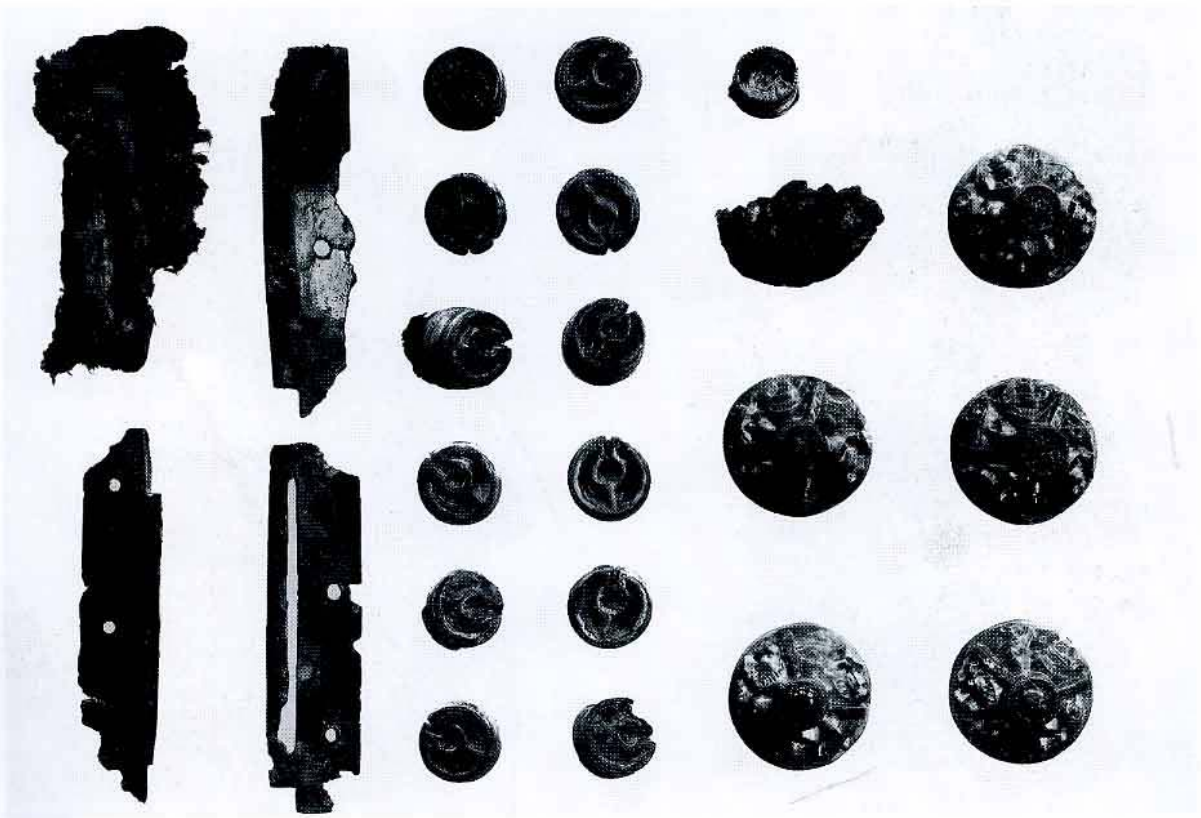
b

c

Plate 64. Clasp buttons. *a*) one set of the omega-shaped clasp buttons found by the ankles *in situ*. *b*) the flat buttons next to the head of the deceased, of which the lower set is not complete. Viewed from above. *c*) the same as *b*) from below, including the remains of animal fur.



a



b

Plate 65. Clasp buttons. *a*) the 11 well-preserved buttons from the wristbands. *b*) the omega-shaped buttons with associated bronze sheets and, on the right, one of the pairs of buttons for the wristband of the deceased with the damaged button. The small button found in the mound filling is shown at the top right.

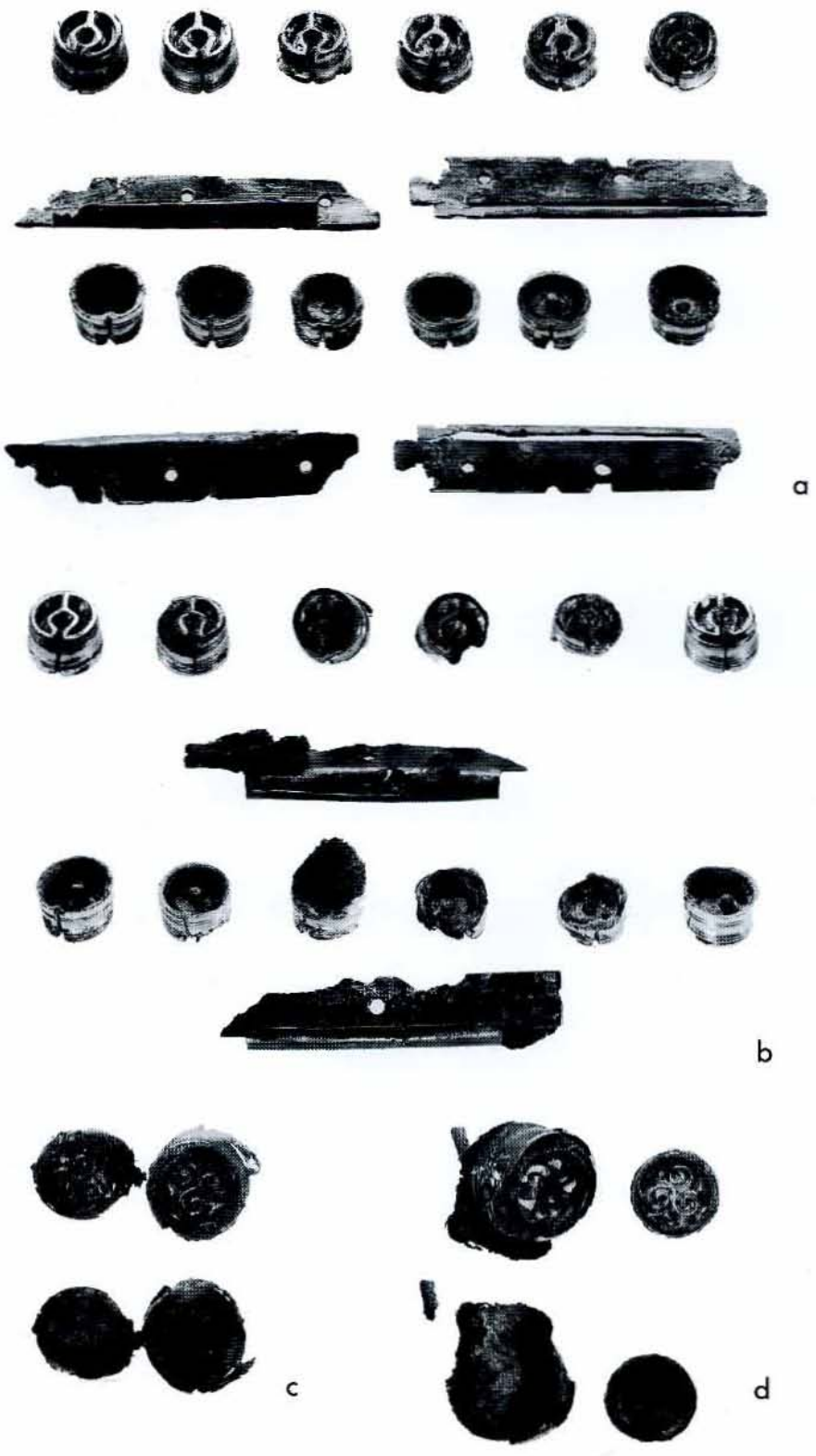


Plate 66. Clasp buttons. *a–b*) front and rear side of the omega-shaped buttons found by the ankles, with associated bronze sheets. *c–d*) four of the buttons with triskelion ornamentation, front and rear sides.

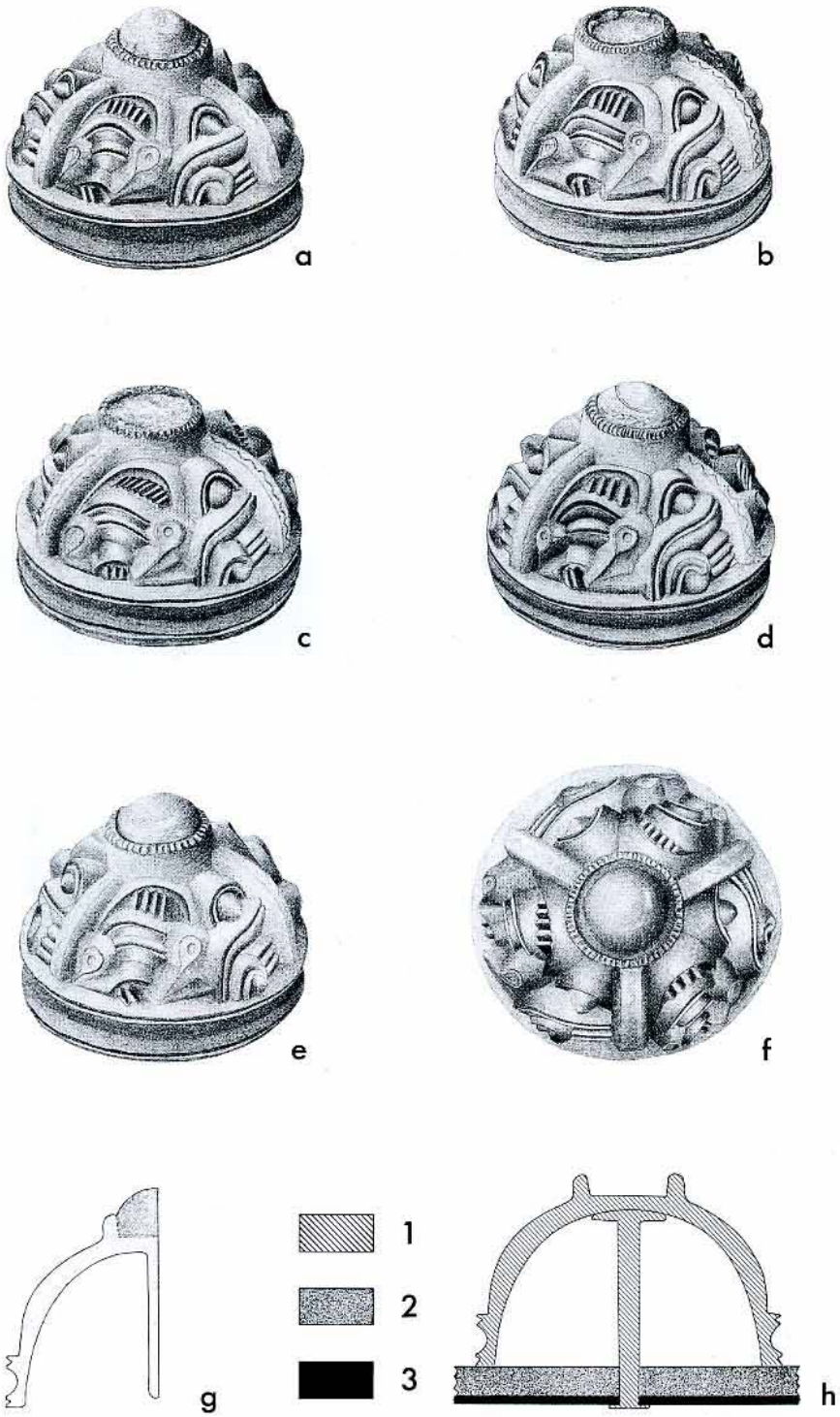


Plate 67. Clasp buttons. *a–e*) some of the side fields with Style I ornamentation on the clasp buttons of the cuff band. *f*) clasp button viewed from above. *g*) cross-section. *h*) attachment of the clasp buttons to the tablet-woven band (*a–h* 2:1). 1 = silver, 2 = textile, 3 = bronze sheet.

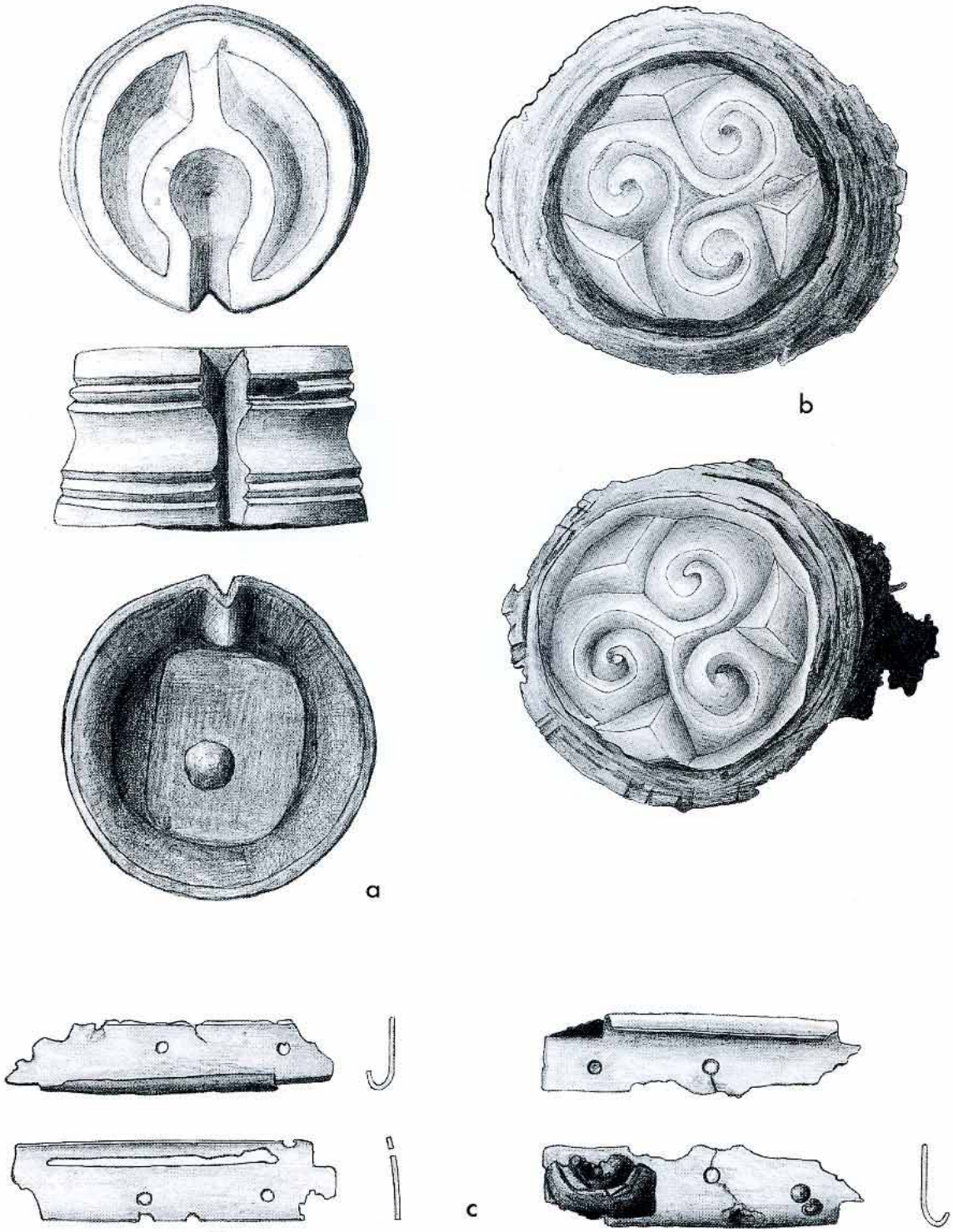
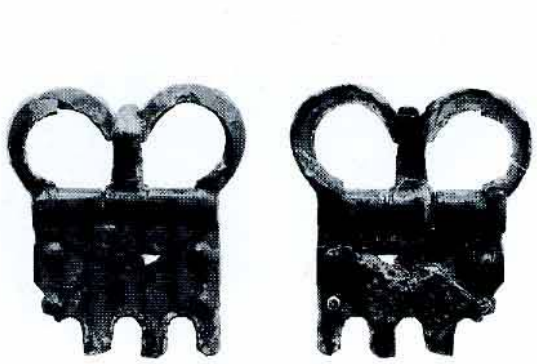


Plate 68. Clasp buttons. *a*) omega-shaped button viewed from above, from the side and from below (4:1). *b*) the severely deformed buttons with triskelion ornamentation (4:1). *c*) bronze sheets for the omega-shaped buttons (1:1).



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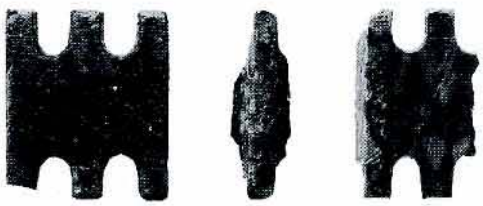

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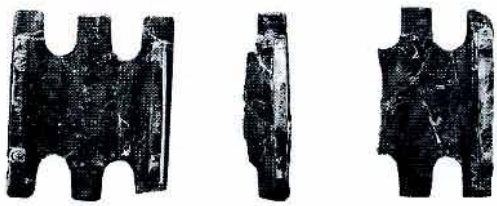

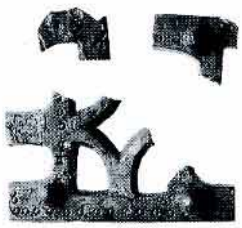

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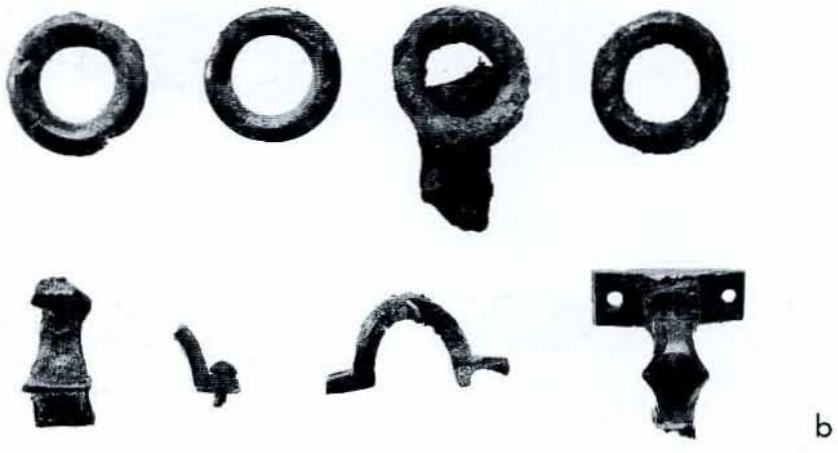
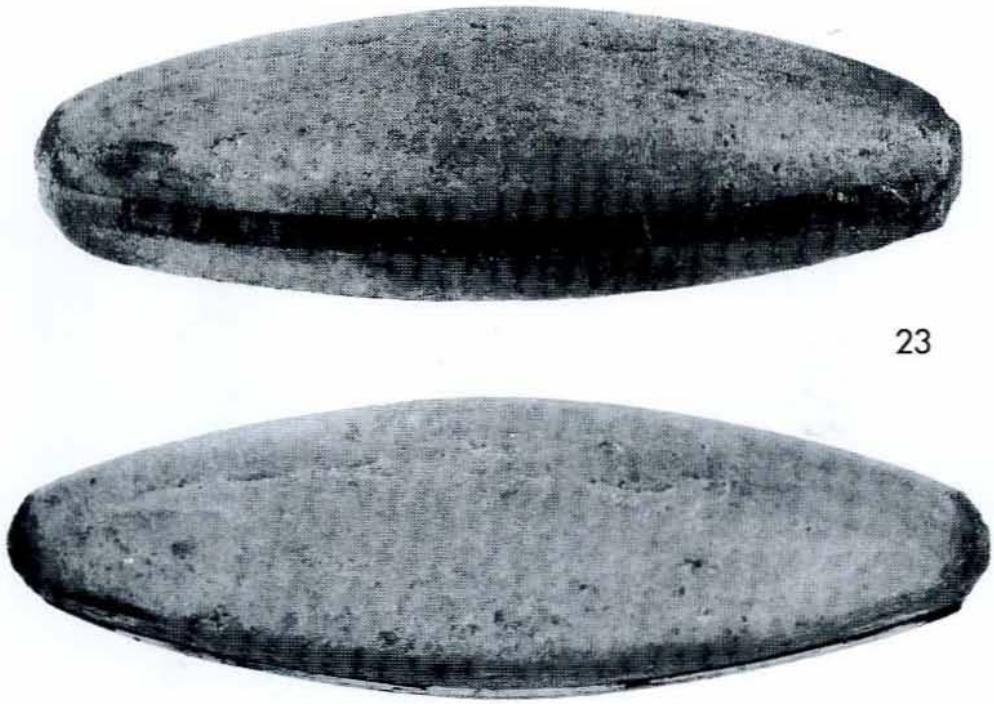
Plate 69. The buckle *F18*, strap end mount *F19*, strap retaining mount *F20* and one of the two quatrefoil mounts *F24*. The top and bottom sides are shown.

a

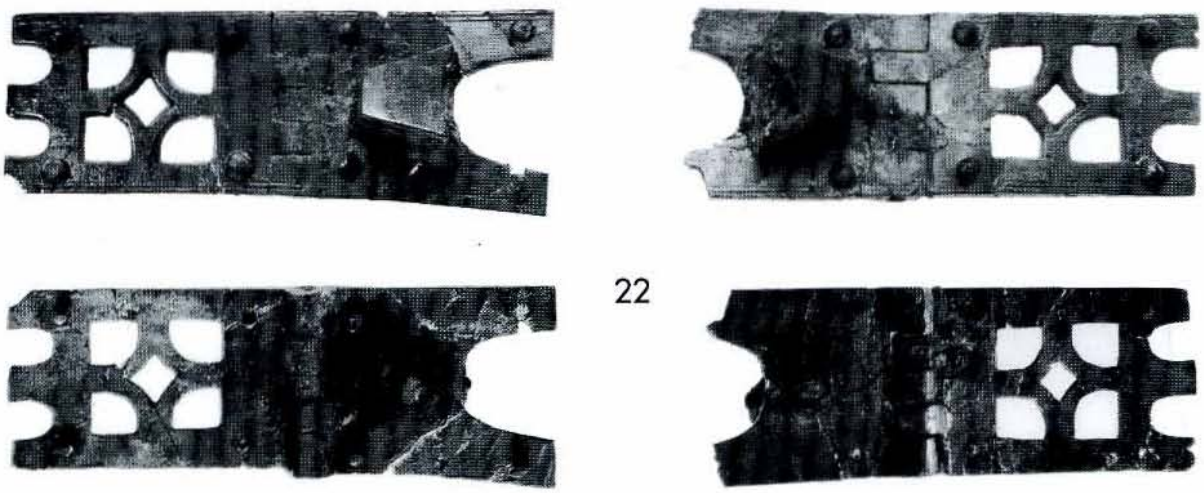


b

Plate 70. Rings and ring holders *F21*. *a*) from below. *b*) from above.



23



22

Plate 71. Strike-a-light stone *F23.* Viewed at an angle from above and from below. Shown beneath are the bronze retaining mounts *F22* for the strike-a-light stone, viewed from above and from below.

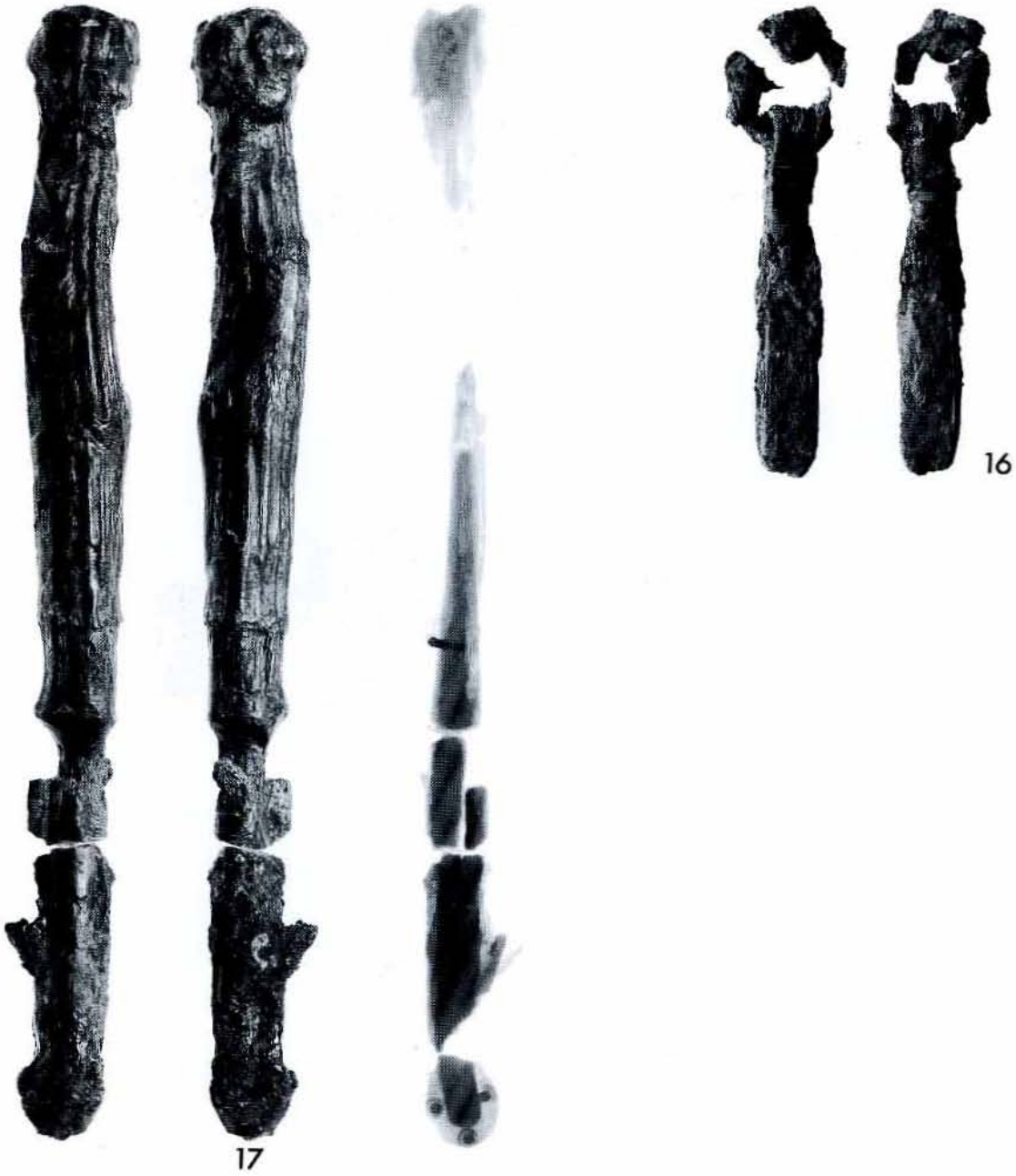


Plate 72. The fire tool *F17*, viewed from two sides and an X-ray photograph. On the right is the silver tweezers *F16*, showing the front and rear sides.

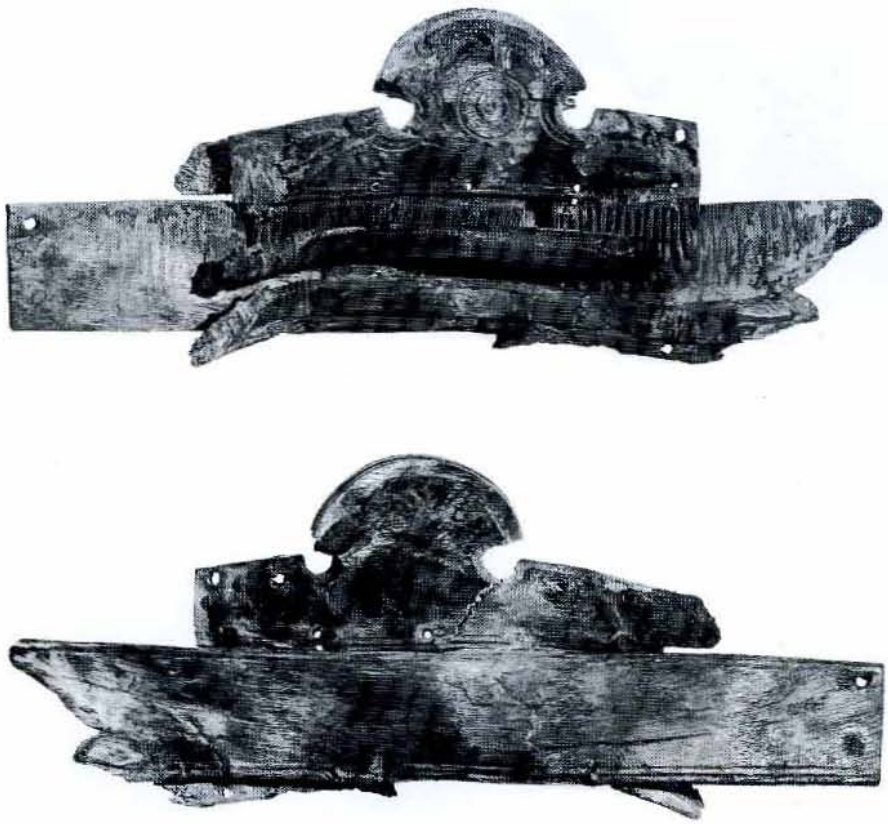


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Plate 73. The handle comb *F25*, showing the front and rear sides.

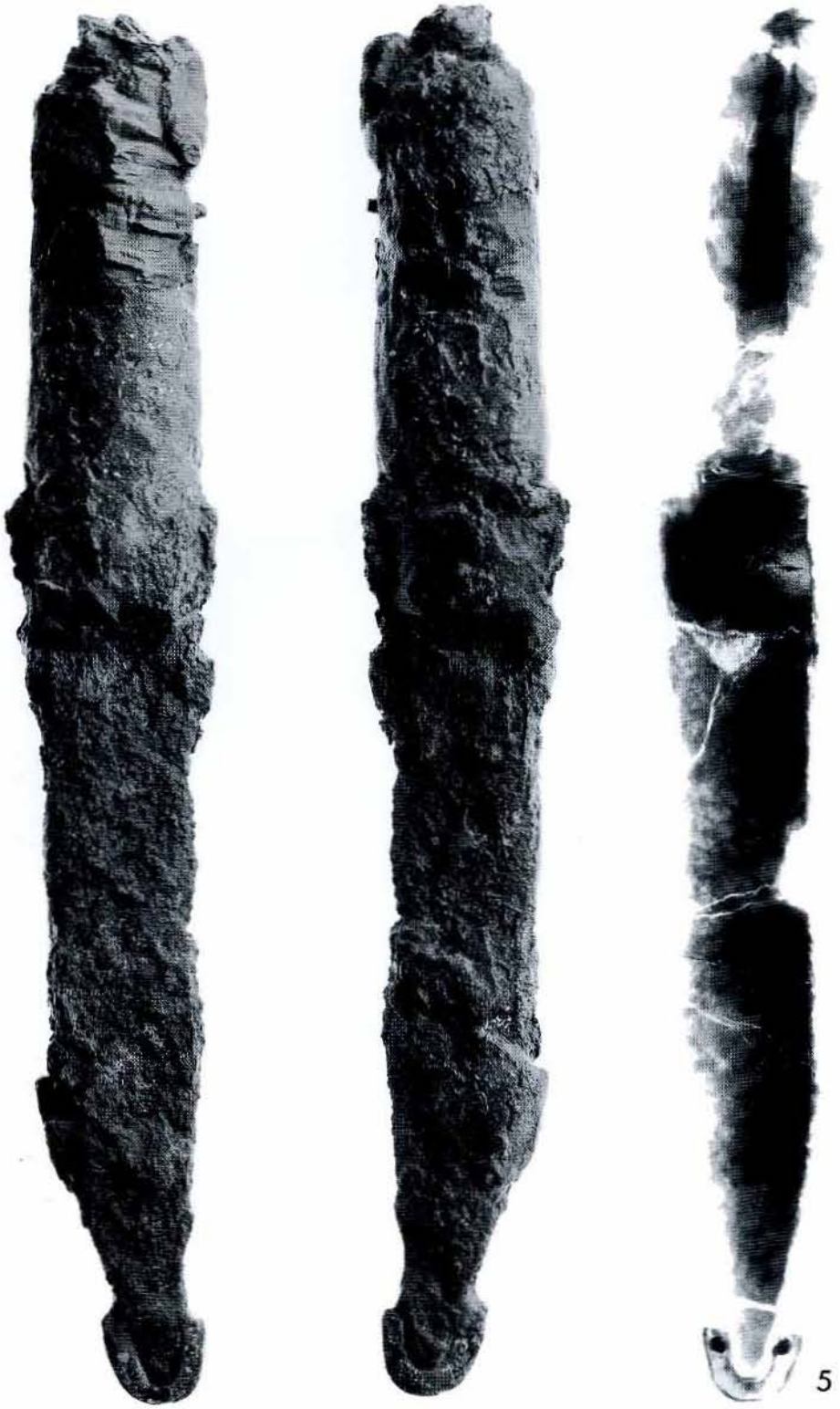


Plate 74. The fighting knife *F5*, showing the front and rear side and an X-ray photograph (2:3).

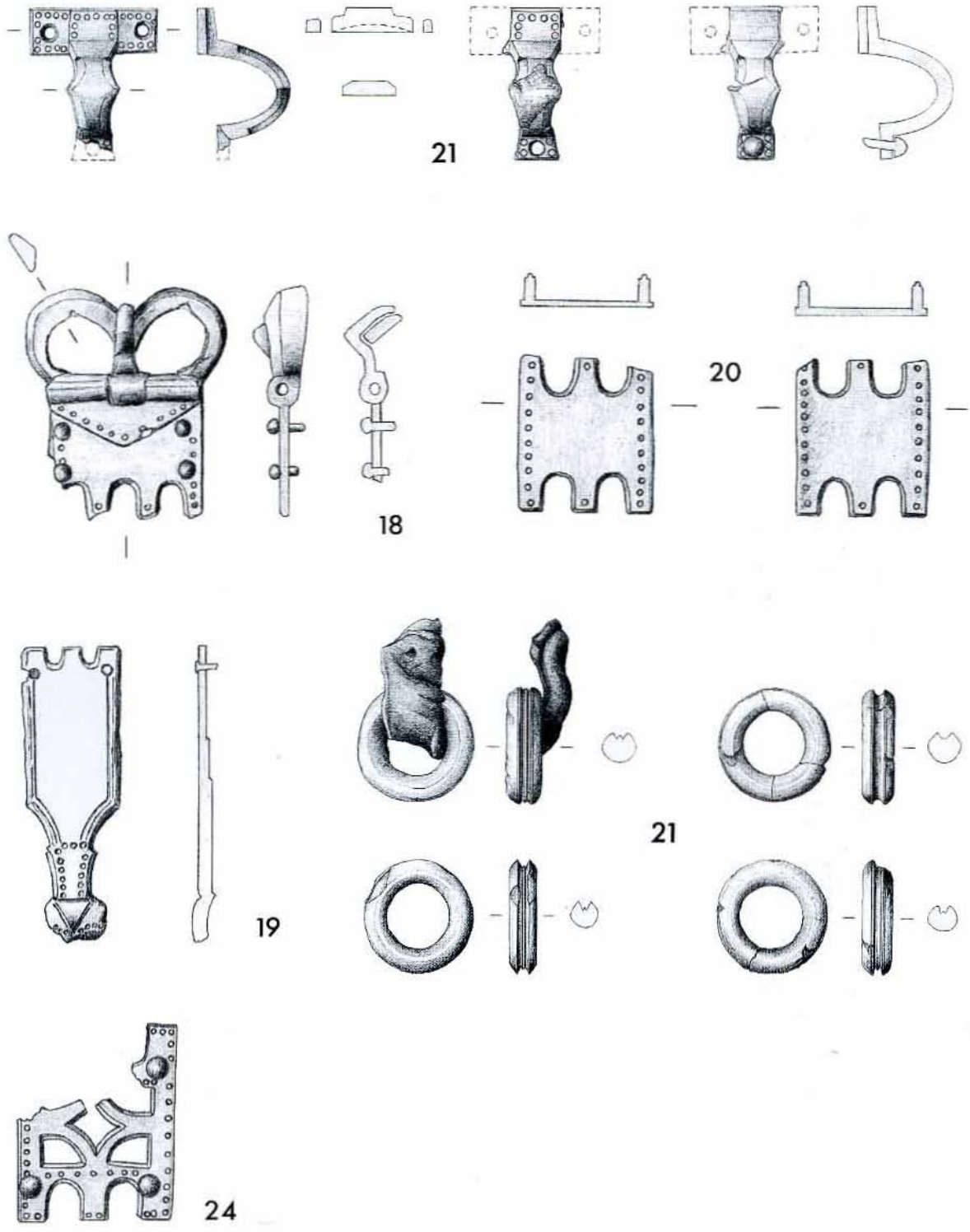


Plate 75. Buckle *F18*, strap end mount *F19*, the two strap retaining mounts *F20*, rings and ring holders *F21*, and one of the two quatrefoil mounts *F24*.

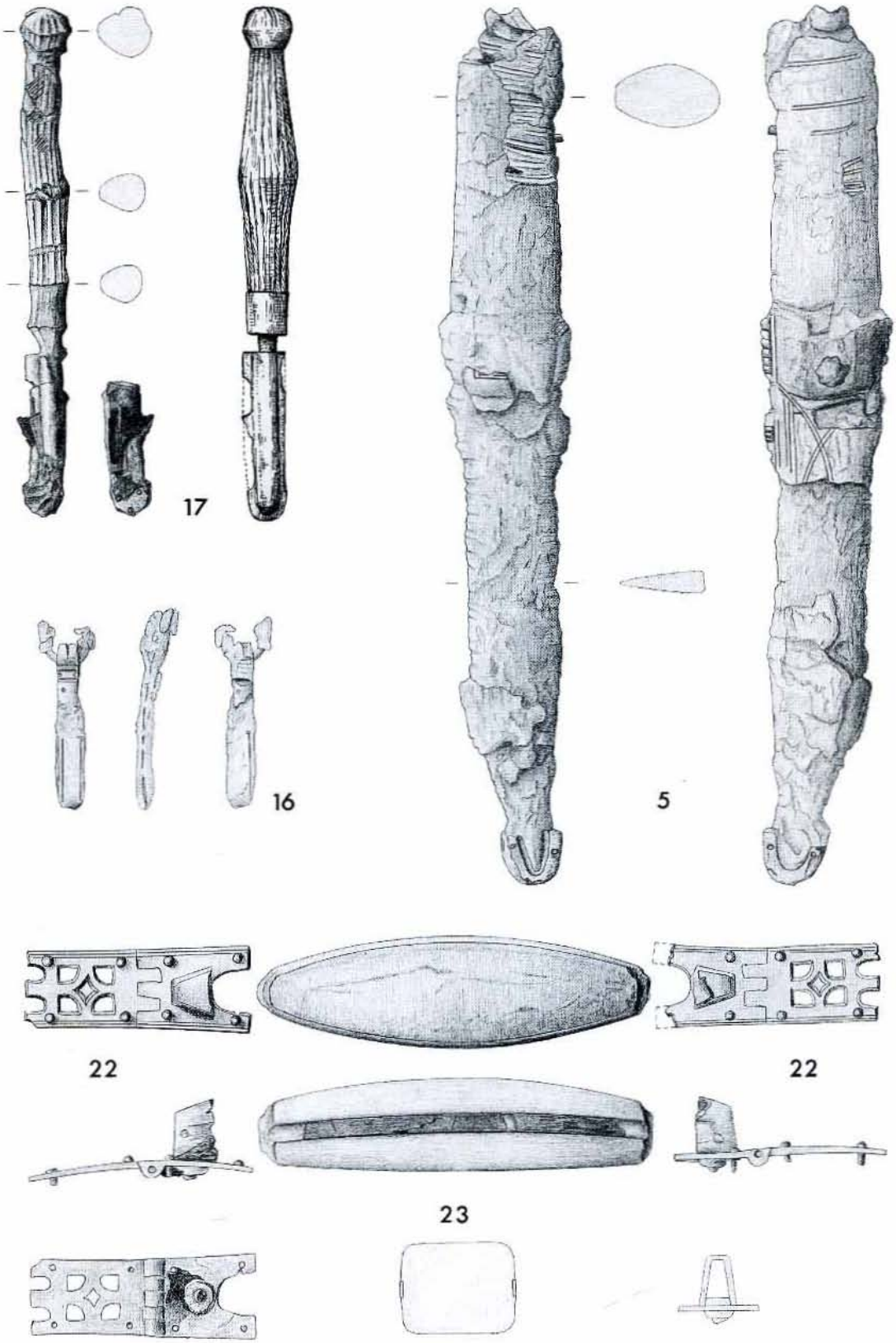


Plate 76. Fighting knife *F5*, silver tweezers *F16*, fire tool *F17* (on the right is Selling's drawing made directly after retrieval), the strike-a-light stone and its retaining mount *F22–23* (1:2).

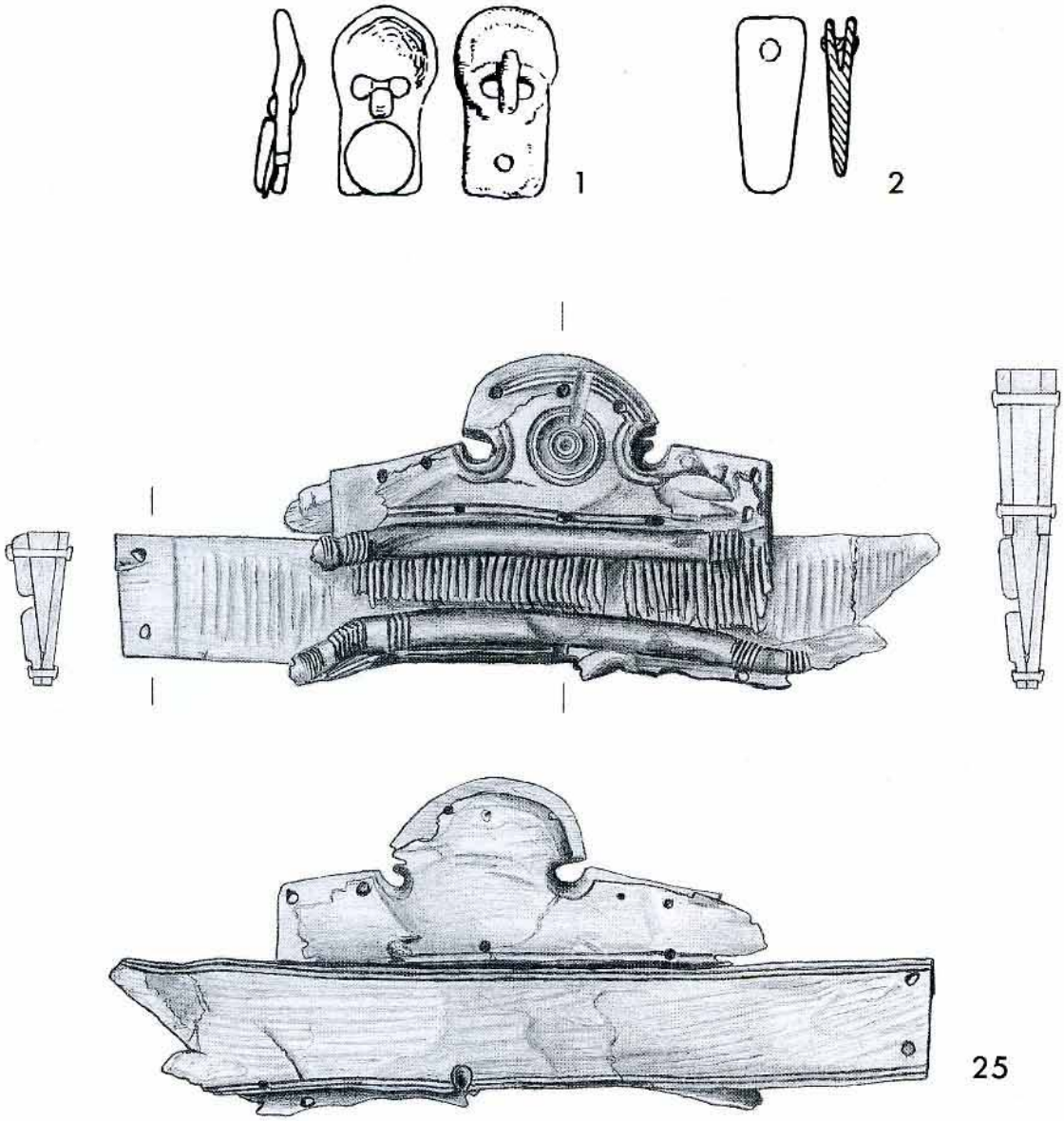


Plate 77. Selling's drawings of the silver buckle (*1*) for the comb leather bag and a strap end mount (*2*), probably for the strap of the fighting knife. Handle comb *F25*.

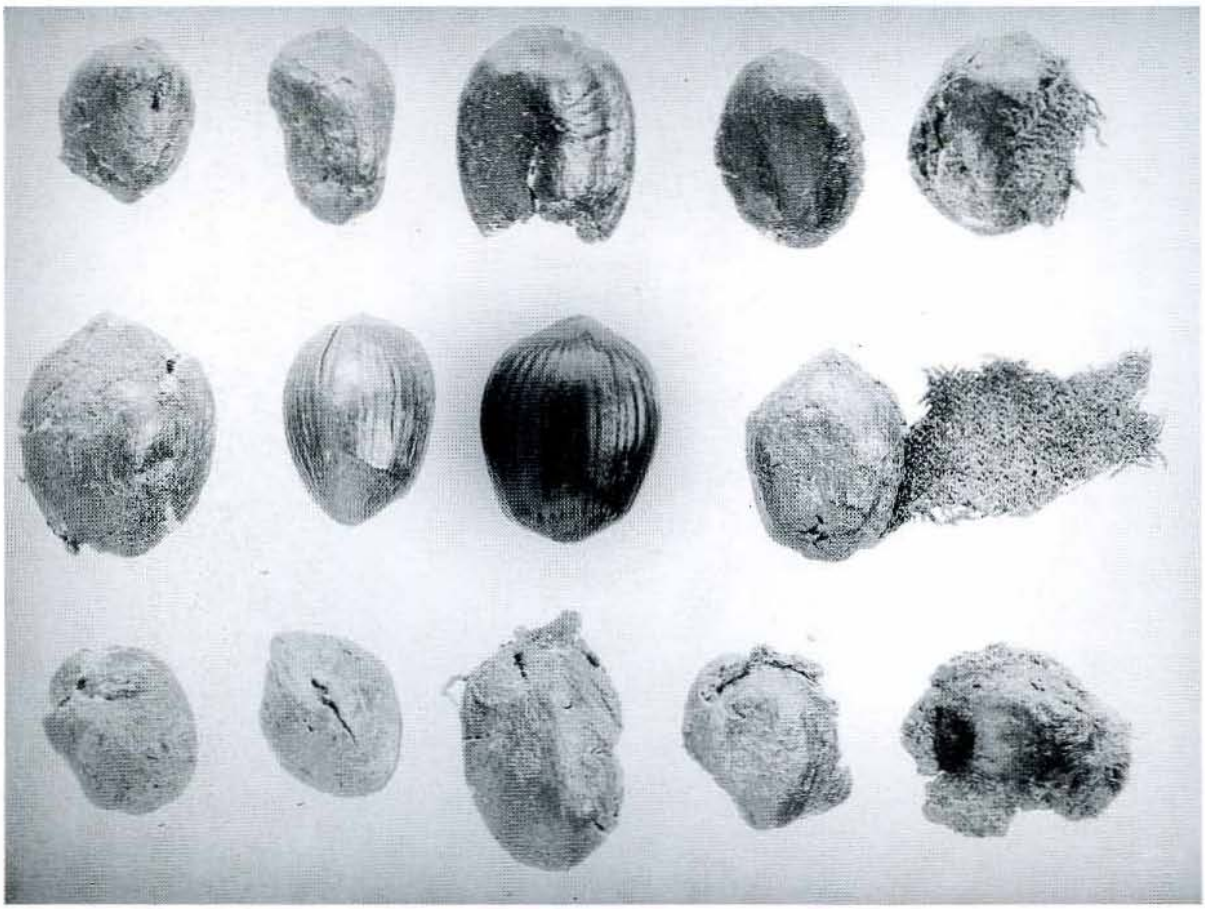
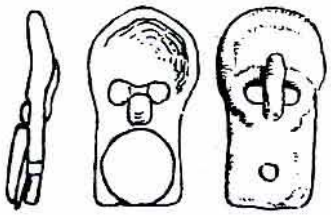
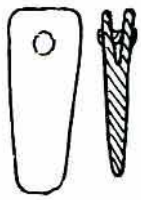


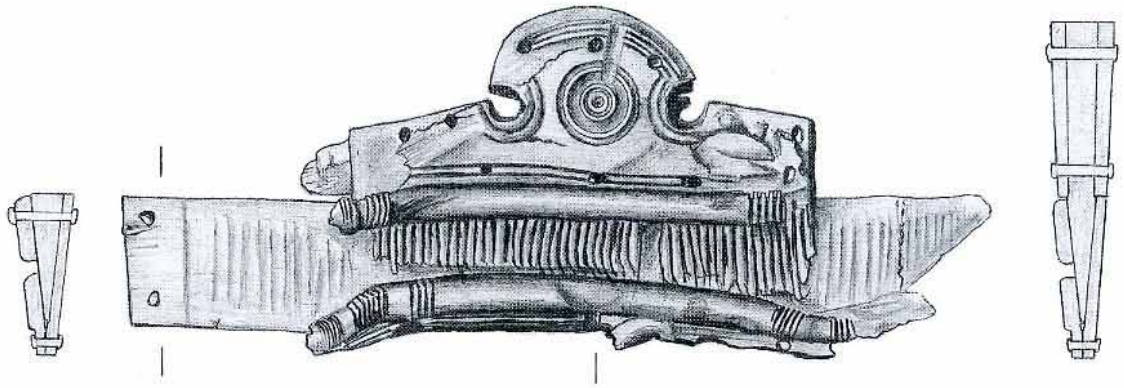
Plate 78. Some of the hazelnuts next to the belt.

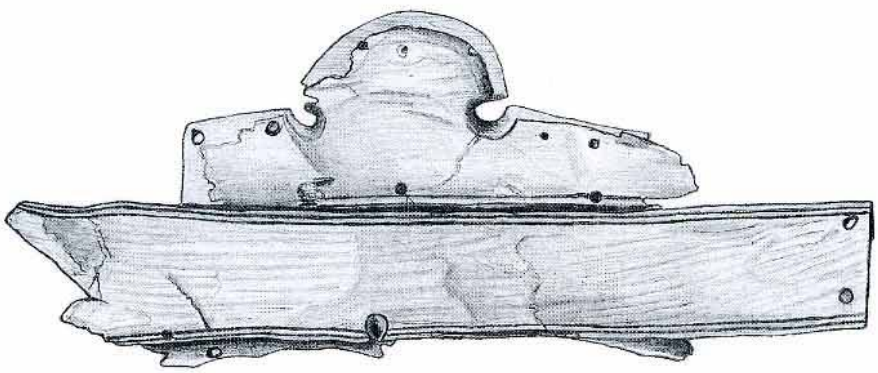


1



2





25

Plate 77. Selling's drawings of the silver buckle (*1*) for the comb leather bag and a strap end mount (*2*), probably for the strap of the fighting knife. Handle comb *F25*.

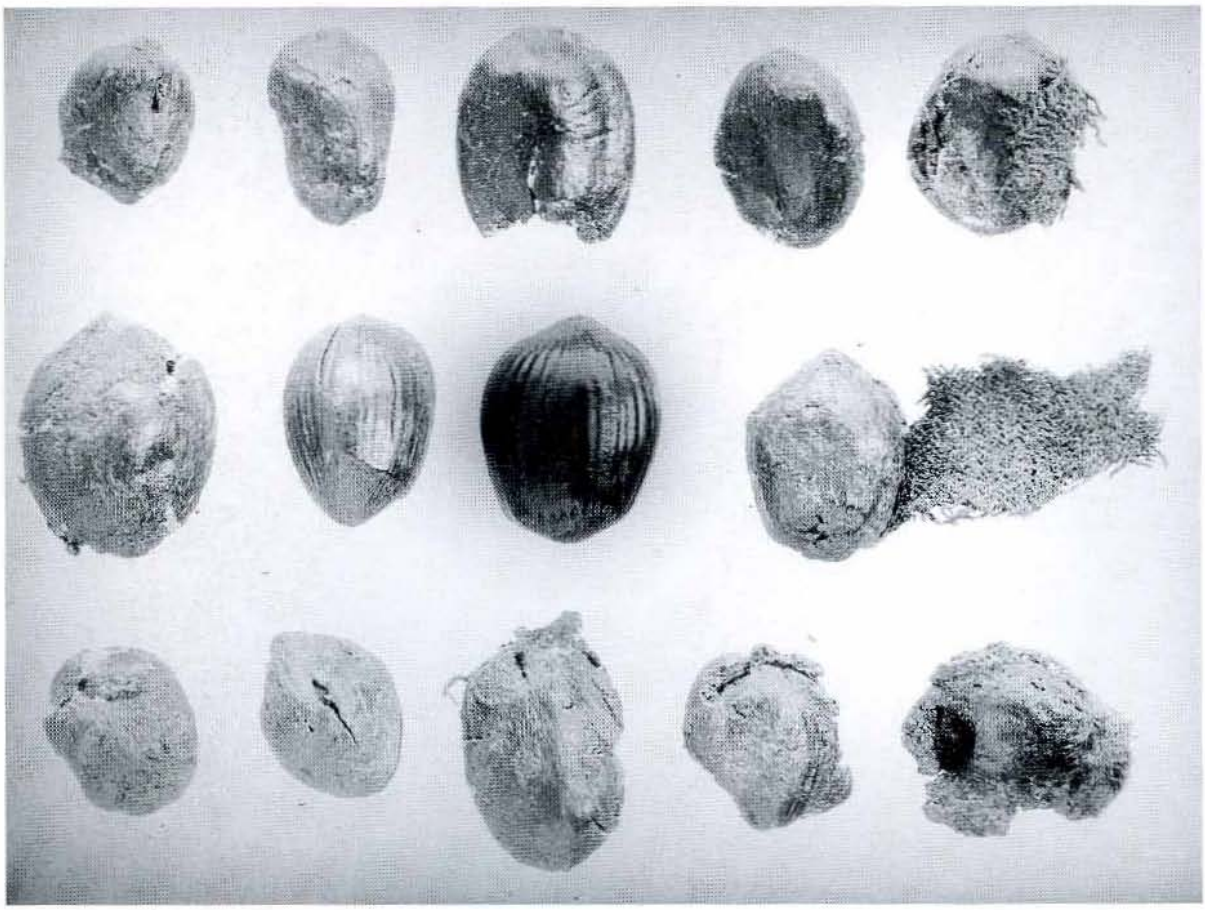


Plate 78. Some of the hazelnuts next to the belt.

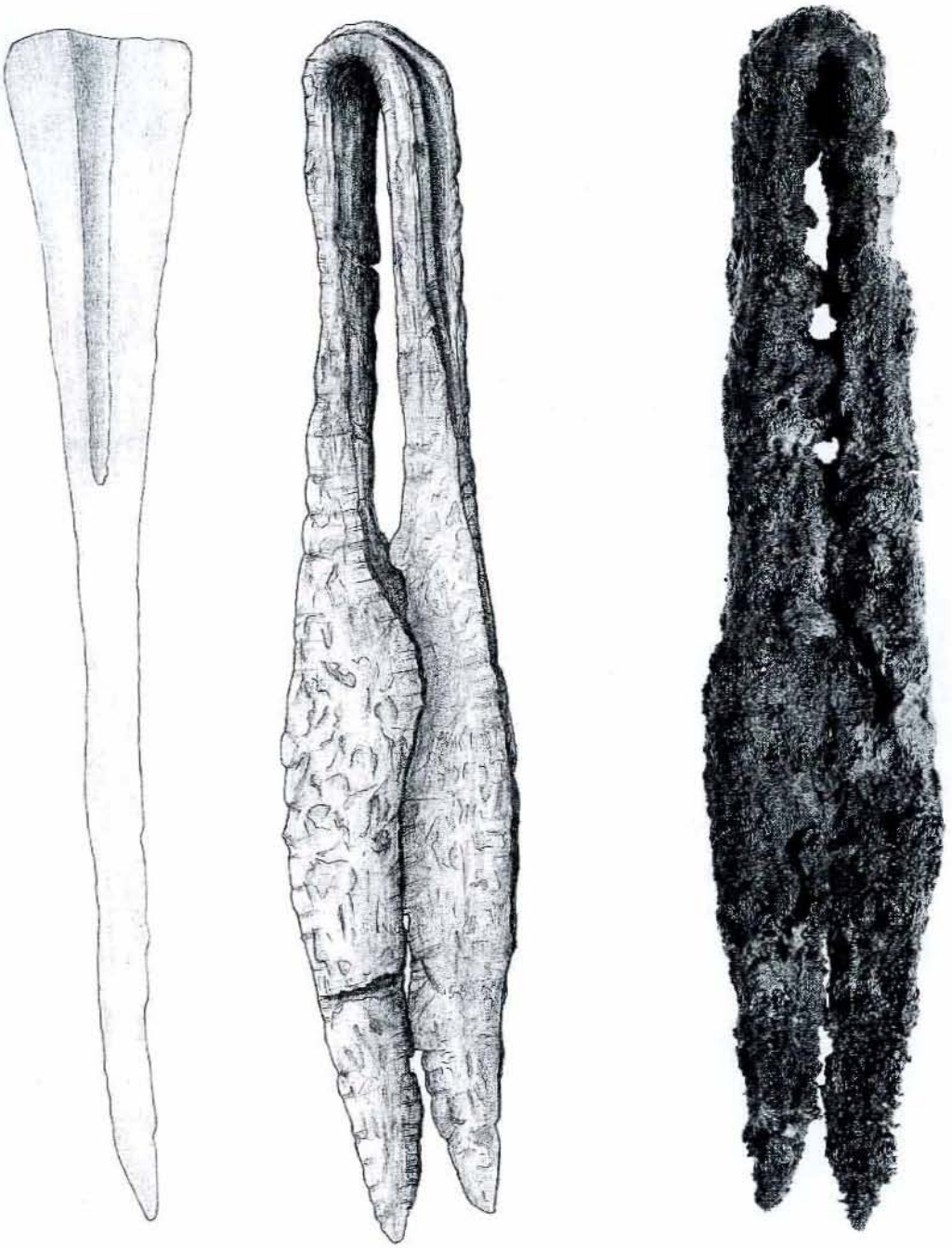


Plate 79. Shears *F27.*

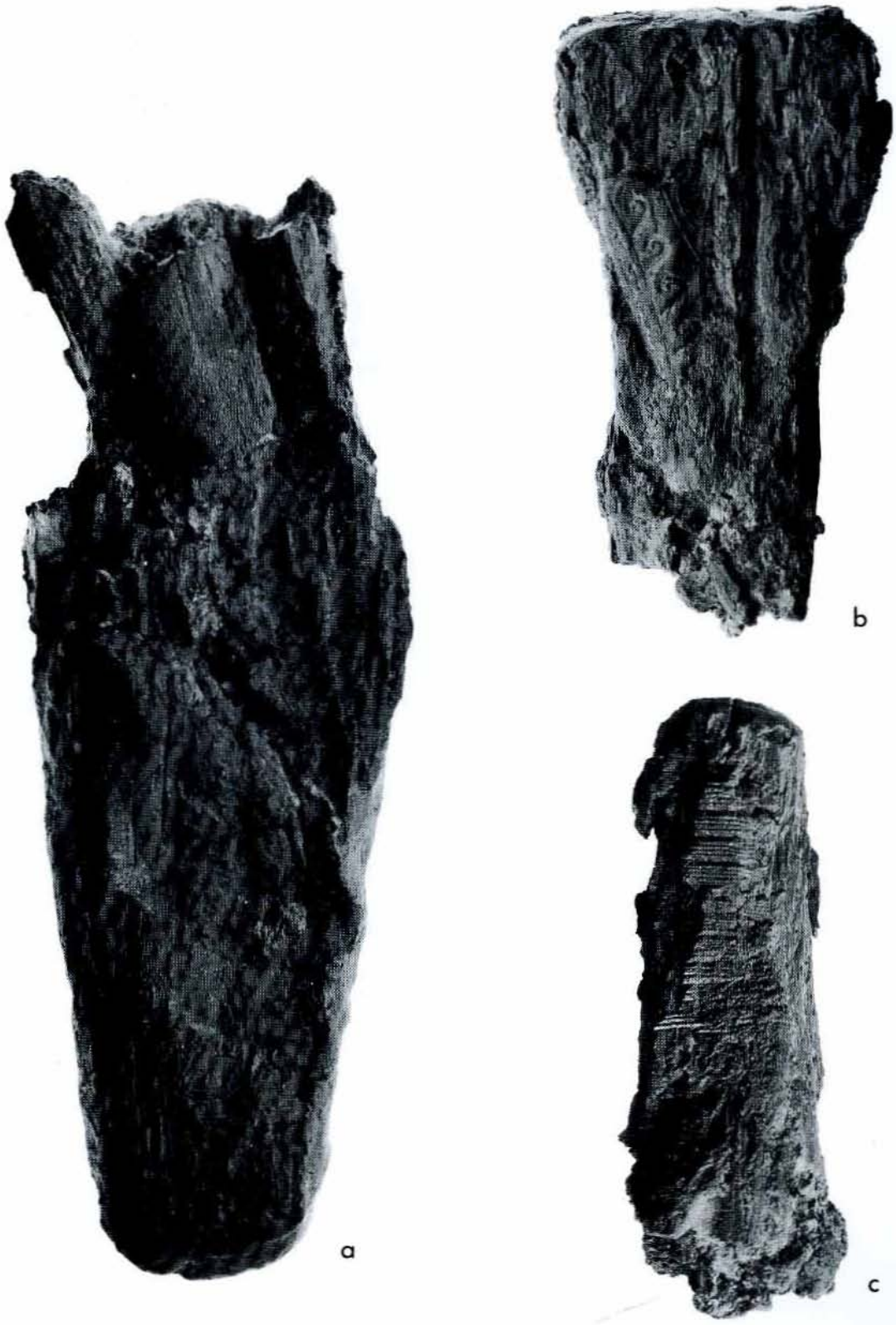


Plate 80. Leather pouch. The shears' case *F28*. *a*) from above. *b*) top side of the handle part. c) handle part from the side. Note that *a*) and *b*) fit together.

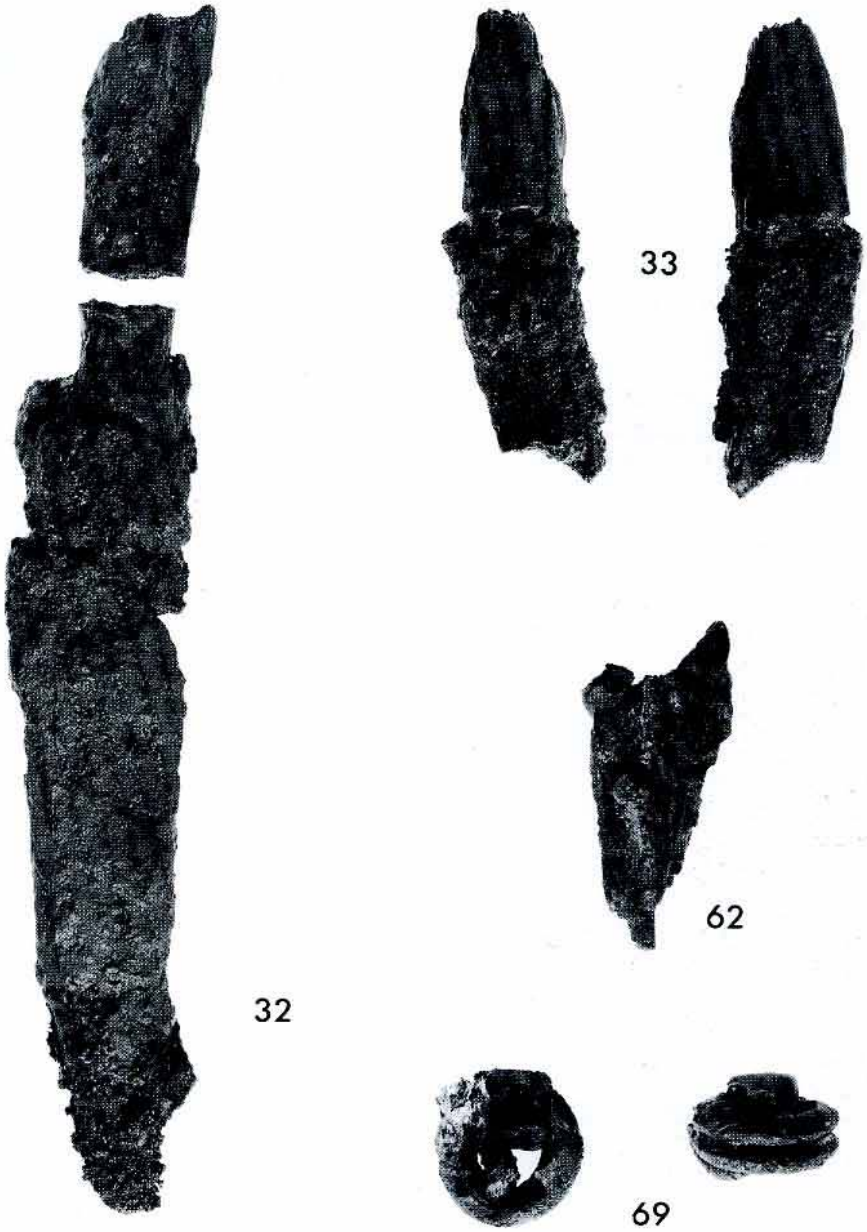


Plate 81. Leather pouch. Iron knife *F32*, iron object with a wooden shaft *F33*, iron object with a wooden shaft *F62* and bronze closing ring with remains of a leather strap *F69*.

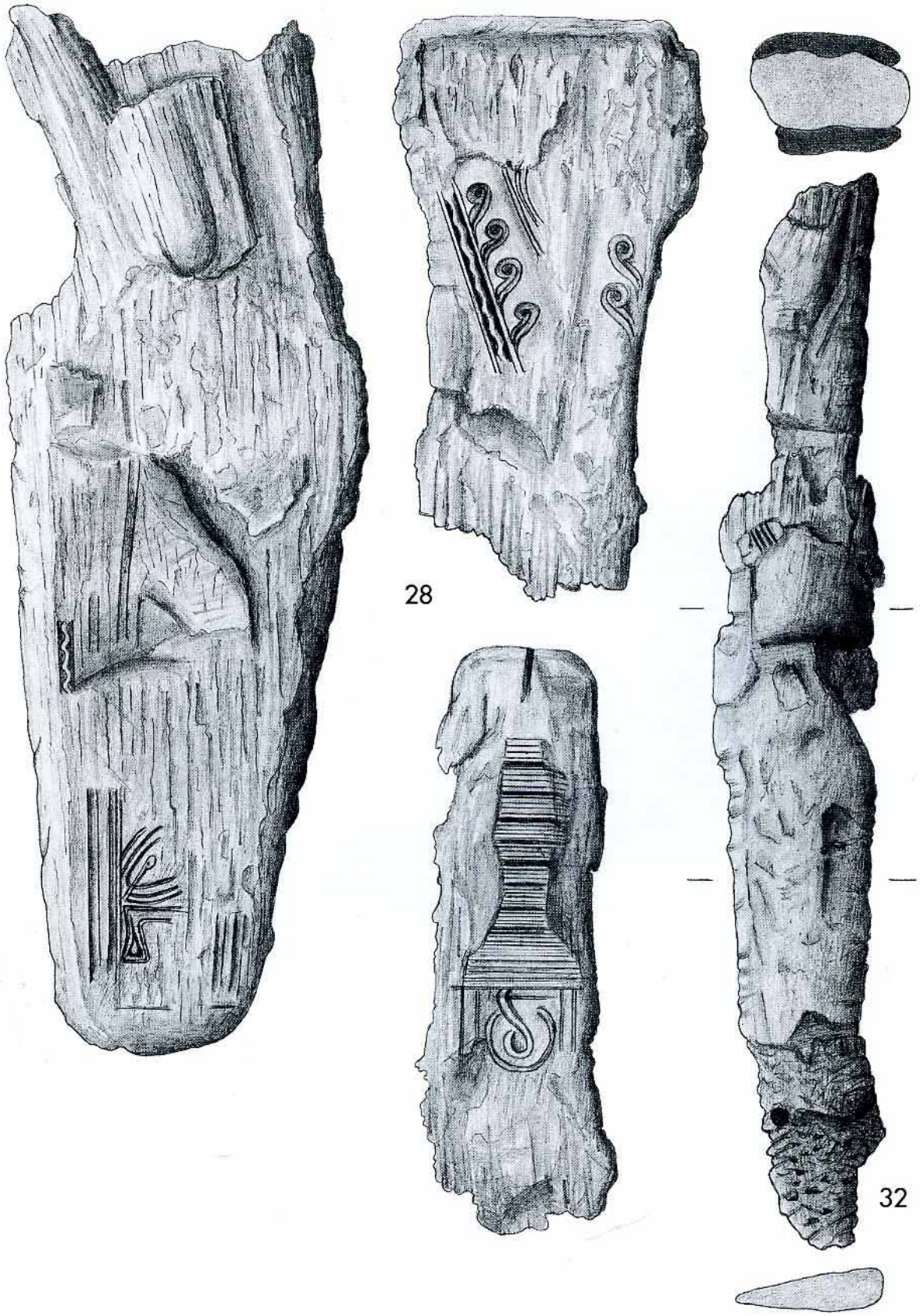
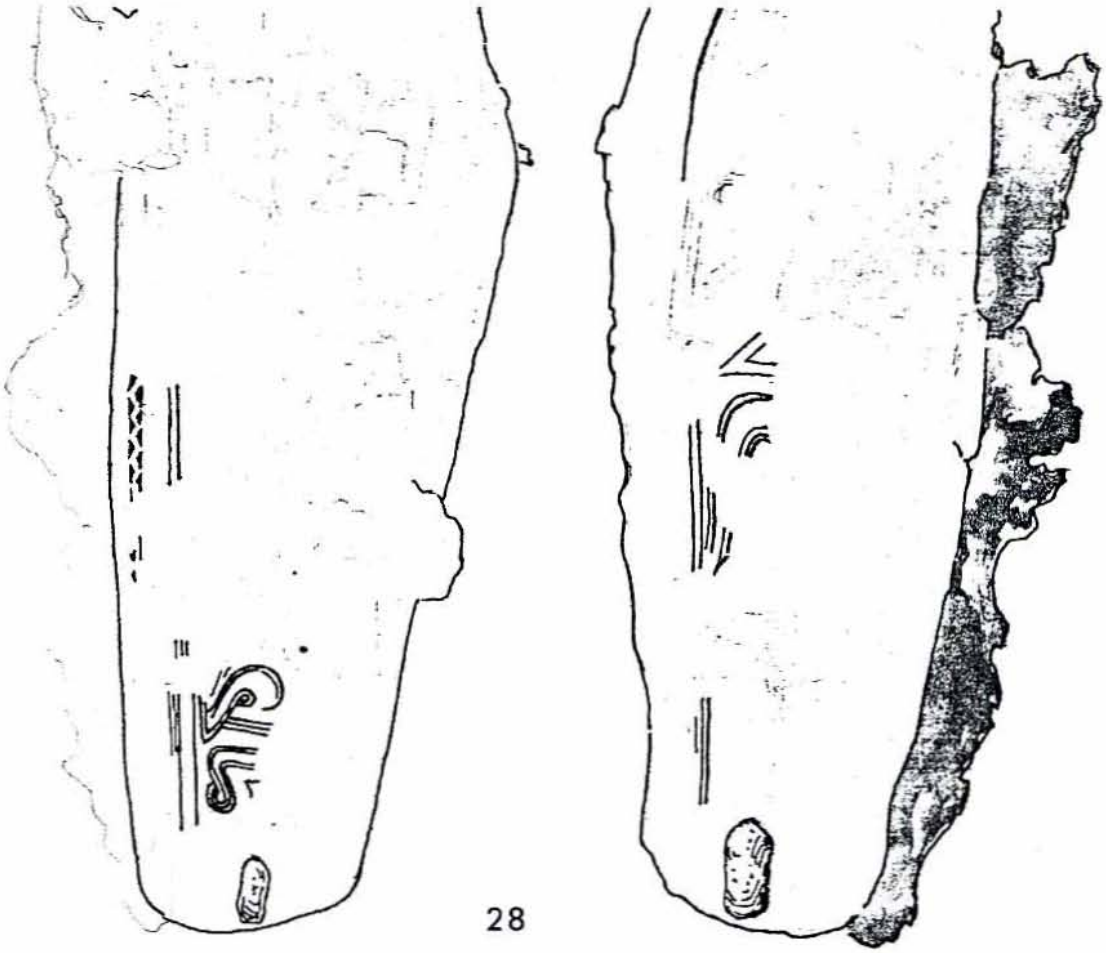


Plate 82. Leather pouch. Shears' case *F28* with its Style I and other ornamentation as they are visible today and iron knife *F32*.



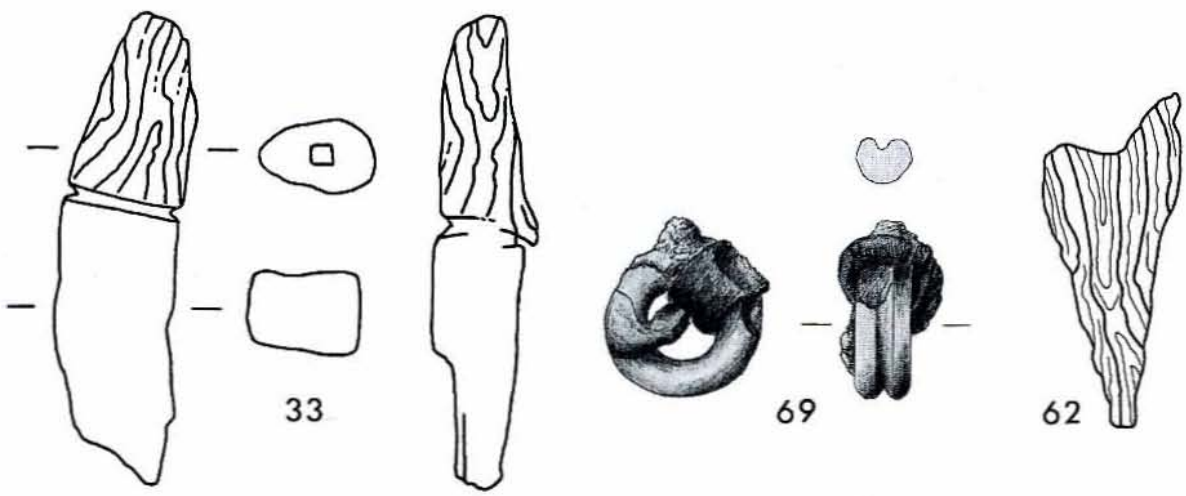
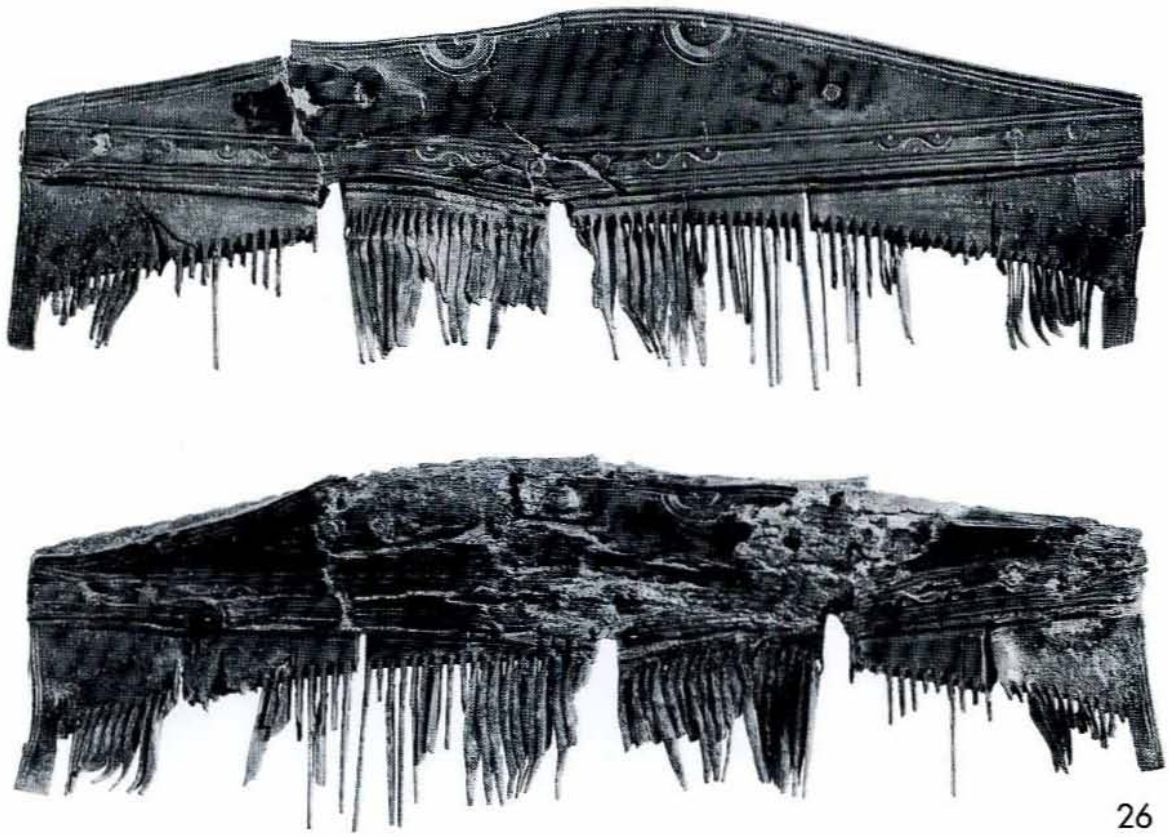


Plate 83. Leather pouch. Selling's drawing of the ornamentation on the shears' case *F28*, showing the front and rear sides, (cf. Pl. 82). Iron objects *F33* and *F62* and cavetto ring of bronze *F69*.



26

Plate 84. The comb *F26* found in the bronze dish *F40*, showing the front and rear sides.

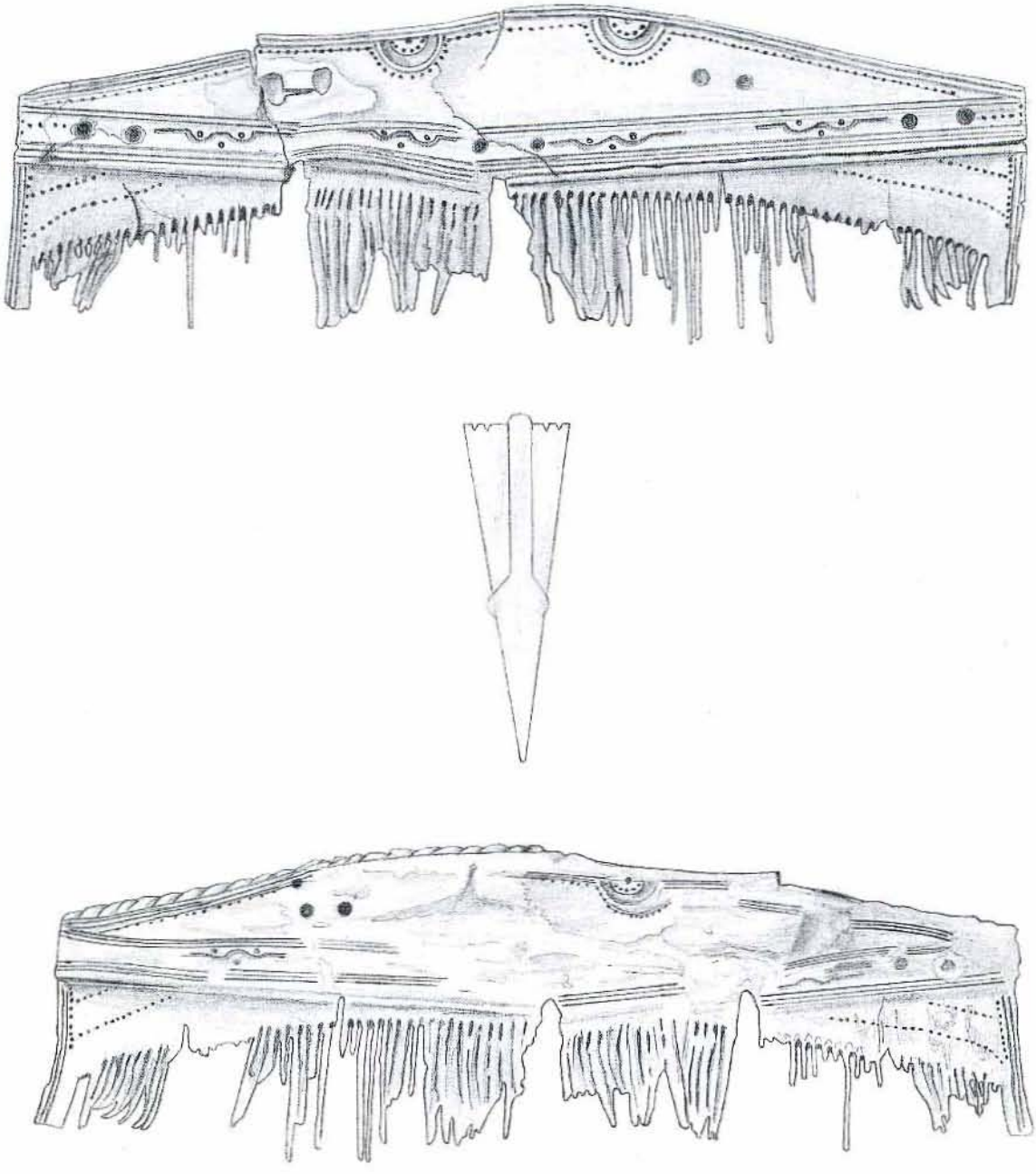
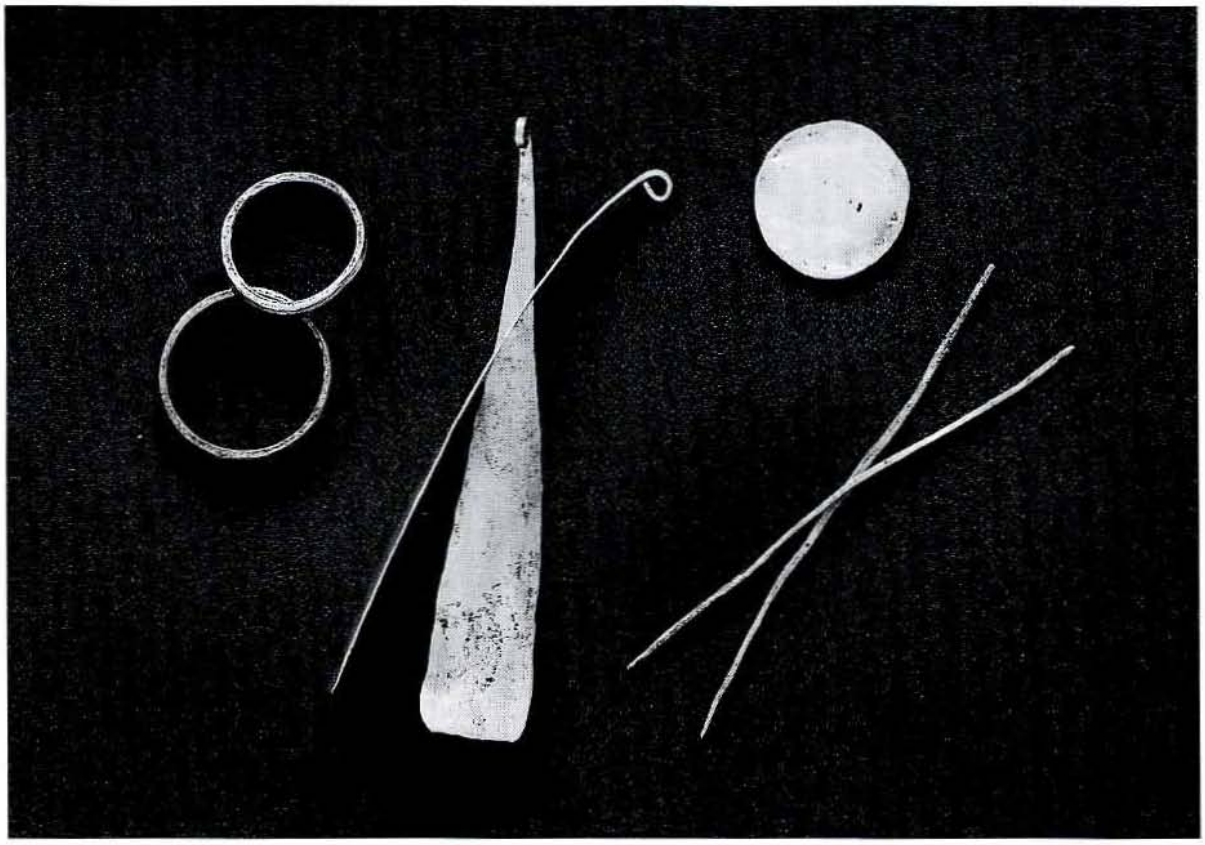
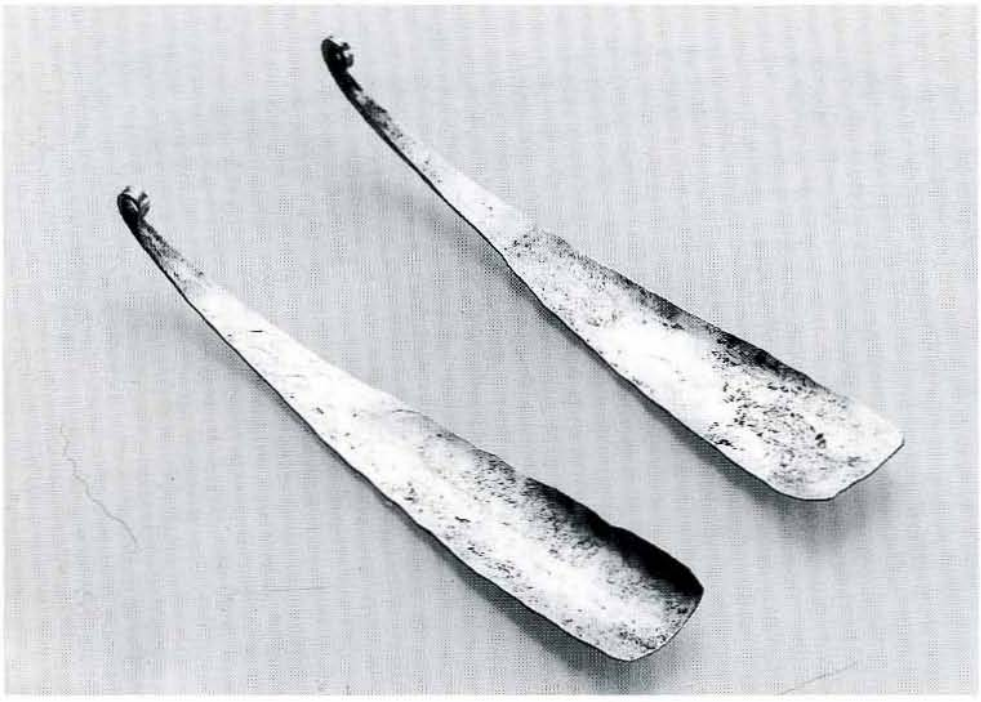


Plate 85. The comb *F26* found in the bronze dish *F40*, showing the front and rear sides and a cross-section.



a



b

Plate 86. Gold objects. *a*) the rings *F12*, one of the pendants *F13* (one lying on the side over the other), the bars *F14* and the gold tablet *F15*. *b*) the pendants *F13*.

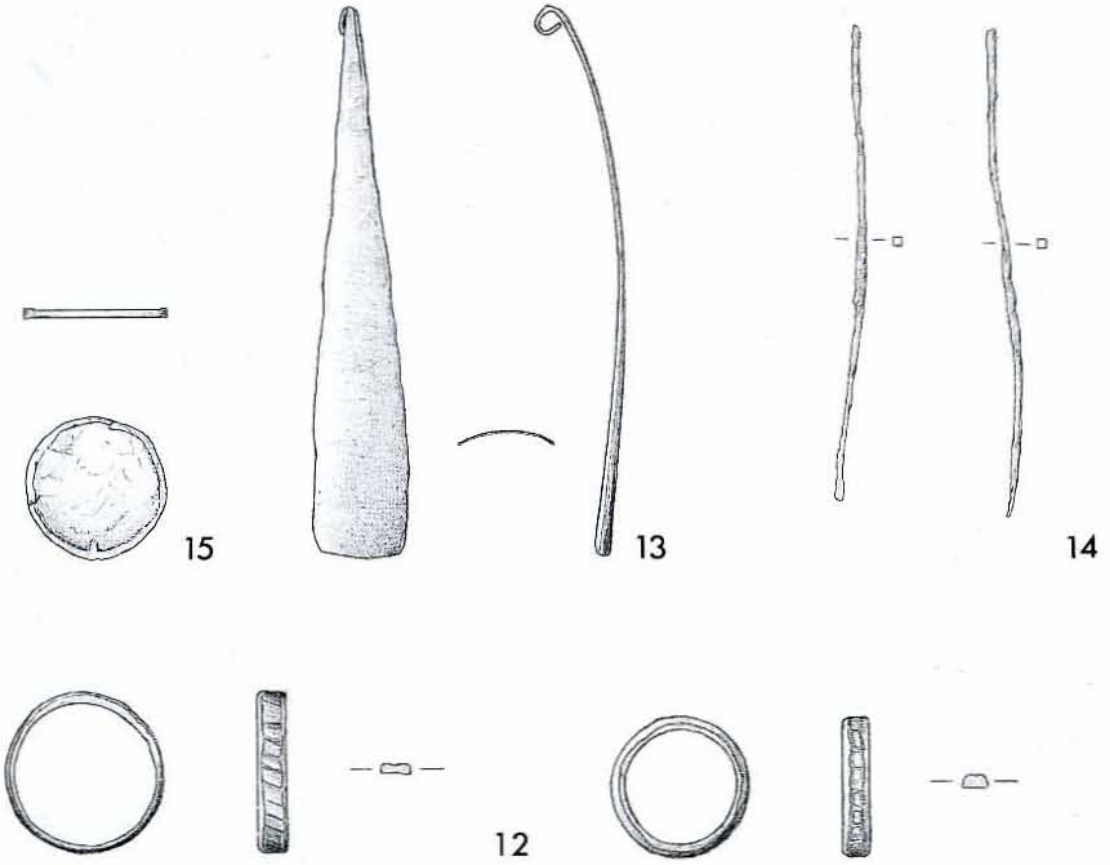


Plate 87. Gold objects. The rings *F12*, one of the pendants *F13*, the bars *F14* and the gold tablet *F15*.

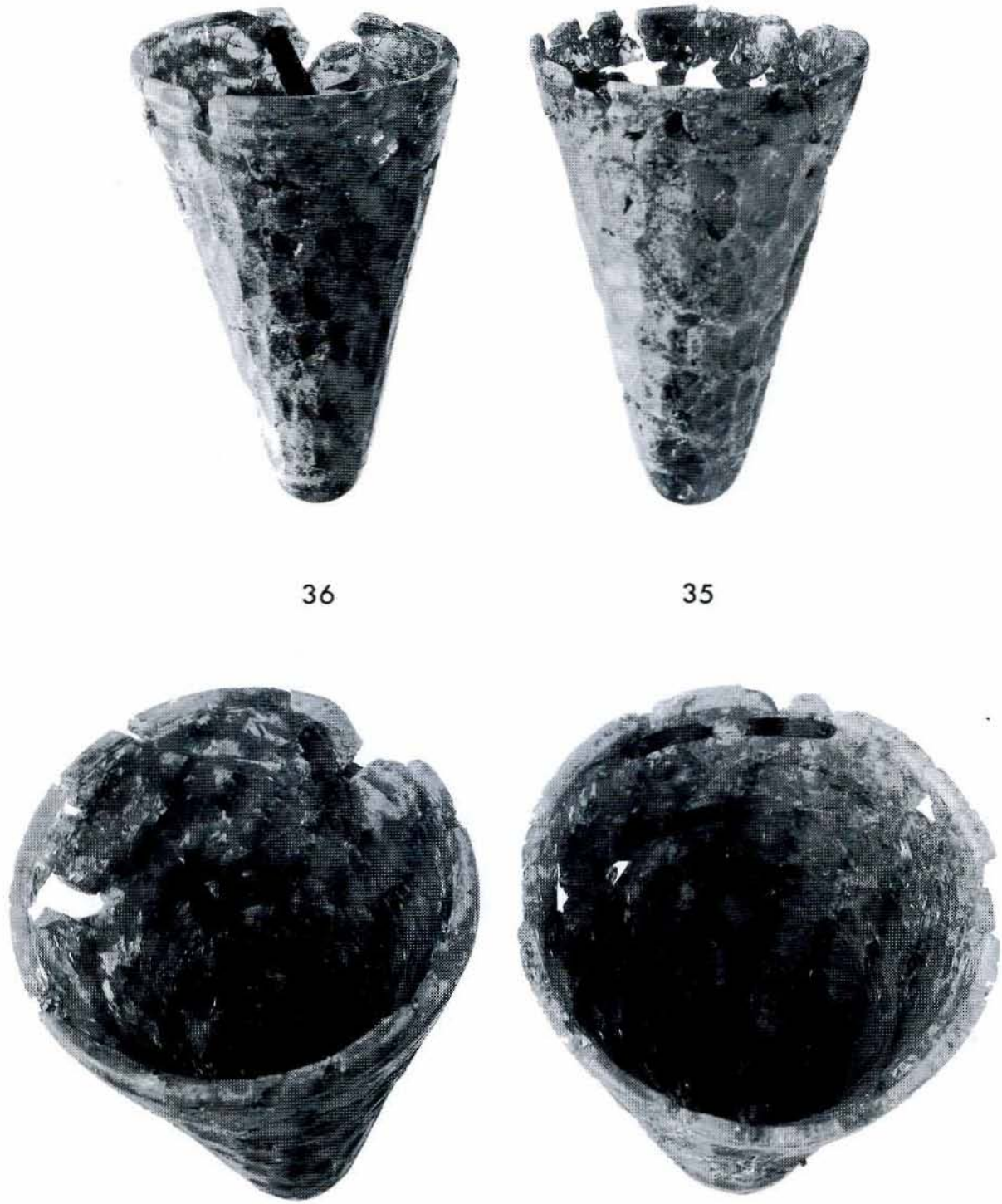


Plate 88. Conical glass with ovals *F36* and conical glass with facets *F35*.

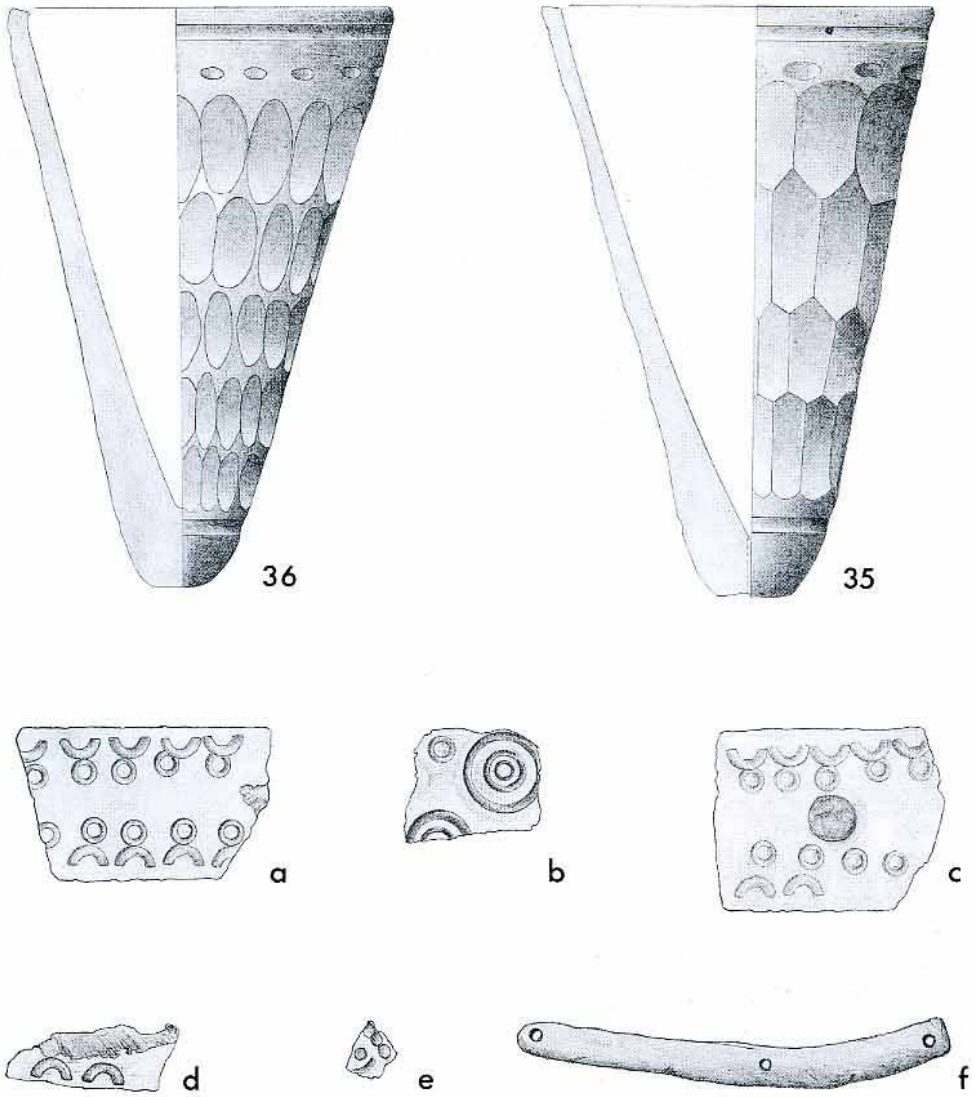
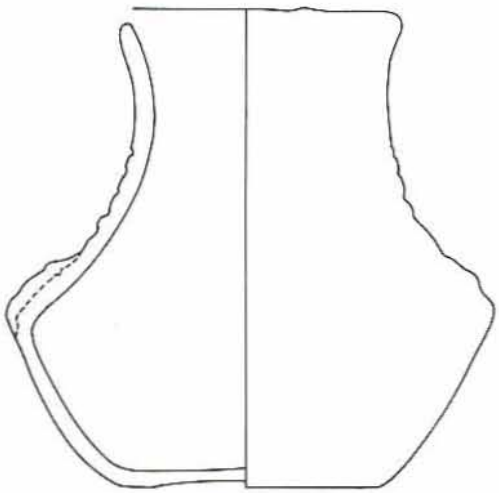


Plate 89. Conical glass with ground-in ovals *F36* and conical glass with ground-in facets *F35* (1:2). *a–e*) fragment of gilded repair sheet made of silver with punched ornaments which sat on the outside of the glasses (3:1). *f*) an intact sheet made of bronze which sat on the inside of the glass (1:1).



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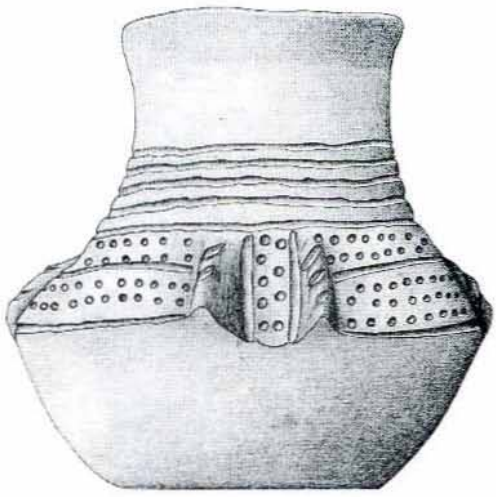

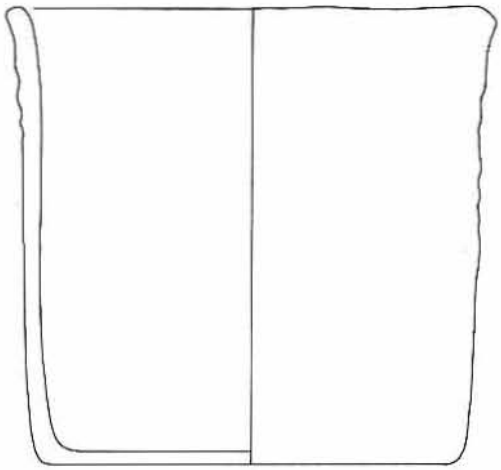

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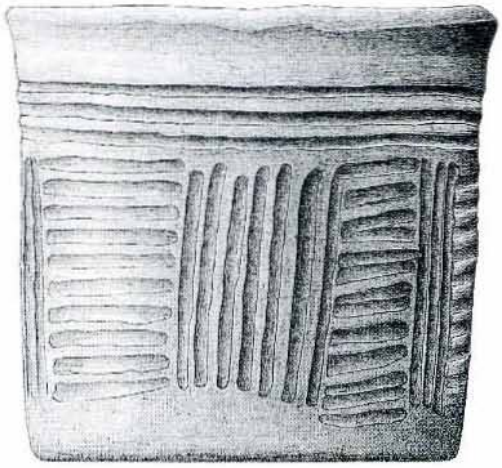
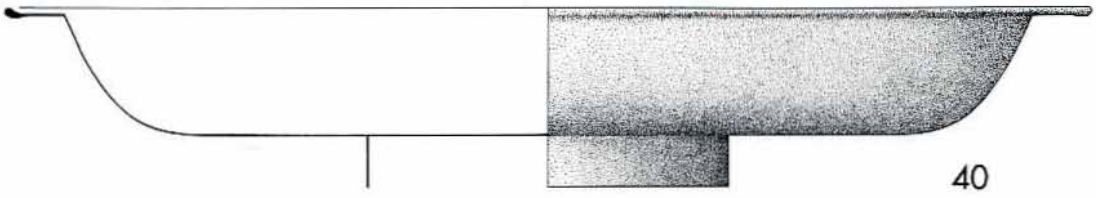
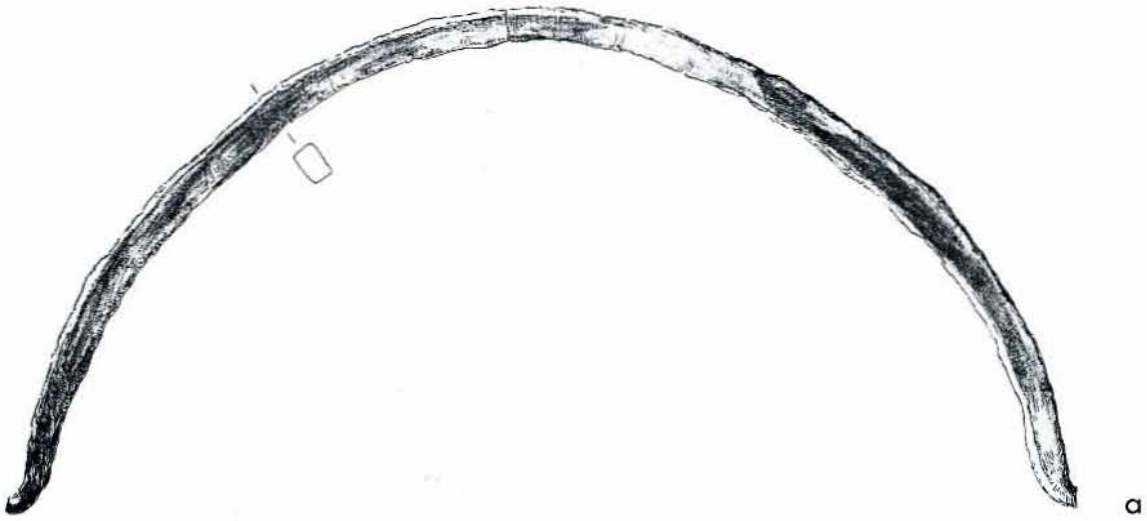




40

Plate 90. The beaded vessel *F37*, the bucket-shaped vessel *F38* (1:2) and a reconstruction drawing of the bronze vessel *F40* (1:3).

Plate 91. Photograph and analysis drawing of the flattened tub *F42*. 1 = iron, 2 = baleens, 3 = wooden staves.



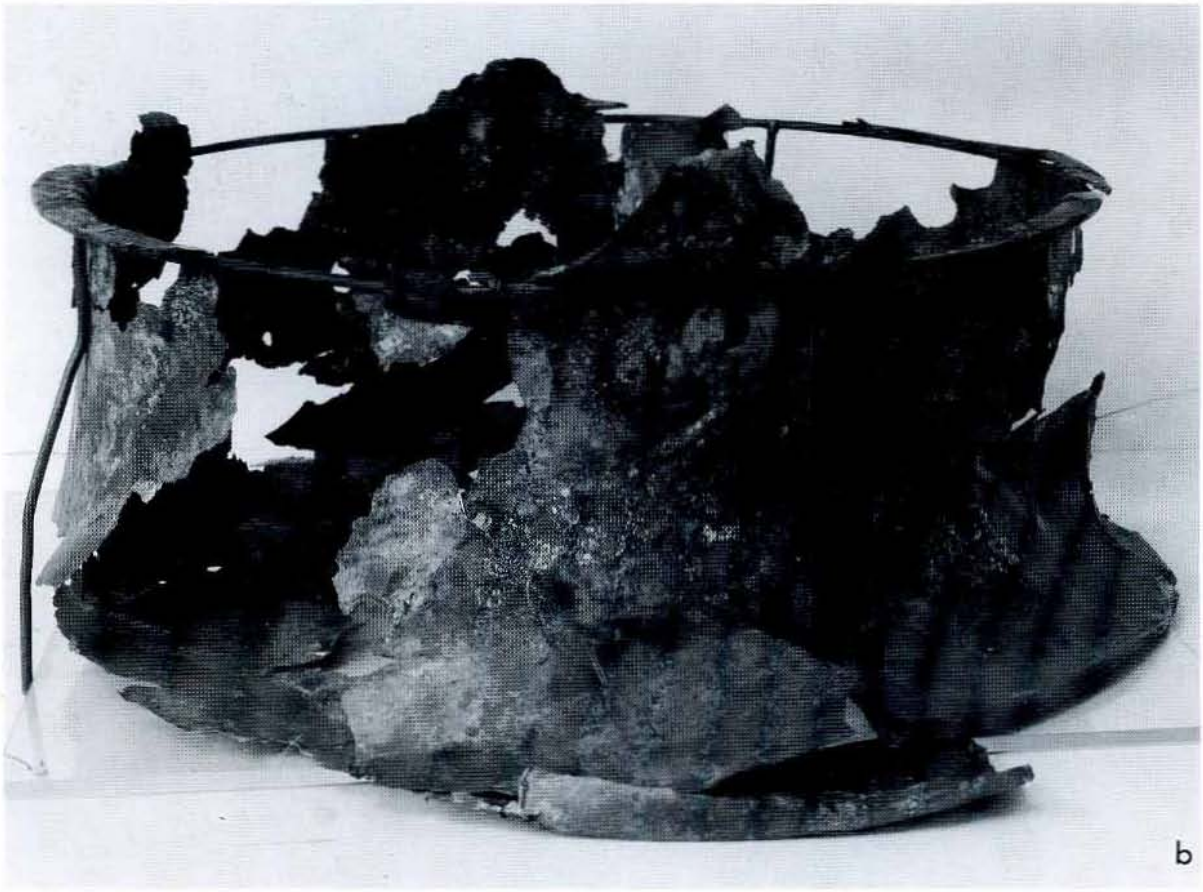


Plate 92. The Vestland cauldron. *a*) Selling's drawing of the handle to the Vestland cauldron. *b*) the assembled Vestland cauldron (1:2).

Plate 93. Resin caulking rings *F47*, *F49* and *F50*.

Plate 94. Resin caulking ring *F53*, showing the bottom and the top sides and the associated birch-bark and wooden fragments, partially decorated, (cf. Pl. 97).

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Plate 95. Resin caulking *F51*, viewed from above and below.

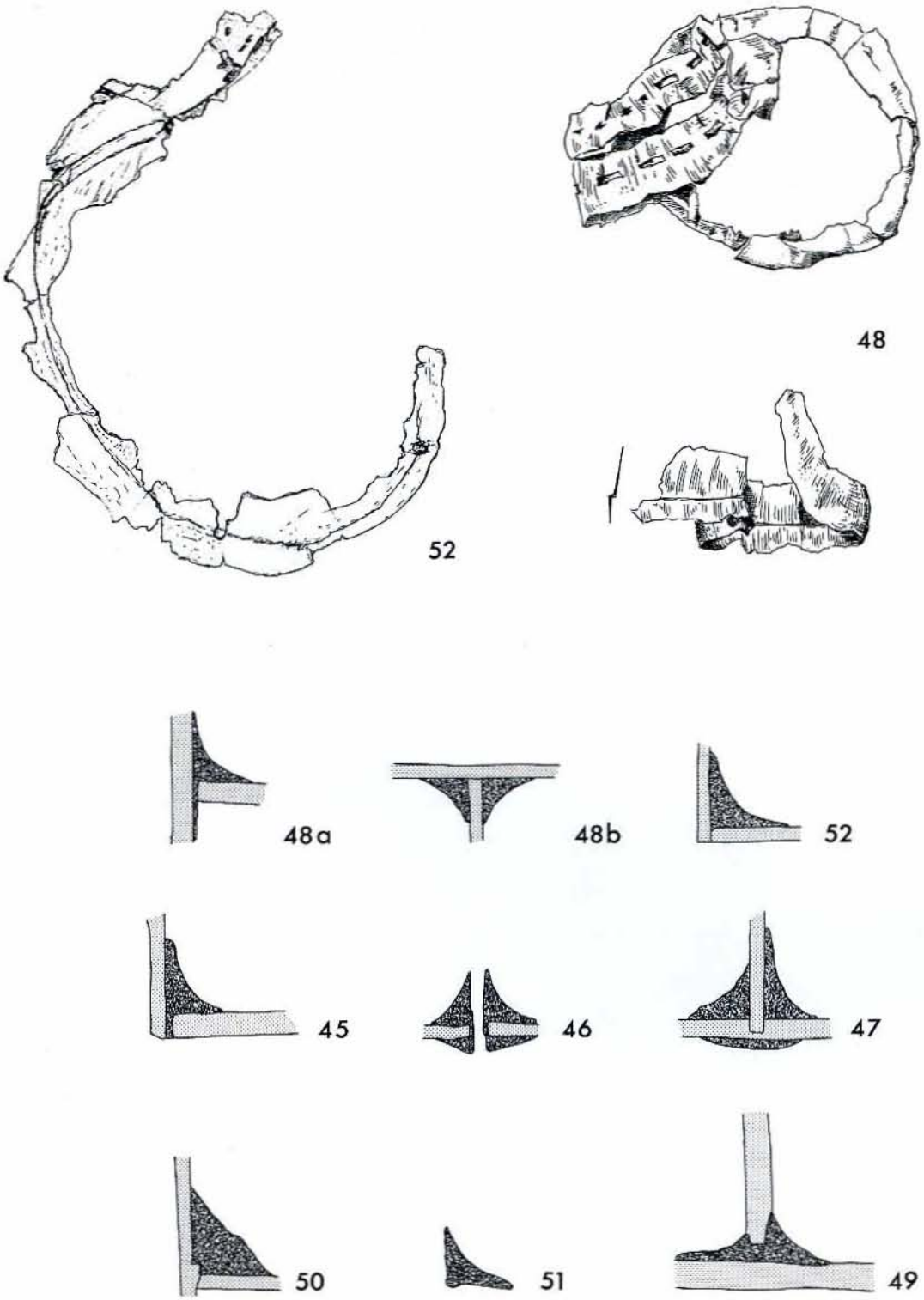


Plate 96. Selling's documentation of resin caulking rings *F48* and *F52* (1:2) and schematic cross-sections through the attachment.

Mound No. 2, vessels and containers

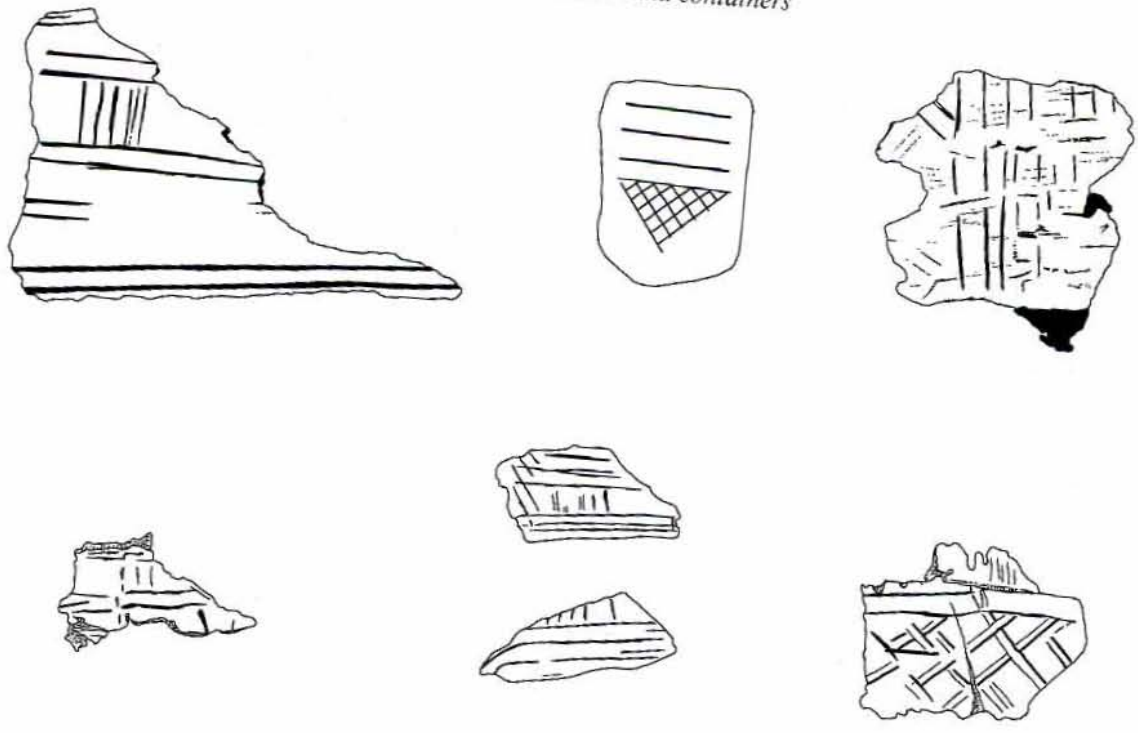


Plate 97. Selling's drawing of different patterns on fragments of the swept vessels (redrawn by A. Link).

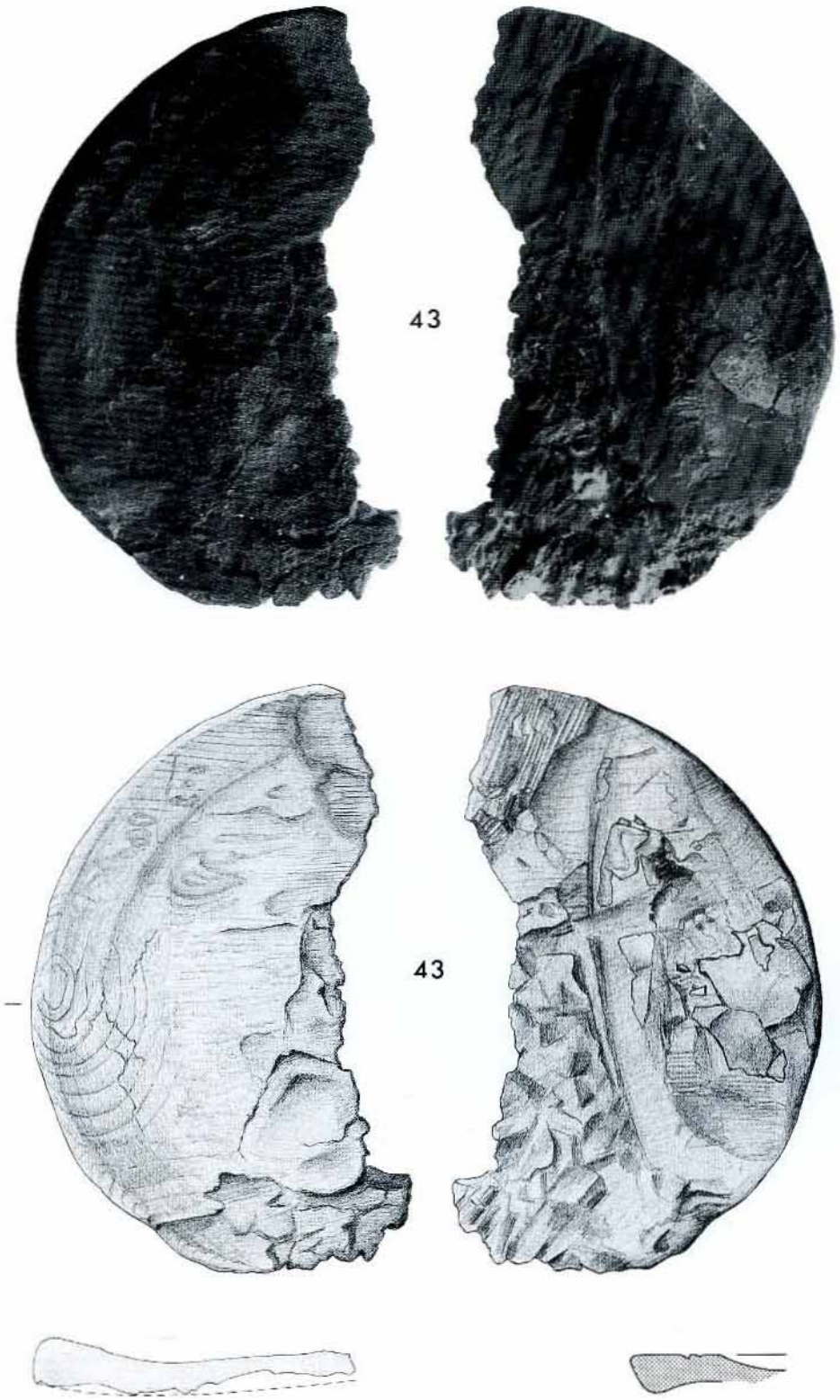
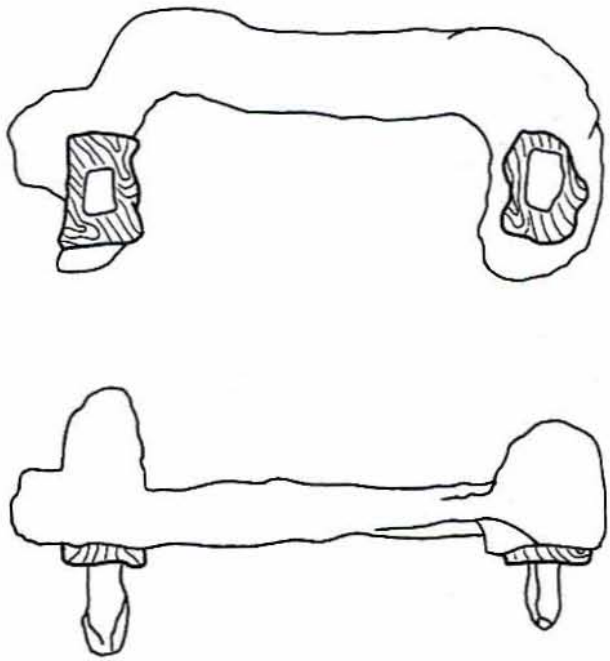


Plate 98. Photograph and drawing of wooden dish No. 1 (*F43*), showing the top and bottom sides and a profile. Bottom right: profile of wooden dish No. 3, according to Selling's drawing (redrawn by A. Link). (1:2).



66

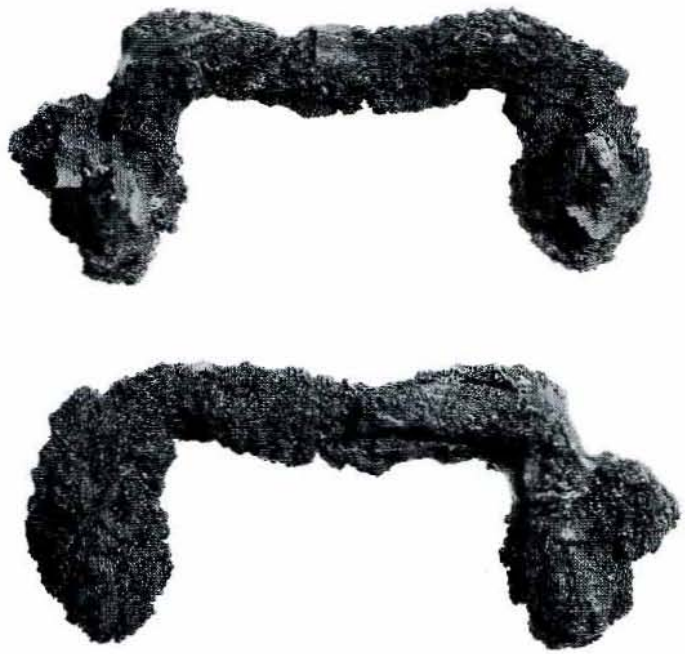


Plate 99. Box handle of iron *F66.*

Plate 100. Wooden rod end *F62a* in the form of an animal's head (9:10).

Plate 101. Faith-Ell's tinted wash drawing of *F62a*, made in 1952, (cf. Fig. 91).

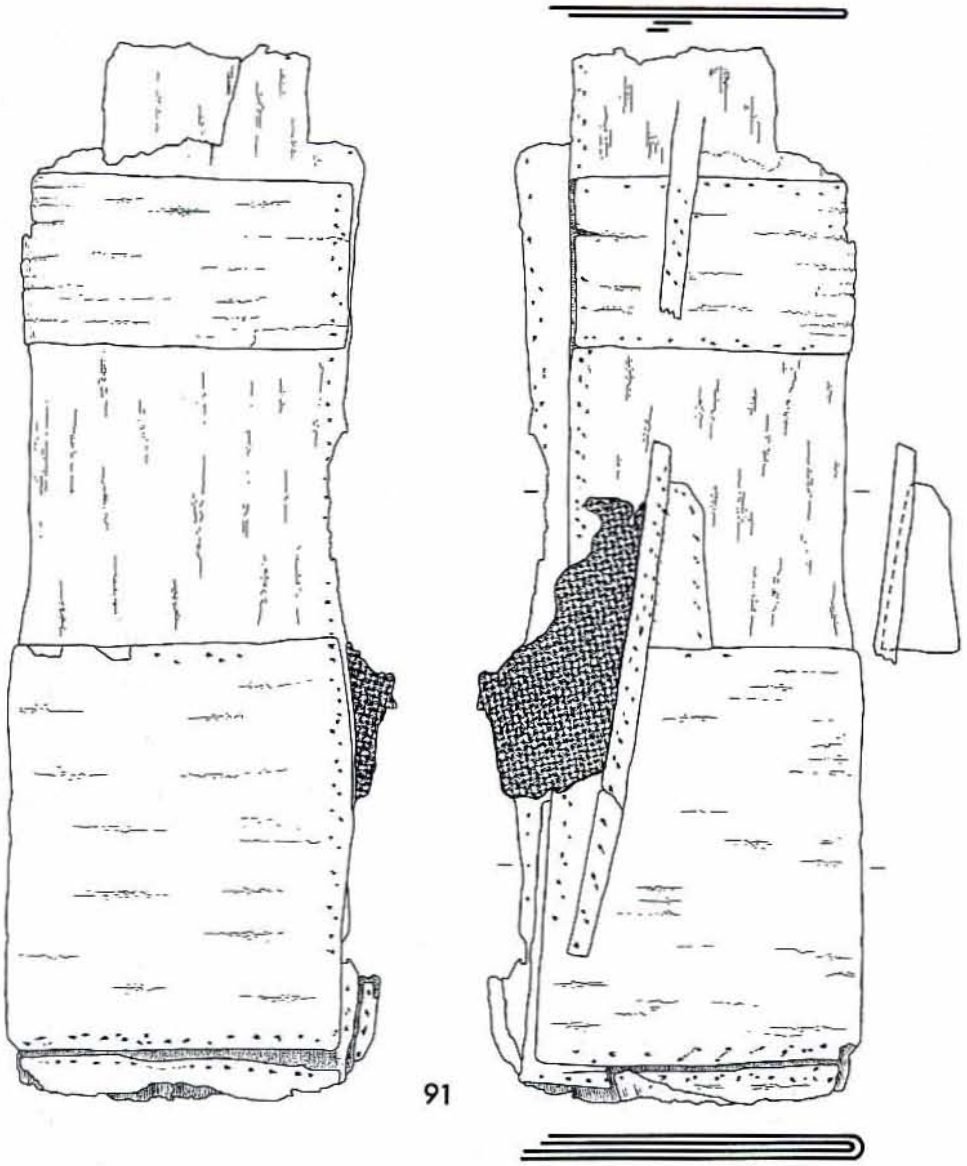


Plate 102. Birch-bark object *F91* with textile remains (1:2).

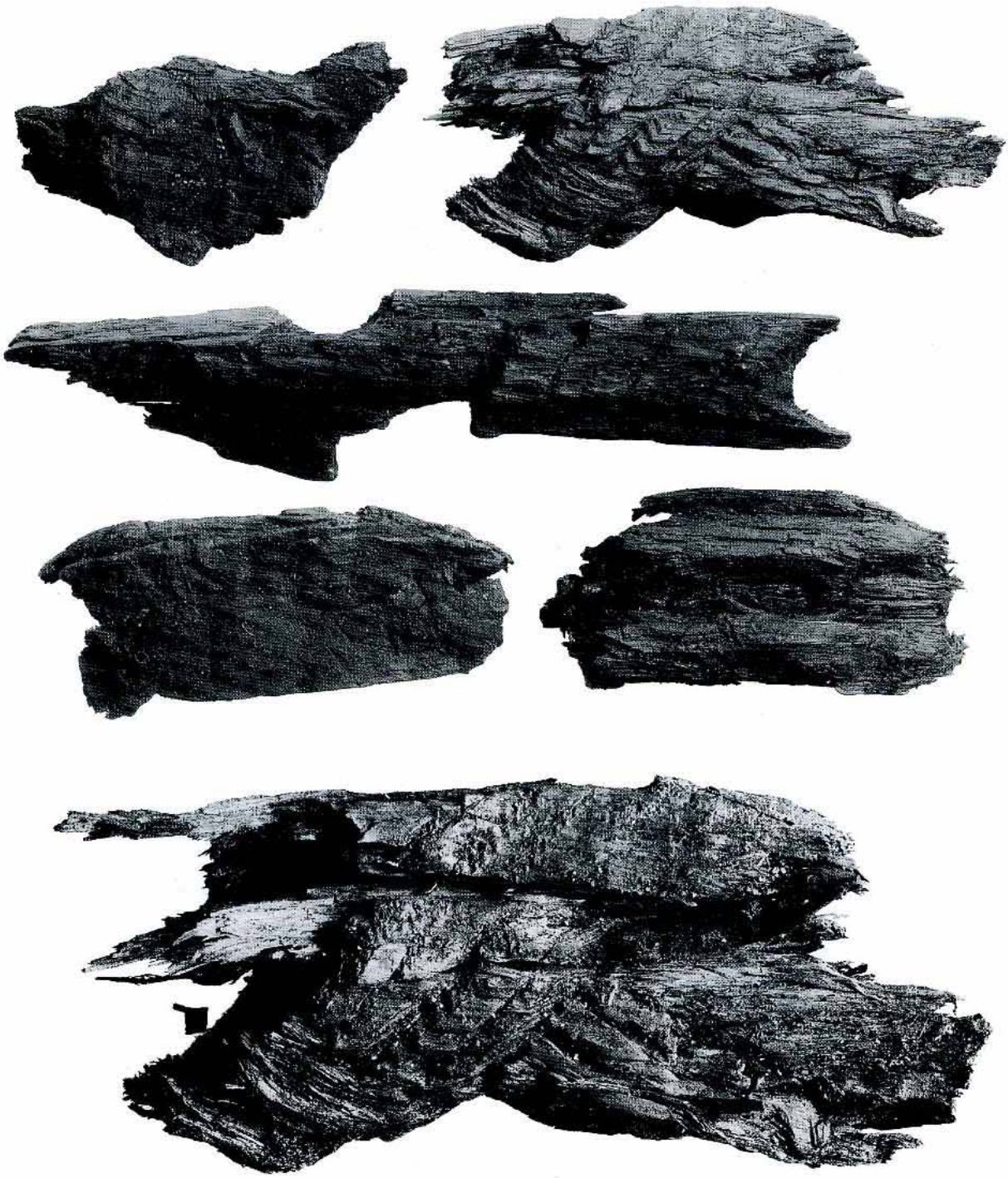
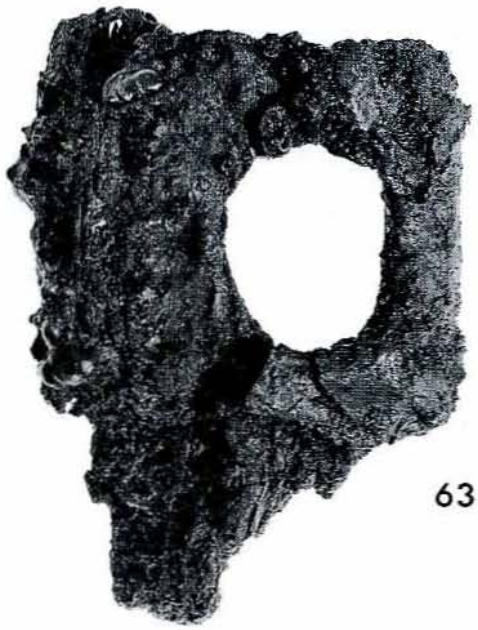
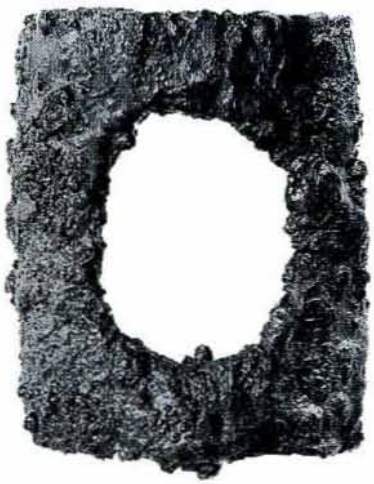


Plate 103. Fragmentary wooden remains, probably belonging to a wooden cover for the Vestland cauldron.



63



64

62 b

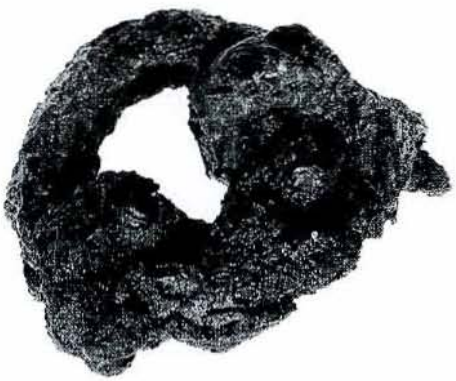


Plate 104. Iron mounts *F63* and *F64* and the rod end mount *F62b* with a fragment of rope.

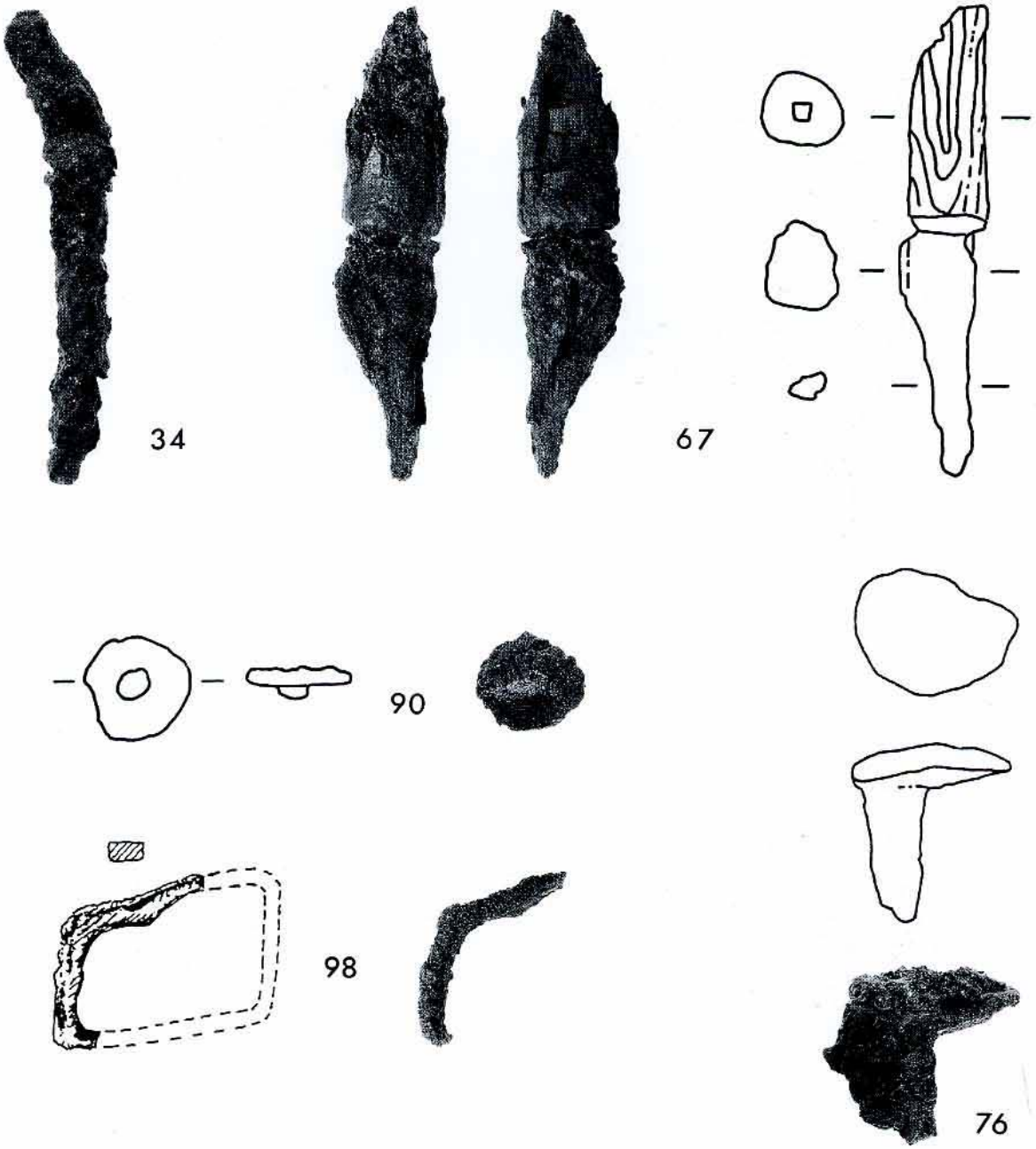


Plate 105. Various iron objects. Iron awl (?) *F34*, angled iron fragment *F98*, nail heads *F76* and *F90*, and iron objects with a wooden shaft *F67*.

a

b

c

Plate 106. Organic material. *a*) part of swept vessel. *b*) fragment of plaited birch-bark on a base of birch-bark with traces of stitches showing that the plaited part was securely sewn to the base. *c*) the plaited piece of birch-bark *in situ* near the clasp buttons of the wrist band.

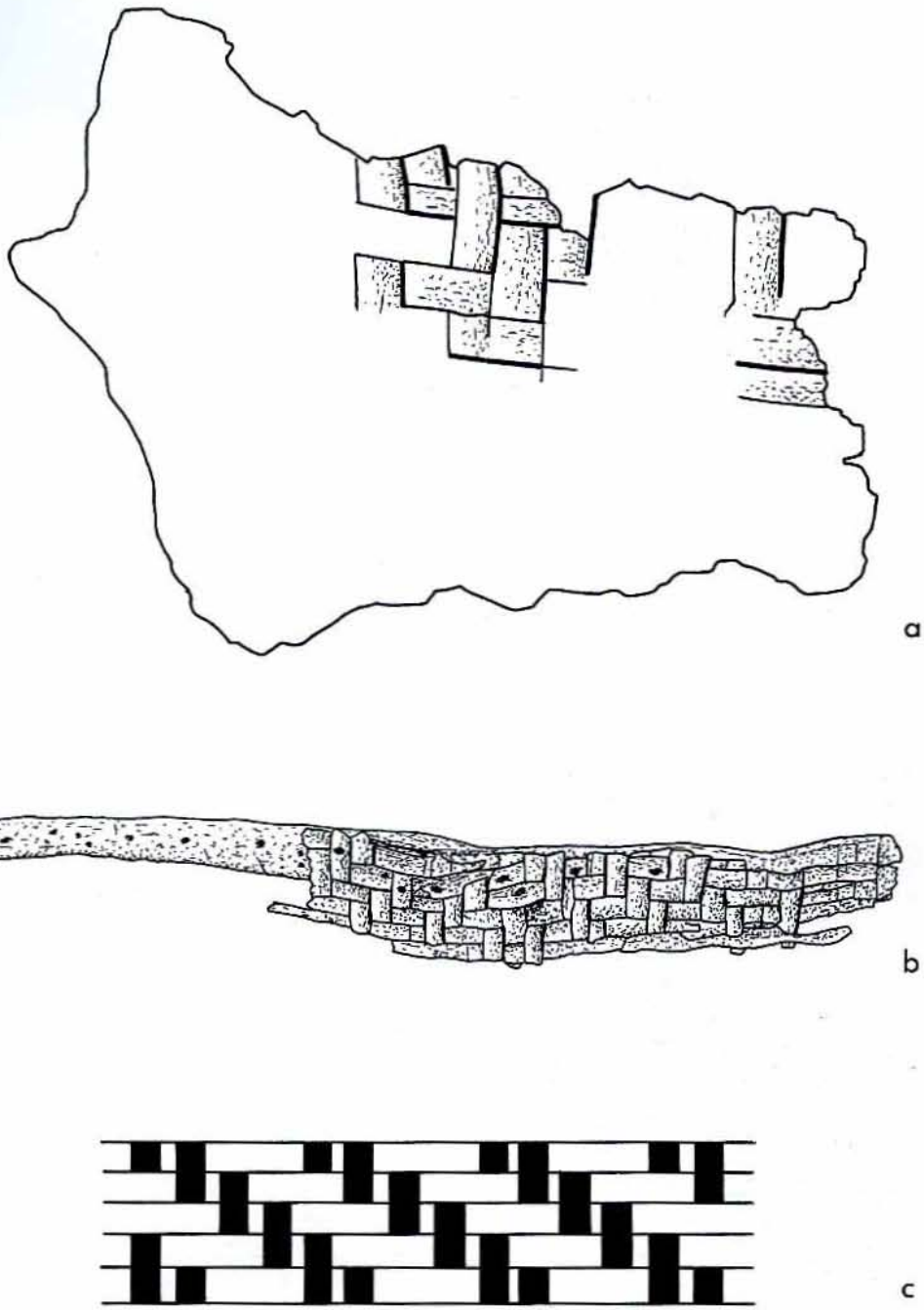


Plate 107. Organic material. Plaited birch-bark. *a*) Selling's documentation of a piece of plaited birch-bark found close to glass *F36* (cf. Fig. 78). *b*) drawing of a fragment of birch-bark, Pl. 106b. *c*) pattern analysis of the plaited birch-bark. (Drawing: A-K. Lindqvist).

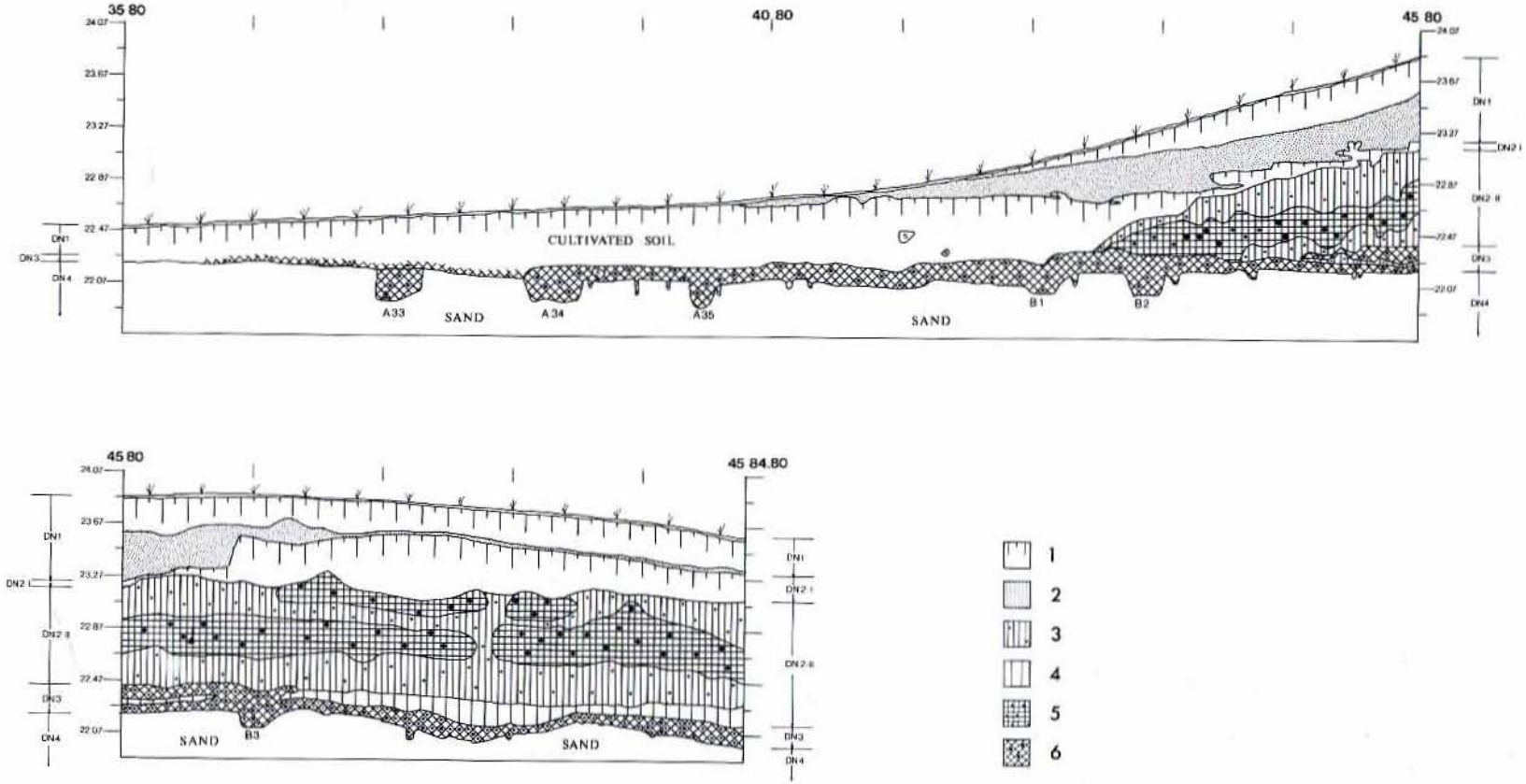


Plate 109. Profiles in mound 2 during the 1984 excavation. Long profile of the edge of the mound and short profile c. 4 m into the mound, (cf. Fig. 13). 1 = topsoil, 2 = recent sand filling, 3 = slightly disturbed filling, 4 = undisturbed filling, 5 = strongly disturbed filling, 6 = settlement layer.

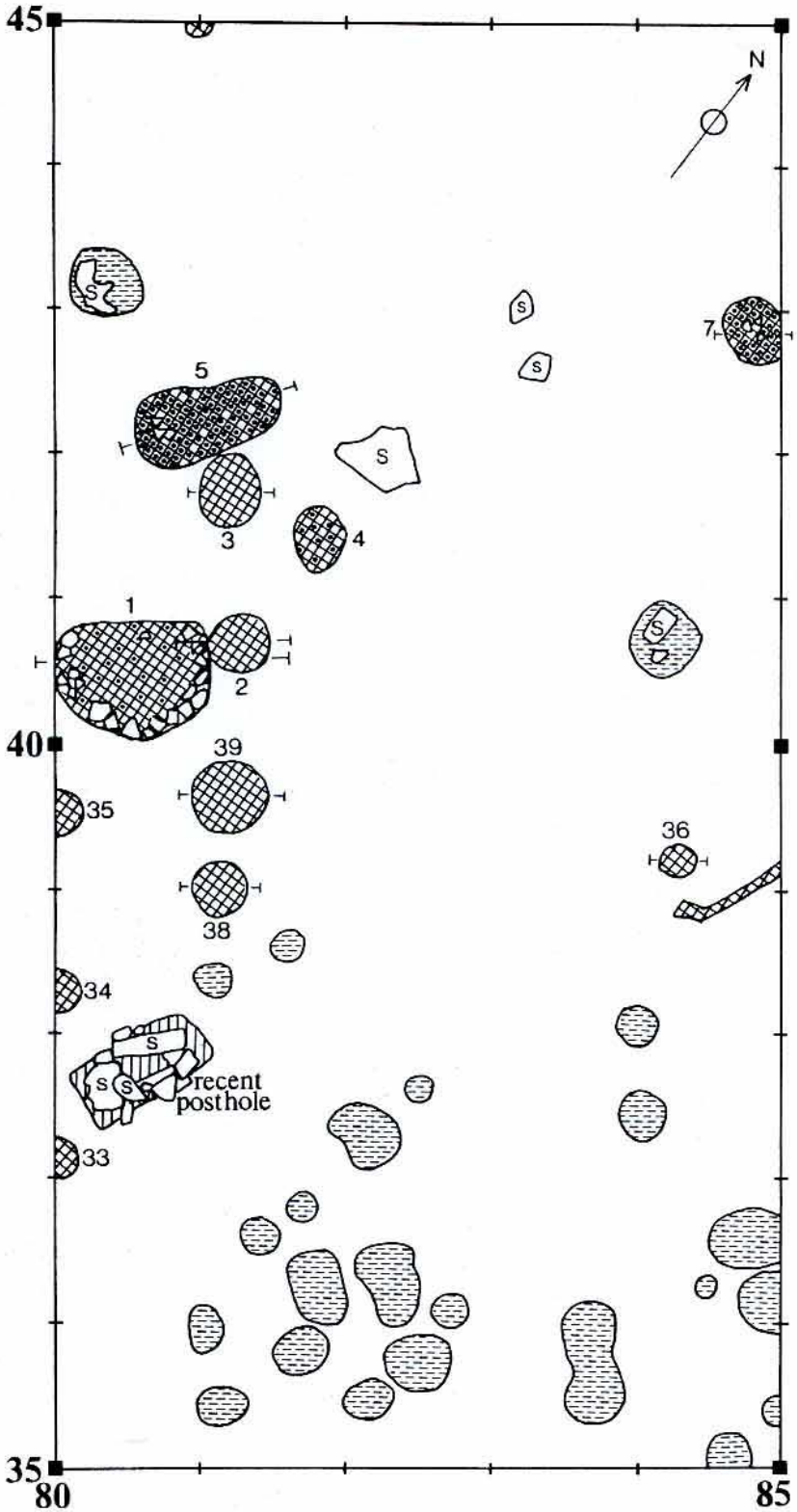


Plate 110. Plan drawing of investigated area in mound 2, 1984, (cf. Fig. 13).

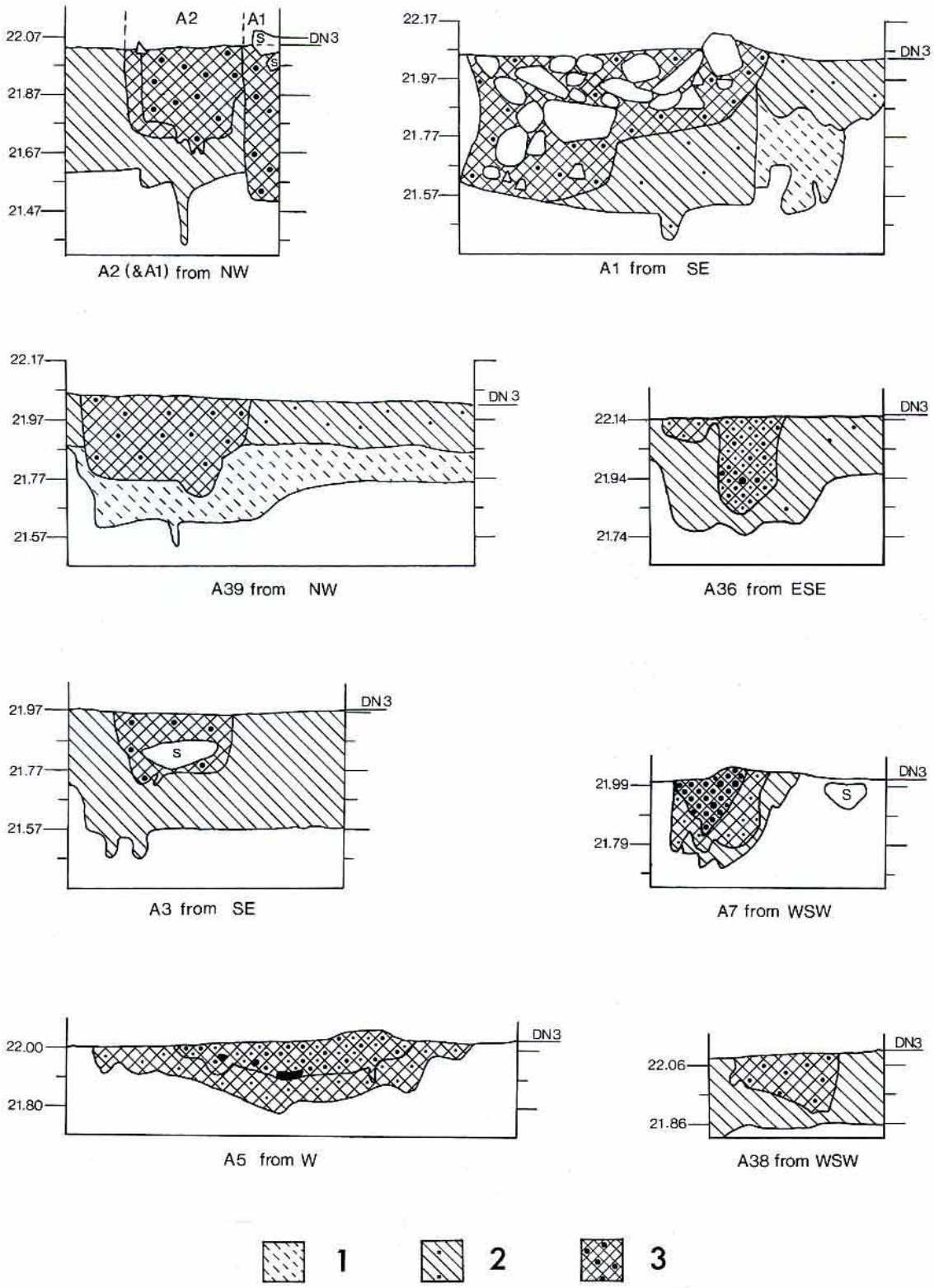


Plate 111. Profiles of the post holes beneath mound 2 during the 1984 excavation, (cf. Pl. 110). 1 = slightly humic filling, 2 = humic and/or sooty filling containing few charcoal fragments, 3 = strongly humic and/or sooty filling with lot of charcoal fragments.

Mound No. 3

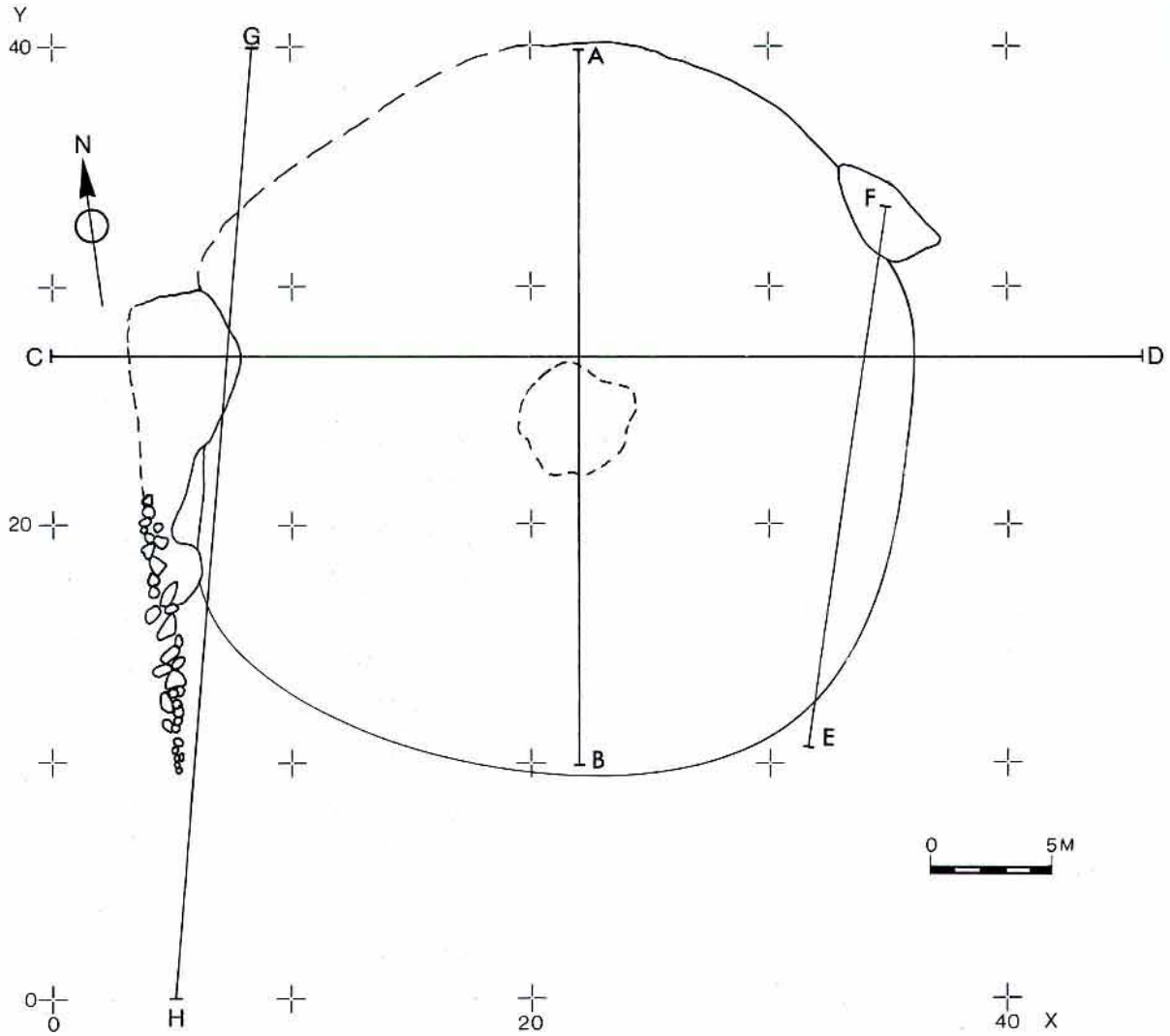


Plate 112. Plan of mound 3, with the position of the profiles.

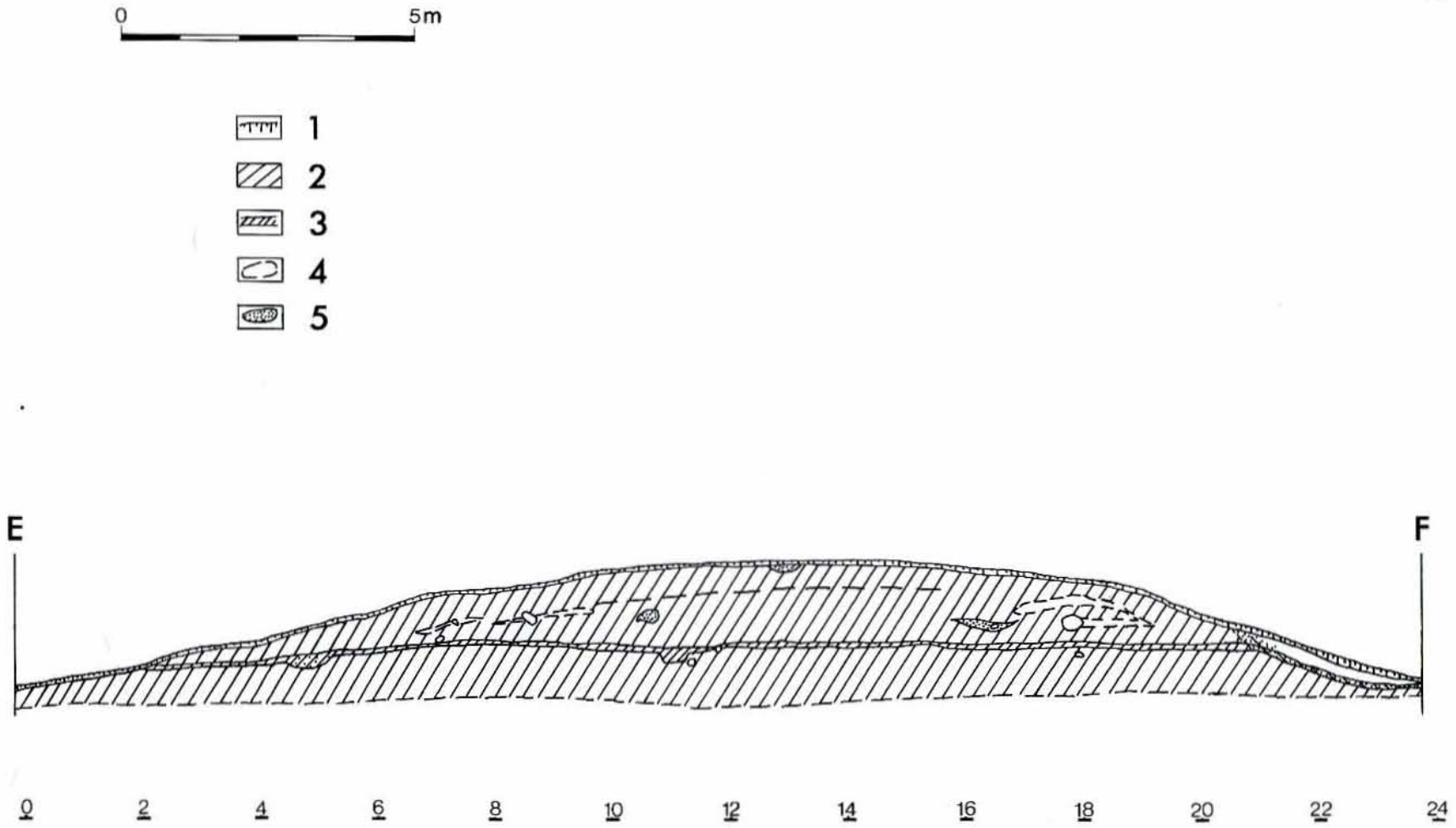


Plate 113. Schematic profile E–F, showing the old surface of the ground and the relationship of the settlement layer to the existing surface of the ground, (cf. Pl. 112).
1 = topsoil, 2 = sand filling, 3 = old ground level i.e. settlement layer, 4 = large area with undisturbed filling, 5 = strongly disturbed filling.

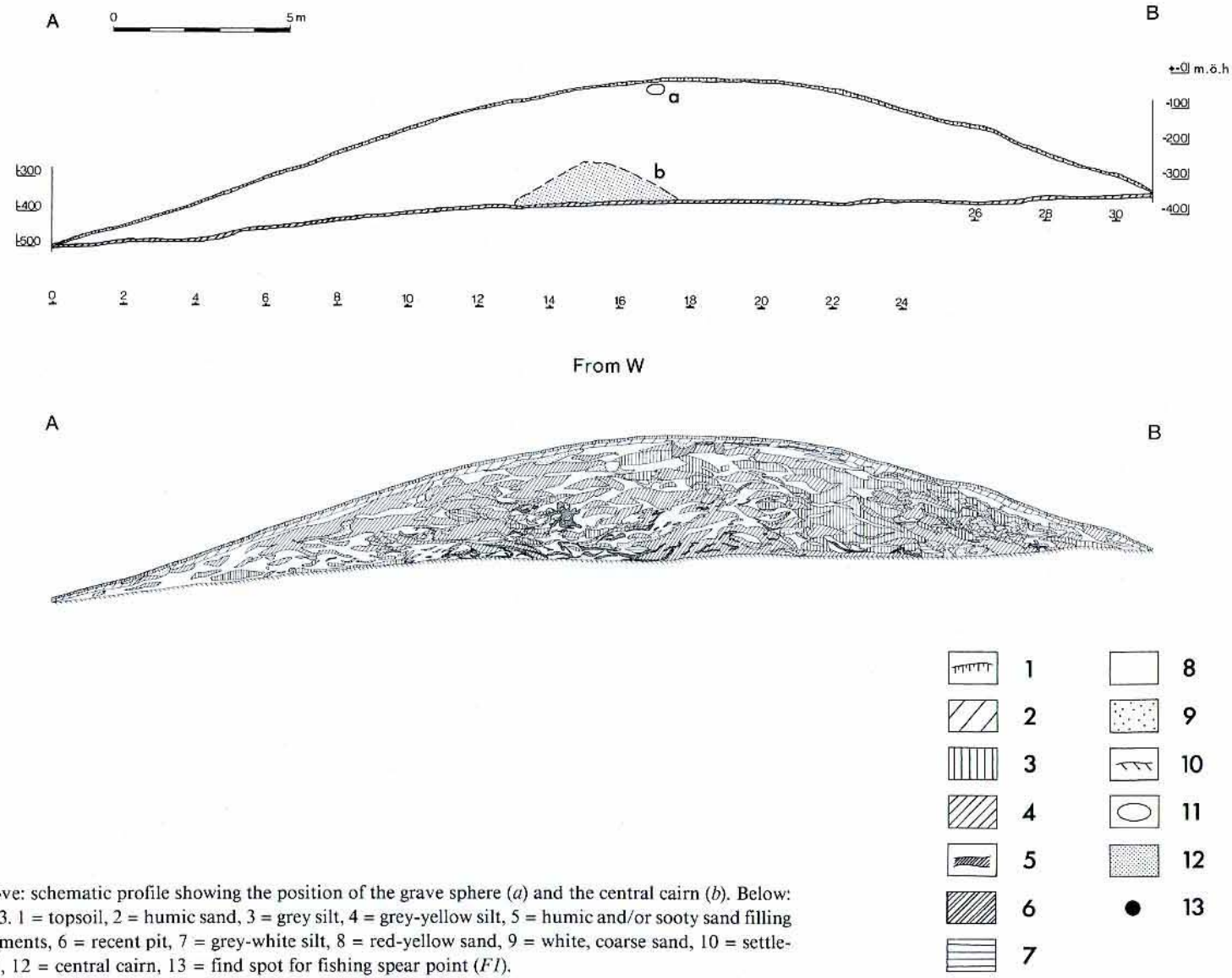


Plate 114. Profile A–B. Above: schematic profile showing the position of the grave sphere (*a*) and the central cairn (*b*). Below: profile A–B through mound 3. 1 = topsoil, 2 = humic sand, 3 = grey silt, 4 = grey-yellow silt, 5 = humic and/or sooty sand filling containing few charcoal fragments, 6 = recent pit, 7 = grey-white silt, 8 = red-yellow sand, 9 = white, coarse sand, 10 = settlement layer, 11 = grave bowl, 12 = central cairn, 13 = find spot for fishing spear point (*Fl*).

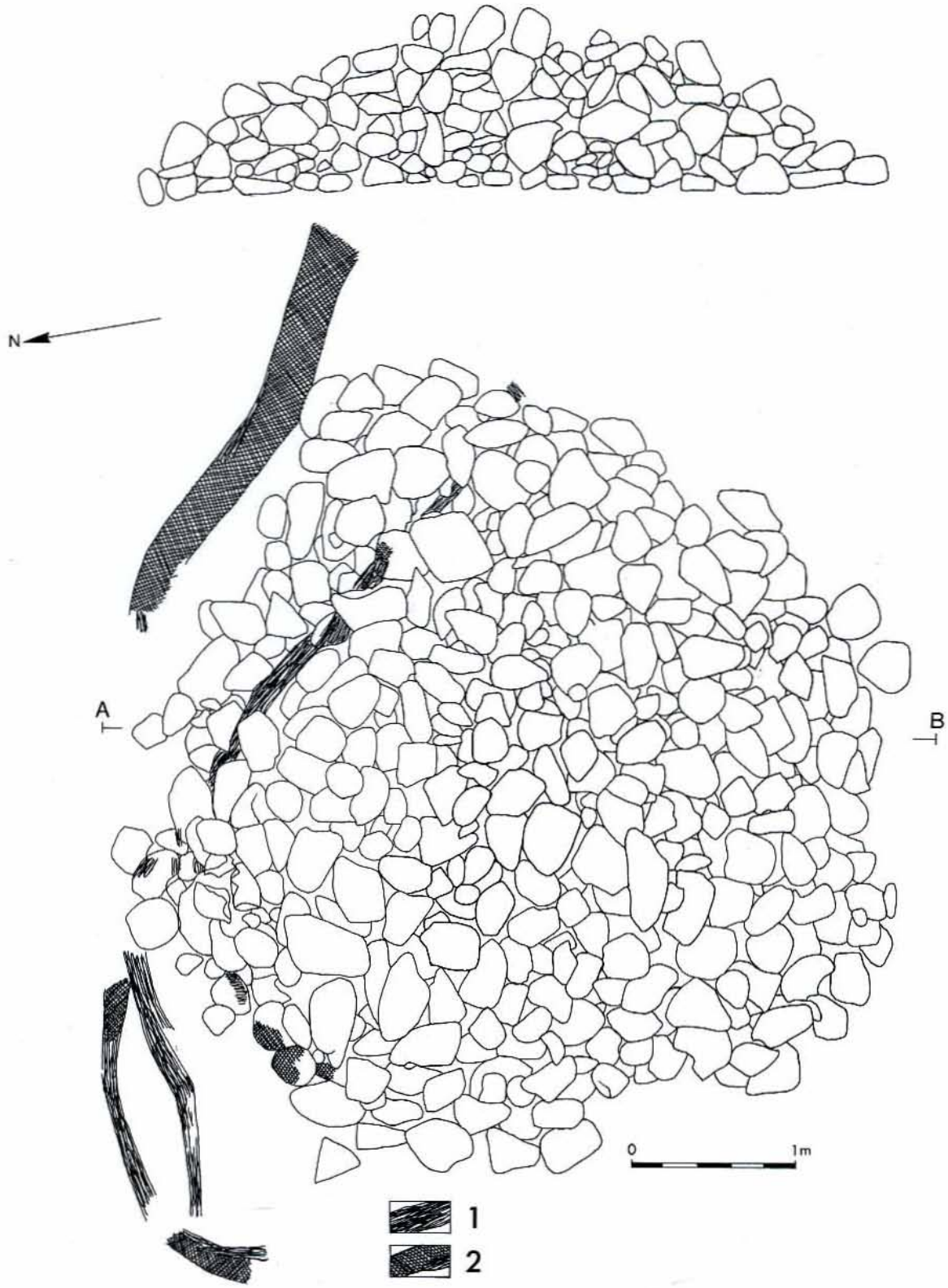


Plate 115. Plan and profile (above) through the central cairn. 1 = carbonized timber, 2 = birch-bark.

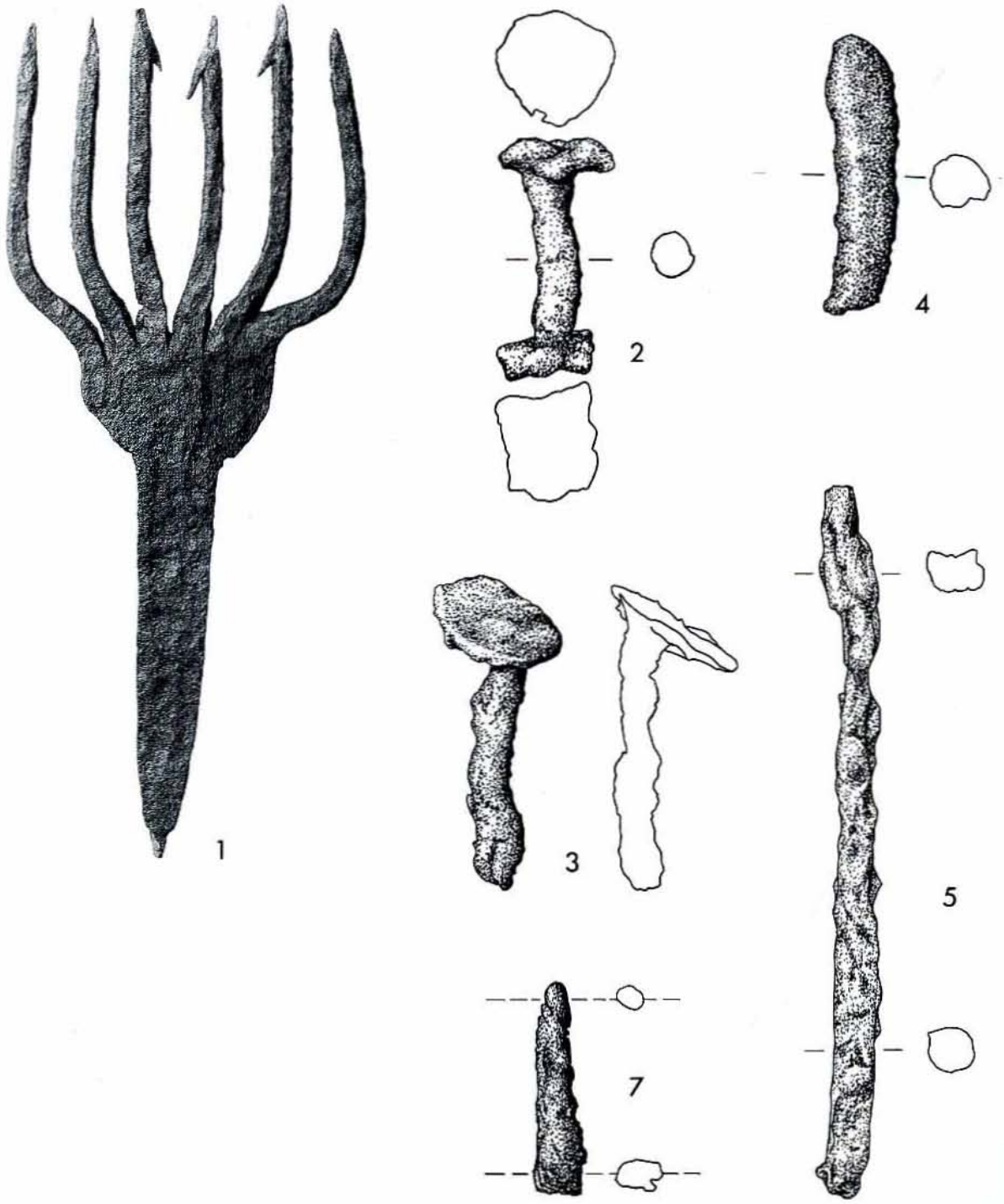


Plate 116. Finds discovered in the filling of the mound. See list of finds in Sect. 5.5.2. (*Fl* c. 1:2). (Drawing: H. Haglund).

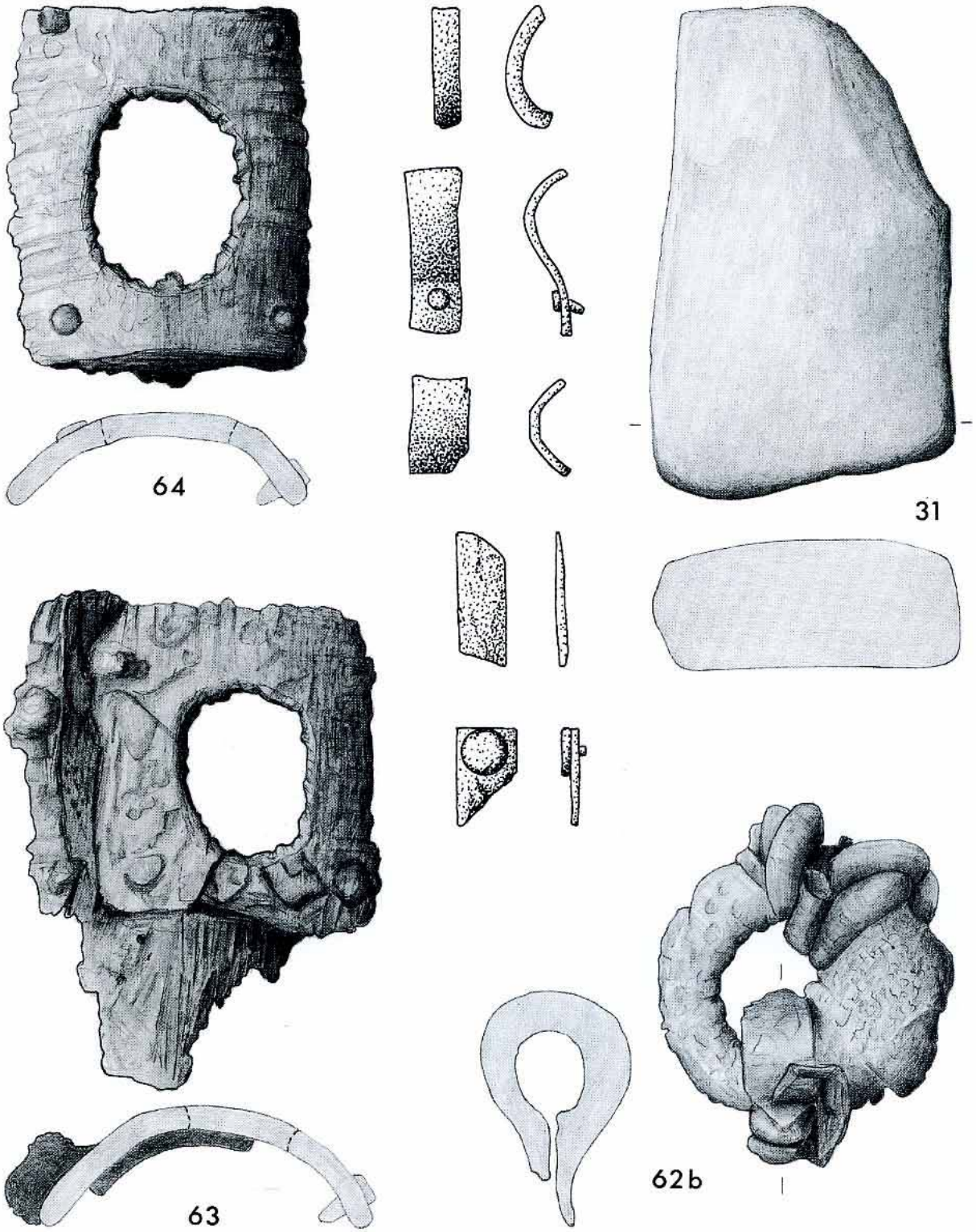


Plate 108. Iron mounts *F63* and *F64*, the whetstone *F31*, the rod end mount *F62b*, and in the middle five bronze mounts with uncertain positions in the grave.

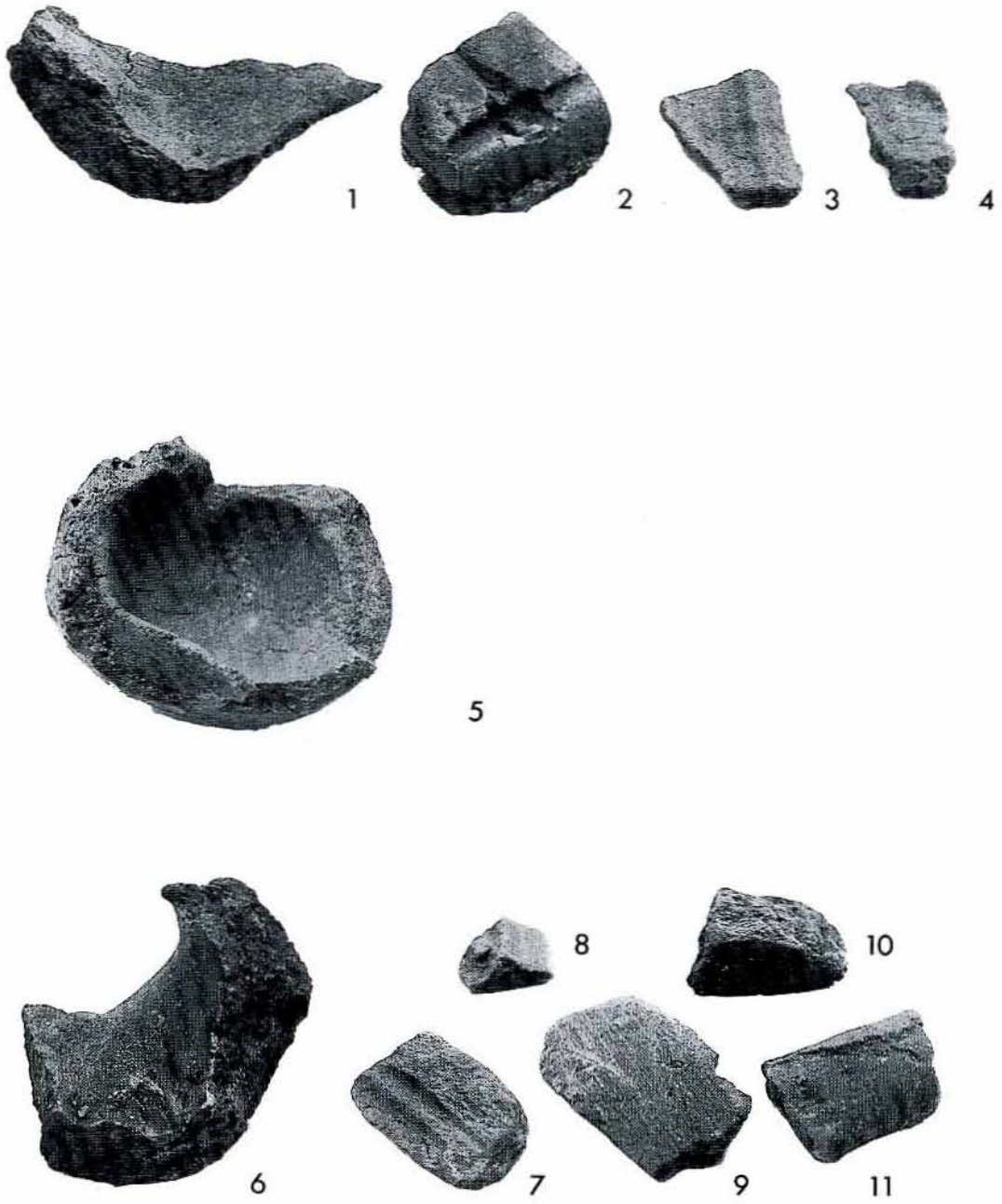


Plate 117. Finds discovered in the filling of the mound. 1–4, 7–11 = mould fragments of burnt clay, 5–6 = crucible fragments. Mould fragment 2 with an impression of a dress pin or similar with a profiled head.

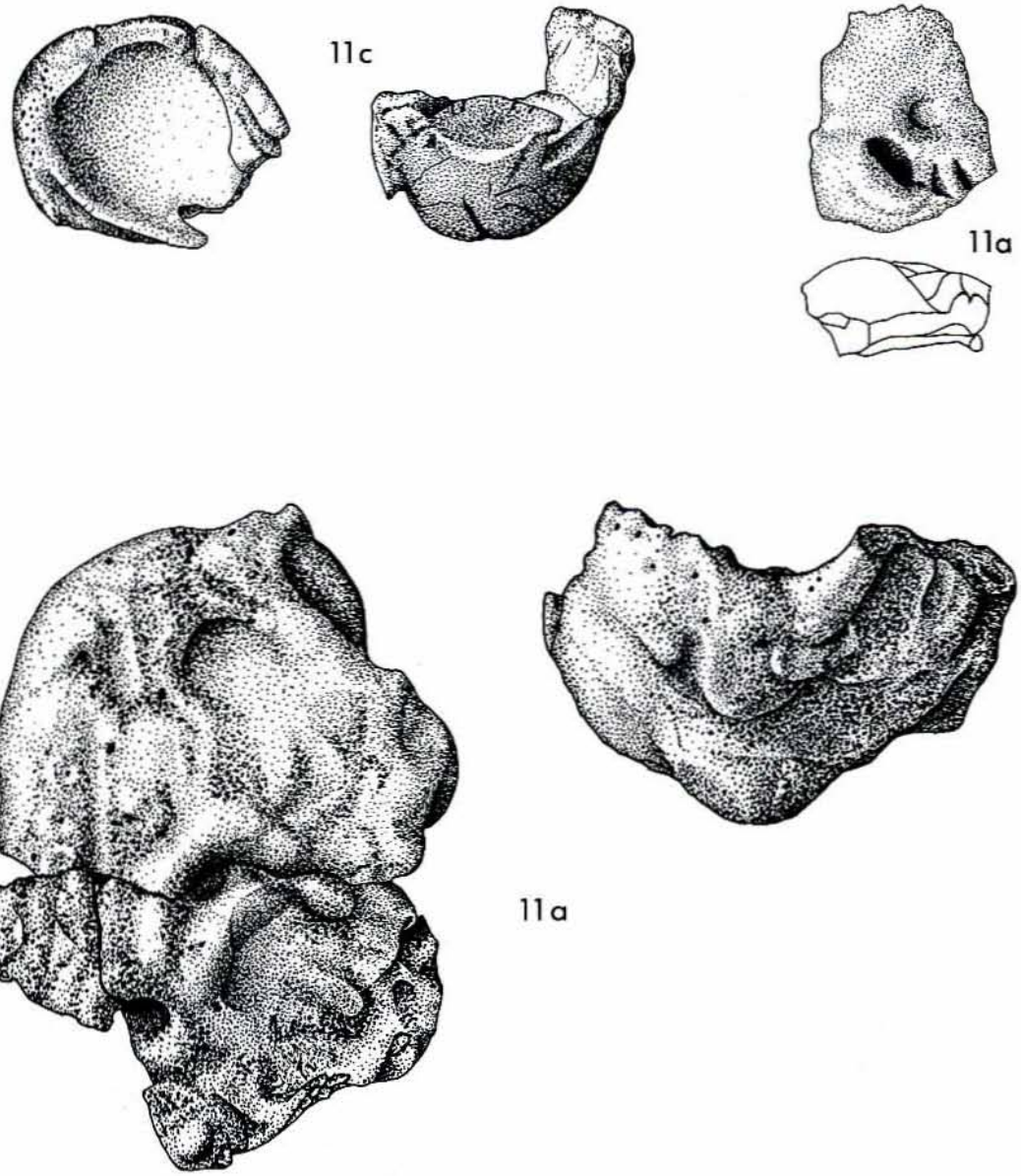


Plate 118. Finds discovered in the filling of the mound. Crucible fragments. (Drawing: H. Haglund).

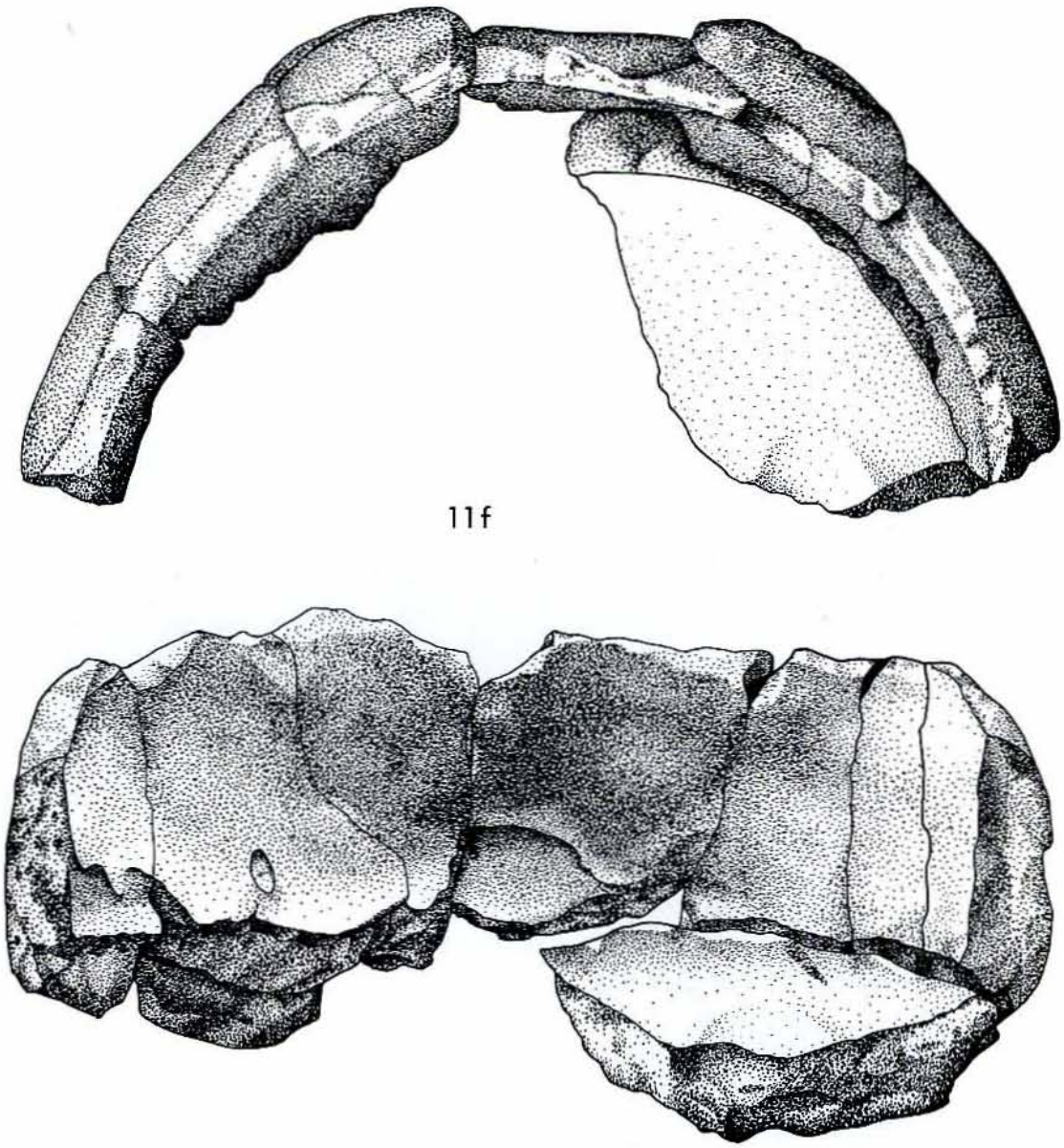


Plate 119. Finds discovered in the filling of the mound. Clay vessel *F11f.* (Drawing: H. Haglund).

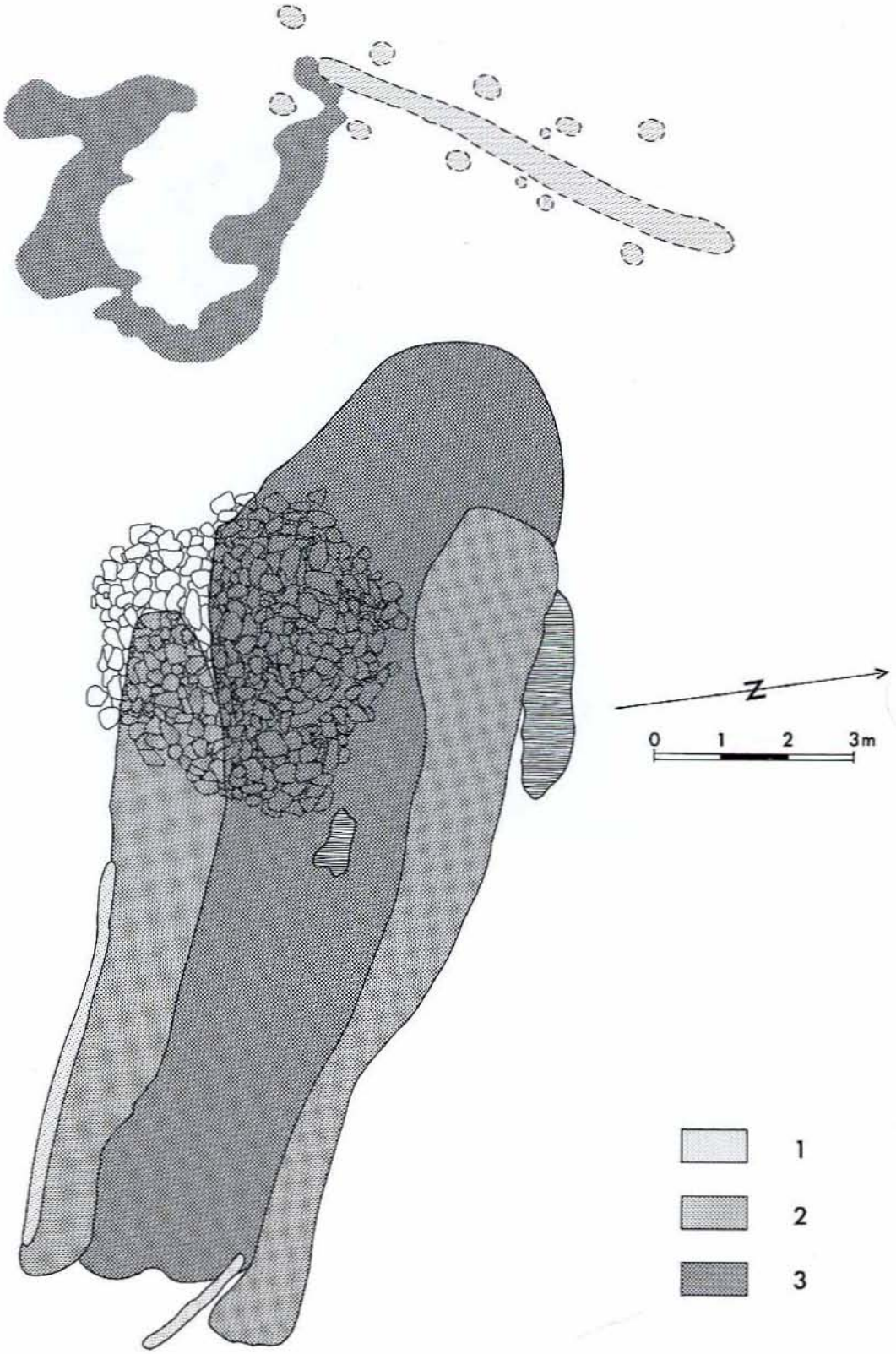


Plate 120. Plan of the features in the floor layer beneath the mound. 1 = light yellow sand as filling, 2 = red-burnt clay from the daubed wall, 3 = sand with soot admixture.

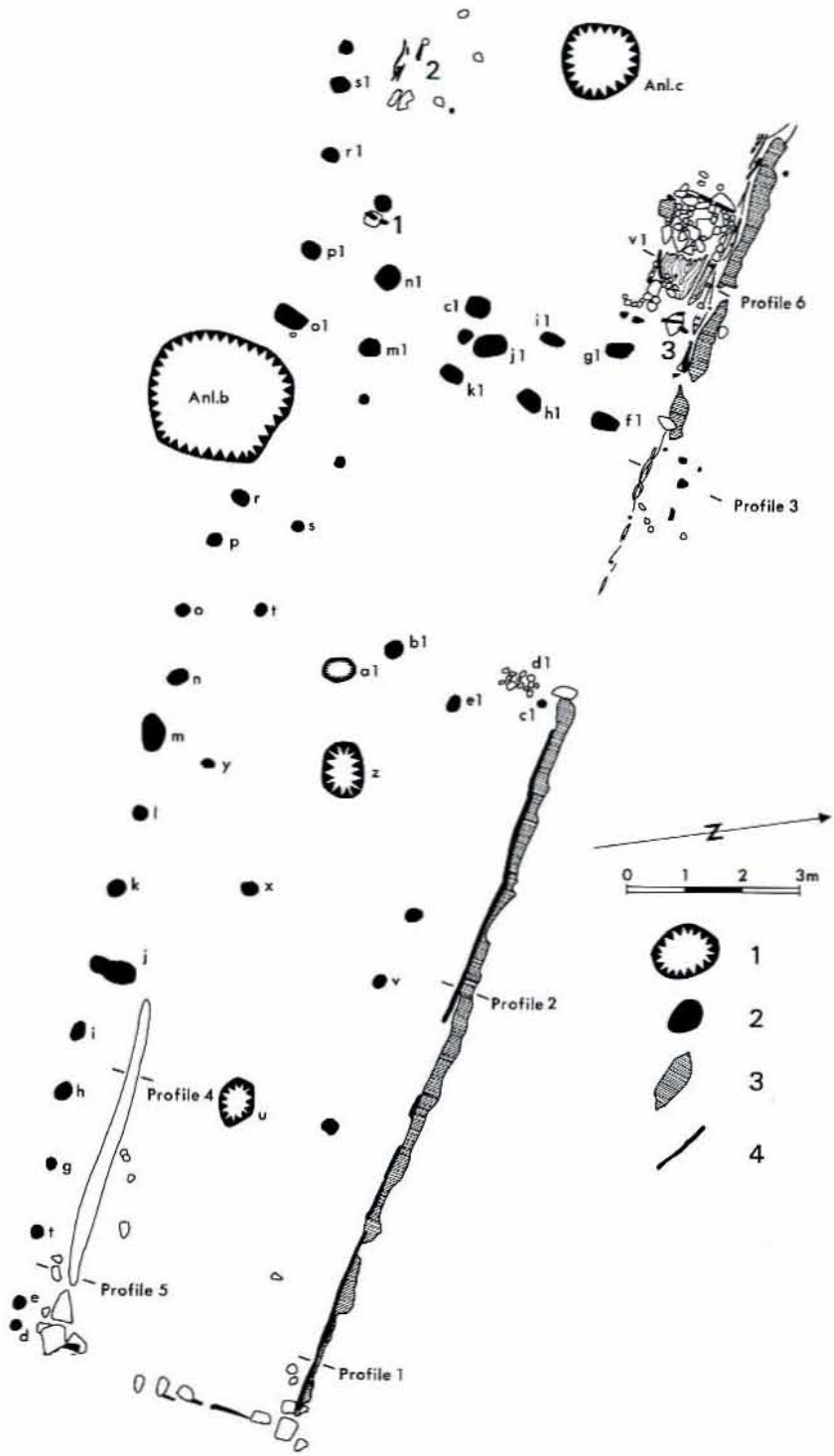


Plate 121. Plan of hearths and construction details with feature designations in the house foundation. 1 = hearth, 2 = post hole, 3 = birch-bark, 4 = charred remains of sill beam and the wattle work of the wall.

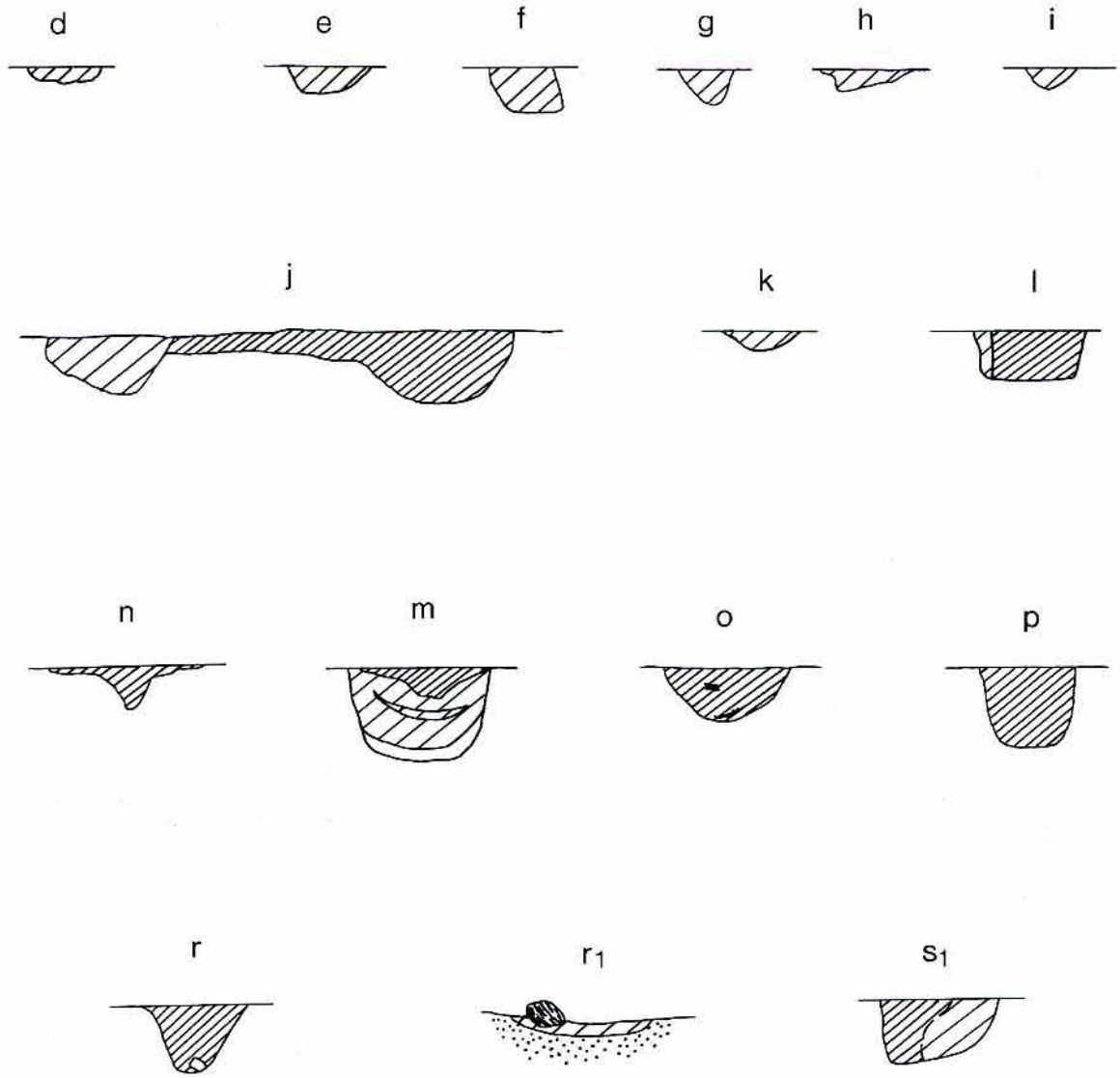


Plate 122. Profiles of post holes along the southern long wall. For legend see Pl. 123.

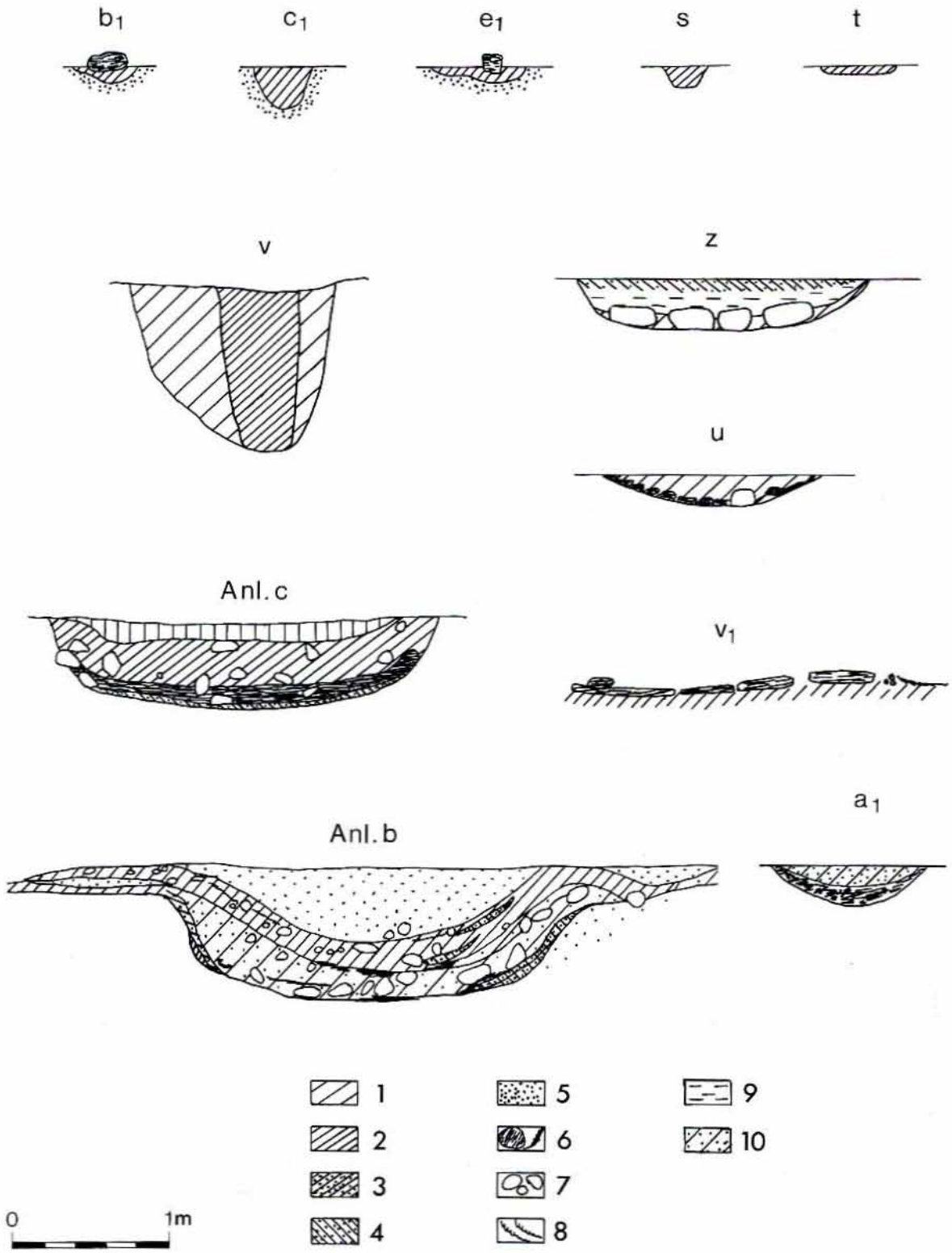


Plate 123. Profiles of post holes and hearths in the house foundation. *b1, c1, e1, s, t* and *v* are post holes within the house foundation. Other profiles are hearths, apart from *v1*, which are the "bench" (Sw. *pall*) along the NE long wall. 1 = slightly humic filling, 2 = humic filling, 3 = strongly humic and/or sooty filling with charcoal fragments, 4 = strongly humic and/or sooty filling with charcoal fragments, 5 = undisturbed sand, 6 = charcoal and/or carbonized birch-bark, 7 = stones, 8 = stripes of soot or charcoal, 9 = silt or clay filling, 10 = slightly humic sand filling.

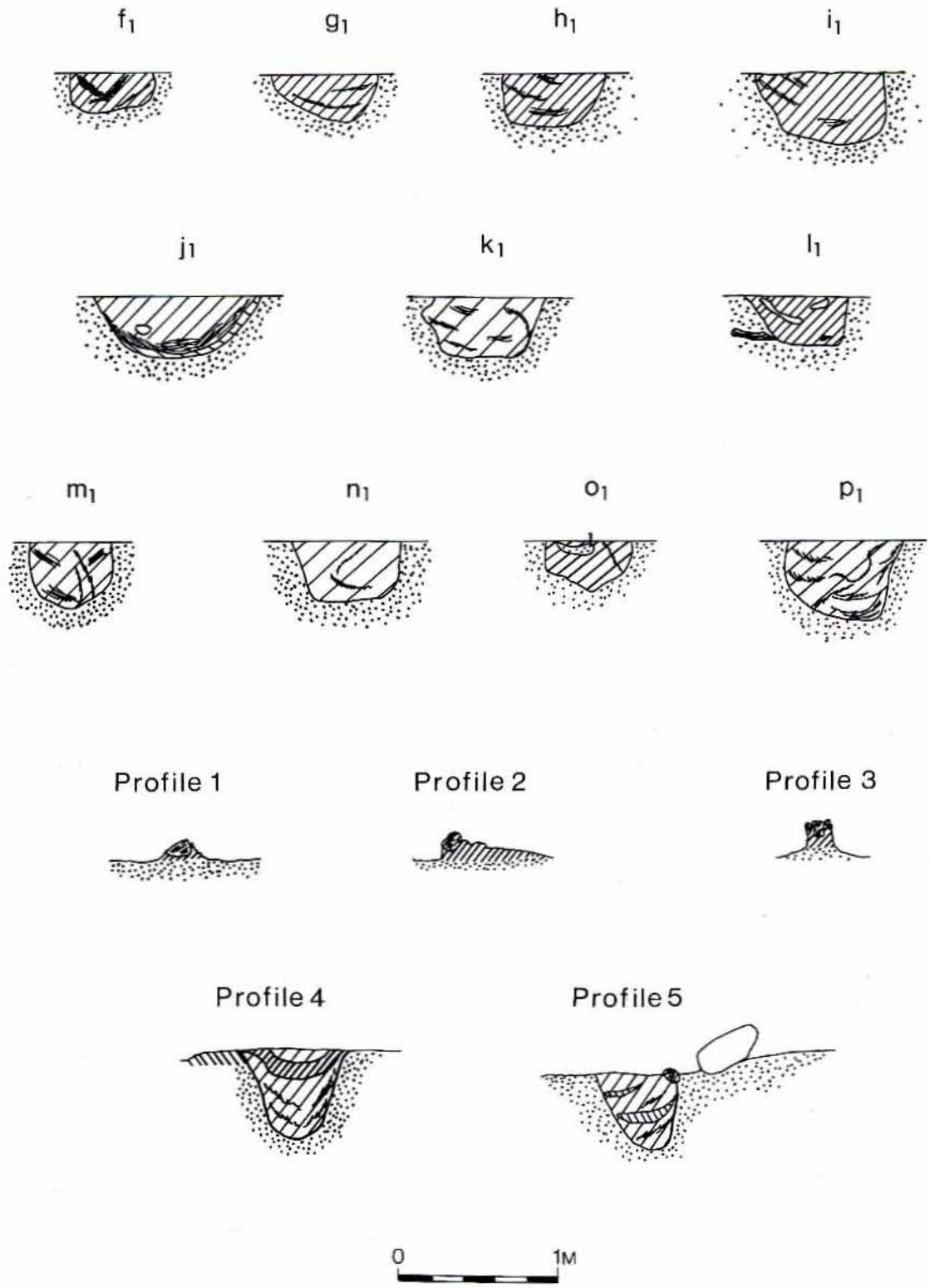


Plate 124. Profiles of the post holes in the two transverse rows of posts in the house. *j1*, however, have been interpreted as a hearth. There are also five profiles through the walls of the house. For legend see Pl. 123, (cf. Pl. 121).

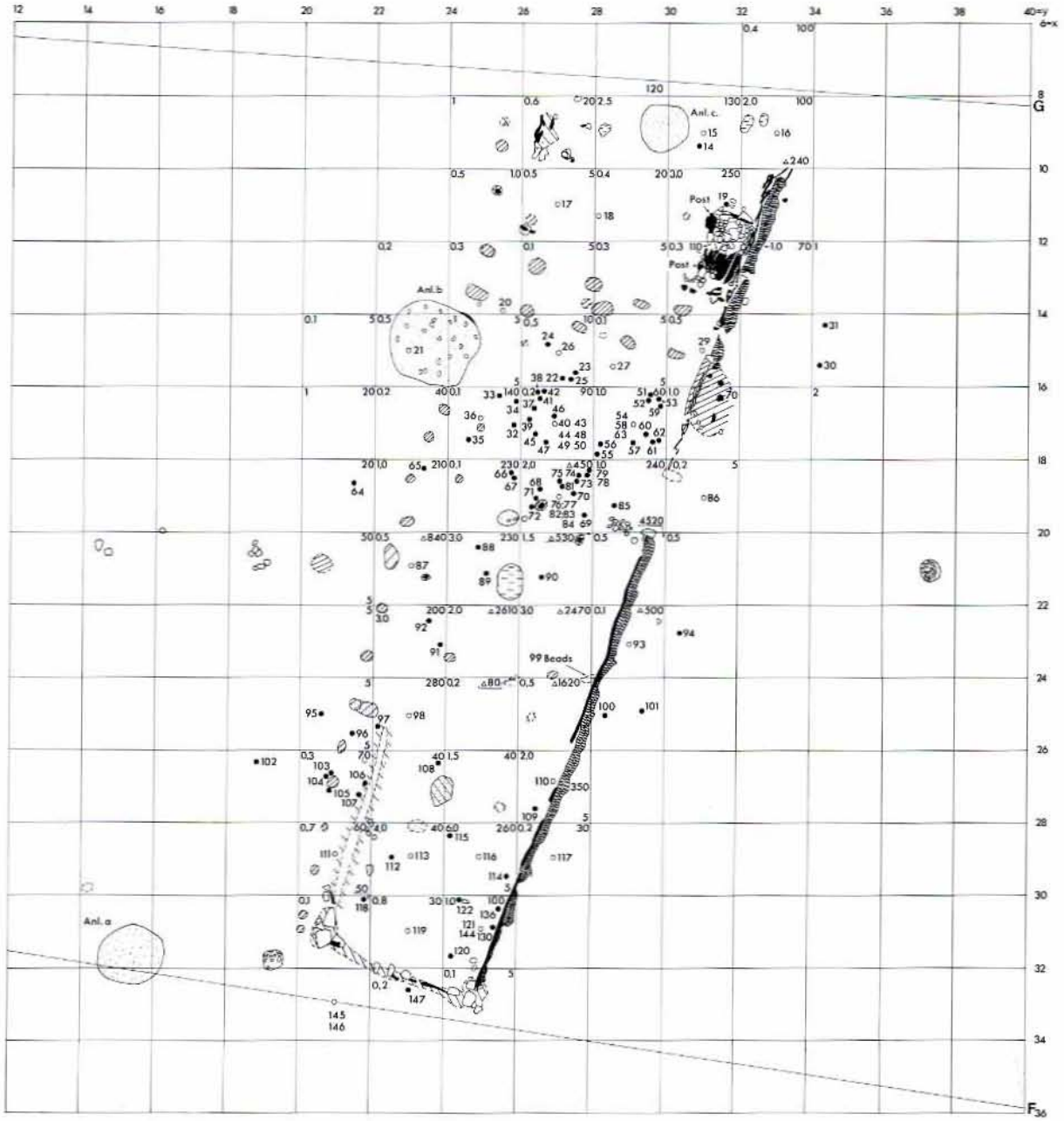


Plate 125. Find plane with details of find numbers. ● = exact location of find, o = finds made within a two-metre square. The quantity (in centilitres) found in each two-metre square is shown; burnt bone is indicated in the top left-hand corner of the square, burnt clay in the top right-hand corner and slag in the bottom right-hand corner of each square. The location of the find of the necklace *F99* is marked separately. For legend see Pl. 123.

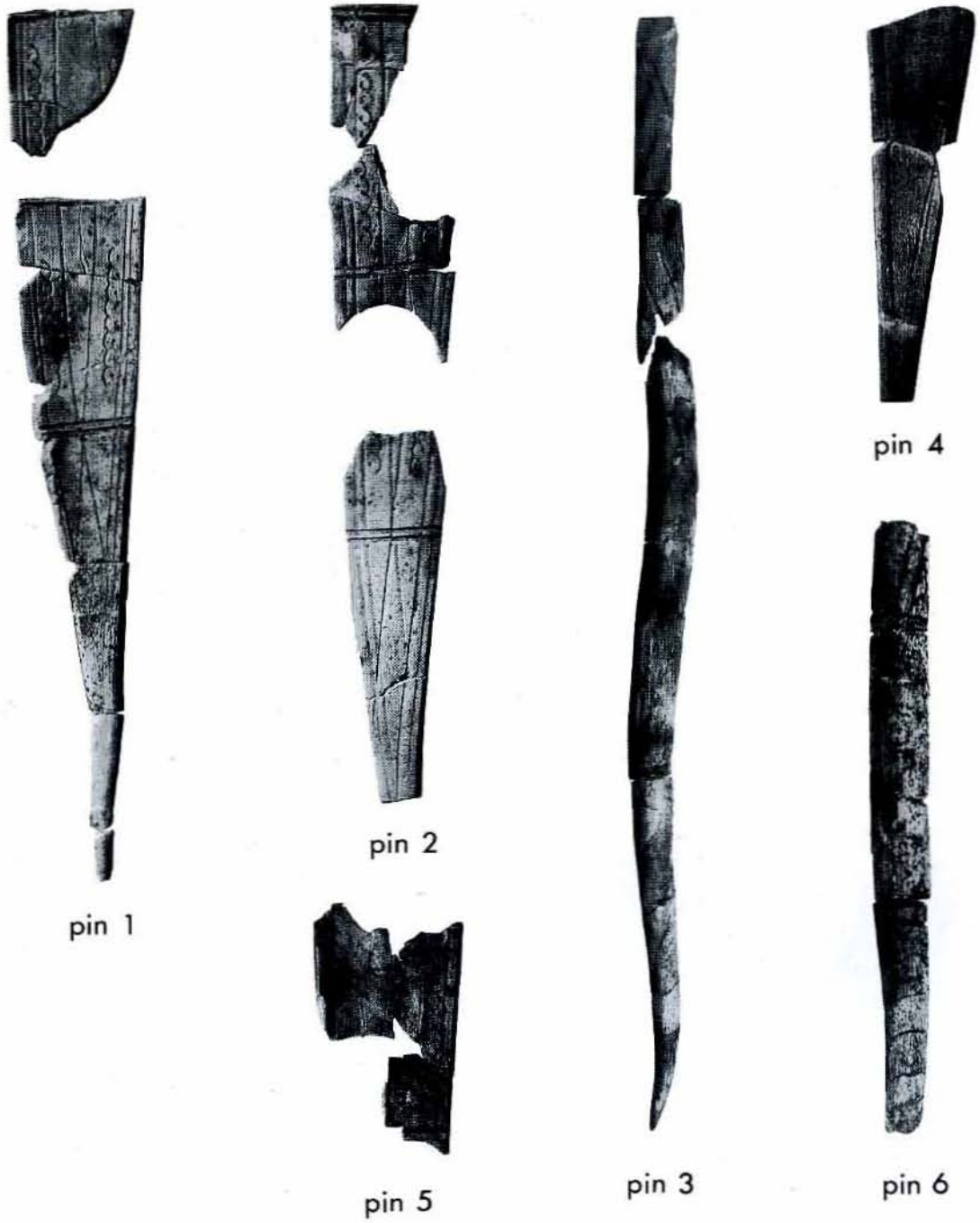


Plate 126. Hair pins. Pins 1–3 form one set, and pins 4–6 form a second set.

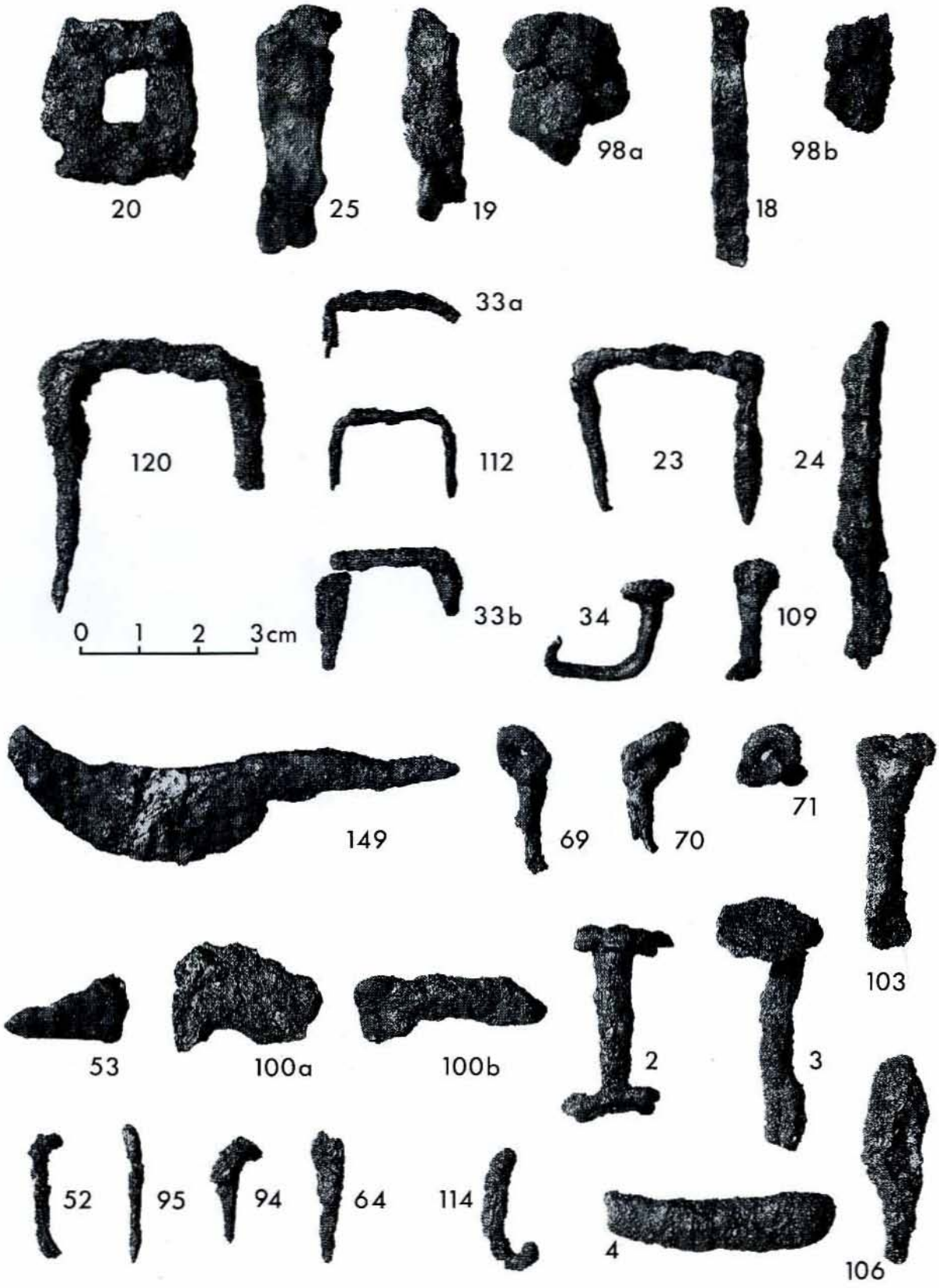


Plate 127. Iron finds in the settlement layer, *F2–F4*, but from the filling. Cf. the list of finds in Sect. 5.6.2.1.

Plate 128. Objects from the settlement layer, bone arrow point, needle case, comb fragment and beads. See the list of finds in Sect. 5.6.2.1.

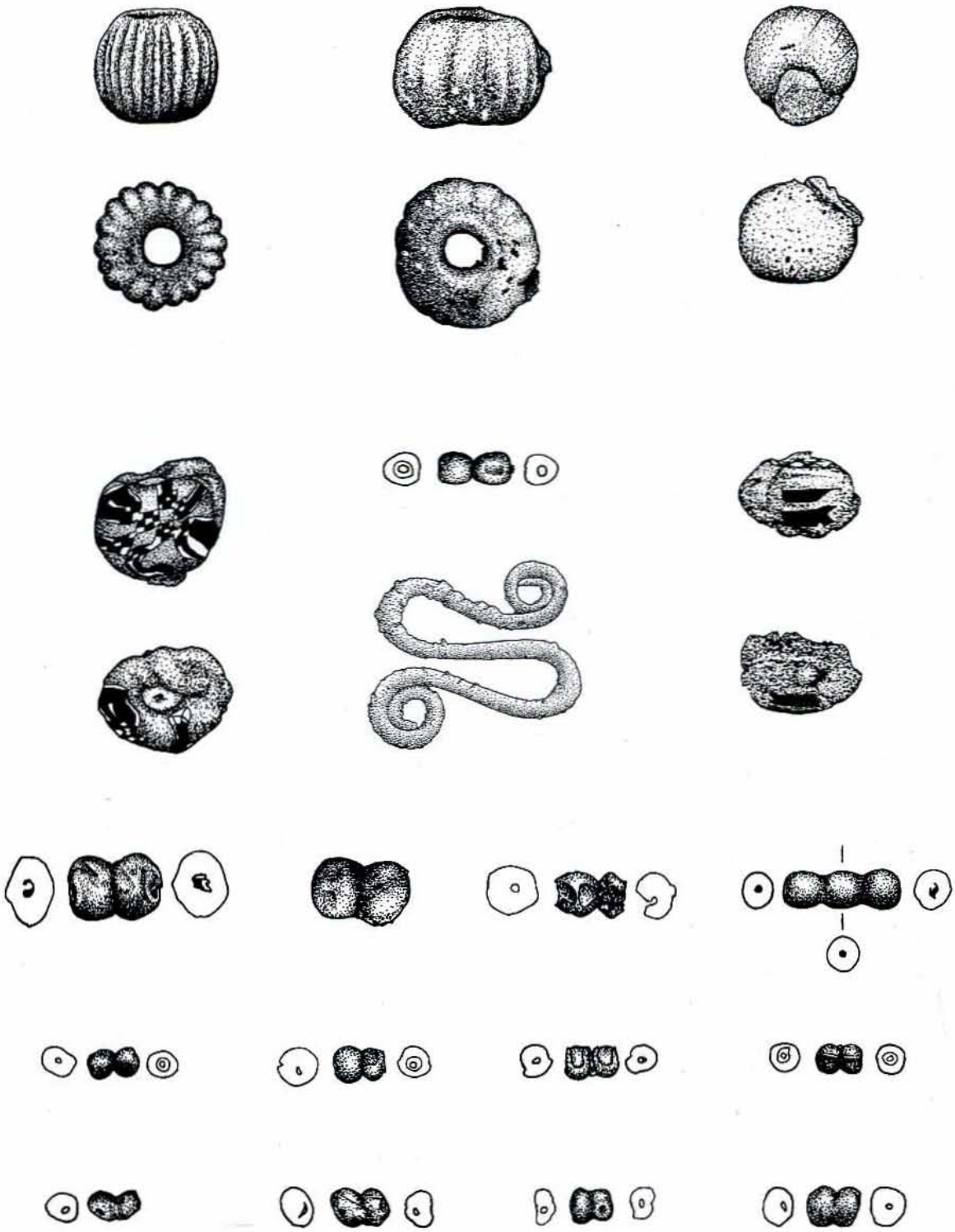


Plate 129. The S-shaped bronze hook (2:1) and beads belonging to the necklace. (Drawing: H. Haglund).

Plate 130. Beads. (Drawing: H. Haglund).

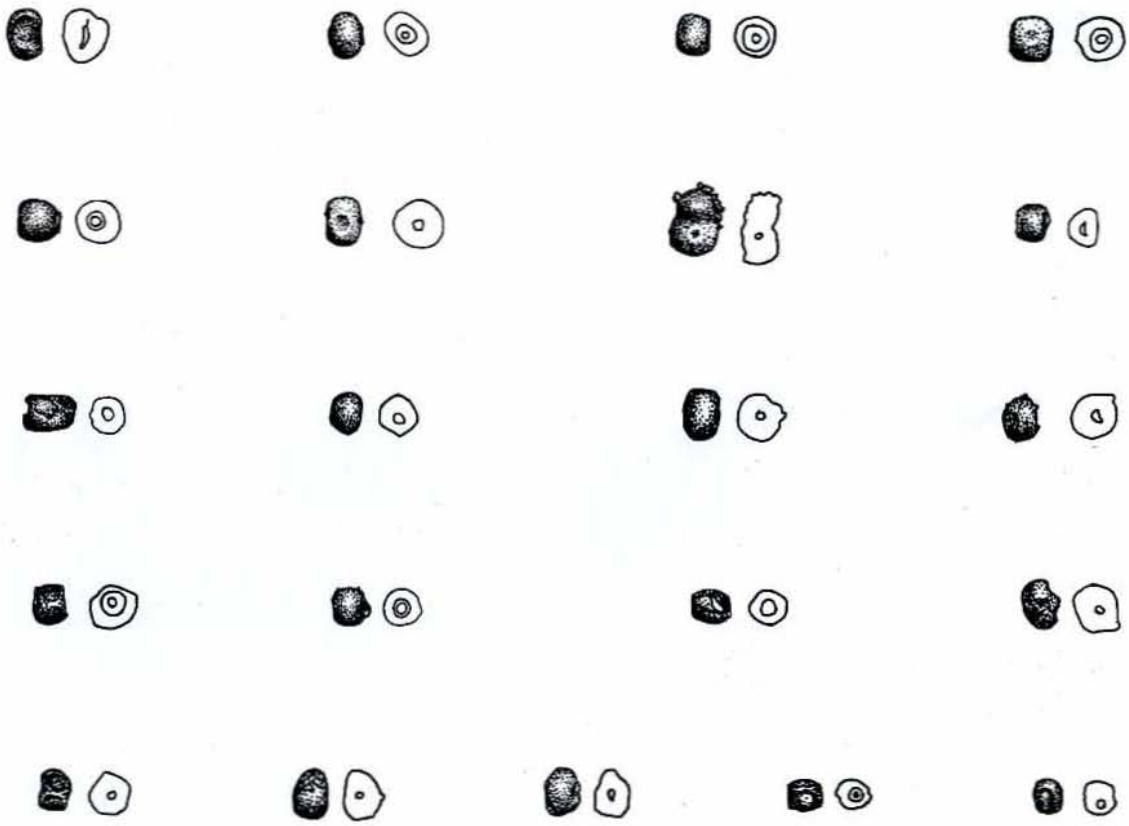


Plate 131. Beads. (Drawing: H. Haglund).

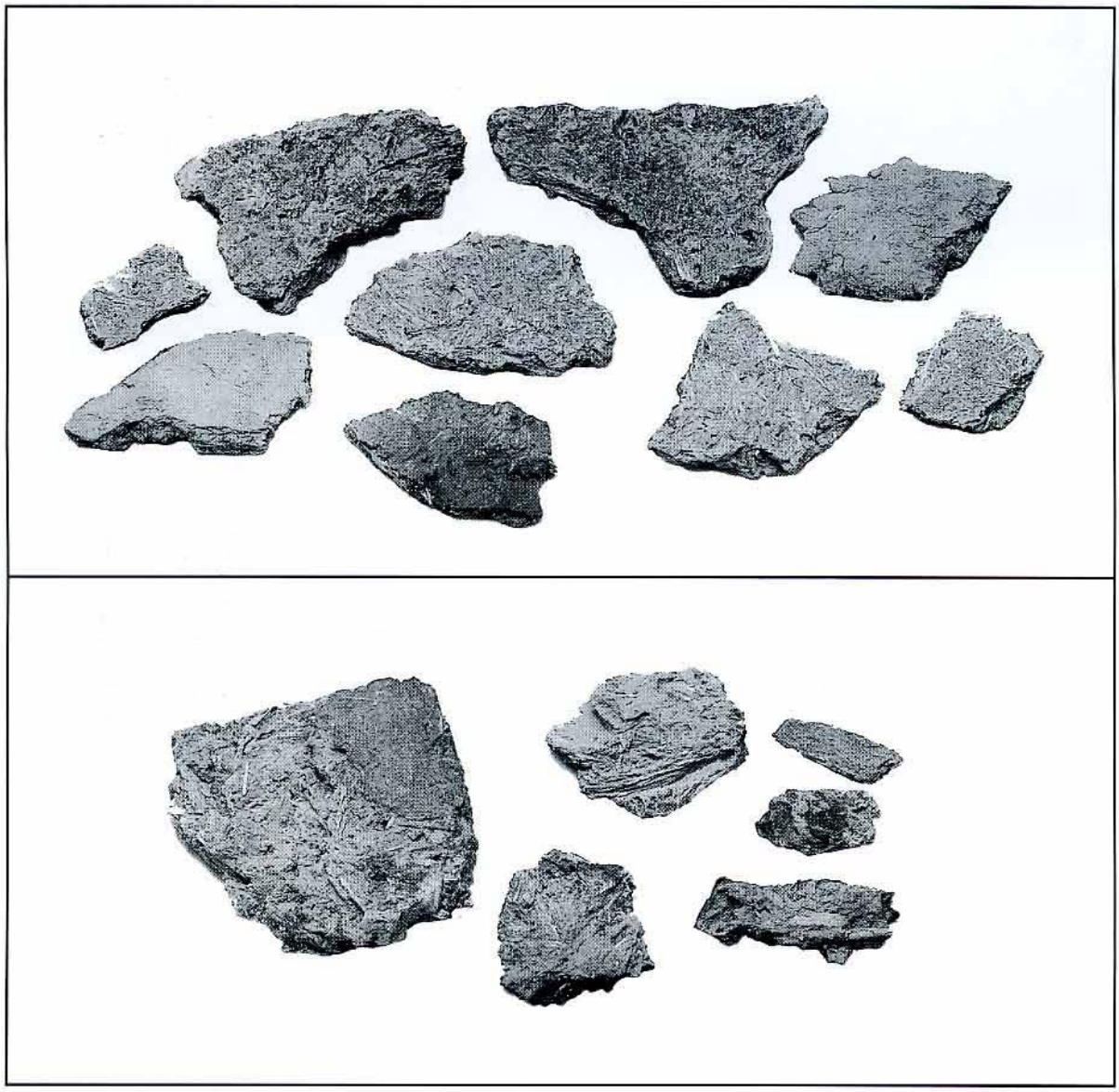


Plate 132. Asbestos-tempered sherds, probably from bucket-shaped pottery found in the house foundation.

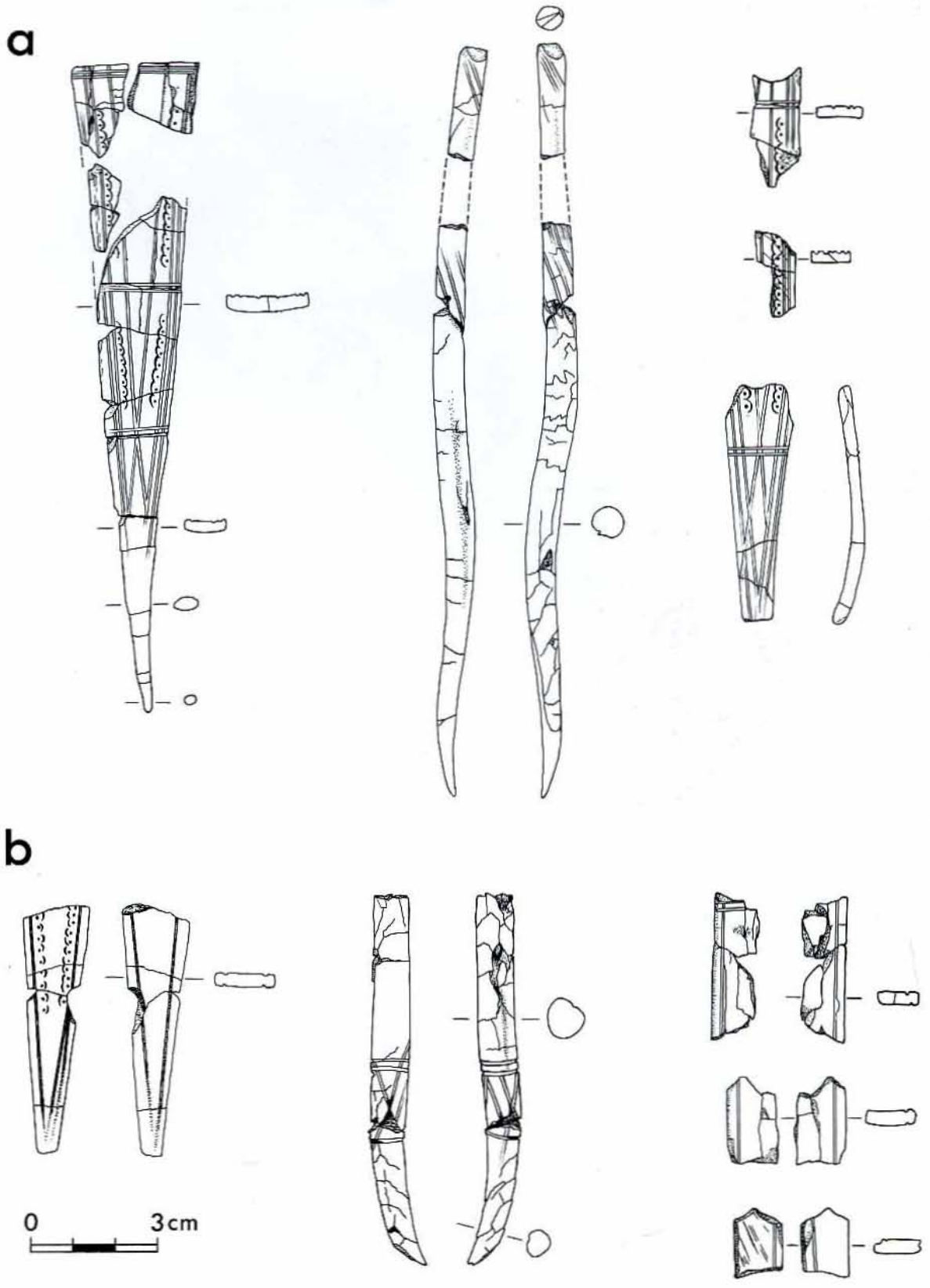


Plate 133. Hair pins of bone. *a*) pins 1–3, found at the SE gable of the house. *b*) pins 4–6, found inside the entrance of the house, (cf. Fig. 114). (Drawing: H. Haglund).

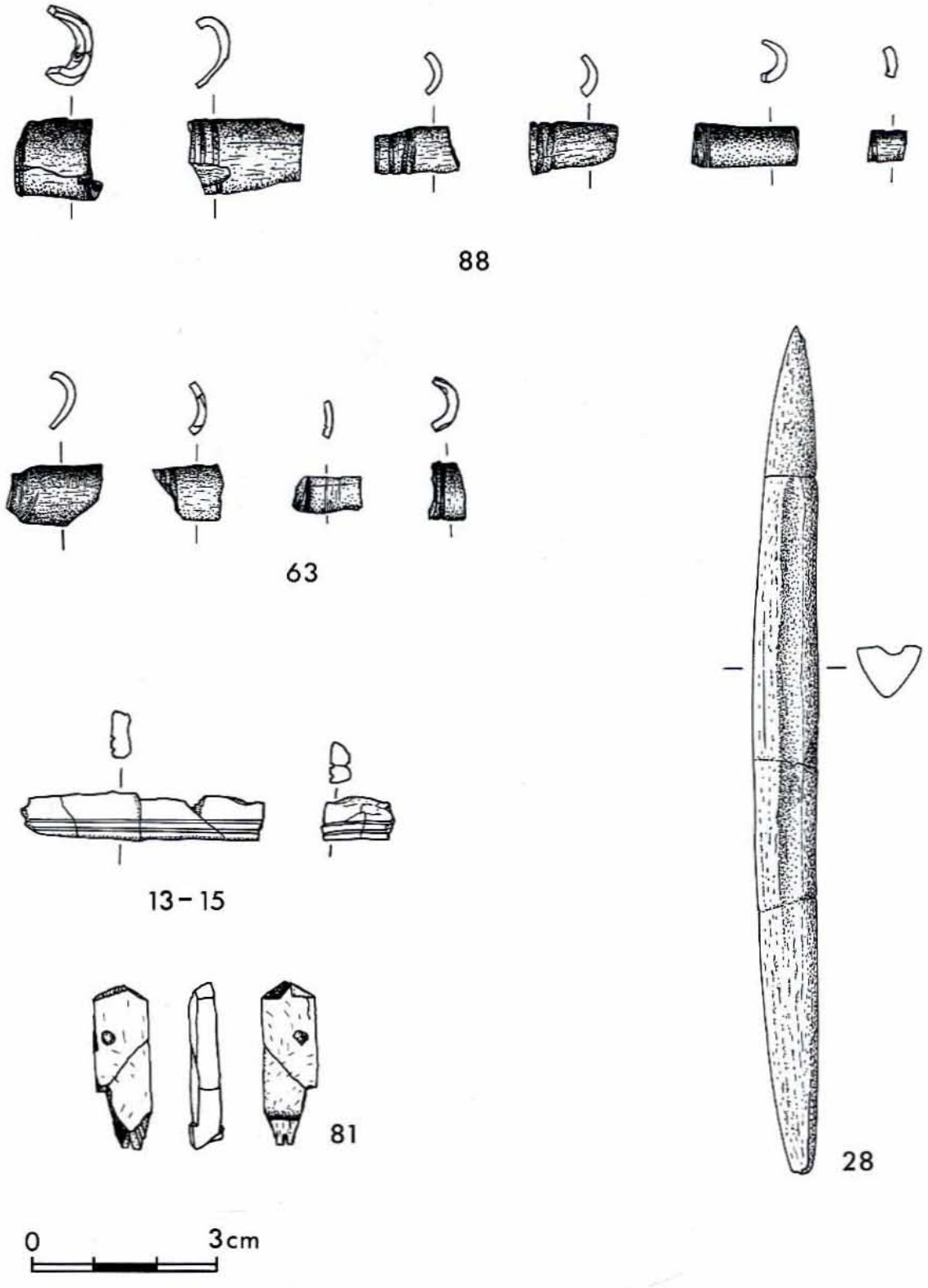


Plate 134. Needle cases (*F88, F63*), bone arrow point (*F28*) and comb fragments (*F13–15, F81*). (Drawing: H. Haglund).

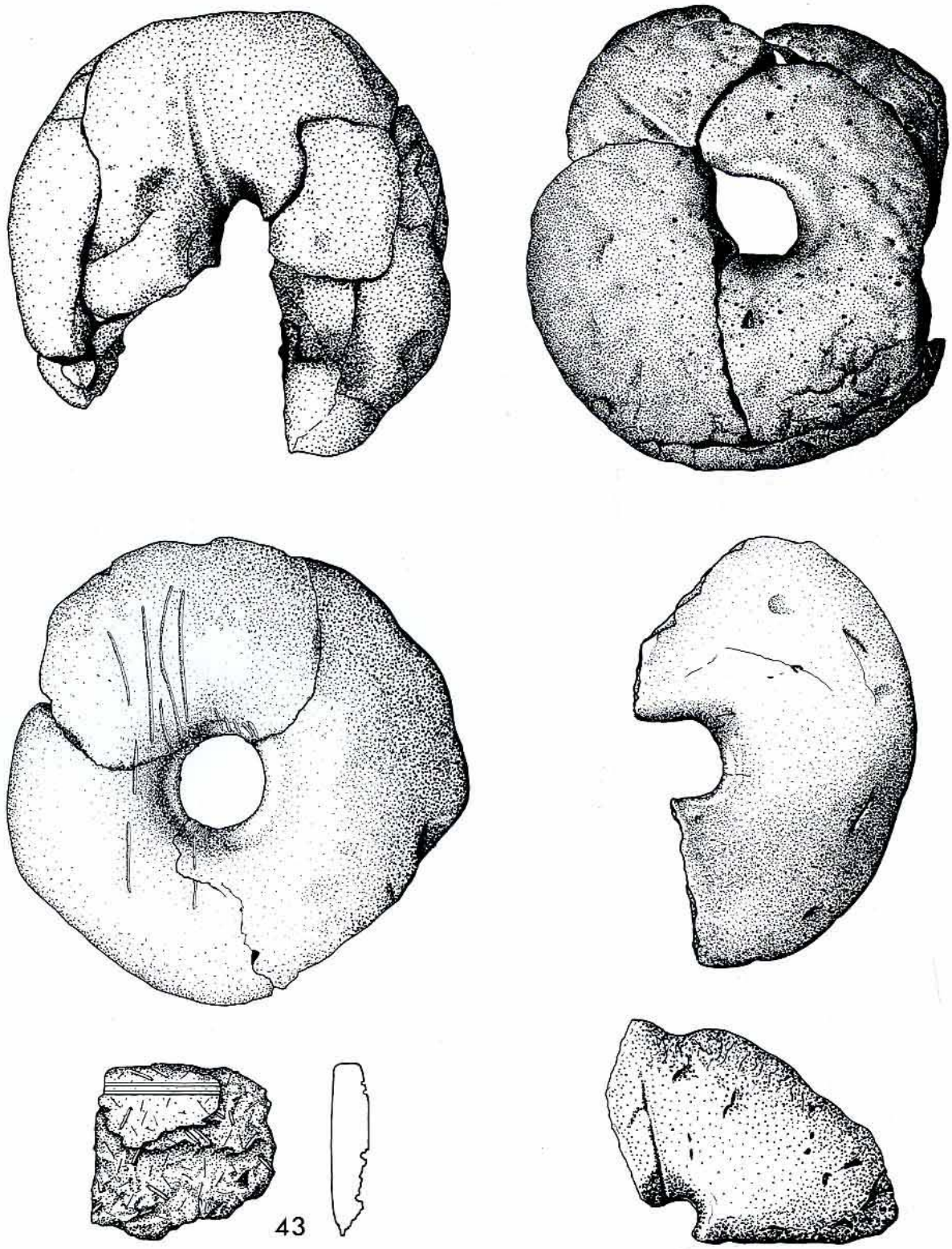


Plate 135. Loom weight fragments and one ornamented fragment of asbestos-tempered, probably from bucket-shaped pottery (*F43*). (Drawing: H. Haglund).

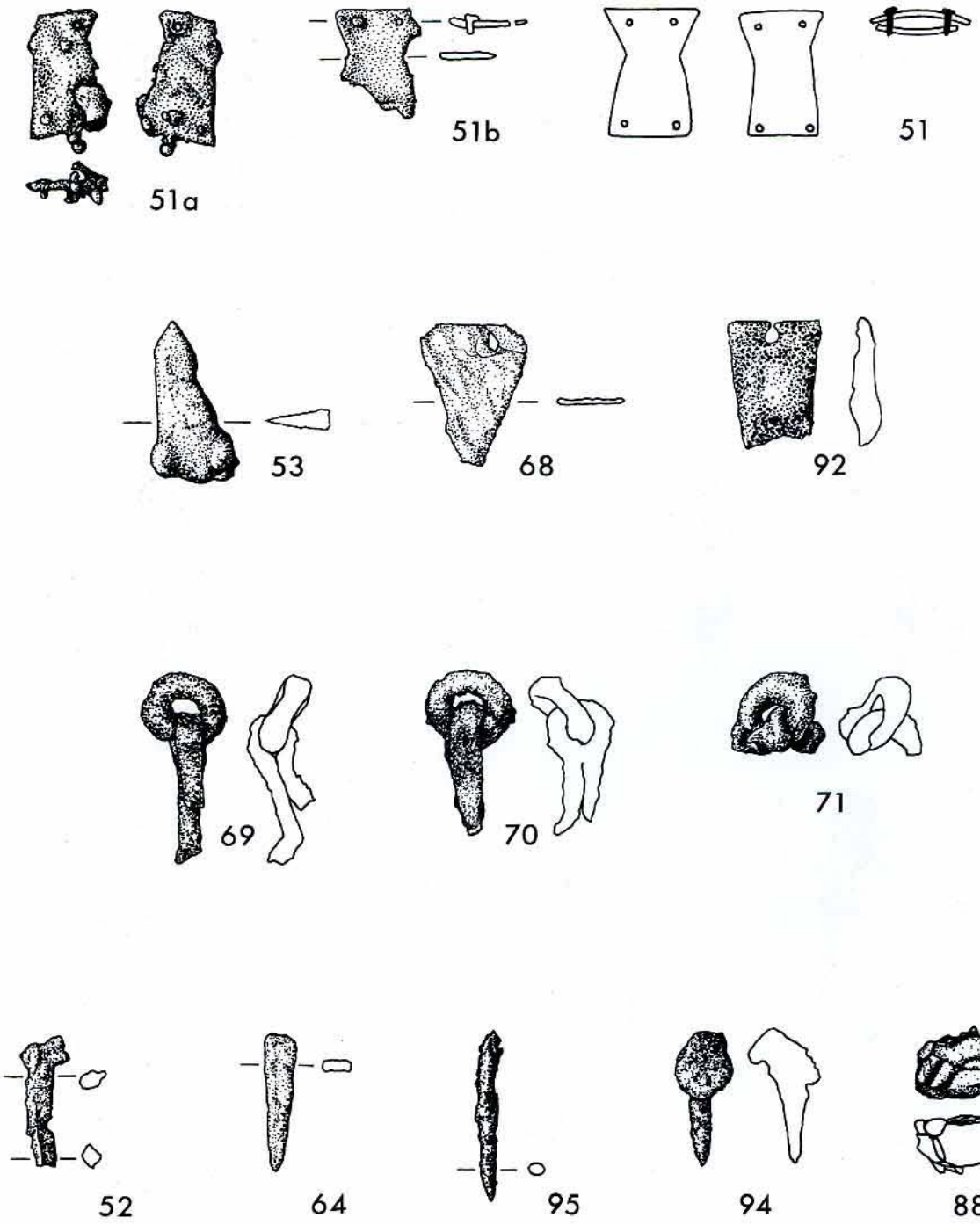


Plate 136. Objects found in the settlement layer. Above right: *F51* reconstructed. See the list of finds in Sect. 5.6.2.1. (Drawing: H. Haglund).

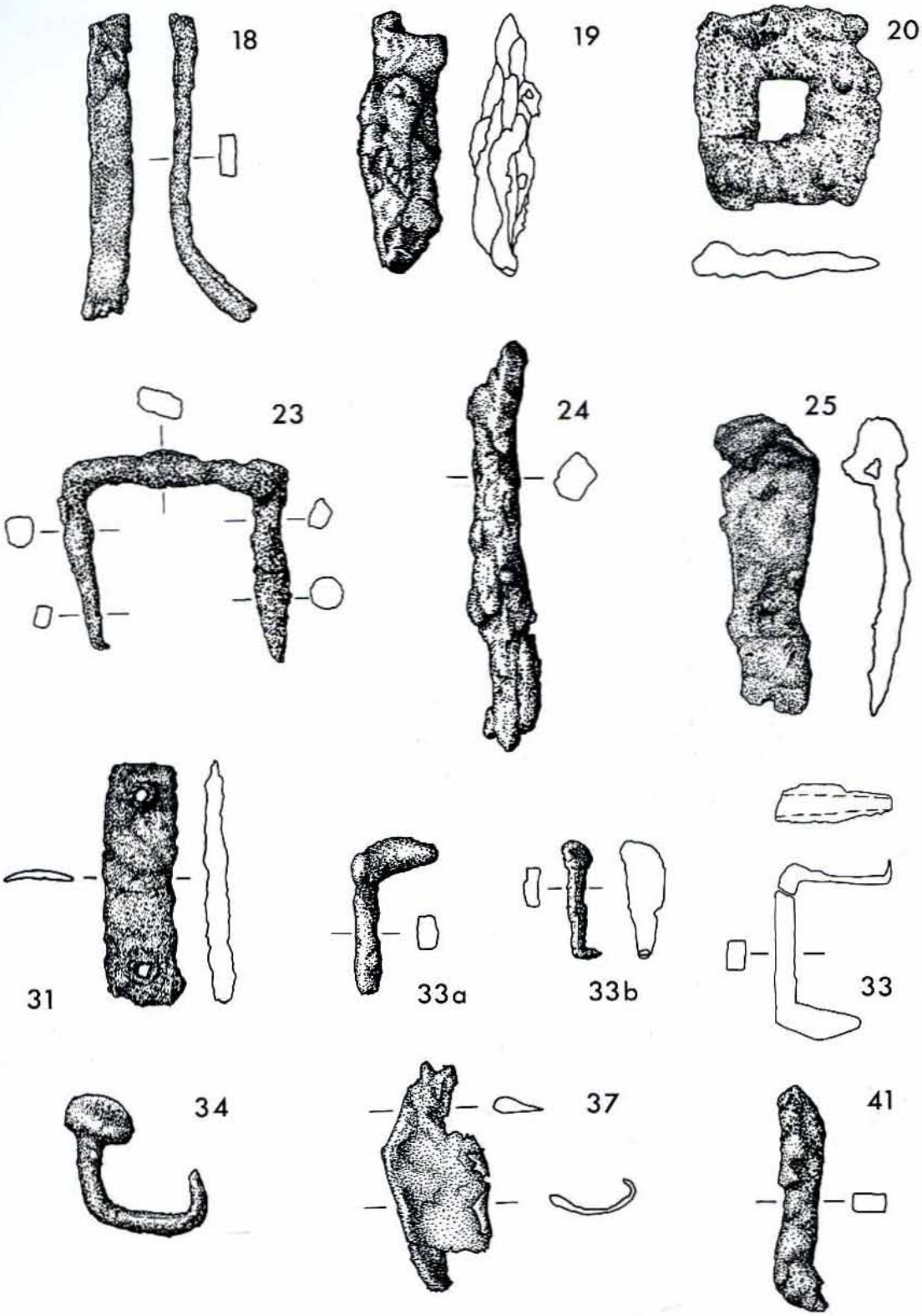


Plate 137. Objects found in the settlement layer. See the list of finds in Sect. 5.6.2.1. (Drawing: H. Haglund).

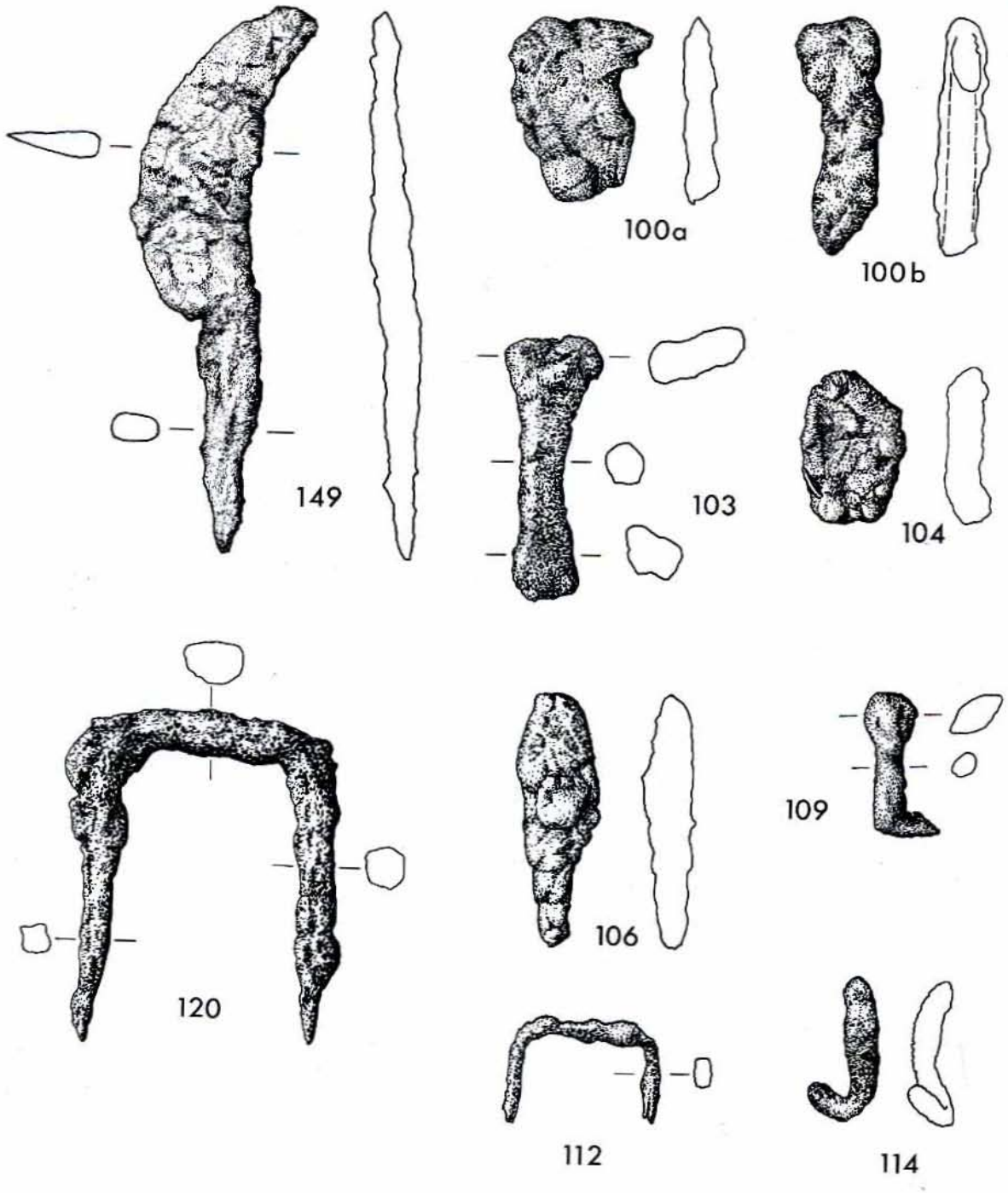


Plate 138. Objects found in the settlement layer. See the list of finds in Sect. 5.6.2.1. (Drawing: H. Haglund).

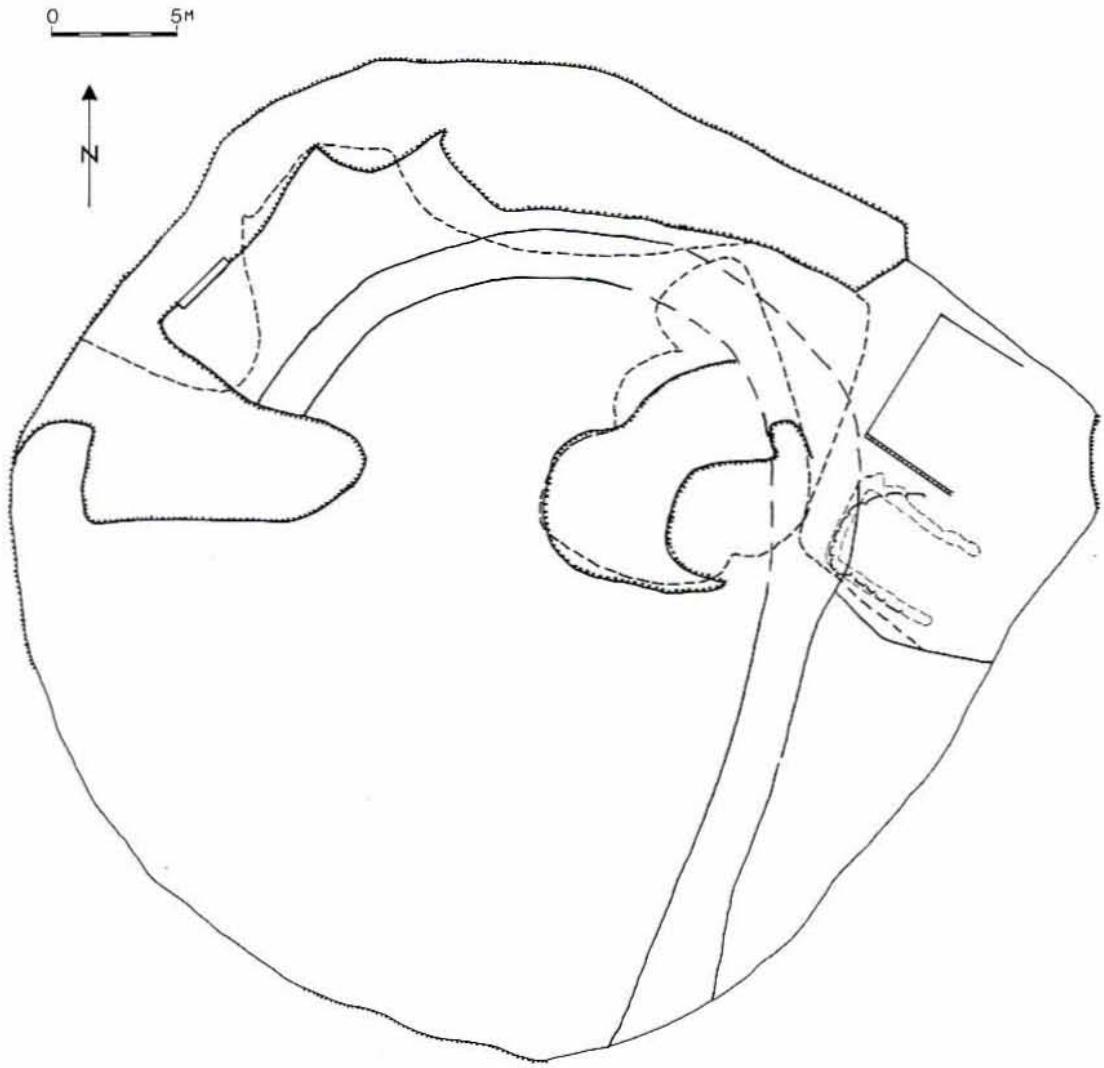


Plate 139. Plan of the mound, showing the damage caused prior to the excavation.

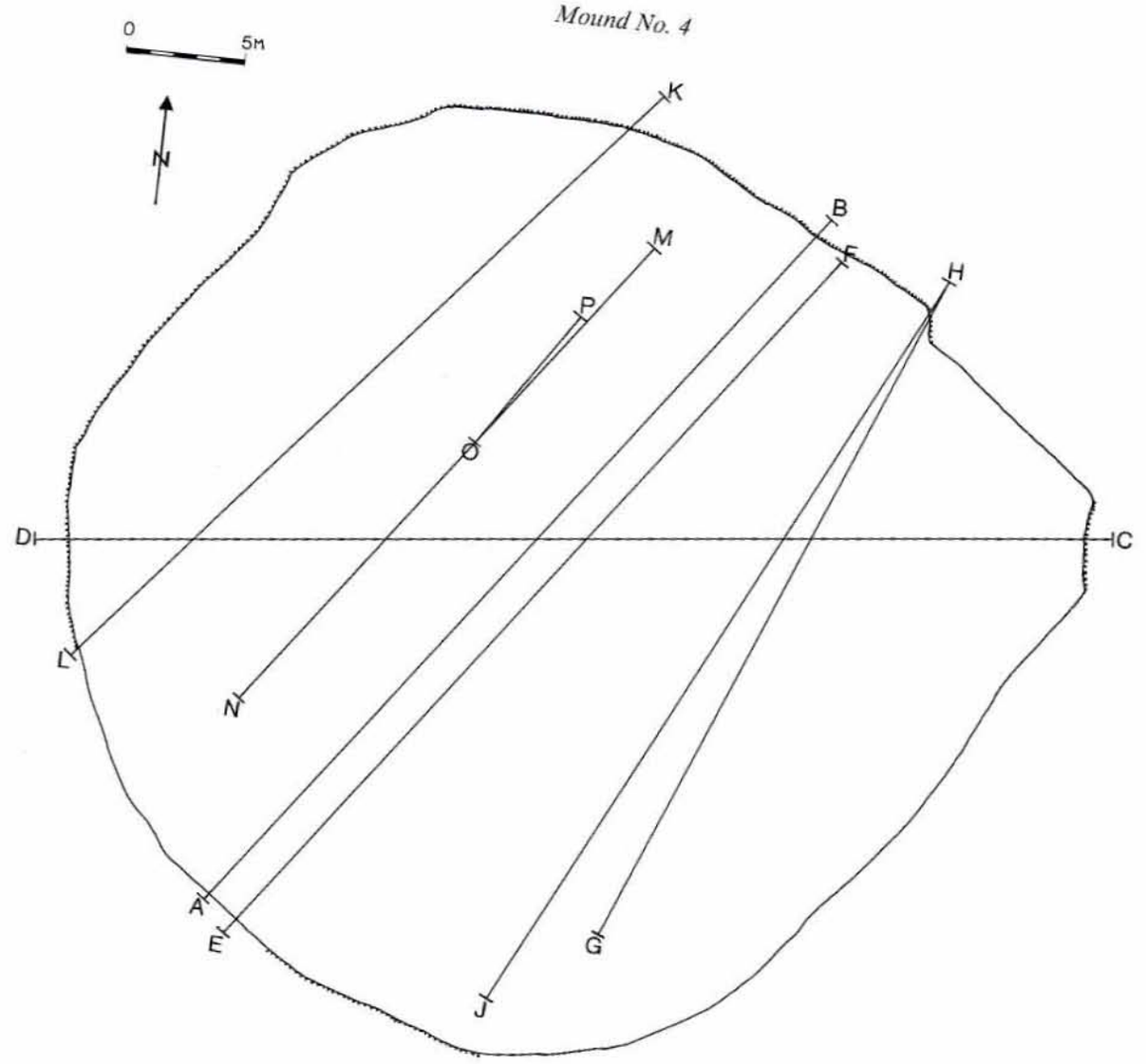


Plate 140. Profiles through the mound.

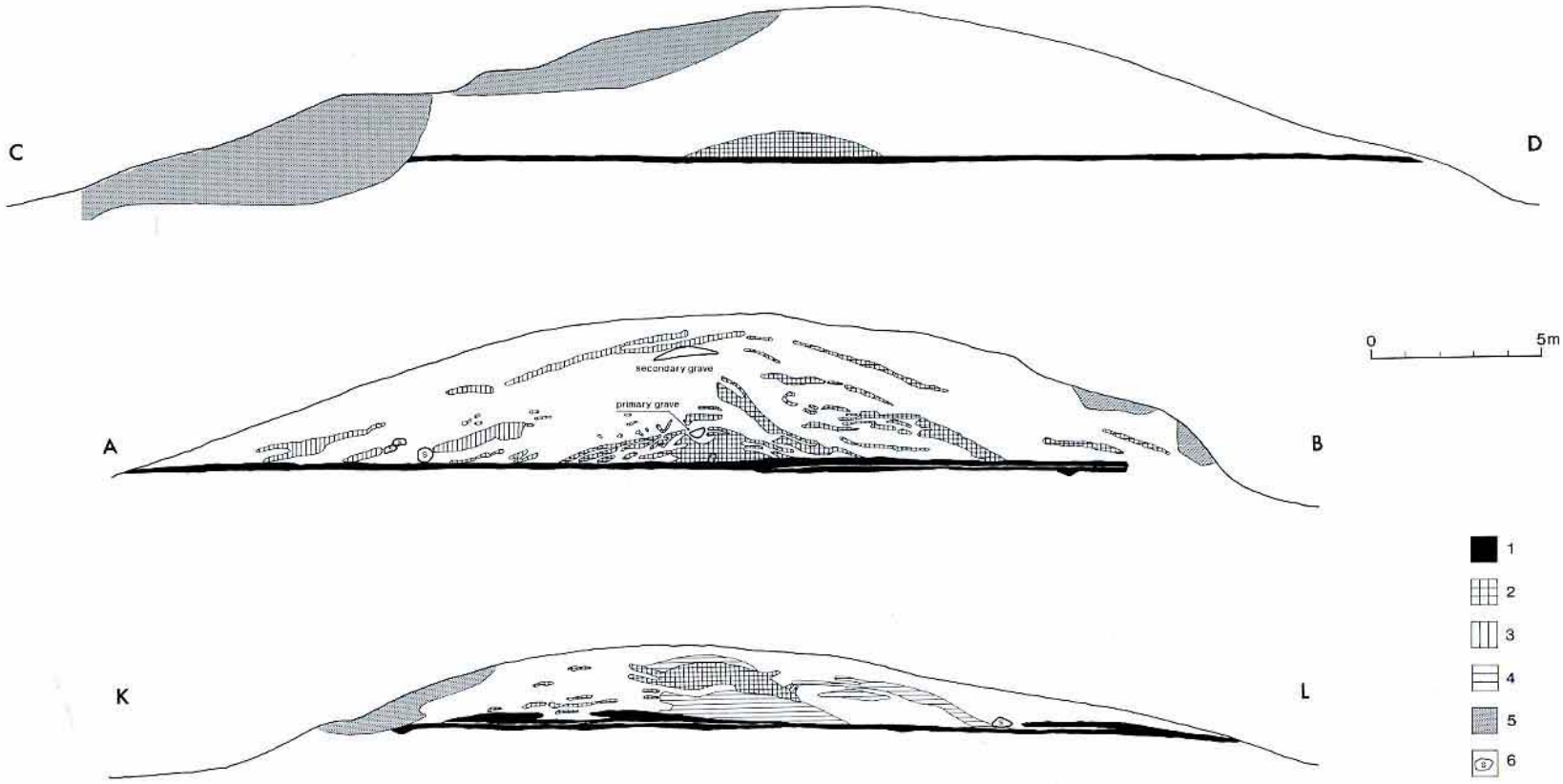


Plate 141. Profiles through the mound. A–B, C–D (schematic profile showing the "inner mound") and K–L, (cf. Pl. 140). 1 = intact settlement layer, 2 = strongly humic filling, emanating from the settlement layer, 3 = slightly humic filling, emanating from the settlement layer, 4 = slightly humic filling, emanating from the settlement layer, 5 = recent sand filling, 6 = stone.

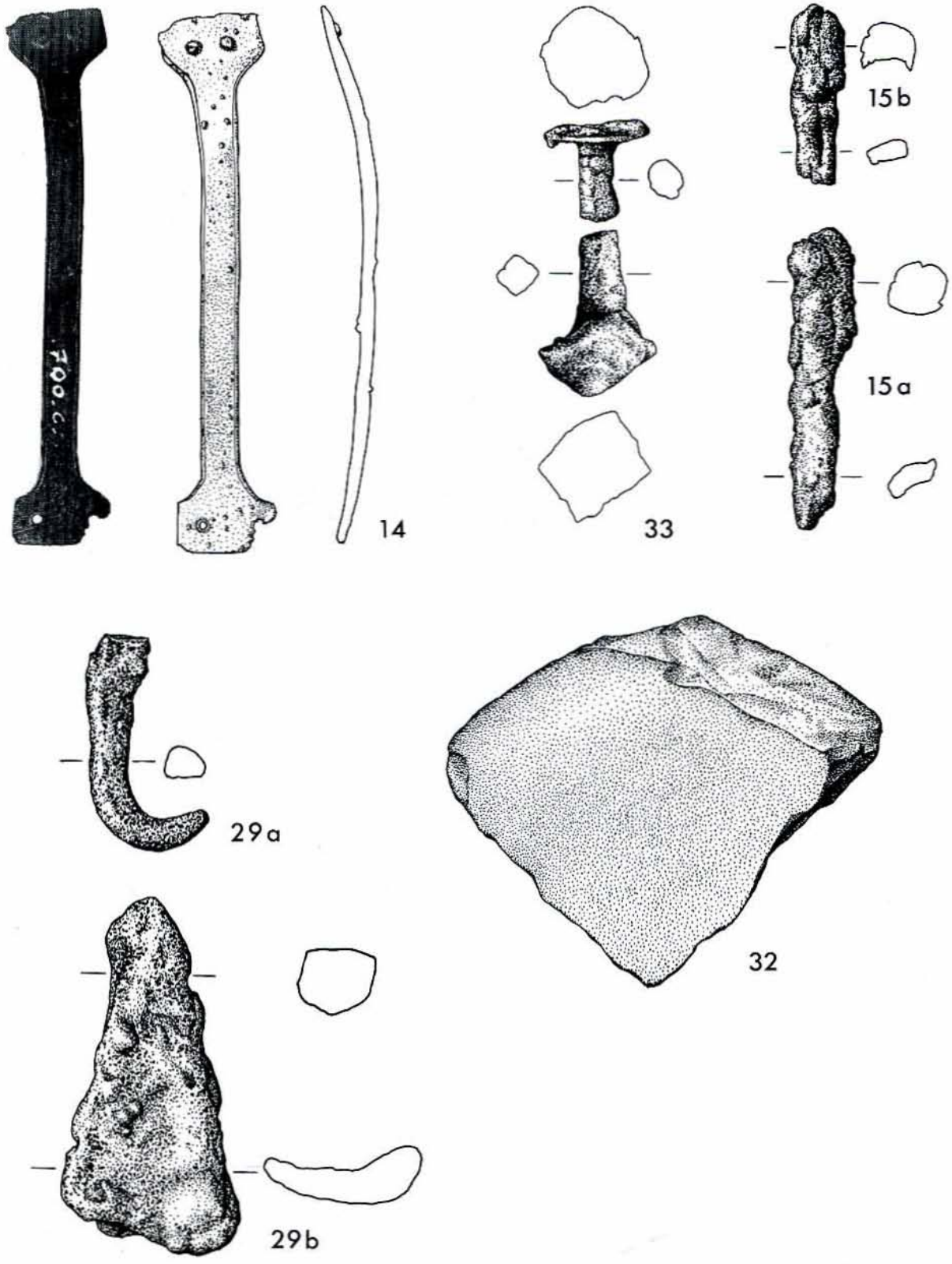


Plate 142. Objects found in the filling of the mound. See the list of finds in Sect. 6.3.1. (Drawing: H. Haglund).

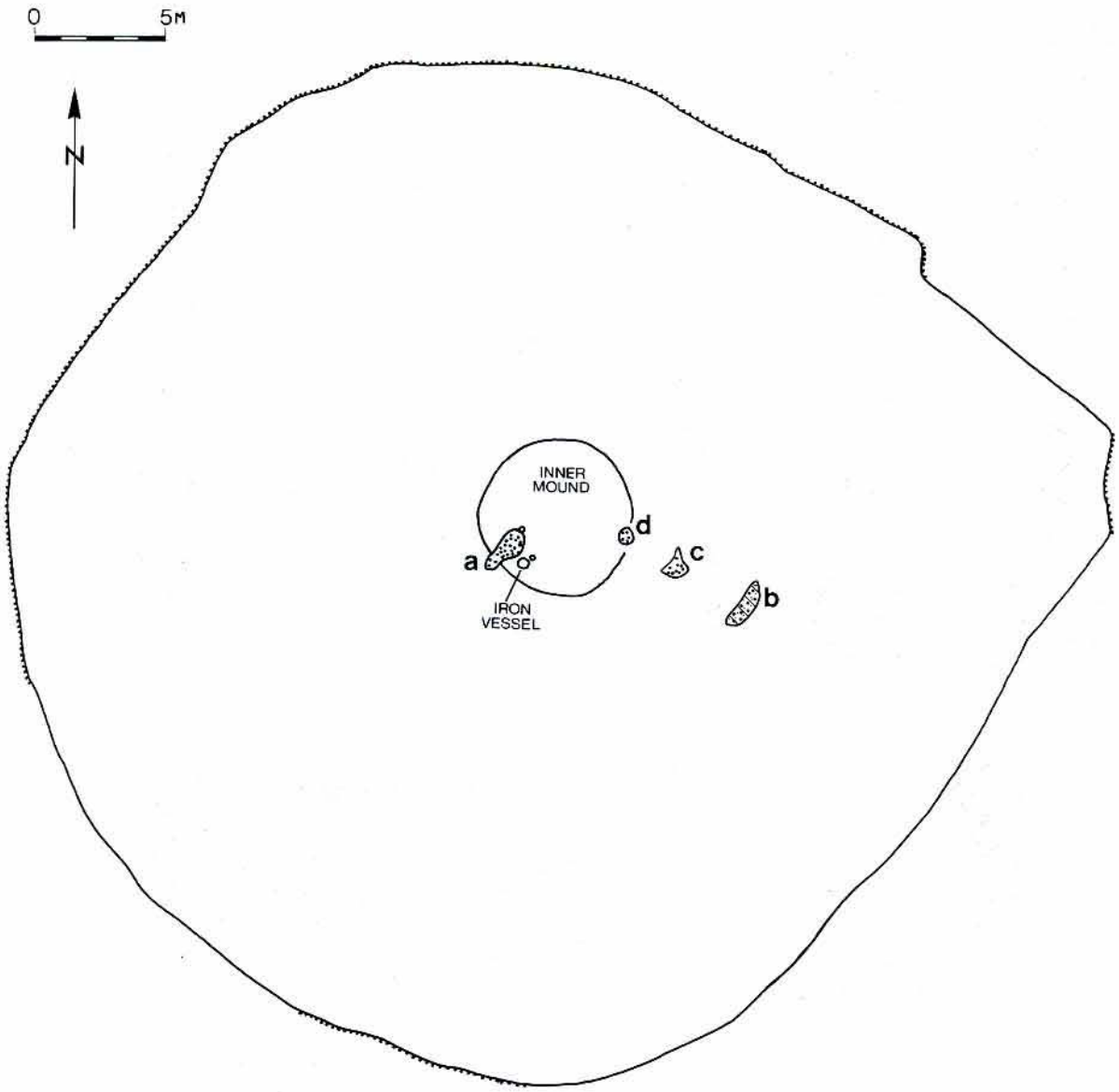


Plate 143. Plan of the find-bearing filling layers (*a–d*), the primary grave (iron vessel) and the "inner mound".

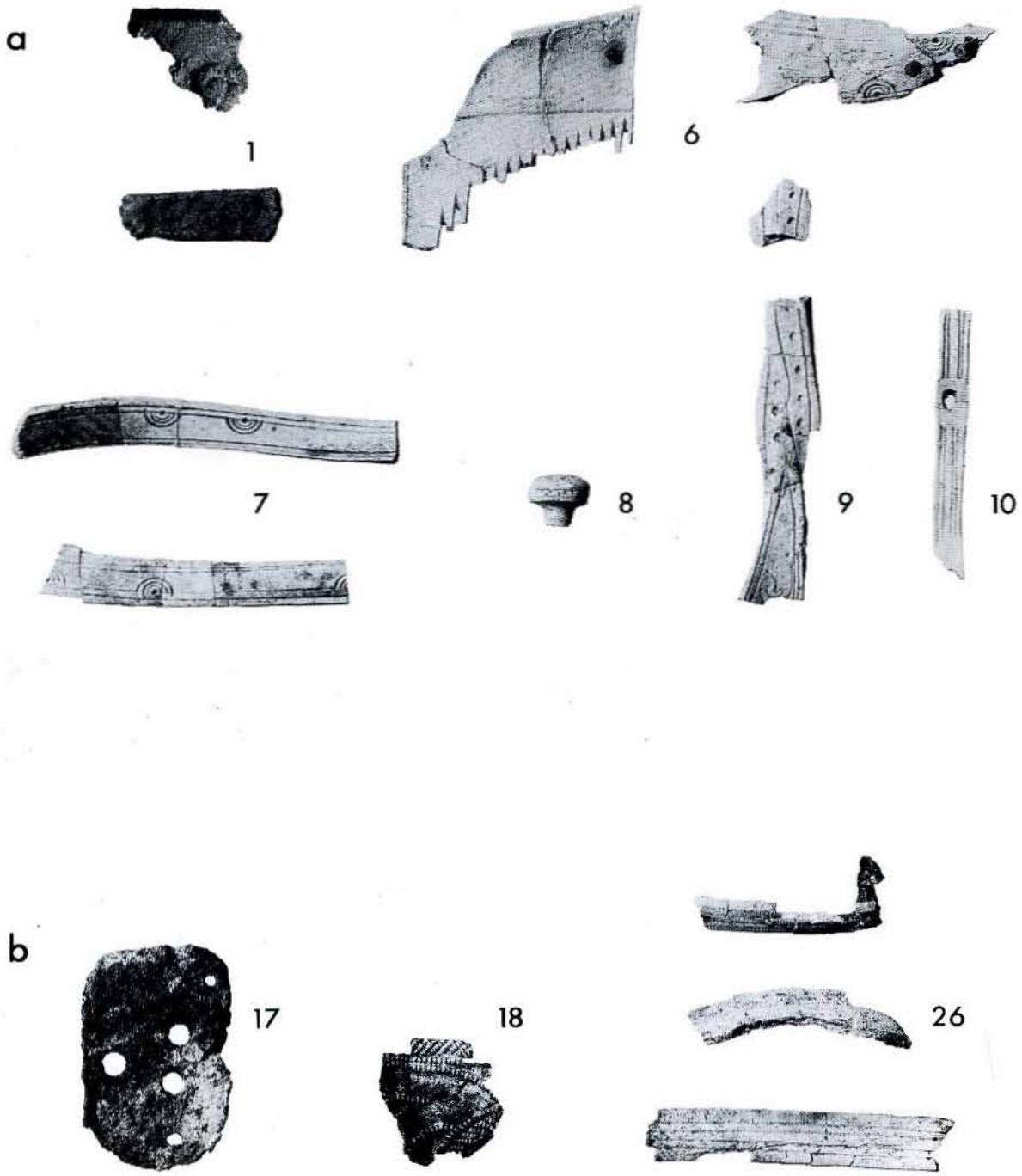


Plate 144. Finds made in the secondary grave (*a*) and in the primary grave (*b*).

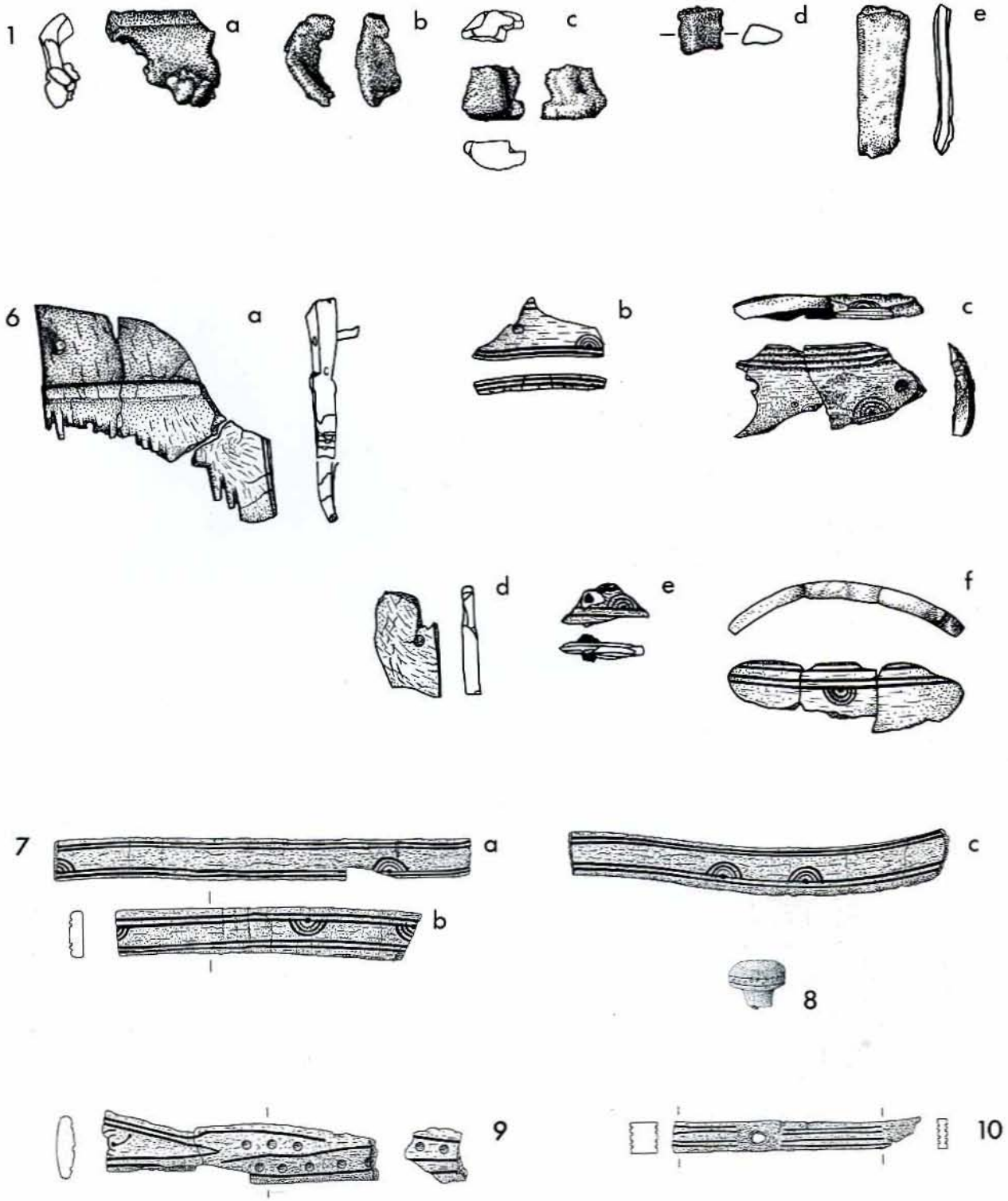


Plate 145. Finds made in the secondary grave. See the list of finds in Sect. 6.4.2. (Drawing: H. Haglund).

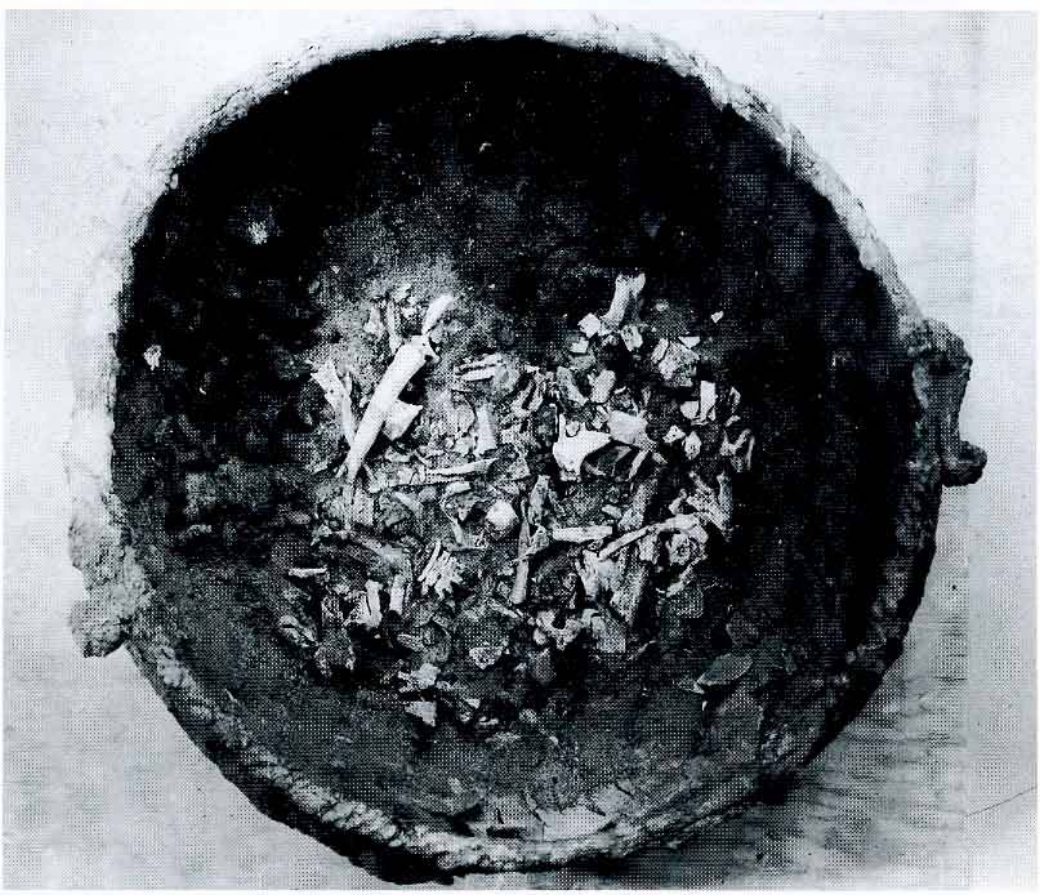


Plate 146. The iron cauldron in the primary grave. Parts of the calcinated bones are left in the bottom of the cauldron. See the list of finds in Sect. 6.4.2.

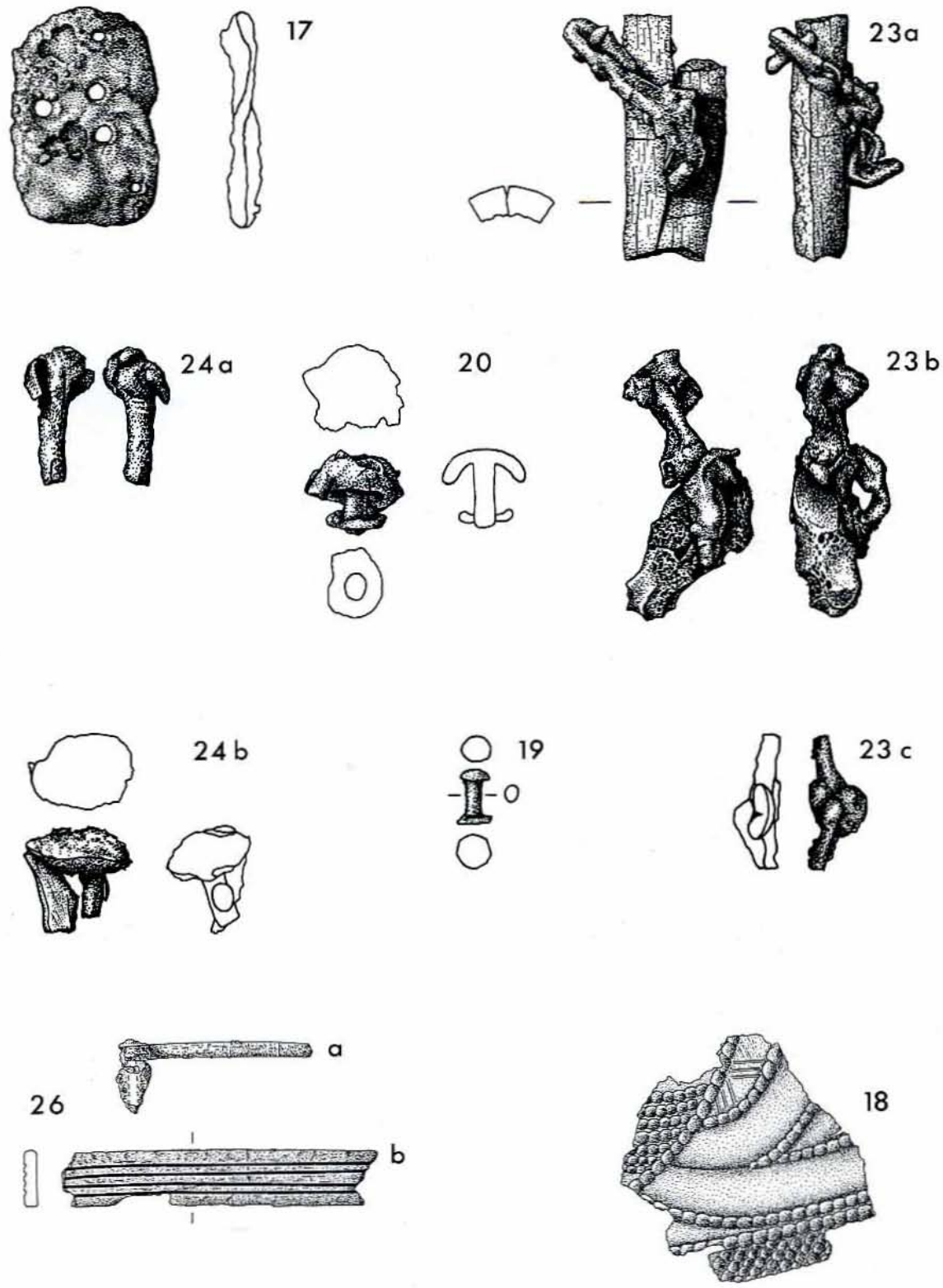


Plate 147. Finds made in the primary grave (*F18* = 2:1). See the list of finds in Sect. 6.4.4. (Drawing: H. Haglund, *F18* by A. Link).

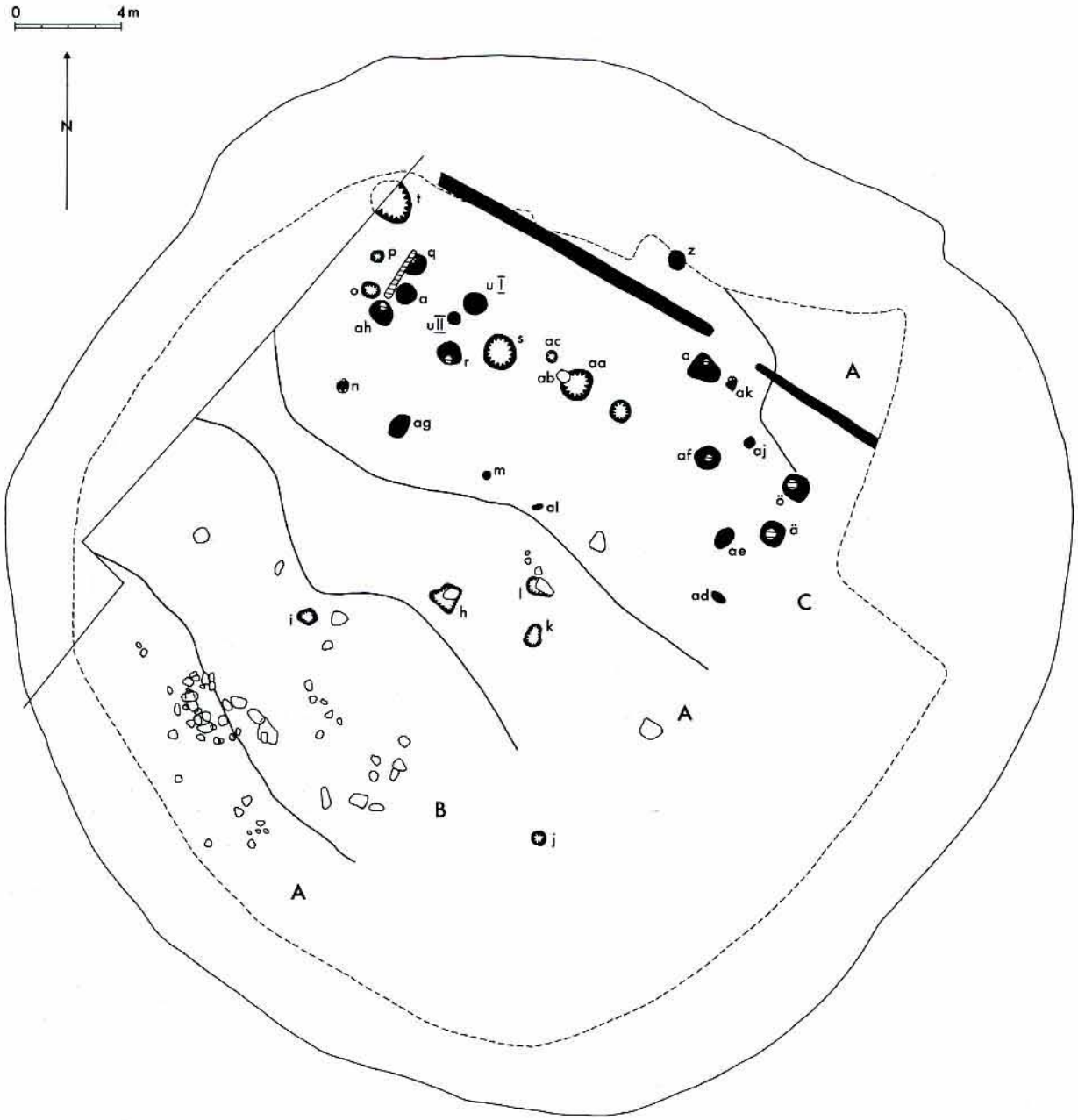


Plate 148. Plan of the features beneath the mound. The feature reference numbers are indicated. Area A = ard marks in sand, Area B = ard marks in clay, Area C = ard marks in the house foundation.

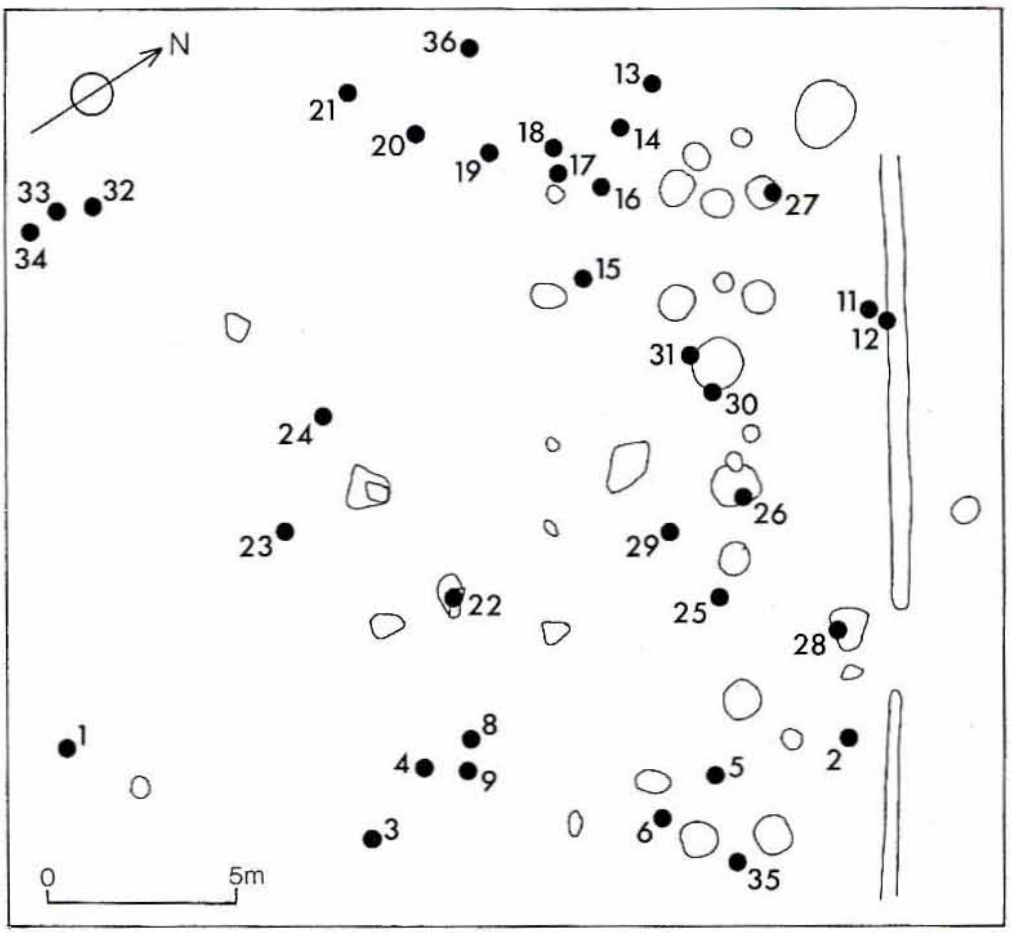


Plate 149. Find plan of the distribution of objects in the settlement layer beneath the mound. See the list of finds in Sect. 6.6.5.2. The numbers on the plan correspond to the numbers shown in parentheses in the list of finds.

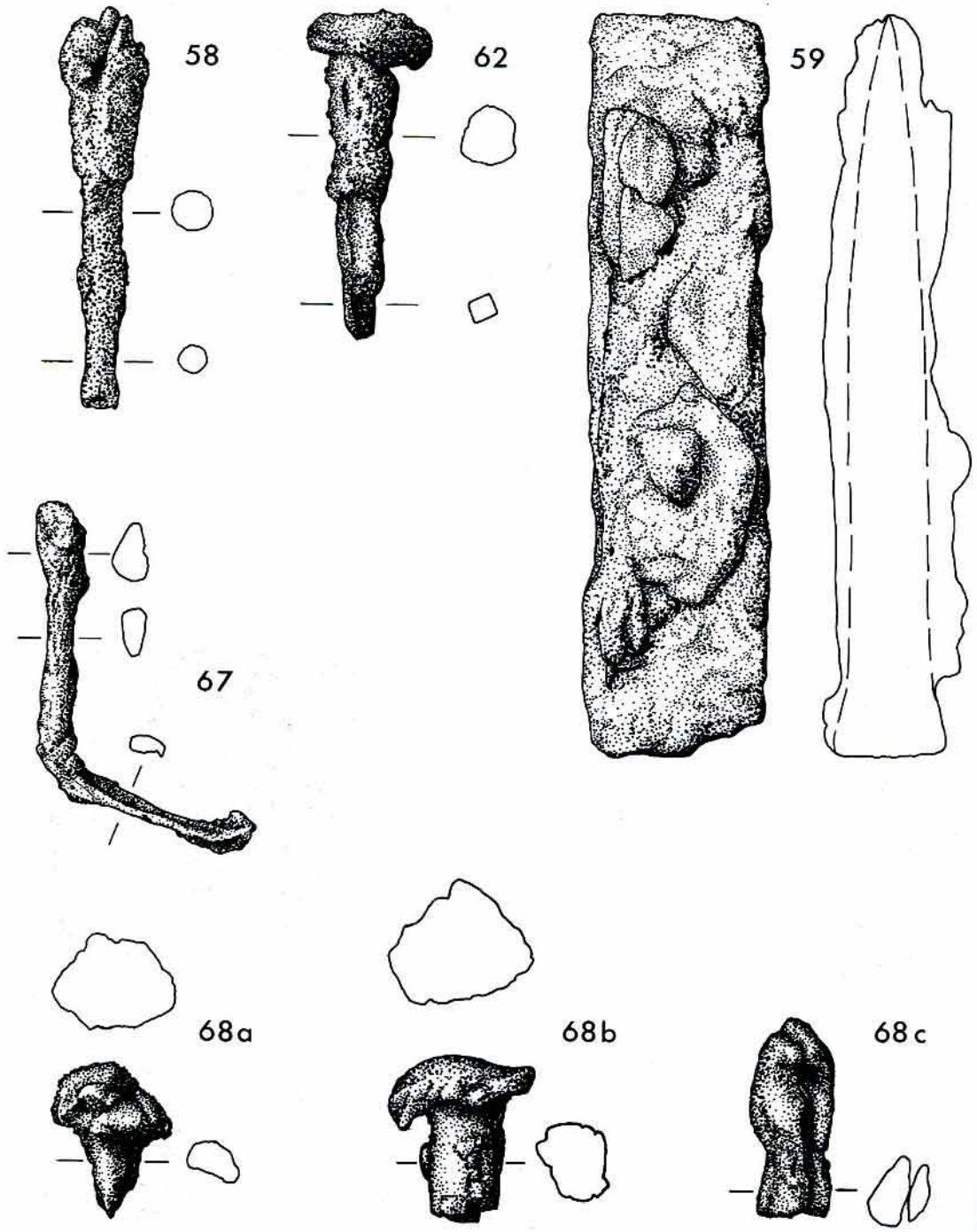


Plate 150. Finds from the settlement layer beneath the mound. See the list of finds in Sect. 6.6.5.2. (Drawing: H. Haglund).

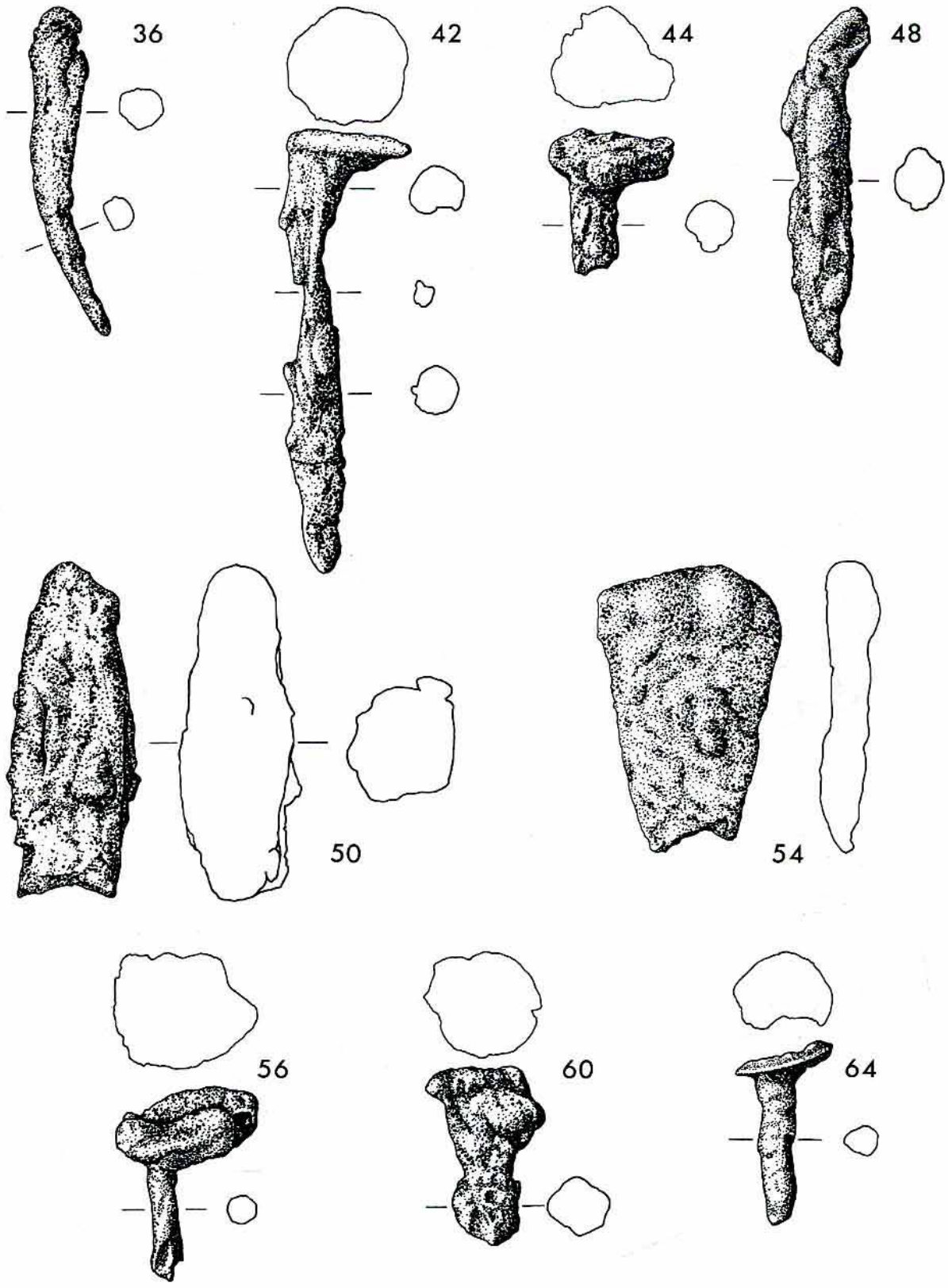


Plate 151. Finds from the settlement layer beneath the mound. See the list of finds in Sect. 6.6.5.2. (Drawing: H. Haglund).

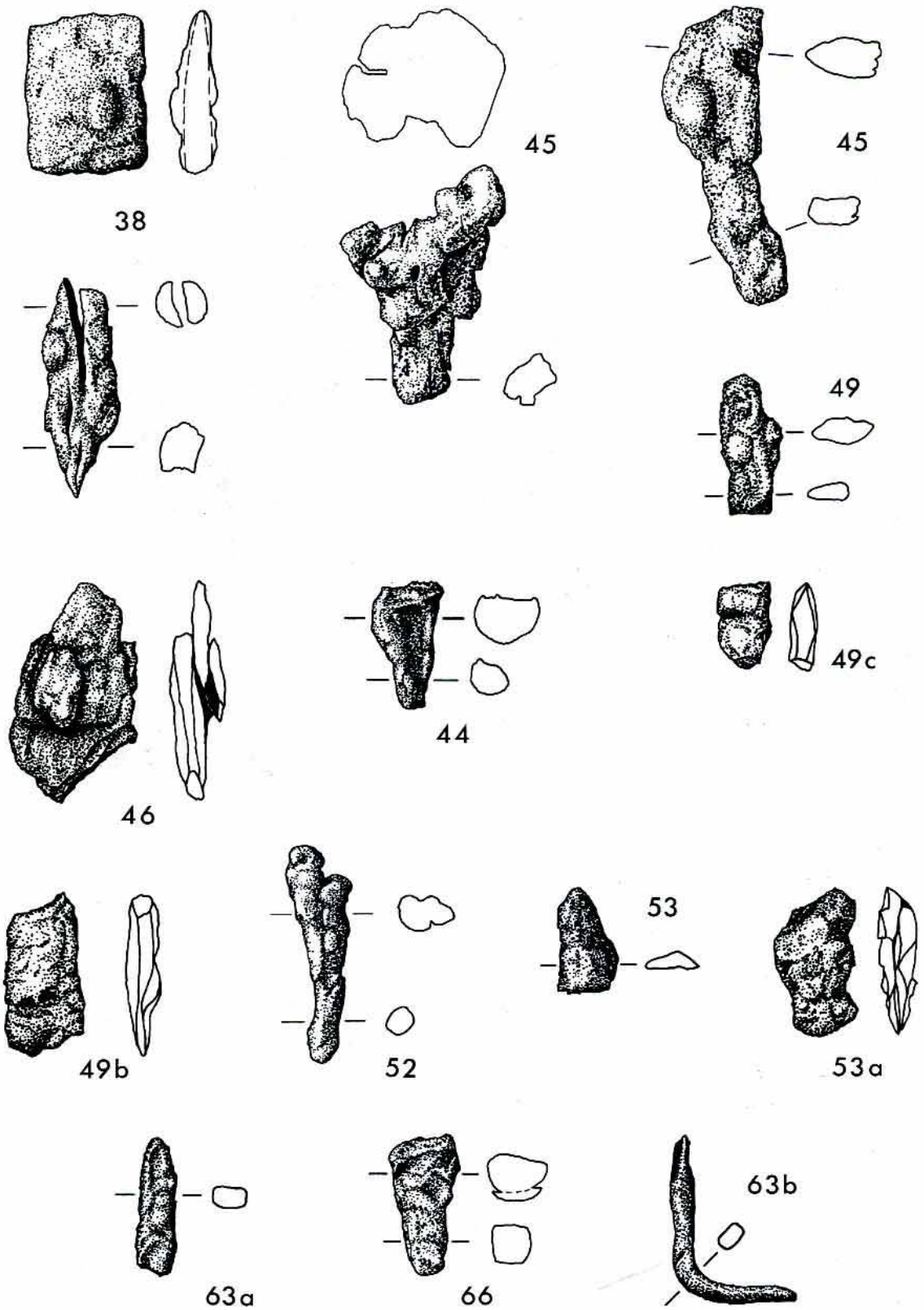


Plate 152. Finds from the settlement layer beneath the mound. See the list of finds in Sect. 6.6.5.2. (Drawing: H. Haglund).

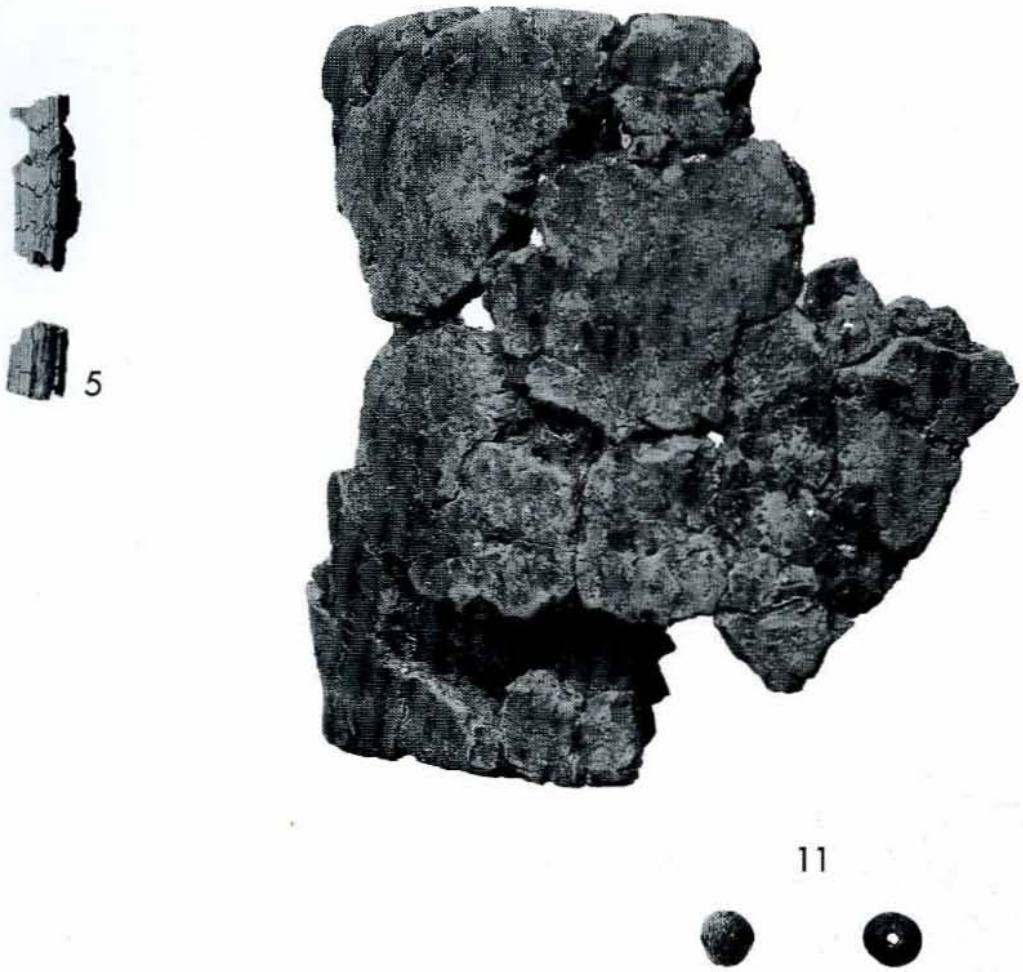


Plate 153. Ceramic pot and two glass beads were found in mound 11, and fragments of a single bone arrow point were found in mound 5.

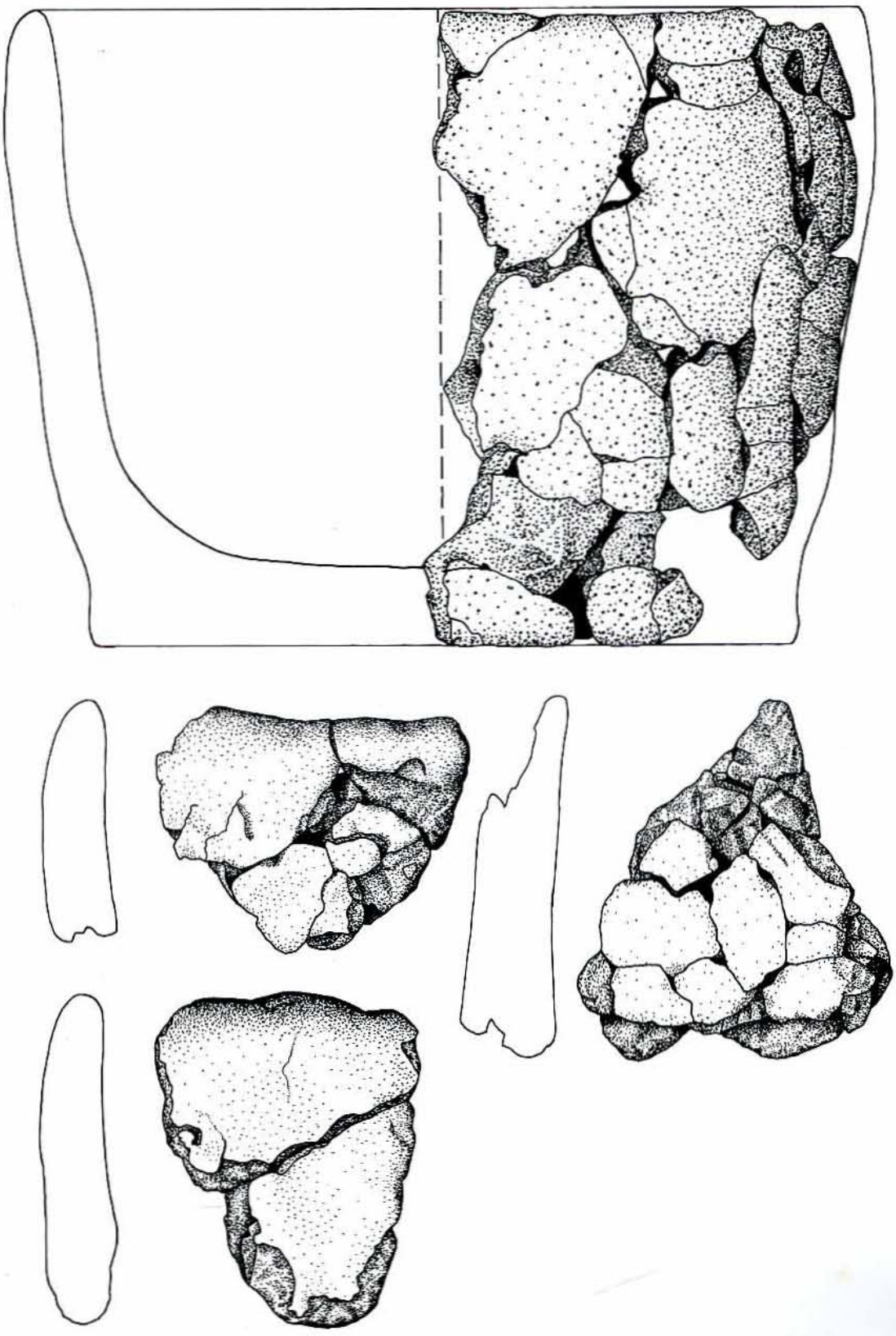


Plate 154. Ceramic pot found in mound 11. (Drawing: H. Haglund).

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