

## Reviews

Michael A. Jochim: *A Hunter-Gatherer Landscape. Southwest Germany in the Late Paleolithic and Mesolithic*. Interdisciplinary Contributions to Archaeology, Plenum Press, New York and London 1998 (16 chapters, 233 pp, 115 illustrations [86 figures, 29 tables], multiple references [9 pp] and index [13 pp]). Available in cloth (\$49.50) and paperback (\$24.50).

In his latest book Michael A. Jochim takes us back to late glacial and early postglacial Southwest Germany. For many years the rich archaeological remains of this area has attracted numerous foreign (European as well as non-European) scholars working in hunter-gatherer archaeology. Jochim's own research in the area goes back to the early 1970's. His first book on the Mesolithic of the region (Jochim 1976) is a paramount example of the application of methods inspired by culture ecology and it was normative to theoretical approaches in prehistoric hunter-gatherer behavioural studies far beyond the boundaries of early postglacial Southwest Germany. As very correctly stated by Robert L. Bettinger in his foreword to the present book, this seminal study (Jochim 1976) on prehistoric hunter-gatherer subsistence and settlement was "startlingly radical at the time". This is most probably the reason why it never won renown in Germany where a more rigid form of materialistic archaeology has always ruled. The problems of matching the real data with Jochim's model were simply too severe to inspire German archaeologists to work along the same lines.

The present book represents an attempt to combine a somewhat de-emphasised theoretical approach (which is still heavily inspired by culture ecology) and an explicitly stated materialist approach presenting and discussing a new set of archaeological data unveiled by Jochim and his crew during the past two decades. In the light of the tremendous influence that the first book have imposed on hunter-gatherer studies ever since it was published, this new book absolutely deserves a detailed presentation and discussion.

The book is divided into four coherent parts. It is well set out and very well-written. Both data and theoretical framework is presented to the reader in a readily accessible language (given the geographical focus of the case study this is actually quite important).

In a brief *Introduction* (chapter 1) Jochim (re)introduces

the reader to the general problems pertaining to hunter-gatherer archaeology as well as the more specific problems concerning the European Mesolithic. He also provides a brief introduction to ecological approaches, which is then considerably expanded upon in the following chapter (2) on *The Changing Theoretical Landscape*. In this chapter Jochim thoroughly discusses "certain dominant themes and problematic issues that must be addressed by archaeologists interested in prehistoric hunter-gatherers". It is highly recommended reading to anybody interested in the ecological approaches. Jochim convincingly argues that we should leave the much too detailed quantitative calculations (well known from Optimal Foraging Modelling) and seek a more general understanding of the structure of variations in resources through time and space and its implications for past hunter-gatherer behaviour. The ecological approach used by Jochim is thus one favouring simplistic modelling "to create a subsistence landscape reflecting the structure of variability". Chapter 3 completes this generally introductory part by giving a brief overview of *The Natural Landscape* of the region with respect to the present as well as the late glacial and early postglacial situations. This chapter also presents a very useful subdivision of the study area with respect to eight major geographic sub-regions.

Following this introductory part, the chapters 4-6 present an overview of the archaeological record and a 'Stand der Forschung' concerning the *Sites on the Landscape* in *The Late Palaeolithic*, *The Early Mesolithic* and *The Late Mesolithic* respectively. These chapters primarily review previous research carried out by German archaeologists in the area. I am sad to have to characterise this review as being superficial and not exactly flawless. A Danish journal may not quite seem the place to go into particulars on Southwest German archaeological findings, but such an allegation obviously must be accompanied by at least a few examples:

Regarding the Late Palaeolithic it should be remarked that organic artefacts are not just rare (p.43) they are generally absent or at least unknown. This holds for the portable art objects and ornaments as well. In fact the Late Palaeolithic of the region is in almost every respect far less well preserved and accordingly far more problematic than one should think from reading Jochim's chapter 4. There are immense prob-

lems pertaining to the absolute dating of these finds (Eriksen 1996, 1997), and these issues are not adequately dealt with in the book. On the contrary it is asserted that the Late Palaeolithic is securely fixed within the Allerød and Younger Dryas chronozones. The distinction between the Late Palaeolithic and the Magdalenian is not precisely drawn – as correctly mentioned by Jochim – still it does not make sense to assign a Magdalenian age to a questionable lithic inventory purely on the presence of a “small mammal fauna indicating cold conditions” (p.53). Based on these speculations a series of excavated finds are thus left out from the comparative analysis while other finds of a definitely more dubious quality, i.e. mixed collections of surface materials, are included (p.47). The following chapters 5 and 6 are not much better. There is a general lack of discussion of geochronological issues. C<sup>14</sup>-datings are supplied when appropriate (more or less), but always without laboratory numbers or further references. The reader is thus prevented from checking out the context of the datings or pursuing any of these questions further. I miss a lot more care and thoroughness in the presentation. It is, for example, not even made clear to which extent Jochim has been able to examine any of the primary archaeological assemblages.

While this overview is essentially based on a literature survey of published research, the following part (chapters 7-11) presents the results of a long-term research (survey and excavation) project featuring *Sites on the Landscape* in the Federsee area. This project was motivated by the “lack of well-published excavations” (p.183) from the study area, and it was designed partly to investigate the role of the Federsee in Mesolithic land use patterns in Southwest Germany and partly to test the predictive model presented by Jochim in 1976. Chapter 7 presents the results of the *Survey*, while the chapters 8-11 present the results of the excavations of the sites *Henauhof Nordwest* (followed by a summary of the *Change through Time at Henauhof Nordwest*), *Henauhof West* and *Henauhof Nordwest 2*.

To a large extent these chapters merely seem to represent an English version of the German publication of *Henauhof Nordwest* (Jochim 1993) and I regret that neither of these two versions really does make up for the all too familiar lack of well-published excavations from the area. The artefact inventory is presented in a few sketchy tables and a handful of mediocre drawings. The faunal inventory is discussed extensively, but without any element of source criticism. I would at least have expected a critical discussion of the presence of wild boars in Younger Dryas faunal assemblages. There are few factual details and no listing of element representations or bone measurements and again the reader is prevented from pursuing any matters of specific interest. It may well be that these long known surface collected, but only recently excavated Federsee sites, are too problematic to deserve a more detailed presentation and publication, but then at least the reader should be given the possibility of asserting this through a set of proper illustrations, tables and appendices.

In all fairness it should be mentioned that the discussion generally pay due attention to several of the methodological problems inherent in the material, yet I must also add that

some interpretations (especially when including palimpsests and accumulated settlement sites) still appear rather imprudent. I much regret that these observations also holds for the concluding part of the book: Chapter 12 discuss *Henauhof and the Federsee in the Regional Landscape* and the discussion continues in chapters 12-15 on *The Late Palaeolithic Landscape*, *The Early Mesolithic Landscape* and *The Late Mesolithic Landscape* respectively. The concluding chapter 16 finally deals with *Southwest Germany in the West European Landscape*.

Again I shall confine my remarks to a single example. Throughout the book (and especially in chapter 13 on *The Late Palaeolithic Landscape*) it is evident that Jochim adheres to the common supposition that sub-arctic hunter-gatherers subsist on meat to a considerable degree. However, in a highly recommendable paper on “The use of plants in the Upper Palaeolithic of Central Europe” Linda Owen demonstrates (Owen 1996) how plant resources have been neglected in most reconstructions of Upper Palaeolithic nutrition. It is established that even the Eskimos collected and preserved considerable amounts of plant foods. The archaeological case study concerns the Magdalenian of Southwest Germany, and Owen concludes that the possible importance of plants during this period should not be underestimated. Needless to say this conclusion must also hold for the Late Palaeolithic, tentatively fixed to the warmer and latter part of the late glacial. Thus I find absolutely no support for Jochim’s assertion that “the overwhelming majority of human foods were animals, just as they had been in the preceding steppe-tundra” (p.194) – especially if we believe that the forests were sufficiently dense and warm to sustain boreal species like roe deer and wild boar (which I highly doubt).

I agree with Jochim (and others) that the importance of plant foods probably increased notably in the early postglacial, but here our agreement ceases. I am not convinced that the potential plant foods were relatively “expensive” in the early Mesolithic (p.202), rather I consider that the nutritional costs by not eating plants (e.g. for anti-scorbutic reasons) would have been considerably more marked.

As evident, e.g. from the discussion of “currencies of choice” used in the ecological approaches (p.20f), Jochim is in general very concerned that the data should not be pushed beyond their limits, but this concern does not prevent him from over-interpreting the data from a number of sites and inventories. I am especially concerned with the way that surface collected sites and palimpsests are used in the comparative analysis.

Much of the book consists of presentations of sites, but again there are too many shortcomings or even blunders. Jochim is well informed and the list of references is quite extensive. However, the relevant literature is generally just referred to. There is no significant discussion of the works by other scholars. Some of the data discussed by Jochim obviously derives from personal communication with the late Professor Wolfgang Taute, but too many data are discussed at length without proper referencing. Accordingly it is rather difficult for many readers to detect the occasional blunders – as for instance in the presentation and discussion of the head burials

from Große Ofnet. This is one of the most fascinating Mesolithic finds from Southwest Germany.

At Große Ofnet a total of 33 heads (4 adult males, 9 adult females and 20 children or juvenile females) were found in two pits (Schmidt 1912). Almost all heads were lavishly adorned with ornamental molluscs or perforated canines of red deer. The quantity of ornamental molluscs, mostly tiny gastropods, from Große Ofnet is truly impressive: There are 4000 *Lithoglyphus naticoides* probably originating from eastern Central Europe, 160 *Gyraulus trochiformis* from Steinheimer Basin on the Swabian Alb, 50 *Theodoxus gregarius* probably from Mainzer Basin, and 5 *Columbella rustica* from the Mediterranean Sea (Rähle 1978; Schmidt 1912; Strauch 1978). According to Jochim there were 4000 molluscs from the Mediterranean Sea (p.213), a rather inaccurate statement. Further according to Jochim there were 4000 perforated fish-teeth at Große Ofnet (p.220), but there are none. Unperforated fish-teeth from Black Sea roach (*Rutilus frisii meidingeri*) do occur in connection with a female skull from Hohlenstein Stadel, but in much smaller numbers (Wetzel 1938).

Michael A. Jochim's book and the present review represents a classical example of inherent discrepancies between an Anglo-American and a European approach to prehistoric hunter-gatherer studies. Our different approaches are rooted in highly different research traditions and despite the most genuine attempts to combine a theoretical and a materialist approach there always will remain a certain bias due to these different scholarly traditions. The present review may in some instances seem unduly rigid. However, the reader should remember that this is merely an example of different schools of thought. From an Anglo-American point of view Jochim might very well represent a "rather materialist theoretical orientation" (as stated by himself in the Preface), but from a European point of view the empirical part is negligible. Obviously, this does not make his approach less valuable or less inspiring to the more rigid empirical materialists – on the contrary. For these reasons and because it is so extremely important to keep an open mind to different analytical approaches and variant perspectives on the archaeological data I sincerely recommend this book to anyone interested in studies of past hunter-gatherer behaviour.

#### References:

- Eriksen, Berit V. 1996: Diskussionsbeitrag zum Spätpaläolithikum Mitteleuropas – Apologie einer urgeschichtlichen Quellenkritik. In: Ingo Campen, Joachim Hahn & Margarethe Uerpmann (eds) *Müller-Beck Festschrift: Spuren der Jagd – Die Jagd nach Spuren*, Tübinger Monographien zur Urgeschichte 11, pp. 285-289
- 1997: Settlement patterns, cave sites and locational decisions in late Pleistocene Central Europe. In: Clive Bonsall & Christopher Tolan-Smith (eds) *The Human Use of Caves*. British Archaeological Reports S667. Oxford, Archaeopress, pp. 38-49
- Jochim, Michael A. 1976: *Hunter-Gatherer Subsistence and Settlement: A Predictive Model*. New York, Academic press.
- 1993: *Henauhof NW: Ein Mittelsteinzeitlicher Lagerplatz am Federeise*. Materialhefte zur Vor- und Frühgeschichte 19, Landesdenkmalamt Baden-Württemberg. Stuttgart, Konrad Theiss Verlag.
- Owen, Linda 1996, Der Gebrauch von Pflanzen im Jungpaläolithikum Mitteleuropas. *Ethnographisch Archäologisches Zeitschrift* 37, pp. 119-146
- Rähle, W. 1978: Schmuckschnecken aus mesolithischen Kulturschichten Süddeutschlands und ihre Herkunft. In: Wolfgang Taute (ed) *Das Mesolithikum in Süddeutschland. Teil 2: Naturwissenschaftliche Untersuchungen*. Tübinger Monographien zur Urgeschichte 5/2. Tübingen, Archaeologica Venatoria, pp. 163-168
- Schmidt, Robert R. 1912: *Die diluviale Vorzeit Deutschlands*. Stuttgart, Schweizerbart'sche Verlagsbuchhandlung.
- Strauch, F. 1978: *Gyraulus trochiformis* als Schmuckschnecke aus mesolithischen Kulturschichten Süddeutschlands (Jägerhaus-Höhle, Große Ofnet, Bettelküche). In: Wolfgang Taute (ed) *Das Mesolithikum in Süddeutschland. Teil 2: Naturwissenschaftliche Untersuchungen*. Tübinger Monographien zur Urgeschichte 5/2. Tübingen, Archaeologica Venatoria, pp. 161-162
- Wetzel, Robert 1938: Die Kopfbestattungen und die Knochen-trümmerstätte des Hohlensteins im Rahmen der Urgeschichte des Lonetals. *Verhandl. deutsch. Ges. f. Rassenforschung* 9, pp. 193-212
- Berit V. Eriksen  
Department of Prehistoric Archaeology  
University of Aarhus  
DK-8270 Højbjerg  
Email: farkbve@moes.hum.aau.dk
- Viborg Søndersø 1000-1300. Byarkæologiske undersøgelser 1981 og 1984-85*. Edited by J. Hjermand, M. Iversen & H. Krongaard Kristensen. Jysk Arkæologisk Selskabs Skrifter XXXIV, 1998. 372 pp, richly illustrated, large format in cloth (Dkk 395), ISBN 87-7288-594-7.

In 1981 and 1984-85 Viborg Stiftsmuseum carried out a large number of trial excavations in an area on the western shores of Viborg Søndersø that between 1000 and 1300 AD had housed a settlement of craftsmen. To Scandinavian standards these excavations yielded extremely rich find deposits and well preserved parts of buildings. The reason for this is that the water table of the lake was raised at the beginning of the fourteenth century by damming, making the conditions for the preservation of organic material superb. The book, jointly published by Jutland Archaeological Society and Viborg Stiftsmuseum, is the product of no less than 20 authors.

The opening chapter by H. Krongaard Kristensen provides an introduction to the topography of the Viborg area and the history of the town as seen from the archaeological sources. The area at Viborg Søndersø has seen much activity from around 1000 AD and onwards with traces of building activities, house remains and leftovers from handcraft activities. Some of the oldest houses were raised in 1015 and 1018 AD according to dendrochronological dating. Due to the damming

around 1300 AD the whole area became uninhabitable and was left to flooding. The town itself, however, continued to grow, and from the medieval period the names of no less than 12 parish churches are known. To day only the cathedral and the Dominican monastery church are preserved.

H. Krongaard Kristensen starts out in chapter two to describe the background for the excavations at Viborg Søndersø. The planned building of a hotel was the direct cause. He then continues to describe the different excavated areas and trenches using detailed plan and section drawings. A number of Harris matrices provide excellent information on layer sequences and phasing of the layers in the different areas. High quality photos provide the reader with clear impressions of the find conditions. Dating of layers and constructions is mentioned in the text, and important artifact types are summarized for the different contexts. Based on the pottery, three horizons have been separated. Horizon I: Ca. 1000-1000 AD. Horizon II: Ca. 1100-1200 AD. Horizon III: Ca. 1200-1300 AD. In a couple of areas Horizon I probably reach back into the tenth century.

In chapter three H. Krongaard Kristensen describes the settlement, its house-types and constructions. In the eleventh century there seems to have been a rather dense settling within a limited space. In the twelfth century the settled area expands to a larger area, while already in the thirteenth the settlement has begun to decline, as it seems. Due to the limited size of the excavated areas only parts of houses were uncovered. One such house had an arched long-wall, while all others were rectangular. Most houses had wattled walls, but two houses with stave-built walls were also noticed. Finds of bole-planks shows that houses with bole walls had also existed. The youngest house found during excavation, from around 1300 AD, had buried posts in between which was a footing mostly consisting of bricks. Several houses had earth floors, open fireplaces, ovens and external pathways paved with planks or wickerwork. The individual lots had often been lined with wickerwork fences. Two-three wells build with wickerwork and horizontal planks were also uncovered.

Chapter four deals with conditions of preservation and conservation (by H. Krongaard Kristensen and E. Andersen), while chapter five, the largest of the book, document the huge artifact material through the works of a number of specialists. A number of good photos and drawings support this documentation. Coins, pottery, bone, antler, leather, metal objects, patric, casting material, wooden objects, carriage parts, flax shirt and textiles, rope, querns, glass, decorated objects, whorls, steatite, brush, whetstones and stone mortars are objects or object groups dealt with in this chapter. If one section should be especially mentioned it must be J. Hjørninds' on the pottery, where he deals with a total of 13.000 shards. The thorough treatment of the pottery has shown chronologically conditioned differences in form and composition allowing for a division into three ceramic horizons. In large tables the domestic and imported pottery is presented in an easy to see format. A good number of photos and drawings show the different types of pots, and these are referenced to their respective horizons. Semispherical pots, spherical pots, swallows' nest pots, dishes, bowls, lamps, lids, etc. are treated thoroughly.

Decoration on the pottery is also discussed, and the imported ware shows that there are direct – or perhaps rather indirect – contact with northern Germany, the Rheinland, Holland, Belgium northern France and England. Among the domestic pottery there is an ever-increasing regionalisation from 1000 to 1300 AD. The domestic pottery in Viborg clearly belongs to an east and central Jutlandic local group. M. Fentz's section on the flax shirt from the eleventh century is also a good example of the thorough treatment of an object / group of objects so richly present in the book.

T. Hattings section in chapter six on animal bones is based on an analysis of ca. 11.000 fragments from mammals. To this should be added bones from birds and fish. Cattle and perhaps especially sheep have had paramount importance for the economy of the settlement. Pig is also fairly frequent in the material, whereas horse and goat plays a minor role. Among the domestic birds fowls are dominant followed by geese. Game is only sporadically present and has been of no significance to the economy of the settlement. Fish are sparsely present in terms of fresh water fish from the local area and cod and flatfish from salt water further away. The other sections of chapter six deals with archaeobotanical analyses of forty samples, fish remains in human faeces, analysis of nails and fibre investigations of shoe seams, ropes and cords.

H. Krongaard Kristensen summarizes in chapter seven the results of the Viborg Søndersø excavations. The structure of the settlement, house types, trade and exchange, handcraft, nourishment, hygiene and material culture are issues that are rounded off in this chapter. Nice color photos from the excavations and of the best of the artifacts are presented here. Especially the color photos of the pottery are worth mentioning, as far too often colorful pottery is shown in black and white.

In chapter eight H. Krongaard Kristensen goes through the topographical development of Viborg from 1000 to 1300 AD. Already in the 7-800 years a farmstead can be followed in four phases in the Store Sct. Peders Stræde area in Viborg. The finds from here certainly do not suggest a town-like settlement at this early stage. From late in the tenth century Viborg starts to develop towards something that looks like a town with dense settlement and clear evidence of trade and handcrafts. The town seems to have developed around a pagan cult place and a thing. From the middle of the eleventh century clear traces of a conscious town planning is seen in Store Sct. Peder Stræde among other areas. In 1065 AD Viborg becomes an episcopal residence, and shortly afterwards, it must be assumed, the building of the cathedral has been initiated. Until about 1100 AD Viborg seems to have consisted of a settlement at Søndersø, and a settlement on the higher lying area around Store Sct. Peder Stræde. In the following development these two settlements melted together. On fig. 5, p. 353 one can see that Viborg with time was marked by a very strong ecclesiastical dominance with twelve parish churches, one cathedral, six monasteries, one House of the Holy Spirit, and one leper hospital. In Medieval Denmark Lund only supersedes these counts. Viborg is fortified in 1151 AD with rampart and moat, and for the next 400 years these constituted the delimiters of the town, not least in an eco-

conomic sense. King Erik Menved started in 1313 the building of the castle Borgvold, in connection with which the lake was dammed. The castle seems to have been demolished again soon afterwards.

The ninth and last chapter is an English translation of chapter seven.

There is no doubt that the book will become a work of reference for the research into artifacts from 1000-1300 AD exactly as was its model *Århus Sønder vold*, when it arrived years back. The many specialists contributing to the book has heightened its quality. It is well organized and hardly with any weak points. One can only hope that *Viborg Sønder sø* will inspire other Danish towns with a huge unpublished archaeological material from the Viking and Medieval Ages to publish similar books. Danish Medieval Archaeology needs more of these thorough publications.

Hans Skov  
Moesgård Museum  
DK-8270 Højbjerg  
Email: farkskov@moes.hum.aau.dk

*Military Aspects of Scandinavian Society in a European Perspective, AD 1-1300.* Papers from an International Research Seminar at the Danish National Museum, Copenhagen, 2-4 May 1996. Edited by Anne Nørgård Jørgensen & Birthe L. Clausen. Publications from The National Museum, Studies in Archaeology & History Vol. 2. Copenhagen 1997. 265 pp.

Research seminars focussing on the military aspects of prehistory have not been an especially common occurrence in Scandinavia in recent years. War, weapons and power as individual elements have been analysed in many other contexts, but attempts to take a collective view of military aspects as an integrated part of the social development as a whole have been much rarer. *Military Aspects of Scandinavian Society* is the product of a well-planned and executed international symposium in Copenhagen in May 1996. The overall intention was to present and discuss current research concerning military organisation as the cornerstone for the state-formation process. As the introduction to the book states, a discussion of the transition from a tribally- to a nationally-based military organisation is of vital importance to our understanding of prehistoric society. The sources with which historians and archaeologists respectively work provide different backgrounds and conditions. This is reflected in the analyses of both classical and medieval warfare by both professions. The symposium highlighted this and served in a positive way to stress and create an understanding of how far research has progressed and which problems remain unsolved.

The publication consists of 26 contributions divided up into four general themes: military organisation in the light of written and archaeological sources, military organisation of naval forces based on written and archaeological sources and the logistics of military activities. Six of the contributions are in German and the remainder are in English. I do not intend here to comment in detail upon the various contributions,

rather to report the authors' most important comments concerning the respective themes.

The contributions dealing with written sources begin with Sigmar von Schnurbein who sketches the organisation of the Roman army and the defence structure along the Limes. He describes the national Roman army's uniform organisation as the reason for its success, stressing that the Roman uniformity was unique in classical times and would remain so for some considerable time into the future. No other European state was able to organise its military forces in a corresponding fashion before the Late Middle Ages.

Edward James' contribution focuses on the conceptually difficult but important phenomenon of the militarisation of society. He begins by underlining that this was actually not something which applied in Rome but rather characterised the early medieval German kingdoms. James defines parts of this problem and emphasises in his paper the importance of not mixing up terms such as militarisation, military organisation and perpetration of violence in analyses of society. The subject is actually too broad to be compressed into a contribution such as this, but it is recommended as an invitation to immerse oneself in James' inspiring discussions to be found elsewhere.

Bernard S. Bachrach's contribution deals with the Roman inheritance which influenced Merovingian military organisation. This is a very candid and direct paper which possibly reflects the author's roots in the American research tradition. Even though this is perhaps open to criticism, Bachrach makes a clean sweep and with refreshing keenness disposes of a number of earlier misconceptions. The central element in his paper deals with Late Roman military organisation with defence in depth and mobile units as the background for studies of late classical and early medieval warfare. According to Bachrach it was no longer the classical legions but the civitates of the period which constituted the framework for the military structure. His conception of the significance of fortified cities and of siege warfare appears somewhat exaggerated, but seen in conjunction with Edward James' discussion of the militarisation of the population and the civitates it is very interesting.

The recruitment of the early medieval armies is dealt with in Timothy Reuter's paper. He discusses the categories of household, mercenaries and followings, as well as conscription, from a position counterpoising how these could have been organised, relative to how they were organised in reality. From a critical standpoint Reuter argues that we should be careful in equating these different levels of knowledge, and we ought to remember this even though historians and archaeologists perceive their sources differently in this area.

Carroll Gillmor and Michael H. Gelting conclude the theme of the written sources. Gillmor's paper illuminates the Carolingian military hierarchy, specifically Charles the Bald's mobilisation of small free farmers as a workforce at the defences at Pont de l'Arche in AD 862. She bases this in part on texts in the Edict of Pitres and sketches the changes in the traditional hierarchy and the consequences of these. Gelting's paper focuses on military organisation and the distribution of social power in Denmark in the 11th and 13th centuries. He

presents the historical-geographical situation and makes comparisons with European society. This contribution gives an interesting and rather detailed historical-geographical insight, even though the link back to the military organisation comes rather late in the text.

The evidence from Jutland's war booty deposits is Jørgen Ilkjær's contribution to the publication. It begins the section dealing with archaeological source material. In an informative summary he describes the extensive Illerup finds and discusses how these could reflect the hierarchical structure. Ilkjær interprets this first and foremost in terms of a well-developed south Scandinavian military organisation which was able to carry out co-ordinated operations already in the Roman Iron Age. At the same time he stresses the importance of waterways and naval movements, as the finds in the Illerup valley are in all probability the result of a conflict which involved sea-borne attackers.

Wolfgang Schlüter's and Georgia Franzius' respective papers are topical presentations of background and evidence concerning other finds directly from the battlefield, namely the battles of Kalkreise or Varus in the Teutoburger forest. Since professional excavations commenced after the location of the site in 1987, extensive finds, including Roman army equipment, has been registered. The nature of the finds has exposed a number of facts concerning this famous battle which are of great interest for military studies. For example, it was not just the regular forces which took part in the battle, even the Roman support train with its scribes, craftsmen and doctors was exposed to attack. It is maintained furthermore that the so-called battle comprised a number of skirmishes, something which was previously thought to have been the case, but which has now been positively demonstrated through the archaeological analyses.

Heinrich Härke, in a customarily well-formulated contribution, outlines the difficulties associated with comparing the archaeological material with what the written sources have to say and what the material remains really reflect. He presents a critical discussion of the early Anglo-Saxon weapon burials in England and emphasises that these do not reflect directly either the military organisation or the underlying intention behind this, as we have difficulty in distinguishing between ritual symbolism and actual function in the material. Härke's contribution is an inspiring insight into the research which otherwise occupies him and his thoughts should encourage similar analyses comparing weapon grave finds with social and military organisation.

The Alamannic cemetery Kirchheim am Ries is dealt with in a contribution by Lars Jørgensen, Kurt W. Alt and Werner Vach. Here we are presented with an attempt to reconstruct the biological and social structure in a specific society by way of archaeological and odontological methods. The results so far are extremely exciting and the paper accounts for a credible picture of a militarily-organised society, in the sense of Edward James' definition, which under a ruling family ensured the standing military forces. Symbolic and functional aspects of the archaeological material are paired with anthropological aspects which, with respect to the question of organisation, give promising support to the interpretations.

Anne Pedersen shares with us her knowledge concerning the chronology and geographic variation of Viking Age graves with weapons and riding equipment in Denmark. She stresses the need for caution when simplifying the significance of quantitative and qualitative methods with regard to interpretations of military organisation. The Danish grave finds from the 11th century do however reflect, with some certainty, just such a structure. Pedersen considers that the accumulated number of finds today does in fact make it possible to draw far reaching conclusions alone on the basis of the archaeological evidence. These must of course be regularly balanced against developments in research into written sources, but provides interesting support for the potential strength of the archaeological evidence.

Heiko Steuer, Flemming Kaul, Ulf Näsman and Michael Olausson, in their respective contributions, deal with archaeological traces of military camps and fortifications. Steuer discusses the question of possible Germanic military camps in the 4th and 5th centuries, which is thought provoking as it is normally considered that the Germanic military organisation during this period used camps and defences according to the Roman or Early Medieval definition. Steuer puts forward examples from southwestern Germany as possible Germanic military camps, even though they probably have had other functions. Kaul presents sensational results from the investigations at Priorsløkke which reveal that defences were constructed at the site at the cost of an already existing village which was destroyed, clearly for strategic reasons. He makes some interesting calculations with regard to the potential threats and links a plausible historical scenario with traces of organised measures to counter a gathering hostile attack from the sea. Ulf Näsman and Michael Olausson discuss defensive works from the Migration period in Sweden. Näsman focuses on the function of Öland's ringforts in an overall system of defences. Overriding aspects of military tactics, topographic exploitation and links to the general settlement pattern are also presented, providing a usable framework for the interpretation of both sites and finds from the island. Olausson's article deals with the hillforts in the area of the Mälars valley during the Migration period and he sketches an interesting picture of the political landscape. The introduction of a new type of fortified sites in the area, and the fact that no material traces of siege warfare have been found, means that at least parts of the Middle Swedish military organisation must in some respects be interpreted differently from that on the Continent.

Naval organisation constituted a separate session at the symposium and contributions to this were presented by Bjørn Myhre, Ole Crumlin-Pedersen, Niels Lund and Anne Nørgård Jørgensen. Myhre writes about the Norwegian boathouses as a reflection of political centres along the coast in the Iron Age. The presumed territorial and military organisation coincides well with finds of these structures. Crumlin-Pedersen's contribution is a summary of boat finds from the Iron Age, but shows interestingly how they can have been adapted constructionally for military purposes. Of special interest are the comparisons between the Nydam boat and the Roman river patrol boat found at Mainz. The *leidang* as a phenomenon

and a organisation is touched upon in most of the contributions on naval organisation and especially so in Niels Lund's article which draws attention to non-Nordic parallels. Naval defences in Denmark, in particular barrages and military finds associated with these systems, are dealt with in an illuminating way in Nørgård Jørgensen's contribution.

The concluding theme is in my opinion one of the books greatest assets. No less than six of the publication's authors present their views concerning logistical aspects of Iron Age warfare. It is perhaps no coincidence that logistics and the supply services seldom attract such attention, either as part of actual military operations or as an area of historical-archaeological interest. Their function is though a crucial condition for the carrying out of military operations and should accordingly be of great interest also for scientific studies. Svend E. Albrethsen starts his contribution with the unusual approach of making comparisons with the Danish army's present-day definition of logistics. He then stops off at several historical events where he makes various calculations. Calculations such as these can be of general use in questions regarding the general situation, but should always be treated with a certain caution. In their contribution Flemming Rieck and Erik Jørgensen describe the non-military finds from Nydam, giving interesting insights into both personal equipment and find categories not primarily used for battle purposes. In a well-balanced contribution Claus von Carnap-Bornheim deals with the significance of naval transport in the Iron Age. The war booty finds in Nordic bogs support his interpretations and by way of an interesting comparison with, among other places, the Black Sea areas, he demonstrates a well-organised ability among the barbarians to co-ordinate and execute naval movements. In an appropriate development of von Carnap-Bornheim's reasoning, Olaf Höckman deals with the Roman military's riverborne transport system and patrolling activities on the Rhine and the Danube. The Roman supply and surveillance system was to a great extent built around superior use of naval units on rivers. Johan Engström's article on the Vendel chiefs and the warrior equipment of the period is more an account of tactical behaviour on the battlefield. It can also be perceived as an invitation to immerse oneself in studies, the aim of which is to investigate logistical aspects of the military organisation in the Målar valley in the Vendel period. In the book's final contribution the naval historian Richard Abels discusses the system of military administration in England during the period when Vikings threats dominated.

Military Aspects of Scandinavian Society is a proceedings volume of great value. It consists of a majority of relatively short contributions which were presented during the symposium in 1996, but at the same time constitutes a good overview of the status of research in this area during the 1990s. The published papers give qualified and concentrated insights which invite further study in the various sub-themes and in the various authors' fields of research. Light is furthermore brought to bear both on the primary bonding elements linking the disciplines of history and archaeology and those elements which through developments in research create new methodological diversity. The book also exposes the breadth of the subject. Military aspects are not just to do with weap-

ons technology and tactical strategies, but extend to include, for example, non-military functions which support military activities. Knowledge and interpretation of the archaeological sources has today progressed to a point where we are able to produce a cohesive picture of the development of military organisation in Europe during the first millennium after the birth of Christ. The archaeological evidence is now so extensive that, in many cases, it is possible to produce a credible reconstruction of the prehistoric and medieval organisation almost exclusively on the basis of this. In conjunction with research into written sources and theoretical analyses, archaeology has, with regard to military aspects, shown itself to be a valuable compliment to all our analyses of prehistoric society.

Mikael Dahlgren  
Institute of Archaeology  
University of Lund  
Sandsgatan 1  
S-223 50 Lund