Reviews

MAGDALENA S. MIDGLEY: *the Origin and Function of the Earthen Long Barrows of Northern Europe.* BAR International Series 259. Oxford 1985. 330 pp.

The geographical area covered by this book is Poland, northern Germany, and Denmark. The subject is early TRB long barrows without megalithic chambers (though usually they are megalithic to the extent of having large kerbstones). The definition of the subject is not an ideal one, as megalithic and non-megalithic structures are so closely related that they must be taken together to understand them properly, and moreover Middle Germany cannot properly be left out. However there are limits to what a scholar can reasonably be expected to do!

Even as it is the task is an ambitious one. To begin with it requires a knowledge of the Slavonic and Scandinavian languages as well as German. Magdalena Midgley obviously has this qualification as far as the Slavonic languages are concerned, and she seems to have been well helped in this country, so her lack of Danish has not caused any problems. The biggest problem, however, is the quality of the primary data. Non-megalithic grave and ritual structures are perhaps the hardest of all objects to excavate well, and the quality of the excavations has been most uneven. On top of that many of the sites, probably a majority, are only available through interim reports, short notes, and the like, so the information is to a large extent just not sufficient. However the author has been well helped in Poland as well as in Denmark, and the book includes what you could almost call pre-publications of exciting new Polish excavations. The reader may be surprised at the quantity of the material. The most carefully excavated sites seem to be in Denmark, but there are some fairly up-to-date excavations from Poland. It is hard to judge them when one cannot read the original publications (the summaries in foreign languages are only a few lines), but the original reports when you look at them seem rather short and the photographs suggest a rather simple excavating technique. The author does not really tell us enough about them. The German excavations are few and not very informative. In England there are several full publications of substantial excavations, and though they fall outside the area of study, they contain enough analogies to be useful in interpreting results from northern Europe. In an appendix the author lists 168 localities where unchambered long barrows occur singly or in groups. Her general conclusion is that they show "a pool of architectural, ritual and constructional elements, of which only a selection will be apparent within any one monument". Some of the main elements of this pool are as follows.

There is always an enclosure, rectangular or trapeziform, usually of big stones, but sometimes taking the form of a palisade and on rare occasions of a plank wall. Within this enclosure soil has usually been added, creating a barrow, but flat monuments without barrow do occur. Obviously a palisade is meant to be free-standing and is adapted to a level enclosure, while a stone kerb or a plank revetment is intended to hold in the earth of a barrow, but from the way she deals with the subject it is not certain that Midgley has fully appreciated this distinction. Inside the enclosure are found graves, and sometimes other structures as well, which do not immediately invite description as graves. One end of the barrow is more important than the other, whether it is marked by a timber facade, as seems often to have been the case in Denmark, or it is built wider and with larger stones, as in Poland. Some of the Polish and German structures have internal cross-walls, which Midgley sees as essentially the same as the cross walls of hurdling occasionally found in early Danish long barrows. She suggests tentatively that these divided the barrows into segments with different functions in the ritual use of the monuments.

Because of the excavational problems it is hard to know what all the internal structures were, but there is a major division, which Midgley does not sufficiently emphasise. This is the dichotomy between closed graves and re-enterable chambers – which is the essence of Torsten Madsen's Konens Høj and Troelstrup types. On the other hand she fully appreciates that wood was the most important material in grave and chamber construction, even though all that remains is the supporting stones. Of course the same dichotomy goes again with megalithic structures. Though there are two chambers at Wietrzychowice barrow 3, re-enterable chambers like the Danish ones seem to be rare in Poland and Germany. Some late Kujawian monuments have at their eastern ends very curious large wooden rooms with heavy post construction. These do not seem to have counterparts in other regions, but megalithic construction never reached Kujawy, so earthen long barrows had a longer life than elsewhere. They may perhaps be compared with the Danish mortuary houses.

Much interesting information is put together in this book, but it must be admitted that it is not always easy to discover exactly what has been found and which generalizations the author thinks may be drawn. No doubt the main difficulty originates in the problems of the original sources, but the lack of conciseness of the book itself is also a problem. It is all too obviously a thesis for a higher degree at a British university, being issued with little or no re-writing. The author of a thesis has to demonstrate wide knowledge and exhibit the ability to sift and evaluate, is *au courant* with the newest new archaeo-

logical speculations on the megalithic phenomenon and on occasion is able to disagree with them, and knows the various archaeological cultures inhabiting the north European plain. Mere presentation of facts is frowned upon in this context, but curiously enough it is just this that the ordinary archaeological reader requires. Thirty or forty pages telling about the present state of research into these structures, the emerging picture, and the problems that ought to be addressed in the next decade, would paradoxically convey more information than the present 330 pages, which it may frankly be admitted will be studied carefully by very few, and then mostly for the bibliographical references. Nevertheless Magdalena Midgley is to be congratulated for taking on this very difficult task, which enables the non-Polish reader to get an idea of the latest Polish excavations and of the number of field monuments that have been recorded. We may hope it will inspire to the publication of the many unpublished or inadequately published excavations, and will contribute to a better international coordination of research into the construction and use of Neolithic ritual and burial monuments.

David Liversage

BEN A. NELSON (ed.): *Decoding Prehistoric Ceramics.* Center for Archaeological Investigations, Southern Illinois University at Carbondale, Publications in Archaeology. Southern Illinois University Press, Carbondale and Edwardsville, 1985. 411 pp, 52 tables, and 82 figs.

This collection of articles carries on an American tradition of providing, periodically, a survey of theoretical discussion relating to a subject. The genre has famous models, such as A.P. Vaydas' *Environment and Cultural Behaviour*, 1969, and S. and L.R. Binford's well-known *New Perspectives in Achaeology*, 1968. The book under review here is less ambitious in its scope in that it grapples only with a section of the problem of archaeological efforts to reconstruct social development, namely work upon pottery. Those articles within it which are focussed upon theory-formation give expression only to the wish to develop and refine theories of the type Binford refers to as 'midrange theories'.

The source of the book was a symposium held at 'the forty-fourth annual meeting of the Society for American Archaeology in Vancouver' under the title of 'The Explanation of Ceramic Variation'. Since then several articles have been added, some have been withdrawn, and others have been revised.

As Ben A. Nelson admits in the foreword, the division of the book into chapters has been agonized over. It is divided into five parts:

Part One: Stylistic Variation and Social Organisation
Part Two: The Organisation of Ceramic Production
Part Three: Assignment of Form, Function and Context
Part Four: Further Lessons from Ethnoarchaeology
Part Five: Comment

In fact six of the book's fourteen articles form a compact group in that they all consider how variations in style – principally, here, decoration and surface treatment – are to be interpreted relative to social development. These are articles by authors much concerned with the formation of theory relevant to this issue. This group comprises the five articles in Part One and the one article in Part Five. The remaining articles in the book have more diverse subjects, though no less interesting: Part Two comprises two articles which in contrast to the rest of the book deal with more specialised pottery production – the possibility of identifying specialised pottery production sites, and how the style in and the location of specialised production reflects structural aspects in the relevant societies.

Parts Three and Four comprise articles on how a pot's function is reflected in its form, based on ethnological examples, and on studies of the functioning life of a pot. There are finally two articles on checking an intuitively formed classificatory system by cluster analysis and on the uncertainty of measurements of a pot's rim diameter, with a new instrument for this purpose introduced.

The central theme is thus illuminated from many angles. Those articles which are probably of widest interest are those on style theories, also because these theories are relevant not only to ceramic material but also to other objects with other than technologically determined features.

The best survey of the style theories which are the basis of the theoretical discussions in the five articles of Part One appears in Part Five, in J.N. Hill's article 'Style: A Conceptual Evolutionary Framework'. He works through the two concurrent style theories which are developed in the articles in Part One and attempts to integrate them within a single conceptual framework. It seems therefore sensible to begin a survey of the book's contents by reviewing the main parts of J.N. Hill's article.

The source of the discussion of pottery styles as an expression of social development is the classic works of J. Deetz (1966) on the development of the Arikara indians' pottery in relation to the historically known development in the settlement pattern of these indians, together with the two works by W.A. Longacre (1970) and J.N. Hill (1970) where the division of decorative styles within two pueblo societies forms a basis for conclusions about the social structure on the sites. The style theory which the two latter in particular gave expression to has since been christened 'the social interaction theory'. Put most simply it implies that the closer the social connection between two groups of potters the greater will be the similarity between their pottery. Style is socially inactive, and once learnt is not changed. A style's dispersal takes place through simple diffusion: a person adopts style elements simply because he comes into contact with them, and changes in style will only happen through changes in the process of learning, as a consequence of a break in communication between pottery-producing persons or groups or as a consequence of disruption of the cultural process. This theory has subsequently been strongly criticised both from archaeological and ethnographical quarters, and J.N. Hill also regards it in a particularly critical light.

The second theory is called 'the information exchange theory' and was originally formulated by H.M. Wobst (1977),

who uses, however, a very narrow definition of style. He defines style as a term denoting 'the formal variability in material culture that can be related to the participation of artifacts in the process of information exchange', in contrast to the more common understanding of style as all the features of an artefact which are not the products of practical (i.e. functional in a technological context) determinants. Despite this narrow definition, the 'information exchange' theory has become widely disseminated, and it has transpired that some of its presumptions stand up within a broader definition of the term. The idea of treating style as a vehicle for messages, partly serving to delimit groups relative to one another and partly marking an individual's membership of a group, has proved to be of considerable theoretical interest.

It is this conceptual framework, with greater of lesser adjustments, which is used in four of the five articles in the first part of the book. This style theory offers a much greater opportunity of explaining abrupt stylistic changes spatially and temporally, in that style becomes an expression of the social limitations which weigh upon the individual potter's choice of features rather than an expression of which features are known to the potter. Style thereby becomes something socially active, where in the 'social interaction' theory it was socially passive.

As J.N. Hill indicates, there are also problems with the 'information exchange' theory. Obviously not all features of style are used for the exchange of social data, and style also varies over time without there being any case for any significant social variations. J.N. Hill therefore develops a new conceptual framework for the explanation of style development in which the concepts are compared with and explained through concepts from the biological theory of evolutionary development. He also emphasizes, as indeed is done in several of the articles in the first part of the book, that style is to be regarded as a structured entity with many hierarchical levels, like a spoken language with 'a combination of phonemes to create morphemes, morphemes to create lexemes, lexemes to create phrases, phrases to create clauses, clauses to create sentences and sentences to create texts' (p. 375). He thus stresses that the choice of sub-elements, elements and the spatial disposition of decoration are separate choices which may well reflect the expression of different phenomena, individual peculiarities as well as a wish to mark one's membership of a certain household, family, group and/or some greater community. The items, of all levels, from which the choice is made, are those which are represented in the individual's 'style unit pool', namely all the style units the individual knows or can invent. The composition and range of this style unit pool will be dependent upon just those factors which the 'social interaction' theory stressed, the intensity of the social interplay between potters, and is dependent upon the same two phenomena which were determinant here, diffusion and innovation. Thus in J.N. Hill's new conceptual framework these two concepts are reduced to be those factors which form the 'style unit pool', whence new decorative details are drawn as required. When and to what extent that happens is an option dependent upon the potter's social context. On top of this the concept of 'drift' is also introduced, used to explain minor changes in style through time: this may well be characterised as something like chronological tendencies which do not necessarily signify any more than a certain opposition between generations.

This treatment of the concept of style with terms borrowed from biological developmental science looks immediately provocative, but in fact is very illuminating. J.N. Hill's article is thought-provoking, and can be recommended to all who work upon changes in style.

The five articles in Part One of the book can thus be regarded as examples of the practical application of the 'information exchange' theory in particular.

The first of them, M.W. Graves, 'Ceramic Design Variation within a Kalinga Village: Temporal and Spatial processes', describes analysis of ceramic material collected in connection with an ethnoarchaeological investigation of pottery production in a few villages in northern Luzon, one of the Philippines. The analysis seeks to assess the number of bands of decoration on pots in relation to pottery sizes, and the year of birth, family and work group of the potter. A clear relationship was found between size of pot and the number of decorative bands, and between the age of the potter and the number of decorative bands, but this latter relationship in particular varies somewhat from work group to work group and family to family. Analyses of other features than the number of decorative bands of the pottery decoration have shown certain differences between families but not between different work groups. (These analyses are reported only very fleetingly in the article). The change which is reflected in the analysis of the number of bands on the pots is thus a slight change in style over time, and is compared by M.W. Graves with the concept of 'genetic drift'.

The other two articles from the first five which I found particularly interesting are J.L. Brunson's 'Corrugated Ceramics as Indicator of Interaction Spheres' and D.P. Braun's 'Ceramic Decorative Diversity and Illinois Woodland Regional Integration'.

J.L. Brunson's article is particularly interesting for her theoretical assessment of (*inter alia*) borders between groups, where, on the basis of ethnographic examples, she develops the concept of 'semiclosed boundaries', cases of boundaries crossed by a flow of individuals or indeed groups such as, for example, when several groups can enter into a single resource area, so that there is a certain overlapping of the different groups' territories. She also works with a division into MES-groups, 'the minimal number of individuals a group would require to remain a viable functioning entity', bound together by a network of exchange and ritual communication. It is a most interesting way of understanding the social structure, but I have some doubts as to whether it is reasonable to use these terms borrowed particularly from works on hunter-gatherer communities, on technologically more complex communities.

D.P. Braun analyses the variability, i.e. the range of ornamental details, both elements of decoration and how they are arranged, on rim sherds from settlements in five localities lying within a mutual distance of about 100 km. The period under investigation is very broad, *circa* 200 B.C. to 600 A.D., although with an emphasis on the period 200–600 A.D.

The goal is to look more closely at social co-operation between groups in this perid, which hitherto has been treated as a period in which there is growing isolation and failing contact between the groups, while D.P. Braun rather believes that there must have been increased co-operation between them. One of the reasons for believing in increasing isolation between the groups has been that individual groups' ceramic decoration becomes simpler. D.P. Braun is able to show that this simplification of decoration does not only take place in individual localities but is also apparent when one treats a larger area as a unit. His opinion is that this must be interpreted as a common tendency which is in fact an expression of increased co-operation. I would regard this as a theory which cannot be supported by pottery evidence alone, but since there are also other factors which indicate increased co-operation between the groups one may concede to D.P. Braun that there is nothing in the pottery evidence to contradict this.

So much for the articles on the formation of theory for the interpretation of pottery styles.

Several of the remaining articles in the book are also of interest, such as M.F. Smith Jr.'s article 'Toward an Economic Interpretation of Ceramics: Relating Vessel Size and Shape to Use'. The subject of this article, how a vessel's use influences its form, is a problem which everyone working with the clasification of pottery should give closer consideration to. M.F. Smith Jr.'s article includes a survey of the morphological variables which she believes it is reasonable to define on a pot and their functional significance, together with a list of morphological features which constrain a vessel's usefulness, both developed on the basis of ethnographic studies. Although these two lists could well be extended by considering what use a pot can be put to, and may subsume some rather too narrow interpretations of features on the pots, they are nevertheless thought-provoking to anyone who has or is working upon the ceramic material from a settlement site.

M.F. Smith Jr. also constructs a little test of the possibility of recognizing the function of a small number of pots from an ethnographic context with a known function on the basis of their formal attributes. She concludes that the features which are best suited to dividing them up into groups are the accessibility of the contents, expressed by the rim-diameter and volume, and the volume itself. It is hardly remarkable that the accessibility of the contents and the size of the pot are most decisive as regards function, but it is reassuring to find this confirmed. M.F. Smith Jr. reaches some rather finer results, leading her to venture propositions of more specific correlations between pot-form and function. The broad validity of these correlations is however debatable: for example the requirement that vessels for transporting liquids will always have a small diameter mouth. This appears most reasonable and will certainly apply as a rule, but is contradicted by the existence of the common water bucket. But she also points out that most pots' forms are dependent upon several considerations which are often conflicting. The form of the bucket is thus more closely determined by another of her rules: 'Orifice size is proportional to the rate of changeovers in pot content'.

M.F. Smith Jr. also presents a very sophisticated method for calculating the volume of a pot which requires, however, access to a very advanced data technique, and she further analyzes the possibility of recognizing the functionally-determined features of a pot on the basis of sherds. Unfortunately the factors which she isolates as the most important, the grouping of the sherds into categories of different profile-angles, is just what must be regarded as one of the most difficult aspects of sherd material, but the second most important is the differentiation of the sherds' diameters which are rather easier to determine.

Ben A. Nelson's article 'Ceramic Vessels and Their Systemic Contexts' also deals with different points which are very interesting in connection with practical studies of settlement-site pottery. He spends some time upon a practical method of measuring and reconstructing vessels and calculating their volume, a somewhat coarser and simpler but also more practical method than the one presented by M.F. Smith Jr. He also gives an account of a successful attempt to interpret the sequence of layers in the fill in the rooms of a pueblo through mapping sherds from a single pot. He was thus able to show that there were separate activity zones on the roof of the rooms, and the mapping of large storage jars has also produced interesting information on the structuration of storage capacity on the site. He finally enters upon an ethnoarchaeological study of pottery from the Mayan Highlands in Guatemala. In this context he has also provided a summary of the number of pots in the individual households of seven separate ethnographic societies wherein pottery production is undertaken on a domestic level. This is a most interesting but rather discouraging table, since the number varies from 5 to 129 vessels per household as minimum and maximum between 6 and 62 vessels per household on average for the individual cultures.

The two articles in Part Four both deal with the calculation of vessels' 'use-life'. The first of them, W.A. Longacre's 'Pottery use-life among the Kalinga, Northern Luzon, the Philippines' adds to the results of the investigation which M.W. Graves also treated, while by contrast W.R. de Boer deals with data collected as part of an ethnoarchaeological study of pottery production amongst the Shipibo-Conibo indians in Peru.

Both reach the general conclusion that large vessels, rarely moved and/or used, live longer than small and medium-sized vessels which are in daily use. In other words one should expect large vessels to be relatively under-represented in an archaeological context while medium-sized cooking pots, for instance, will be over-represented relative to the number of vessels which in fact are in contemporary use on a settlement site.

W.A. Longacre also considers how an economic change in the direction of increased wealth influenced the Kalingas' pottery composition. Many took the idea of replacing traditional water jars with more expensive plastic vessels, and the increased wealth led to more feasts, which in turn increased the need for large cooking vessels to cook the food in.

As was mentioned in the introduction, two of the book's articles stand apart from the others in dealing with specialised pottery production as opposed to domestic production. These are the two articles in Part Two, B.L. Stark, 'Archaeological Identification of Pottery Production Locations: Ethnoarchaeological and Archaeological Data in Mesoamerica' and G.M.

Feinman, 'Changes in the Organization of Ceramic Production in Pre-Hispanic Oaxaca, Mexico'.

B.L. Stark concerns herself with how we may locate specialised pottery production sites through the combination of various sources of evidence, such as stamps, possible kilns and piles of wasters. G.M. Feinman describes how one can say something about the connection between the economic and administrative structures in a state-society through integrating changes in pottery style and the placement of pottery production places within the settlement pattern. Both articles should interest researchers working upon late Danish prehistory and the Middle Ages.

Finally an account of P. Froese's 'Pottery Classification and Sherd Assignment' is required. In this article the authoress attempts to replicate the intuitive classification of a number of pots through cluster analysis on the basis of a number of formal attributes. The credibility of her analysis is unfortunately somewhat weakened in that the eight groups produced do not look very logical: there are very diverse vessels in each group, and conversely similar vessels in different groups. P. Froese nevertheless believes that she can see a confirmation of the intuitive classification in the cluster analysis.

As has been indicated, there is a great deal of discussion about style in this book, and it would perhaps be reasonable to cast a critical eye upon certain points of the book's own style.

A slightly irritating feature is the rather self-conscious scientific language. A second point is the use of very complicated statistical analyses, which do indeed now and again give an improved overview, but at other times appear more to cloud facts, or attempt to include so many variables in a single analysis that an overview is lost. An example of this is D.K. Washburn and R.G. Matson's analysis of symmetry in the composition of painted patterns on Anasazi pottery in the article 'Use of Multidimensional Scaling to Display Sensitivity of Symmetry Analysis of Patterned Design to Spatial and Chronological Change: Examples from Anasazi Prehistory'. In this a smooth transition between two apparently rather different, separate periods is indicated. Another example is K.W. Kintigh's analysis of the distribution of styles in the Cibola pottery from three pueblo locations 'Social Structure, the Structure of Style, and Stylistic Pattern in Cibola Potery'. In this such varied features as vessel-type, fabric-type, colour slip, colour and gloss of painting, elements of ornamental detail and various traditional style-groups such as St. John's Black-on-Red or Kwakina Polychrome are analyzed in one go, and I, for one, could not maintain any overview. Otherwise the statistical analyses are often so briefly referred to that it is difficult to evaluate their application in these articles. The use of complicated statistical analyses appears to be a style-feature used by the group of recent, theoretically-inclined American archaeologists to differentiate themselves as a group.

Another feature of the book's style is the use of illustrations. Very consistently two types of illustration are used, ethnographic pictures and graphs. The former are both very illustrative and charming: the picture of a little girl learning to make pottery from her mother is worth the whole book put together (p. 11), and a picture of a dog stealing food from a pot on p. 341 shows clearly what forces we might reckon with limiting the life of a vessel on a settlement site.

The graphs are also often very illuminating and also often necessary to understand the analyses referred to, while at the same time giving the book a respectable, technical stamp.

One misses, however, pictures of some of the objects which the analyses, after all, are based upon. The general validity of the theories would not suffer from the reader getting to know what a 'corrugated' vessel or an example of St. John's Black-on-Red actually looked like. We should certainly not forget that archaeology is about people, but neither should we forget that the raw material we actually work with is objects and layers. And it is precisely in books which are directed at a wider, theoretically-inclined public, as one must presume this one is, that one cannot suppose all readers to be familiar with all the fine points of American archaeological typology. But it is part of the style in books of this type that artefacts are not illustrated, and after having read about the essential role of style in maintaining and distinguishing the group one scarcely dare urge a stylistic rupture. [Translated by John Hines]

Eva Koch Nielsen

REFERENCES

DEETZ, J. 1965: *The dynamics of stylistic change in Arikara ceramics.* University of Illinois Press, Chicago.

HILL, J.N. 1970: *Broken K – Pueblo: prehistoric social organization in the American Southwest.* Anthropological Papers of the University of Arizona 18. Univ. of Arizona Press, Tuscon.

LONGACRE, W.A. 1970: *Archaeology as anthropology: a case study.* Anthropological Papers of the University of Arizona 17. Univ. of Arizona Press, Tuscon.

WOBST, H.M. 1977: Stylistic behaviour and information exchange. In C.E. CLELAND (ed.): *For the director: research essays in honor of James B. Griffin.* University of Michigan, Museum of Anthropology, Anthropological Papers 61.

PIA BENNIKE: *Palaeopathology of Danish Skeletons. A Comparative Study of Demography, Disease and Injury.* Akademisk Forlag, Copenhagen 1985. 272pp.

As Roy L. Moodie introduced the name "palaeopathology" in his "Standard Dictionary" 1895 – a term which originally means the study of diseases and injuries of man of prehistoric and nonliterate societies – several works on the subject had already been published. However, it was during the following 30–35 years this discipline flourished, mainly by works of anglo-american scientist like Elliot Smith, Wood Jones, Ruffer, Hrdlička, and others.

After the last war palaeopathology again became an "accepted" science, and has since got followers all over the world.

Today the international "Palaeopathology Association" has more than 400 members.

Within Scandinavia Denmark has actually been the "leading country" in this discipline, and scientists like f.ex. K. Fischer-Møller, K. Isager, and V. Møller-Christensen, only to mention a few, have become names of celebrity.

During the last years a new generation of Danish anthropologists have proved to carry on this tradition. Among them Pia Bennike is already well known as an author of several papers of palaeopathological nature, and she has been employed for as a lecturer in European countries as well as in the USA. The investigation and book in question earned her a medical Ph.D. at the University of Copenhagen.

"Palaeopathology of Danish Skeletons" is indeed a promising title for a scientific work, with a great responsibility laid on the author, because it is the first time such a work has been undertaken. Thus, we are told the prehistoric health conditions of a whole country presented after examinations of almost 2000 individuals.

The book opens with an introduction showing the distribution of the examined finds – skeletons from Stone Age to Medieval Ages – in geographical (with the main part from Zealand) as well as historical-chronological connection. Particularly meritorious is the data recording system developed by the author, related to this work, where more than 300 data have been registered for each individual find. Standard reports of sex and age are given. Also the average individual stature for the single periods is indicated in tables, and it is conspicuous – in spite of a comparatively modest amount of material within the single groups – that the stature seems to have been significantly higher than the estimates from other countries. Perhaps these figures are related to the well known assertions of Caesar, Tacitus or Jordanes, mentioning their tall, Nordic neighbours.

The actual pathology is divided into 4 sections, each describing the most usual discoveries which can be made on human skeletal remains. It is common knowledge that only a few of the diseases of man leave traces on the bone itself. The present investigation shows for instance that the frequency of bone fractures is dispersed among male and female individuals in a similar degree to today. But in distinction from modern people, the fractures of ulna (the elbow bone) take up a dominant position, which undoubtedly must be related to injuries of violence. Other forms of traumatic lesions are also reported.

An important part of the chapter is devoted mention of trepanned skulls. These put Danish anthropology into a very special position, as Norway, for instance, only can display one uncertain case, while the present book refers to 18 cases altogether.

In the second section cases of osteo-arthritis are mentioned, i.e. conditions of rheumatic or attritional influence of the bone. A proportional high degree of this can probably be connected with the hard way of living in the past, but possibly a basis of individual sickness (f.ex. scurvy) also exists. However, the material is too small to draw certain conclusions in that way.

The dental health of the past has been given a detailed mention. Also in this investigation it is stated that the people in older days had their teeth worn to a significant higher degree than today. Striking is the higher amount of caries than what people today generally connect with the traditional, good dental state of the past, even if this seems to have appeared in adult/mature age, in contrast to our time where already the major part of the children are affected.

Almost sensational is the find of a neolithic male skull with a drilled hole – possibly made with a flint borer – in a carious tooth!

In the last part of the book "special finds" are mentioned, such as occurrence of tuberculous bones, osteomyelitis, rheumatoid arthritis (which perhaps should have been included into another section?) and tumours.

Each chapter is introduced by a general and historical survey of the single diseases and those are again described in the "reports", with find sites, museums, find numbers etc. specified. The book is primed with illustrations and well arranged tables.

Of course some of the cases and diagnoses in this book could possibly be subject to some further discussions. It is, as one may realize, not always easy to make a thousand years old diagnosis with certainty. However all things considered, the present work is of a very solid kind, which will make it a standard work within palaeopathological literature.

Per Holck.

INGA HÄGG: *Die Textilfunde aus dem Hafen von Haithabu.* Berichte über die Ausgrabungen in Haithabu. Bericht 20, 1984. Mit beiträgen von G. Grenander Nyberg und H. Schweppe. Karl Wachholtz Verlag, Neumünster. 290 pp.

With the *Bericht 20,* a new substantial North European textile collection is published, and Hedeby/Haithabu can be added to Elisenhof, Hessens, Birka, and the many Danish and North German Iron Age textiles from bogs and burials. Some minor groups of Hedeby textiles have earlier been published (Ullemeyer 1970, Bericht 4, and Hundt 1984, Bericht 19) but its 170 fragments make this collection far the most important group. Moreover, details on many of the textiles show that they once were parts of garments, and this feature is used as basis for the identification and discussion of Viking Age Scandinavian costume.

Inga Hägg, who has been chosen for the task of publishing the Hedeby textiles, has earlier examined the vast textile material from Birka and in her dissertation from 1974 she presented her interpretation of this important material; this (and her other published works) is concerned more with costume than with the textiles themselves, and the same bias is felt in the Hedeby publication.

After an introduction, a presentation of working methods, and a description of the secondary use of the textiles (as tarrags and caulking for boats), the book's first main section is concerned with the description of each of the pieces found;

under the headings leg-garments, a pinafore, tunics, overclothing, and felt. A second main section is headed "The Weaves", and describes the cloth types found in the Hedeby material; each type in turn is compared with contemporary parallells. After a short section on seams the third main chapter puts the garments and parts of garments from Hedeby in a wider context; here, again, each type of garment is described separately. Finally a short section on weaves and cloth types in a broader context and a summary (in both German and Swedish) complete the text. Pp 230–57 are tables of weaves from Hedeby and the other sites used as comparative material; pp. 258–60 contain a code to the drawings, and a short dictionary of textile vocabulary; pp. 261–70 is the catalogue (in tabulatory form). An index (pp. 271–72) and a bibliography (pp. 273–86) complete Hägg's part of the book; pp. 287–90 contain two small contributions by G. Grenander Nyberg (on Z- and S-spinning) and H. Schweppe (on dyestuff-analyses).

The first main section of the book, the description and interpretation of the various textiles as parts of garments, is the most important, but also the most controversial part of the book. Almost all of the 170 textile fragments that were salvaged from 93 tarred rag-balls are identified as parts (or probable parts) of garments; the documentation is mainly meticulous drawings of each piece, supported sometimes by photographs of the same piece, or parts of it. Some pieces are easily identifiable, like leggings (fig. 10–12) or the sleeve of a tunic (fig. 35–38); others are mere rags, although the shape resembles what Hägg suggests as an identification – a good example is fig. 44, a part of a doublet. Some do not even resemble their suggested identification very much, like the so-called face-mask of a calf (fig. 46–47).

In some cases, Hägg's documentation does not seem quite quite sufficient, and the reader is left with the impression that the author is pressing her identifications a bit too far. It seems too much of a happy accident that almost all textiles should be remains of garments; after all, textiles are used for a multitude of purposes, and even sailors have bedclothes, towels, carpets, tarpaulins etc., not to forget the sails of the ships; and one would expect such things to be represented in a collection like this. Still, many of Hägg's identifications seem fully justified, and under all circumstances it is a very important task for textile scholars to go beyond the study of weaves and make a bid for the reconstruction of garments and costumes. In Denmark and North Germany, we are blessed with a unique collection of completely preserved costumes from Antiquity, and in many ways this singular material has made us blind to the possibilities of rags and fragments. Most textile scholars studying such rags (including the reviewer) restrain themselves from reconstructing more than very vague outlines – well knowing that any such will be grabbed by eager hands and used repeatedly, and well over any scientifically defensible limitations, to illustrate life in the past. It takes courage to put forward a qualified bid for an interpretation of prehistoric clothing, which is far much more difficult than criticising a proposition already set up. Therefore, the reviewer welcomes Inga Hägg's interpretations warmly, although not believing in all of them.

The second main section of the book is the description of the weaves and cloth types, including comparative material from North Germany, the Netherlands, and Denmark. This section is the weakest part of the book: the author's background as a student of costumes rather than textile technique is clearly reflected.

Technically, some weaving terms are wrongly used: e.g. the word *Spitzköper* is used instead of *Fischgratköper*; the two words correspond to two different weaves with an important technical difference – point repeat or displacement, which in turn are related to the horizontal loom and the warp-weighted loom respectively. *Spitzköper*, with point repeat, is according to the illustrations not the one found in the Hedeby material. Similarly, *Rautenköper* is used instead of the more precise *Diamantkaro* (and *Spitzkaro*, which corresponds to *Spitzköper*). Other unfortunate details are that thread counts are made over 2 cm, not over 1 cm – all European textile researchers except of the Textilmuseum Neumünster and now Inga Hägg count over 1 cm; further, the description of the cloth types would have been more precise if the textiles had been grouped not only according to weave and quality, but to spin direction as well.

Hägg invents a new textile term: *Gewebedichte*, which means the number reached when adding weft-count to warp-count, and expresses the quality of the weave. The term is intended to overcome the problem of deciding which cloth is the finer: the one with count 9,5/9,5 (*Gewebedichte* 19) or the one with count 11/7 (*Gewebedichte* 18). The usability of the term is not yet quite clear – future work will decide whether the invention is a useful one or not.

The comparative material used by Hägg is restricted to a few North German, Dutch and Danish sites,plus the Birka material; both settlements (Elisenhof, Hessens & Middelburg) and cemeteries (Dunum, Thumby-Bienebek, Stengade, and Birka) are employed, and Hägg emphasises the differences between these two groups. Here, and in chapter 8, Hägg discusses the predominance of Z/S-spun fabrics in settlements, and Z/Z-spun fabrics in graves, and suggests that the difference is best explained by a difference in quality: the settlements contain remains of everyday wear, the graves the formal clothes of the upper classes. Thus Z/S-spun wool cloth is interpreted as the normal fabrics of Viking Age Scandinavia, although it is very rare in the graves, whereas Z/Z-spun linens and fine worsteds are argued to be luxury fabrics only worn by the few. Here, the reviewer has a different view and my main comment is that Hägg's comparative material is too limited. Hedeby was situated close to the border between three major cultural provinces: Viking Scandinavia, Carolingia, and the Slav region. A wider comparative material would have revealed that the picture is much more complicated (Bender Jørgensen in press).

The limited comparative material is a main weakness in Hägg's work: of the Danish material only the small Stengade cemetery is drawn in; two Viking cemeteries with textiles published by Østergaard (1977, 1978), and the Århus material (Lorenzen 1971), ought similarly to have been used, and the same goes for Margrethe Hald's standard work (1950, 1980) which has several Viking Age finds. Similarly, H.-J. Hundt has

published over 100 German graves from the 5th–8th centuries with textiles; these, too, would have supplied a useful addition to the comparative material.

The third main section, on garments and costumes seen in a wider context, is the strongest part of the book; here, Hägg is quite evidently on her home ground. She provides an excellent combination of research history and source criticism, and surveys European dress from the Roman Period to the Late Middle Ages. The types of garments identified at Hedeby are discussed one by one in the light of all available evidence, which includes preserved costumes, pictorial evidence and written sources. But again, Hägg seems to have overlooked the contents of Margrethe Hald's work: she seems unaware of some medieval garments from Danish peat bogs, most conspicuously the tunic from Moselund with a split lower part not unlike those depicted on the Bayeux tapestry and by Hägg claimed as a possible parallel to fragment 66 from Hedeby.

The summary emphasises five main results of the work: that the Hedeby costumes is the product of a well-developed tailor's art, far removed from "primary garments"; that the cut of the garments is closely connected with medieval costumes, like those from Herjolfsnæs on Greenland (and the tunic from Moselund); that there is a close connection between the type of garment and the cloth type used for it; that the Hedeby costume reflects a stratified society; and that the costumes of soldiers in the Roman provinces, especially those of the Eastern frontier, had a strong influence on the shape of the garments found at Hedeby.

Of these five points, numbers one, two and four are safely brought home; point three is not quite as evident, and point five will probahly remain a matter of discussion.

A minor point: on p. 208 the author declares dyeing to be a novelty; in that case it is a 1,000 year-old novelty, since dyeing is common in Danish and Scandinavian textile finds since the 1st century AD onward (Hald 1950, p. 81; Munksgaard 1974, p. 24; see also Bender Jørgensen & Walton in this volume).

The two appendices explain the difference between Z- and S-spinning (Grenander Nyberg) and present the results of dye analyses on the Hedeby textiles (Schweppe) – in the latter case with surprisingly meagre outcome, as only walnut (*Juglans regia*) and a lichen dye (*Xanthoria parietina*), and perhaps alder (*Alnus glutinosa*) have been found; contemporary material from other sites has yielded a much wider range of dyes (e.g. Taylor 1982).

The book is well produced and is characterised by German thoroughness; this is especially evident from the many cross-references and the meticulously explained code to the drawings and vocabulary. Inga Hägg's book is an important and courageous contribution to the study of European costume and textiles, and it is sure to provoke discussion for years to come.

Lise Bender Jørgensen.

REFERENCES

BENDER JØRGENSEN, L. (in press): A Survey of North European Textiles. *Studien zur Sachsenforschung.*

HALD, M. 1950: *Olddanske Tekstiler.* Nordiske Fortidsminder Bd. V. Copenhagen.

– 1980: *Ancient Danish Textiles from Bogs and Burials.* Publications of the National Museum, Archaeological-Historical Series I, Vol. XX. Copenhagen.

LORENZEN, E. 1971: Vævninger. In H. HELLMUTH ANDERSEN, H. J. MADSEN & P. CRABB: *Århus Søndervold, en byarkæologisk undersøgelse.* Jysk arkæologisk Selskabs Skrifter IX. Copenhagen.

MUNKSGAARD, E. 1974: *Oldtidsdragter.* Nationalmuseet. Copenhagen.

TAYLOR, G. 1982: Detection and Identification of Dyes on Anglo-Scandinavian Textiles. *Studies in Conservation* 28.

ØSTERGAARD, E. 1977: Textiler nr. 38–48. In E. ROESDAHL: *Fyrkat. En jysk vikingeborg II. Oldsagerne og gravpladsen.* Nordiske Fortidsminder, Serie B, Bd. 4. Copenhagen.

– 1978: Vikingetextiler fra Sdr. Onsild. *Aarbøger for nordisk Oldkyndighed og Historie* 1976.

ELSE ROESDAHL: *Viking Age Denmark.* London 1982. 272pp.

One might think that the need for books about the Viking period should have been satisfied long ago. Recent years have seen a torrent of composite works which have looked at this period from various angles. Several studies have been published in connection with the great Viking exhibitions which have been mounted in Scandinavian and other museums.

Nevertheless the publication of Else Roesdahl's *Danmarks Vikingetid* in 1980 appeared as an important and welcome event. The area of Denmark is certainly that in which the most important recent finds have been made, finds which have largely supplemented or changed our image of the Viking period. Roesdahl's book is also particularly based upon the archaeological evidence. The previous comprehensive presentation of the Viking period in Denmark from an archaeological viewpoint was J. Brøndsted's of 1960.

Viking Age Denmark, 1982, is an English version of the book of 1980. With a certain expansion of the bibliography, it follows the Danish original closely. That this important study has been made accessible to a wider readership can only be commended.

The book deals with the Viking period in Denmark. Denmark means here the old Danish area from the River Ejder in the south in what is now northern Germany round to and including Halland and Skåne in modern Sweden. The emphasis, however, lies upon present-day Denmark.

The study in fact covers not only Viking-period Denmark but also Viking-period Danes. Scandinavians' activities outside Scandinavia are thus included, especially in western Europe, on the continent and in England. It is commonly accepted that it was particularly in this direction that Vikings from Denmark directed their interest. Many spectacular aspects of the Vikings' world, journeys in the east along the Volga and Dniepr to Byzantium, the colonisation of Iceland

and Greenland and the discovery of America are mentioned very briefly if at all.

Nevertheless the period described is so rich and multi-faceted that it must be regarded as a wise move by the author to limit the survey to a "domestic perspective". This geographical limitation probably does greater justice to the rich and varied source material.

Viking Age Denmark presents a many-sided picture. Many topics are dealt with. The book gives an account of the most important of the different sets of problems which have been the subject of research in recent times.

As has been noted, the survey is based upon the archaeological evidence, but written sources of diverse kinds, which may illuminate or supplement the picture, are thoroughly described. The study as a whole is characterised by clear source criticism. The values of diverse sources are probed, and continually evaluated against one another.

The book is divided into twelve chapters: one introductory and a concluding one, and ten chapters in between devoted to different topics.

Chapter 2 is entitled *The Country and the People.* In this chapter the physical qualities of both the land and its Viking-period inhabitants are described as they appear from topography and climatic studies and skeletal material. The author is strikingly cautious in drawing conclusions and the material is extremely scanty. The number of inhabitants of what is now Denmark can perhaps be calculated by extrapolation from later medieval sources. The population could have been between half a million and one million in size. It is an estimate, but one qualified in such a way as helps us to appreciate what it is reasonable to postulate.

Social relationships can be assessed both from written and archaeological evidence. This is vague and inconsistent, but points nevertheless to a complex society with diverse status-positions and classes.

The pinnacle of society was represented by the king and his family and other major landowners – "undoubtedly proud, well-nourished, well-dressed people with a certain fixed set of moral standards and rules for good behaviour". Archaeological material seems to be directly proportionate to individuals' and groups' power and social influence. At the lowest level were found slaves and landless men, who only exceptionally have left any traces of themselves.

In Chapter 3, *Transport and Communications,* generous provision is made for the description of boats and seaways. Recent years' investigations have revealed harbour structures at Hedeby, Birka and Kaupang. A massive construction project such as the Kanhave Canal on Samsø also serves to illuminate both the provision for and the importance of seafaring. The evidence for communications on land may initially appear scanty, but fragments of wagons and riding gear from graves show something of how the leading members of society got about.

Chapter 4, *Settlement and Survival.* It is particularly useful to find here a brief but nonetheless full summary of recent years' major studies of rural settlement in the Viking period. However most of the comprehensive excavations which have taken place, principally in western Jutland, are the subject only of preliminary publication.

This material, centrally important for the understanding of the period as a whole, was hardly known just a few years ago. The impressive results are due to research which has been simultaneously pursued along diverse lines: regular excavations in existing or abandoned villages in order to trace them back to their foundation, systematic trial excavations in villages with various name-types in order to establish the date of their emergence, major systematic excavations of Viking-period settlement with the aim of establishing their plan and extent (e.g. Sædding, Trabjerg, Vorbasse and Omgård), excavation of greater or lesser parts of Viking-period settlements which have come to light through building work or excavations with different aims (e.g. Aggersborg and Lindholm Høje, where traces of a settlement in fact appeared as a by-product of the excavation of a cemetery and a stronghold), and finally registration of settlement traces through systematic surveying, field-walking and the study of aerial photographs.

The greater part of this new material is not as yet processed: amongst other things the datings are preliminary. However a definite pattern is emerging in which a much discussed problem is that of the shifting settlements, which are moved at intervals of a couple of centuries. The questions concerning the shifting of the Iron Age, and the fixed location of settlement sites from the beginning of the Middle Ages are briefly discussed. Else Roesdahl appears primarily to see agricultural techniques as factors behind the changes, but the interest of those with power in a more regulated settlement pattern, perhaps for taxation purposes, is presented as a reasonable hypothesis.

The wealth of Viking-period finds after a long period of paucity may be seen as a sign of economic expansion, founded in agricultural conditions. But one must also bear in mind which research has been intensively pursued, and how sources and theories will probably come to look different after just a few years.

The evidence that rural settlement in Denmark may have varied both chronologically and regionally is important. It is otherwise far too easy to take the well-documented material from western Jutland as a model for other areas.

Chapter 5, *The First Towns.* In the Viking period a new settlement-form is introduced to Scandinavia, the town. These are defined here as large, compact, permanent settlements with diverse functions as a central-place within greater or lesser areas. The criteria for identifying a 'town' and evidence of the fulfilment of these criteria are amongst the major problems within Viking-period research. Were one to be particularly critical, it is not necessarily the case that even the criteria Else Roesdahl sets up here are really fulfilled by the examples given. The author also argues that the picture of the earliest Danish towns is a varied one and that the archaeological data vary in character and scope. It is argued that most probably these towns differed from one another in form. They emerged at different times and from different backgrounds. A concise summary underlines the variations in the earliest urban material, with a substantial and awkward body of material usefully surveyed in just three pages.

In Chapter 6, an account is given of the material remains of *Trade, Industries and Crafts.* Amongst the trade goods, soapstone vessels, slate whetstones, quernstones and iron are noted. There is not a great quantity of material. It would have been interesting here to have seen a discussion of the possibility of estimating the level of trade and what role exchange of goods may have held in the society.

Chapter 7, *Daily Life.* The best information on how dwellings were internally appointed comes from Hedeby. Similar buildings, rather small, built of wood or wattle-and-daub, housed other Viking-period urban communities. Benches fixed into the ground and a hearth in the middle of the floor are features which recur in other buildingtypes. Furniture was probably limited, but finds of locks indicate that lockable chests often were a part of the inventory. Grave finds, such as that from Mammen, include textile remains. Costumes of the early Middle Ages are known from Sweden and Norway. Else Roesdahl does not go too far in supposing that communal rooms were decked with brightly-coloured textiles for special occasions.

Many other aspects of daily life are also considered, food, drink, domestic equipment and hygeine. In the section on hygeine various pictorial representations of people with well-groomed hair and beards are noted. It is well to remember that combs and various forms of toilet equipment occur amongst the known finds rather than relying primarily upon various Arabic sources' accounts on the subject of Vikings' care of themselves.

Chapter 8, *Armies and Fortifications.* The warrior's armament is known principally through weapon graves. In the Danish area most of these are from the first half of the tenth century. After the Danish evidence fails the next most informative source is Norway. Else Roesdahl takes care to extinguish a recurrent myth that the Vikings' principal weapon was the axe.

Viking-period Denmark is particularly rich in fortifications of various forms. New facts and theories concerning the *Danevirke*, town ramparts and the ring-forts are presented here. Discussion of the latter has taken on new momentum in and through the dendrochronological datings which leave it probable that they were built by Harold Bluetooth, and in any case have nothing to do with the raids upon England. The military character of the forts has also been diminished. Craftsmen, women and children were included in the fixed population.

A structural type of defensive character which is receiving increasing attention is the sea-barrier, the majority of which are dated to the Viking period or early Middle Ages.

Chapter 9, *Pagans and Christians.* There is little known about Scandinavia's pre-Christian religion. Those sources which describe it were written by Christian or Muslim foreigners, or set down long after the relevant period. Again the archaeological evidence may confirm or illuminate this information.

Picture stones, statues and so on depict gods or scenes from pagan mythology. Cult-sites however are harder to identify. No heathen cult-buildings are known from Viking-period Denmark. Place-names such as Viborg and Odense indicate how old cult-sites and presumably thing-places took on new functions during the course of the Viking period.

The conversion is reflected, amongst other things, by new burial rites and crosses and saints' names on rune-stones.

There were probably several reasons for the conversion, both practical and emotional.

Chapter 10, *Art and Ornament.* Both decorative art and poetic art were equally subject to definite rules. It is these rules which enable us to differentiate particular styles in the material. All of the styles Viking art has been divided into are briefly described here. By way of introduction the lack of interest in Viking-period art within art history is considered. This is founded upon an out-of-date belief that this vital art is a derivative reflex of foreign models.

Chapter 11, *Foreign Contacts.* As has been mentioned, the foreign contacts are viewed here from a Danish perspective. The character of the written sources provides us with a great deal of information on the Scandinavians' warlike activities in western Europe, while trade and other peaceful activities have only exceptionally left any mark here. Scandinavian settlements abroad, and the colonists' nationality, are best indicated by place-names. Various sources show that Denmark had substantial connections to the east. According to a runic inscription, Harold Bluetooth was married to a Slav princess. The massive influence of Slav pottery on Danish implies strong contacts. Bridge construction, which gains momentum in this period may very well be inspired from the Slav side, as may be the construction of the ring-forts.

The written sources concerning Scandinavian activities in western are extensive and of varying character. Else Roesdahl draws a comprehensive picture of military expeditions, missionary undertakings and marriage alliances. The material traces left by these extensive contacts are occasionally direct but usually indirect. Aspects as varied as the administrative organisation of the towns and the forms of dress-jewellery may be influenced by them.

In England, Scandinavian-influenced material has been recovered in York. In eastern England additionally a special hybrid Anglo-Scandinavian culture emerges with many manifestations in ornament and art.

It is an almost impossible task in the limited space available here to give a just picture of Else Roesdahl's *Viking Age Denmark.* Although bursting with factual data, it conveys a living picture of a dynamic period. This book will provide a starting point and a stable foundation for research into the Viking period in Denmark for a long time ahead. [Translated by John Hines.]

Birgitta Hårdh.