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Programa „Akmens amžius Lietuvoje“

VYGANDAS JUODAGALVIS

Santrauka

Nuo 1994 m. Lietuvos istorijos institutas, Lietuvos nacionalinis muziejus, Lietuvos geologijos institutas ir Vilniaus universiteto Gamtos fakulteto Geologijos ir mineralogijos katedra kartu vykdo mokslo tiriamuosius darbus, numatytus programoje „Akmens amžius Pietų Lietuvoje“. Programą remia Lietuvos valstybinis mokslo ir studijų fondas.

Programos turinį sudaro trys pagrindinės tyrinėjimų kryptys: 1) Pietų Lietuvos apgyvendinimas ir gamtinė aplinka vėlyvojo pleistoceno ir holoceno metu, globalinių bei regioninių gamtos reiškinių įtaka žmonių įsikūrimo ir gyvenimo sąlygoms; 2) akmens amžiaus stovyklaviečių ir gyvenviečių geologinės, geomorfologinės bei paleogeografinės sąlygos; 3) vietinių archeologinių kultūrų raida.

Archeologų ir gamtos bei tiksliųjų mokslų specialistų bendradarbiavimas ypač svarbus tyrinėjant akmens amžiaus paminklus Pietų Lietuvoje, kur nesusiklostė palankios sąlygos kultūriniams sluoksniams išlikti. Kasinėjant šios teritorijos paminklus, buvo įdiegtas norvegų archeologų plačiai naudojamas kultūrinių sluoksnių plovimo metodas.

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Two hundred years of archaeological survey

SØREN DIINHOFF

Introduction

This article is based on a regional analysis of the Early Iron Age settlement pattern, in the Province of Vendsyssel, Northern Jutland (Diinhoff 1989). The Province of Vendsyssel is the northmost region of Denmark (Fig. 1).

Archaeological Landscape Analysis

I define this type of study as "*Landscape-Archaeology*" – that is a mixture of traditional settlement archaeology and cultural geography. It is a rather comprehensive and time-consuming type of research, combining several levels of analysis and ideally involving the participation of scientists from different acedemic fields (Berglund 1991).

The main purpose of the project was to study the structures of settlement patterns in Pre Roman and Early Roman Iron Age (500 BC – 150/175) (Lund-Hansen 1987, Fig. 10) and to uncover the cultural and ecological variables that caused habitation to be located in certain topographical areas. That is in plain words, in what landscapes were the settlements located and why? The results of this analysis are no doubt interestering, but I shall mainly concentrate on presenting some of the methological aspects.

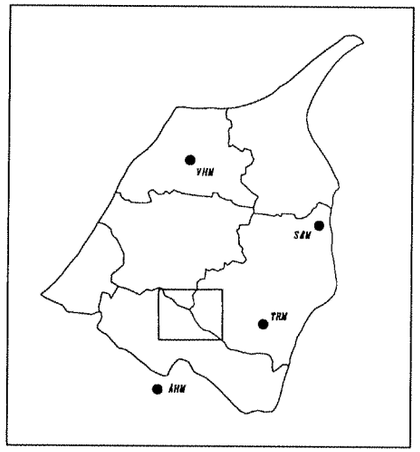

Fig. 1. The Province of Vendsyssel. Circles show position of museum in the region. In addition The National Museum of Denmark is situated in Copenhagen. The square in the southern part of Vendsyssel shows the selected sub-area selected as an example in this article.

Research Area

The settlements cannot fully be understood, when treated as isolated objects (Trigger 1989:279). In prehistory as today the settlements are related and defined in cultural, political and economic networks. They form up an inter-settlement

relationship that only becomes evident, when analysed in a major geographical perpective (Roberts 1996:8, Figs. 1.4 and 7.1). It is therfore important to select a well-defined geographic region and hopefully one with a suitable archaeological record. Vendsyssel is such an area.

Archaeological Finds

The empirical basis of the analysis is the archaeological finds. In this case some 2,251 Early Iron Age finds were reported for the all of Vendsyssel, that is, in catagories such as settlements, graves, sacrificial deposits, stray finds etc. They were found at 1,232 localities. The map Fig. 2 shows the geographical distribution of settlements in Vendsyssel. They are spread out in an uneven clustered pattern. To the north and down the west coast some areas show dense concentrations, whereas settlements are less frequent in districts to the south-east and north-most in Vendsyssel. The distribution of graves follows the same pattern.

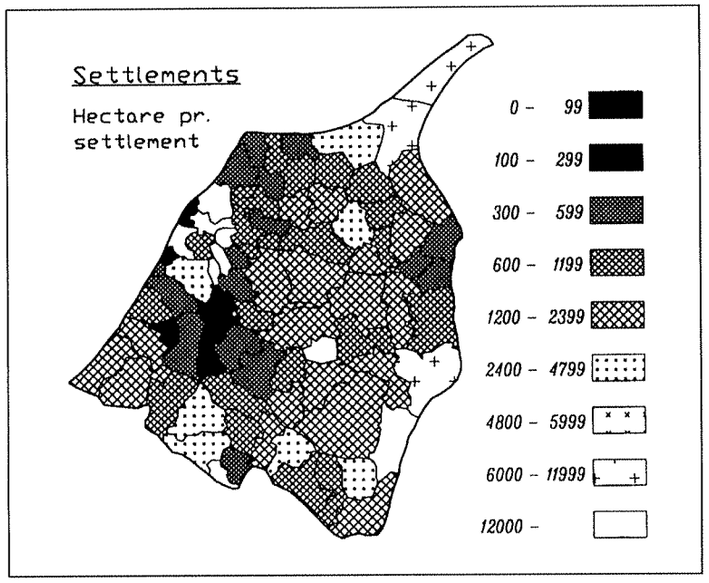

Fig. 2. Density of Early Iron Age settlements in Vendsyssel. Dark shading shows higest density

The Archaeological finds have been catalogued from the archives and collections of six cultural museums (Fig. 1). The central museums are the two provincial museums, *The Historical Museum of Aalborg* (ÅHM) and *The Historical Museum of Vendsyssel* (VHM) – and *The National Museum of Copenhagen (NMI)*. Further, there are two small privately founded local museums, *Sæby Museum* (SÆM) and *Eastvendsyssel Museum* (TRM). Finally the provincial museum in Aarhus, *The Prehistoric Museum of Moesgaard* (FHM) – some 100 km to the south – has on occasions conducted excavations in Vendsyssel as well.

The problem of interpretation

The archaeological finds form the empirical basis of our knowledge about prehistoric societies, but they do not equal prehistoric society itself. In fact many severe problems arise when we seek to reconstruct human behavior out of material remains. This discussion demands serious consideration and it is in fact related to one of the general *heavy weight* theoretical problems of the Human Sciences of today.

Our first problem is that due to cultural and physical processes, only parts of the material remains will have survived to the present day (Schiffer 1976), and of these, we probably only have knowledge about a very small part. Even if we naively belived that the archaeological finds in a more direct way represented the cultural, social and economic structures of specific prehistoric societies, we would still have a grave statistical problem. How can we rebuild the structures of social organization on the basis of a few scattered and randomly found fragments of a once material culture?

The second problem is, how should we interpret the prehistoric material remains. Do they in a straight forward way represent only functional and economic aspects of culture, like frozen material and fossilized action – as proposed by processual archaeologists (Trigger 1989:294) or do they in addition express the cultural standards and the values of human behaviour of the society they once were part of (Hodder 1989). Presented in a modern example, a red *Ferrari Testarossa* sports car represents more than a means of transportation, it signals the cultural values of competative western capitalism. Material remains thus express more than mere function. They are a sort of material text expressing cultural meaning, and ideally they could be read as so. However, if they express the standards of a specific prehistoric society, and we recognize that things have different meanings in different contexts, then how can we be sure to interpret and decode the material text correctly. Will we not interpret the prehistoric human behavoiur into a conceptual frame based on our own 20"th century knowledge (Shanks and Tilley 1990:282)?

Things are not always, what they seem to be. The philosopher Michel Foucault has presented this problem through a painting by the french artist Rene Magritte (Tilley 1990:282). The painting portrayes a pipe and a footnote saying, *"Ce n`est pas un pipe"* – (This is not a pipe). Now, is this not a pipe, because it is a painting of a pipe, and as such just a symbol of a real one? Is it not a pipe, but in fact something else that we mistakingly identified as a pipe? Or is it not a pipe, but just a sentence saying *"Ce n`est pas un pipe"*? Truely one might see all this as rather academic and of only theoretical relevance to archaeology. But if we are forced to recognize that we build our interpretations of prehistory on subjective and reinterpretative observations, then we can no longer ignore this ontological challenge.

Analysis of Representativity

The archaeological record of Vendsyssel was formed over a period of more than 200 years. The prehistoric finds have as such been interpretated into the traditions and conceptual frames of different scientific schools throughout the decades.

This calls for a careful reinterpretation of past classifications and a hermeneutical understanding of the processes that led to the formation of the archaeological record.

Time perspective of Danish Archaeology

It is not my intention in any way to write the history af Danish archaeology, this can be found elsewhere (Kristiansen 1985:12), but a few brief notes on the development and traditions of the science in Dennmark is necessary to understand the time span. Archaeology is a young science, though it goes back several hundred years in Denmark. In the Middle Ages prehistoric items were either not reported or if of gold, they were regarded as national treasure trove, to be melted down. But in the Rainaissance, the nobility took an interest in collecting curious and fashionable artefacts, and among these prehistoric artefacts (Svestad 1995:122). Large collections were established and in 1663 the Danish King Fredrik III founded the "Chamber of Arts". This institution was given antiquarian status and built up an exhibition.

In the 1780's due to agrarian reforms the destruction of burial mounds increased and artefacts showed up in high numbers. This caused the foundation of "The Royal Commission of Antiquities" and the establishment of "The National Museum". Throughout the century the National Museum build up its activities. Military officers and engineers were trained to conduct professional surveys and excavations. They set the standards for world archaeology and even today some of the early excavations are quite outstanding.

During the Nineteenth Century provincial museums were founded. The Historical Museum in Aarhus was founded in 1861, the Historical Museum of Aalborg in 1863 and The Historical Museum of Vendsyssel in 1889. The provincial museums were placed under the administration of the National Museum, the only museum with a staff of professional curators. The National Museum would conduct all major and important excavations, whereas the provincial museums were allowed to do minor excavations. In the twentieth century the provincial museums gradually took over responsibility for antiquities and were assigned regions. Professional curators were employed and today the National Museum only playes a minor role.

Let us take a look at, how the standards and routines of the archaeological institutions in Vendsyssel during the last decades have influenced the formation of the archaeological record. I shall only point out a few examples – differences between the Provincial Museum in Hjørring (VHM) and Provincial Museum in Aalborg (ÅHM).

Record of Finds – Year and Museum

The diagram Fig. 3 shows the formation of the archaeological record in Vendsyssel over the past 200 years. Until 1870 the rate of acquisition was low and only special finds, such as richly equipped graves were reported. But from then on the accession increased with a maximum around 1960. Especially at the beginning of this period the National Museum (NO1) conducted systematic surveyes and excavations througout the country. Once founded, the provincial museums were

to take up field archaeology, and gradually The Historical Museum of Vendsyssel (VHM) would take over the leading position in Vendsyssel as a very active provincial museum. Compared to VHM The Provincial Museum in Aalborg (ÅHM) would only play a minor role.

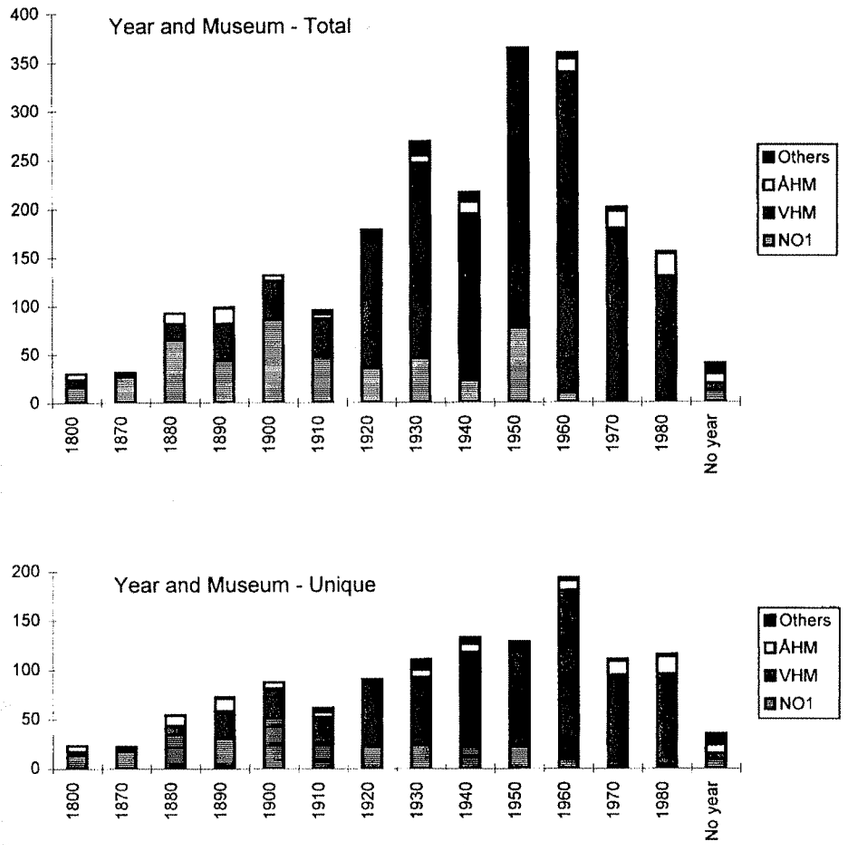

Fig. 3. Record of finds, year and museum

Record of Finds – Find Types and Museums

As mentioned above, an uneven distribution of settlements and graves can be seen throughout Vendsyssel. This clustering could be a result of a cultural variation in prehistory, or it could be related to the specific preferences and differences in standards and routines of the excavating museums. The pie charts in Fig. 4 show this relationship. Due to statistical problems, it is not possible to compare all the pie charts directly. The museums FHM, SÆM and TRM only show few finds and they cannot be reckoned as statitically significant. The museums NO1 and VHM show a somewhat identical composition of find types, but ÅHM has remarkably fewer graves and more stray finds. We will return to this observation later on.

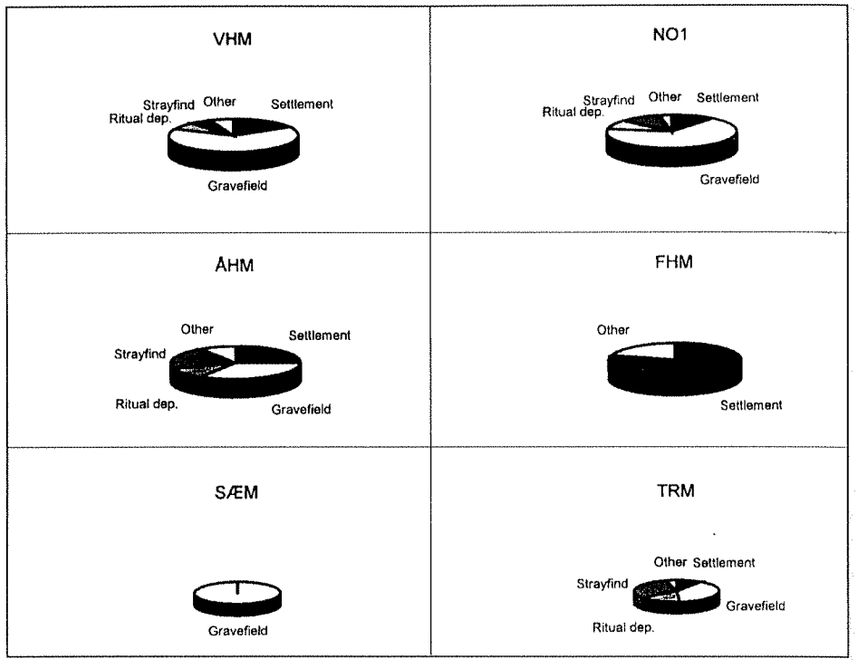

Fig. 4. Crosstabulation of museums and finds

Record of Finds – Find Types and Year

Figure 3 above shows an accumulation of finds with a maximum around the 1960's. The same situation is presented in Fig. 5. As an example, let us take a closer look at the graves. The upper diagram in Fig. 5 shows the accumulation of finds. This means the total number of graves, settlements, stray finds etc. without any consideration tothe fact that they could have been found at the same place. A gravefield with ten graves will count as ten units. This diagram truly represents an increase in reported finds. But when the reported finds are shown, not in total numbers, but in unique numbers – that is via sites, where one grave field with ten graves will count only as one unit – then the growth is quite moderate.

The two diagrams in Fig. 5 present quite different information. The upper diagram gives the false impression that new gravefields were found in excessive numbers around the middle of this century, but in fact, as we have seen on the lower diagram, the numbers did not differ radically throughout the century. The increase in total numbers was mostly due to an intensification of the archaeological routines, where more graves were excavated per gravefield than earlier. Thus the diagrams directly reflects research standards.

Record of Finds – Year and Dating

The archaeological record is formed by a mix of geographically differently located and constructed find types. Stone built graves on hill sides, sacrificial finds and wooden artefacts in bogs, highly decayed settlements and preserved only as

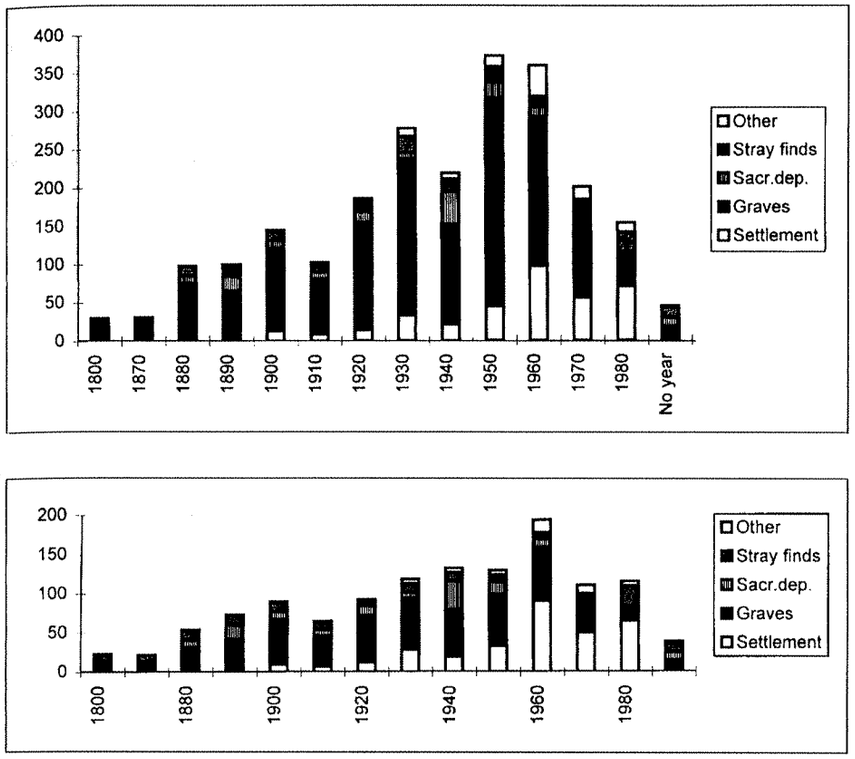

Fig. 5. Crosstabulation of finds and year

dark soil features in the ground, all demand different conditions for possible recognition. Compared with the Pre Roman Iron Age, there is an abundance of finds from the Early Roman Iron Age. This has probably to do with the fact that the features of the latter period are easily recognized, like stone built cists with inhumation graves and stone pavements at settlements, whereas the former are mostly earthen features. Traditionally most of the new prehistoric sites are reported by farmers during fieldwork, and from the driver"s seat of a tractor the sparse Pre Roman sites are easily overlooked. Some find types and periods will be more or less absent, and will probably only be found in relation to larger contracting projects, where archeologists will be engaged in preliminary investigations.

Causes for finds to be recovered

Normally finds are reported as some kind of activity has exposed the prehistoric object and is threatening to destroy it. Figure 6 shows the causes for recovery by the five main find types. Settlements and graves are mostly found due to agricultural fieldwork, whereas sacrificial finds are recovered in connection with peat cutting in bogs. Very often there are no records for stray finds, indicating that they represent artefacts with lost contexts. The variation in agricultural activity

and modes of production, the expansion of urban dwelling and other types of economic utilization of the landscape will result in a differentiated composition of the archaeological record. Througout the last 200 years a series of political and agricultural reforms has led to an intensification of agriculture. Moors and outfield pastures have been cultivated, resulting in corresponding peaks of incomming finds. Naturally the antiquarian readiness will be of a major importance. Low standards and little contact with the local population will lead to an insufficient covering, whereas the opposite can produce surpreme results.

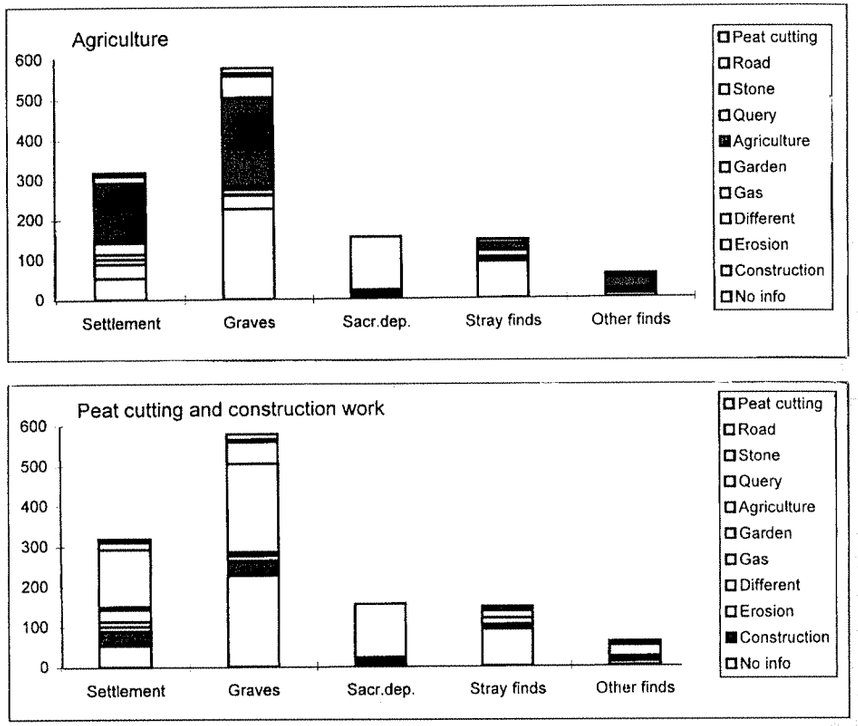

Fig. 6. Causes for finds to be recovered. Because of reduced size of the figure in this article only a few variables have been marked.

Representativity Conclusions

It has briefly been demonstrated with a few examples that the recovery of finds are dependent on human activity, not only in prehistory, but also in the present. The main cause for finds to be recovered are due to agricultural fieldwork. Intensification of cultivation means accordingly more exposed finds. Under these conditions, the archaeological finds will be reported as a result of the understanding and attention of the farmer, not to mention the often somewhat restricted willingness to contact antiquarian authorities. They will be followed up accordingly to the routines and standards of the museum curators. Financial resources,

capacity, skills and preferences of the archaeological staff are equally critical factors in shaping the regional picture. These determining factors will vary through time.

The find distribution showed higher concentrations of finds in certain areas in the north and west of Vendsyssel and fewer finds to the south-east. The question is, if this is really a valid distribution signifying the prehistoric settlement or could problems regarding representativity have biased the picture?

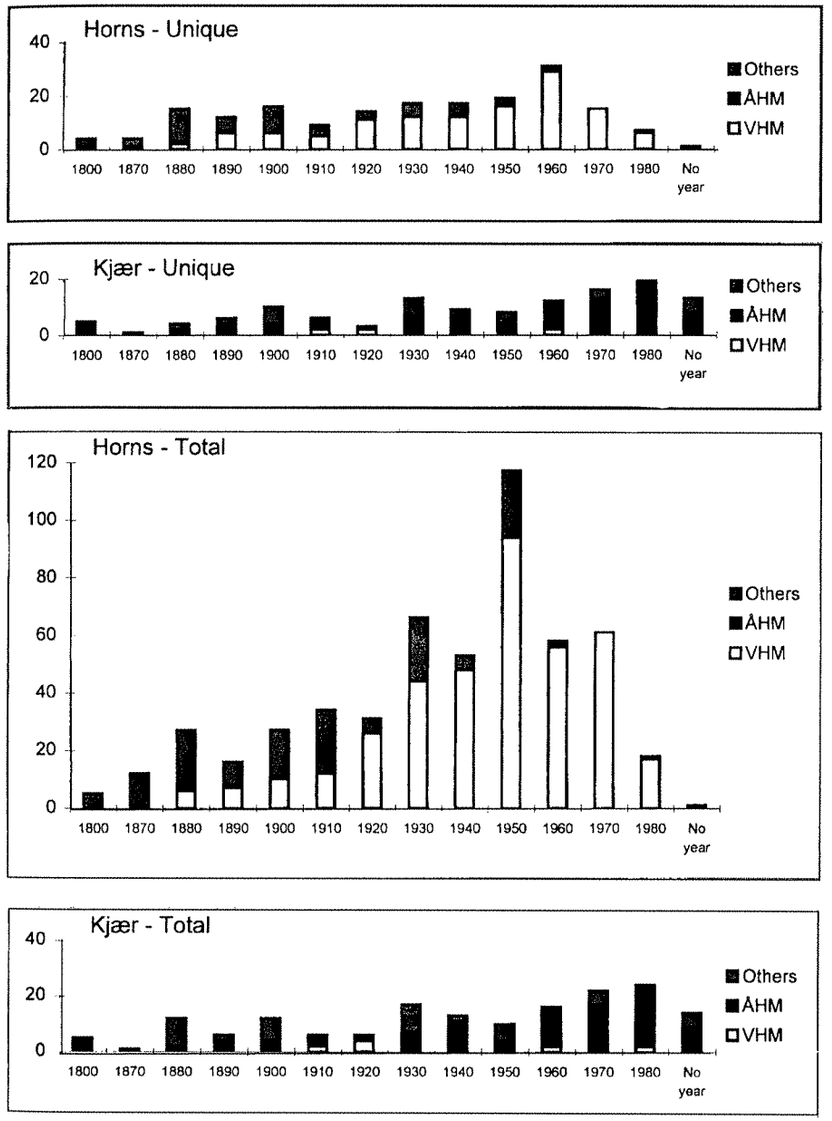

Fig. 7. Finds from the parishes of Horns and Kjær. Numbers are shown in unique and total numbers

In the original underlying analysis this question was carefully examined and discussed at several analytic levels and illustrated by many examples. In this article I shall only present a single example. Let us assume that intensive agriculture leads to high find exposure, and that the quality of the archaeological curators – their relation to and goodwill among the local people, will be of major importance in shaping the archaeological record. Then let us compare two districts of Vendsyssel belonging to respectively The Historical Museum of Vendsyssel (VHM) and The Historical Museum of Aalborg (ÅHM). It must be stated that the following conclusions do not in any way characterize the present situation.

The first is the district of Horns to the north-east. Horne is a part of the area that VHM is responsible for. Next to the south-east is the Kjær District under ÅHM. The two upper diagrams on Fig. 7 show the number of sites recorded respectively in the two districts, that is one gravefield = one unit. The two districts show parallel numbers and seem to indicate a comparable level of find exposure.

Below this, two diagrams show the archaeological finds of the same two districts, but this time in total numbers. That is summing up all features, meaning one gravefield with four graves will count as four units. The original data seems to indicate that there is no difference in the prehistoric cultural pattern between the two areas. However, the lower two diagrams in Fig. 7 clearly indicate a difference in the total number of finds. The explanation is that when VHM went into the field they would do a more careful job, often excavating more than one grave per gravefield. On the other hand, when ÅHM recieved reports about exposed finds, they would very often only conduct a survey, maybe a smallscale excavation, but hardly follow up with more intensive excavation. The leading staff of ÅHM were in periods not really interested in Iron Age and this had consequences especially in the more distant parts of the territory. On the other hand the staff of VHM had a reputation as enthusiastic curators.

The analysis of the material representativity points out how related and biased the find picture can be. Not only the intensity of agriculture, but also road building, construction and other human activities will influence the number of finds reported, and to a certain extent what types of finds will be exposed. Differences in the professional standards and routines of the museums, such as personal preferences of the staff, will further restrict the find distribution and this can be measured directly on the distribution maps. We thus conclude that the find distribution of Vendsyssel cannot be interpreted directly. The find distribution shows a filtered pattern and this demands extensive considerations and statistical analysis before further interpretation.

Topographical analysis

Research Area

As mentioned in the beginning of the article, the settlement pattern only becomes evident from a broad regional perpective. It is therefore important to select a well-defined geographic region and hopefully one with a suitable archaeological record. Vendsyssel fullfills these criteria.

The Province of Vendsyssel measures about 2900 km², and is made up of three main geological formations (Fig. 8): a high glacial moraine marked by hills and two late glacial and post glacial marine surfaces – the old and high-lying Yoldia surface, and the younger low-lying Litorina surface. Each landscape formation is furthermore formed by a mosaic of topographical landscape elements. Thus the formation of the moraine landscape can be put together by the topographical types, undulated highland, hilly country/landscape, intersected by river valleys and meadowland etc.

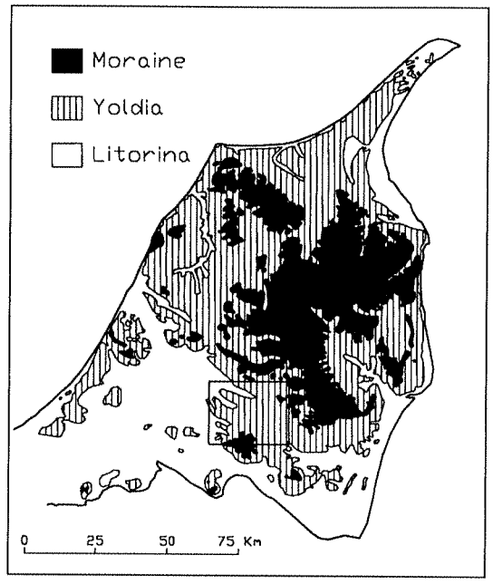

Fig. 8. The main geological formations of Vendsyssel

Sub-Area

A major part of the landscape-archaeological project is the landscape analysis. Let us take a look at a small sub-area (Fig. 8). This is situated in the southern part of Vendsyssel. It measures 155 km². It covers the wide Yoldia surface between the hill island Hammer Bakker to the south and the high moraine country, which reaches from the south-east part of Børglum District up north to Frederikshavn. In the south-west part of the area, the Yoldia plain gradually becomes Store Vildmose, a bog in the Litorina surface. The three mainland formations with the most characteristic landscape elements are elucidated, whereas the costal landscape, which also is typical for most of Vendsyssel, is not being covered.

Find Distribution

Figure 9 shows the find-distribution. In the original analysis the distribution was described in detail and divided into find catagories, as well by chronological units. There was a development in the pattern of the habitation in the period 500 B.C. to 175 AD., however, when it comes to the sub-area in question, these distinctions were not striking. Therefore the localities are summarized in a more uniform manner on the following maps. Finds from the pre-Roman and Early Roman Iron Age are combined and are presented in five main find catagories. All general conclusions refer, however, to results given in the original, detailed analysis.

Elevation Curves

The elevation of the landscape is very suitable as a starting-point for the topographical analysis (Fig. 10). Here lies the frame which gathers the different topographical analyses. In the sub-area, the finds from the Early Iron Age are situated on the 10 meter level on the marine Yoldia plain in oblong strips running south-east – north-west, along the edge of the northern upland and around the hills of Hammer

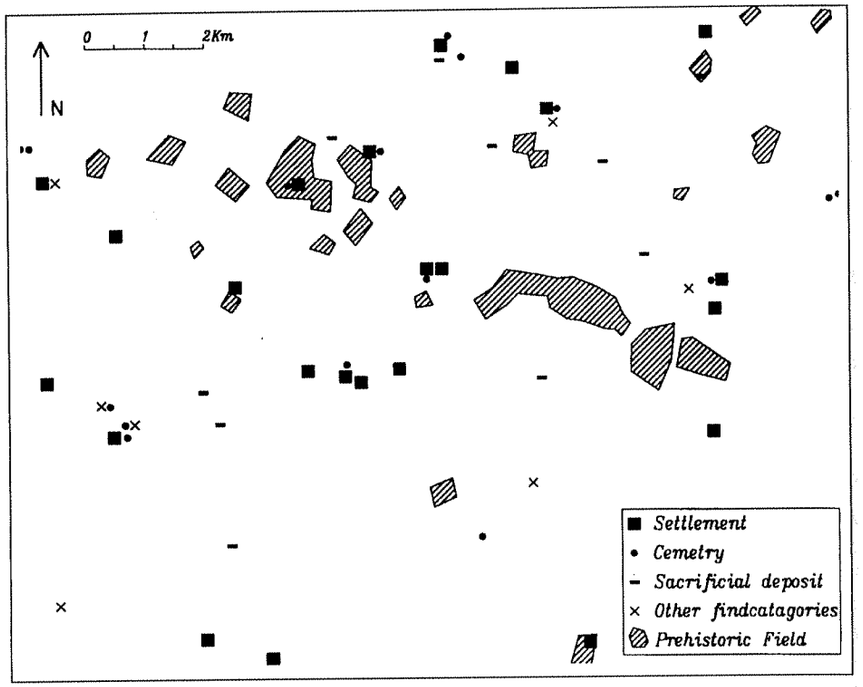

Fig. 9. Find distribution in selected sub-area

Bakker in the south as well. To the west, the habitation is bounded by the eastern part of the bog Store Vildmose, situated on the low-lying Litorina surface.

Classification of Soil-Types

The soil classification in Fig. 11 follows the classification worked out by the Danish Ministry of Agriculture. The soil classes CL.1-CL.5 represent increasing percentage of clay in the soil. Habitations and field systems are localized in oblong strips on the soil class Cl.1 of the Yoldia surface between the humus-filled wetlands. The settlements reach from the border to the peripheral area of the moraine hills where the soil classes Cl.1 and Cl.2 meet. The heavy argilliferous areas to the south-west are avoided. The Hammer Bakker area to the south is not well described. Today it is woodland and in historical times some parts were hidden by shifting sand in thick layers. This sand cover may therefore be the reason for the scarcity of finds in this area.

Topographical Landscape Types

The sub-area covers the three main geological landscape formations: the hilly moraine and the marine Yoldia and Litorina surfaces. They are re-composed of a range of topographical landscape elements. Figure 12 shows how habitations and field systems are situated on the terrain type called level country (L/G) and

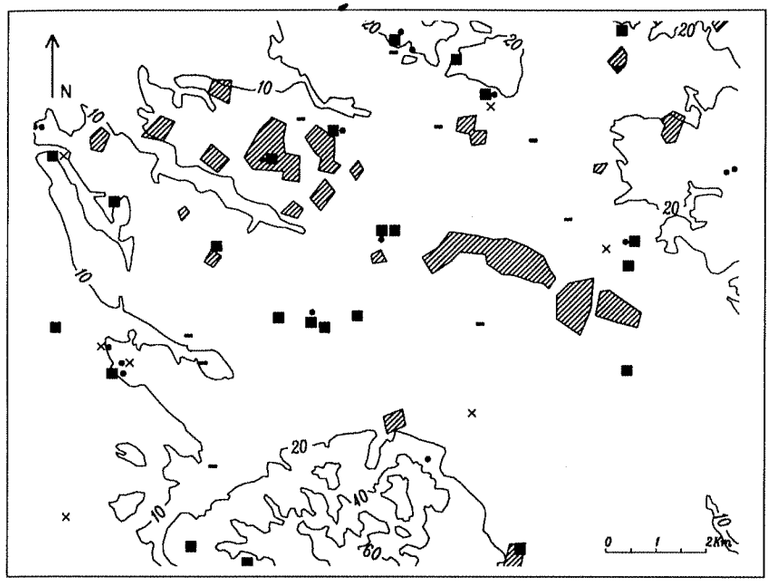

Fig. 10. Elevation curves

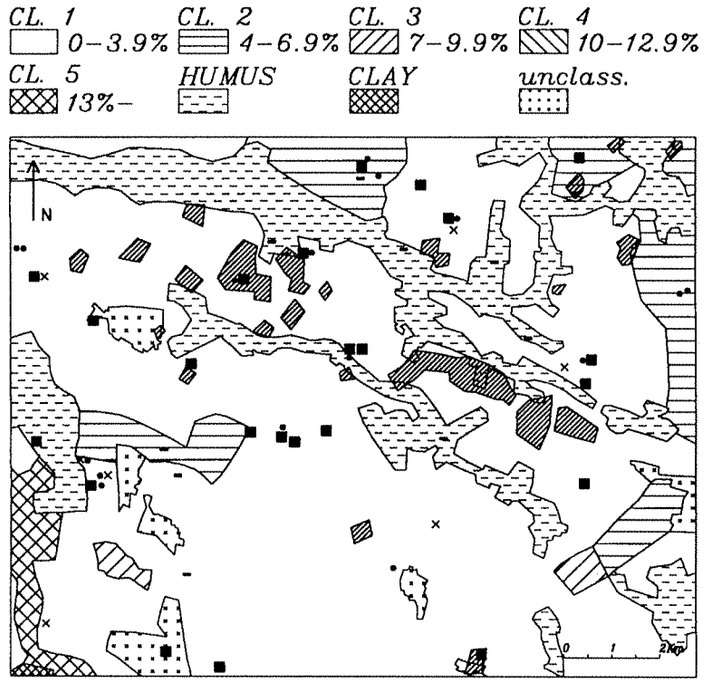

Fig. 11. Classification of soil-types

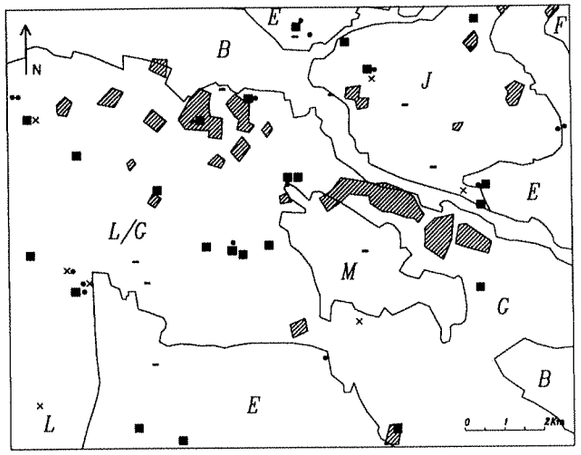

Fig. 12. Topographical landscape types

along the border of the open and varying fluctuated landscape of the types (E) and (J). One single field system can be seen to the north-east on the border of the open and hilly country (F). The settlements, however, are not situated directly by brooks (B) or lakes (M). The latter, once a shallow lake, is now drained land. Likewise, no farmsteads or field systems can be found on the highland.

Wetlands

The map Fig. 13 is a composite map, it covers wetlands (open water, water systems, and meadows). The map attempts to illustrate the situation, which could characterize the Early Iron Age. The wetlands probably had greater extents than indicated here. Due to rising watertable and limited natural draining, the lowest lying parts of the plain had wide wetlands with a marshy surface outflow to the west and to the south-east. The map shows how the habitations and the field systems can be localized in relation to the wetlands. Other areas of Vendsyssel with a different composition of mainland formations and topographical landscape types show exactly the same pattern, settlements are located along the water systems.

To a certain degree the already existing drainage system consisting of natural and straightened streams, lakes, ditches, and drainage works can be of assistance in localizing the original wetlands (Fig. 14). The map shows the expected accordance between the presumed prehistoric settlement of the Early Iron Age and today's need of drainage. However, the areas which today are water saturated and require drainage are potential wetlands in the Iron Age. On this drainage map it can be observed that at northern settlements in the sub-area, the concentration of field systems is situated on a dry soil, whereas the southern part to some extent is saturated.

Potential Map

Figure 15 shows the topographical ground water divide (main upland), i.e. the delimination of the water systems as regards the landscape. It also shows the groundwater divide, which determines the direction of the flow from the primary groundwater reservoire. Topographical groundwater divide (sub-upland) and potential curves do not appear in this version. Generally, the expanse has a high groundwater level thus the lower parts become marshy by natural drainage only, whereas the high-lying areas with topographical water divide (main upland and

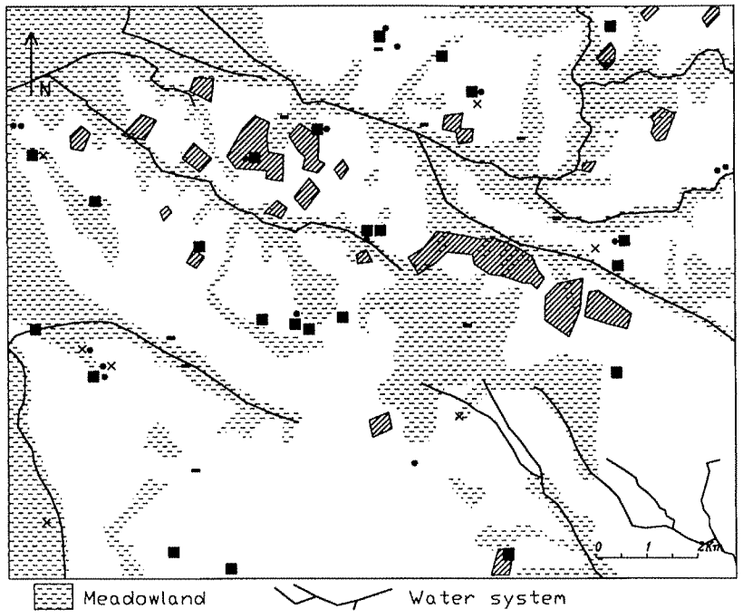

Fig. 13. Wetlands, meadowland and watersystems

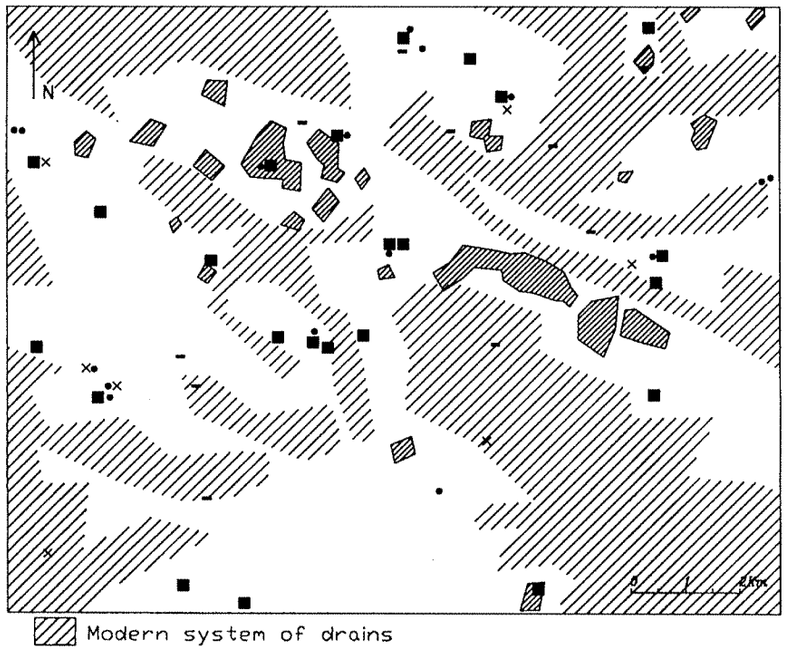

Fig. 14. Modern system of drainage

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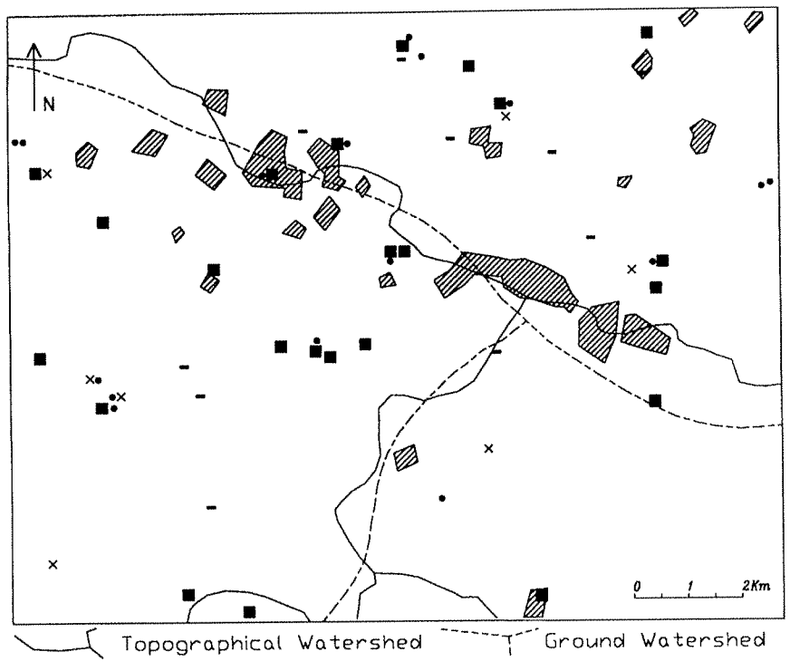

Fig. 15. Potential map, topographical watershed and ground watershed

sub-upland) are dry to a higher degree. Drainage runs from the hilly areas and the highest peaks of the surface down towards the wetlands.

The farmsteads and field systems are situated on the high levels of the plain and they are situated on the border of the slopes where the water flow is optimum for drainage as well as vegetation. It can be observed that most of the field systems of the area are located on the dry topographical groundwater divide. This substantiates the observations stemming from the description of the wetlands.

A Summary of the Habitation Pattern

The overall map analysis was originally carried out primarily on the habitations and prehistoric fieldsystems, not only on the sub-area presented, but on the whole of the province of Vendsyssel. A total of 356 settlements were registered, not all of which could be interpreted with an equal certainity, but at least about 200 localities seemed to be certain. They were spread over the entire province and they form a large empirical base. The field systems were also numerous with more than 200 known localities.

The map series Figs. 9-15 shows the pattern which characterizes the localization of the habitations of the Early Iron Age in Vendsyssel. Some variations can be seen, the landscapes vary topographically and the habitation is adjusted. The variation occurs, however, in a regular pattern on the basis of a range of general criteria common to the whole province.

Habitation is rare on the low-lying frontal coast areas with the ponds and meadows of the Litorina surface, habitation is rare. The faint upheaval of the land since the Early Iron Age has increased the extent of the surfaces and made cultivation possible by means of artificial drainage. In the Early Iron Age, however, there were no settlements on the flats. Thus, the habitations on the extensive Litorina surface in the south of Vendsyssel, in Kjær Herred and along Limfjorden to the west were situated up on the edge of the moraine hills, whereas the accessible areas of the plain would have been used as meadow.

However, deviations can be seen on the Litorina surface. Near Hals, to the south-east of Vendsyssel, traces of habitation from the Early Iron Age at Koldkær (ÅHM j.nr.663 and 1790) as well as a neighbouring field system at Rævebakke (NMI Hals parish sb. nr.5) can be observed (Hatt 1949, nr.9). In addition, to the north-west of Vendsyssel, at Tolstrup Hede, a group Early Iron Age finds can be found, consisting of a field system, a farmstead and a cremation grave (Lysdahl 1985:22). These areas, situated near the coast, are difficult to analyse. The landscapes have been exposed to vigorous erosion and in historical time they have been covered by sand drift. As other example of habitation on the Litorina surface, the dense settlement area in the northern part of the bog Store Vildmose is a very remarkable deviation. At this place, Viggo Nielsen has exposed numerous traces of habitation and farming at Grishøjgårds Krat (Nielsen 1993). The localities are situated on a topographical groundwater divide (main upland), which is a somewhat higher and more dry soil with a natural drainage towards the brooks Ryå, to the north, and Lindholm Å, to the south. During the Iron Age the surface was gradually covered by the growth of the bog and the settlements were given up.

The settlements are concentrated on the Yoldia surfaces along the characteristic river valley systems, which cut through the plains towards the sea. The habitations and the fields are situated on well-drained ground near wetlands and they are not dispersed over the dry expanses. They reach further up to and onto the edge of the surrounding levelled, undulated hilly landscapes. In particular, several field systems are situated on the upper groundwater divide of the plains and on the edge of the sheltered slopes.

The settlements are spread throughout the low, slightly undulated moraine highland. Several farmsteads are situated on the edge of the moraine hills towards the marine plains. This kind of localization between different landscape zones is common. At some the habitation reaches further up onto the moraine. This occurs exclusively along the water systems where the hydrological conditions are optimal. The undulated moraine landscape is avoided.

A site catchment analysis was undertaken whereby the percentageof the area of each soil class within a radiusof 500 m of the habitation was calculated. Most of the habitations are situated on the slightly sandy soil of Cl.1 and Cl.2, distributed over 40 per cent each. Clay soils Cl.3, Cl.4 and Cl.5 comprised a total of only 3.5 per cent of the catchment area. It is clear that the habitations are concentrated on the light soil and that the heavy soil are not desired.

It appears that the habitations are primarily placed in the plains and on open undulated and hilly landscape. Several localities, as well, are situated at the transition to a slightly, undulated river valley landscape and the varied river valley landscape on the Yoldia surface, whereas they are not localized in the low river valleys and meadows on the Litorina surface. The high, undulated moraine

landscapes are only marginally inhabited. The two landscapes, the one marked by sand drift – the other bog areas, form landscapes which are transformed by secondary activities.

There is likely an increase of the population and settlement density through the Early Iron Age, and this can be seen in the archaeological record. From the pre-Roman period to the Early Roman Era the number of settlements and graves are quadrupled and it is to be remembered that the Early Roman Era only covers two hundred years compared to the Pre Roman Era of five hundred years. On the other hand, it must be remembered that a range of details concerning constructions, for instance an increased usage of stones, makes it easier to locate the settlements of the Roman era. Generally, the habitations of the Roman Era are localized on the same soil types and landscapes as the pre-Roman ones, but there is a slight tendency for the Early Roman finds to spread a little further up in to the hilly country.

The habitations are not smoothly dispersed through the region. At three places, the habitations are dense. This can be observed in Horns Herred at Frederikshavn to the south-east, and in Vennebjerg Herred around the hilly part of Hjørring down to the south-east part of Børglum Herred, and in Hvetbo Herred to the north as well. These three concentrations stem from as early as the pre-Roman Iron Age, and they become very marked in the Roman Era, where they spread out and to some extent grow together. The habitation of the southern part of Vendsyssel, in the districts of Kjær and Dronninglund, however, is not as densely concentrated. The picture is coloured by the fact that museum activity has not been on the same level throughout the entire region, however, the impression of a concentration in three main habitation areas is clear.

The grave material, which is usually not suitable for elucidating the habitation in detail, follows the same geographical pattern. When the graves from the Early Roman Era are observed, there is a tendency towards inhumation graves (stonegraves and inhumation graves with or without gable posts) being detected especially in these three areas mentioned above, whereas cremation graves are more difusely spread. The graves are placed in the immediate vicinity of the habitation. They are situated according to the terrain but not to the soil type. They are often placed over slopes on high and undulated terrain.

Conclusion

In this article I have attempted to present some of the theroretical and methological considerations connected to landscape-archaeological studies. Of course presented in this way, far to short and isolated from its original results and analysis, it may appear only as an incoherent hybrid. However the approaches presented above should serve as an example of some of the steps needed in related studies. The conclusions can only be of a general kind.

Mapping archaeological data will always present some kind of site distribution, either the sites will be ordered uniform, random or clustered. But this pattern is not directly a map of the prehistoric settlement, it is more a picture of present exposure and of the archaeological standards – including theoretical and practical routines. It is true that – no matter how biased the find context might be, every site contains positive information and can be treated as basic scientific data. However in the large scale perspective of a regional analysis, the specific contexts of archaeological sites must be carefully analysed, if we are to move beyond the limitations of representativity.

Furthermore, even if we finally succeed in bypassing the empediments of representativity, and even if we reconstruct the prehistoric settlement pattern sufficiently, we will still only have presented the geographical pattern of habitation, and this pattern does not equal the structure of habitation. That again would demand material interpretations of the prehistoric cultural networks and relations forming past settlement structures. This is a scientific discourse that demands a subjective understanding of our own role as reinterpretater of material text, as discussed in the beginning of this article.

The point of this article is not to present archaeology as an impossible task. The point is to illuminate some of the problems associated with archaeological analyses such as landscape-archaelogy, and against this background to recognize the limitations of material text and to admit the important role of subjective reinterpretation.

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Archeologiniams tyrimams 200 metų

SØREN DIINHOFF

Santrauka

Priešistorinių gyvenviečių struktūra geriausiai atsiskleidžia plačiame regioniniame kontekste. Tačiau kaip remdamiesi radinių paplitimu, mes galime nustatyti kultūros raidą? Norėdami atsakyti į šį klausimą, turime atsižvelgti į dar du: kaip radiniai atspindi priešistorinę realybę ir kokiais būdais mes galime tai nustatyti. Šis straipsnis – tai regioninė ankstyvojo geležies amžiaus gyvenvietės tipo studija. Ji paremta Vendsyssel gyvenvietės šiaurės Danijoje pavyzdžiu. Straipsnyje apžvelgiamos metodologinės priemonės, kuriomis atskleidžiamas priešistorinių bei šiuolaikinių įvykių kompleksiškumas. Tie įvykiai leidžia atrasti ir dokumentuoti priešistorines gyvenvietes bei nustatyti archeologinių šaltinių reprezentatyvumą.

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IV. Methods and Technics

The use of on-site pollen analysis, local pollen diagrams and modern pollen samples in investigations of cultural activity

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Introduction

Scale and representativity have been of primary concern in palynology. Different source areas are represented in different deposits and there are differences between forested areas and open landscapes. Investigations of sites representing different scales are therefore recommended for reconstructions of vegetation and human activity in an area (e.g. Jacobson & Bradshaw 1981, Andersen et al. 1983, Berglund 1985, Birks & Moe 1986, Bradshaw 1991, Edwards 1991a). In addition to the local and regional scales given by natural deposits, in-context (on-site) pollen analysis gives a direct connection between a site, its artefacts and the contemporaneous pollen assemblage (Madsen 1985, Bjerck 1988).

In the interpretation of pollen diagrams, two main approaches have been used, both based on modern analogues (Birks & Birks 1980:236ff). One is the "indicator species approach" where one looks at the ecological demands and tolerances of different species today, and assumes that these tolerances have not changed through time. The narrower amplitude a species has for an environmental factor, the better it is as an indicator of that factor. This has been the most widely used approach, and has also been used for interpreting cultural activity (e.g. Iversen 1941, Behre 1981, Berglund 1985).

The other method is called the "comparative approach" (Wright 1967) in which one analyses surface pollen samples from different vegetation types, and uses these spectra in comparison with fossil pollen assemblages to reconstruct past plant communities. In this approach the whole pollen composition is taken into account. This method has been widely used in the reconstruction of natural vegetation communities (overview in Birks & Birks 1980:237ff). As the vegetation in Europe is highly influenced by man, the use of the comparative approach in this part of the world has been limited. Recent developments in available multivariate methods for comparing modern and fossil pollen assemblages as well as new developments in computers, have given rise to new possibilities for