From MN A to MN B – A South Swedish Perspective

by LARS LARSSON

The paper by Kristian Kristiansen in volume 8 of this journal is to be appreciated as an inspiring but also provocating contribution to the discussion about the diffusion of the Battle Axe Culture in Northern Europe (Kristiansen 1991). My own interest in the matter is rooted in the problems concerning the final Funnel Beaker Culture and its relation to the Battle Axe Culture in Scania, South Sweden, which is a more limited perspective, concerning a shorter period of time, than the process dealt with by Kristiansen.

The way in which Kristiansen refers to the conditions in South Scandinavia, such as the duality of the Funnel Beaker and Battle Axe cultures, or the relation between the Middle Neolithic (MN) A and B, following Nielsen's terminology (Nielsen 1979), gives a far too simplistic picture of the social conditions during the period in question.

A find assemblage of a special character was found at the causewayed enclosure at Stävie in western Scania, the first site of this type discovered in Sweden (Larsson 1982). Clearly the shapes and decoration of the pottery from Stävie was closely related with the pottery of the final period of the Funnel Beaker Culture according to Danish chronology, the MN V (Davidsen 1978). This stage had not previously been documented in the Swedish material (Nielsen 1979:57; Davidsen 1978). However, working with the publication about Stävie it became clear, that elements characteristic of the MN V were relatively well represented in Scania, and the same was found during subsequent studies. Identification of such find assemblages allows us to view the latest phase of the Funnel Beaker Culture in a new perspective (Larsson 1982, 1986, 1992). It also turned out that the flint tools and the flint technique observed at Stävie were related not with the Funnel Beaker Culture but with the Pitted Ware Culture. We are thus facing a find complex composed of a Funnel Beaker pottery tradition and a Pitted Ware flint technology.

THE CHRONOLOGICAL RELATIONS

The various material cultures in existence during the Middle Neolithic of southern Sweden – the Funnel Beaker Culture (TBK), the Pitted Ware Culture (GRK), and the Battle Axe Culture (SYK) – should be subjected to a differentiated analysis with regard to a number of factors as proposed by Kristiansen (1991). Aspects such as the chronology, the utilization of the landscape, and the ideological foundation of society should thereby be taken into account. Besides, it is not fruitful to regard South Scandinavia as a culturally homogeneous area. A study of the relationships between the three aforementioned cultural types is thus synonymous with a study of the structure of not only one but several complex societies.

As to chronology, Danish material places MN V within the period 2340–2160 bc (2910–2620 BC),[1] with a mean value of 2270 bc (2890–2790 BC) (Malmros & Tauber 1977:81; Davidsen 1978:170; Tauber 1986, Table 1). This value can be compared with the mean value of 2180 bc (2860–2630 BC) for the Scanian sites with elements of MN V character. This difference may indicate that typical elements for MN V existed in Scania for a somewhat longer period than on East Zealand. In addition they are present at sites whose material composition differs noticeably from that encountered in the Danish TBK. West Denmark also contains similar examples of elements from the late TBK assimilated by GRK (Rasmussen 1984:97, 1991). Datings from sites with a mixture of elements such as Kainsbakke, East Jutland, have produced values between 2370 bc (2920 BC) and 2000 bc (2500–2470 BC), with a mean value of 2175 bc (2860–2620 BC) (Rasmussen 1991:17–18).

The Swedish datings from the SYK all originate from features which have been dated to the late part of the culture (Larsson & Larsson 1991; L. Larsson 1992). A variation in dates between 2060 bc (2570–2500 BC) and 1860 bc (2290–2210 BC) gives a mean value of 1980 bc (2460 BC). It is clear from this that the late SYK was contemporaneous with the late EGK which is dated to c. 2000 bc (2500–2470 BC). In spite of a rather greater range of variation for the Scanian datings, these cannot be used in support of a claim to the effect that the SYK was in existence for a longer period in relation to the EGK.

The early EGK has produced radiometrical values with a range of variation between 2290 bc (2900–2790 BC) and 2040 bc (2560–2500 BC), with a mean value of 2170 bc (2860–2620 BC) (Malmros & Tauber 1977: 91; Tauber 1986, Table 1). In his detailed study of the SYK, Malmer states that the early phase was shorter, but hardly very much shorter, than the late phase, basing his argument on the find material (Malmer 1962: Abb. 33). From this it follows that the SYK was introduced at about the same time as the EGK in Denmark.

The relationship in southern Sweden between the early SYK and the late TBK, or to elements belonging to it, is more uncertain. The Scanian datings of the latter culture produce the mean value of 2180 bc (2860–2630 BC) – a value which agrees more closely with the early EGK – 2170 bc (2860–2620 BC) – than with the final phase of the TBK in Denmark, with a mean walue of 2270 bc (2890–2790 BC). This is a good support for assuming that the late TBK in the south of Sweden existed at the same time as the early SYK.

THE CULTURAL RELATIONS

With regard to the relationship between the TBK and the GRK, the results of a number of investigations have been published in recent years which to a certain extent change

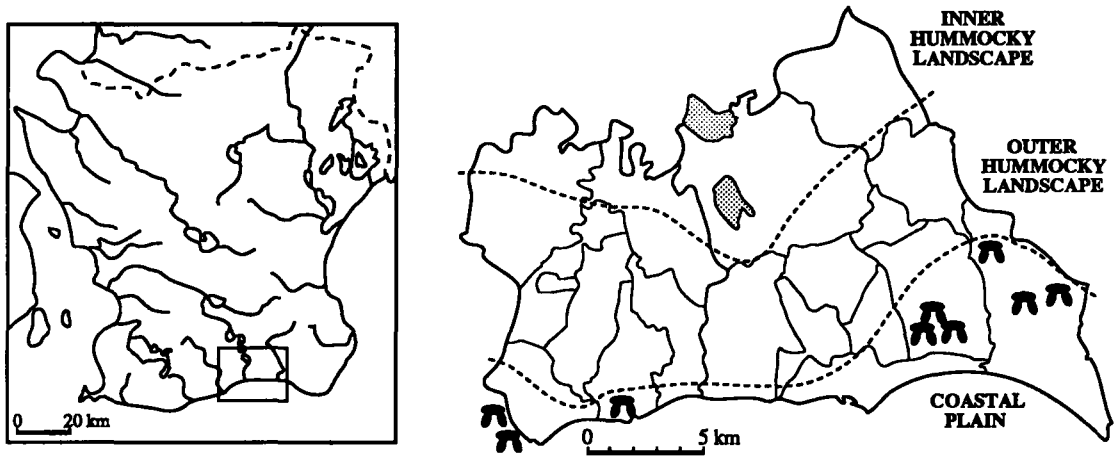

Fig. 1. Map of southernmost Sweden, marking the research area (left) and the project area subdivided into three zones (right) combined with the distribution of megalithic tombs.

our view of these two cultural phenomena. An interest is now being shown in what characterizes these two cultures (Welinder 1978; Nielsen 1979; Becker 1982; Wyszomirska 1984). This mainly concerns the question of what is to be designated as characteristic of the GRK. This culture, like the TBK, does not exhibit a comparatively uniform combination of artefacts and style. The additional existence of a noticeable difference, not only in the material culture, but also in the economy, has proved to be associated with considerable problems of interpretation (Browall 1986:28 ff.). Certain areas are completely dominated by hunting, fishing, and gathering, whilst animal husbandry and arable farming are well represented in other areas.

Clear indications of a mixture of elements from both the TBK and the GRK have been documented in the area of southernmost Sweden (Larsson 1982, 1985; Rasmussen 1984:83 ff.; Strömberg 1988). The organic finds indicate a mixed economy, with animal husbandry and arable farming being supplemented by hunting and fishing. This agrees well with the utilization of the resources of the landscape during the final phase of the Danish TBK (Davidsen 1978:140 ff.). This is a feature which is not known to be associated with earlier phases of the Middle Neolithic TBK.

The reasons for this mixed economy are not entirely clear. The explanation which can be considered the most plausible is that the controlling factors which society was unable to influence contributed to the change. A deterioration in the climate, for example, may have resulted in the increased utilization of those natural resources which were available on land and in the water. Another reason could be that to derive ones livelihood from hunting and fishing became socially acceptable in a way it had not previously been. Control mechanisms of a social nature can have a significant influence on the choice of food and the way it was supplied and shared by the people.

In certain parts of southern Scandinavia, therefore, it is not possible to speak of clearly identified material cultural units. The finds instead point towards a cultural assimilation between the existing TBK settlement and an expanding GRK. This cultural assimilation may have been encouraged by the fact that the two cultures appear to share a common origin. Therefore, the fusion of these population groups was facilitated by a common basic approach to society. Furthermore, the regional characteristics of the GRK indicate that its structure was such as to permit new elements to be readily accepted.

The problem is how the SYK is to be related to this acculturation. An examination of the situation in central Sweden fails to reveal any cultural assimilation tendencies between the GRK and the SYK during the late Middle Neolithic (Welinder 1978:109 f.), neither would such assimilation have happened between the EGK and the coeval complex in eastern Jutland with elements mainly of the GRK (Rasmussen 1985:97).

At the same time it is difficult in the south Scandinavian SYK complexes to identify any tradition from the TBK which might reasonably be expected to have existed in the event of a linear change from the late TBK to the early SYK. It is also very important to pay attention to the study of relationships, not so much from a supraregional south Scandinavian perspective, but rather as they relate to a number of regions, in order better to appreciate the cultural and economic relationships as well as the ideological ones.

Approximately at the same time the south Swedish TBK was under influence from two spheres: One is represented by the GRK and led to a considerable assimilation process. The other influence was caused by the SYK and does not seem to have had any impact on the communities of the TBK tradition, neither did it affect the GRK tradition. The alternatives seem to have been either to continue the existence or to perish.

The combination of elements from the TBK and the GRK

which has already been identified, referred to here as the Stävie Group (Larsson 1982), may have continued to exist for a period which also includes that of the early SYK.

Although the finds dating from the SYK are comparatively sparse in terms of ecological facts (Møhl 1962), there is no clear evidence to suggest the existence of any major difference between the forms of occupation of the SYK and those of the Stävie Group (Hjelmquist 1982, 1985; Persson 1982). Settlement material from this phase indicates the cultivation of both wheat and barley. As has previously been pointed out, on the other hand, significant differences may have existed in the social organization – a factor which may have had major consequences for relations between the societies.

A CASE STUDY

Investigations concerning the change from MN A to MN B have been carried out and were further developed during the research program, *The Cultural Landscape during 6000 years. A multidisciplinary study on Man and his environment in southernmost Sweden.* The aim of the project, generally named *the Ystad Project*, was to study changes in the cultural landscape over a long period within an area in southern Scania (Larsson 1985, 1992) which involves a 25 km long coastal area with a width of about 20 km north-south.

The Ystad area can be divided geologically into three zones (fig. 1). The zone closest to the coast consists of a coastal, sandy plain. The coastal plain is of varying width within the project area with the greatest width at about 3 km. Behind this plain the terrain becomes an undulating landscape – a hummocky landscape. This can be divided into two different zones: The zone nearest the coastal plain is dominated by heavy clay soils – this is the outer hummocky landscape. The inner hummocky landscape has a large expanse of gravelly and sandy, and consequently less productive, moraines.

The settlement in the area during the Early Neolithic and the first half of the Middle Neolithic has been subjected to intensive research (Larsson & Larsson 1991; M. Larsson 1992). As a result, a number of settlement concentrations can be identified which in most cases coincide with the location of the megalithic graves in the coastal zone (fig. 1). A continuity of settlement, in the shape of settlement sites of a scale rarely exceeding 1000 sq.m., can be followed from a late part of the Early Neolithic until Period III of the Middle Neolithic TBK. Occupations corresponding to Danish MN IV–V do occur but in reduced numbers. These sites appear to have been of limited extent and were probably widely distributed both within the coastal strip and into the outer hummocky zone. This theory is supported not least by the presence of considerable numbers of late thick-butted flint axes.

Although the number of sites confirmed to belong to the

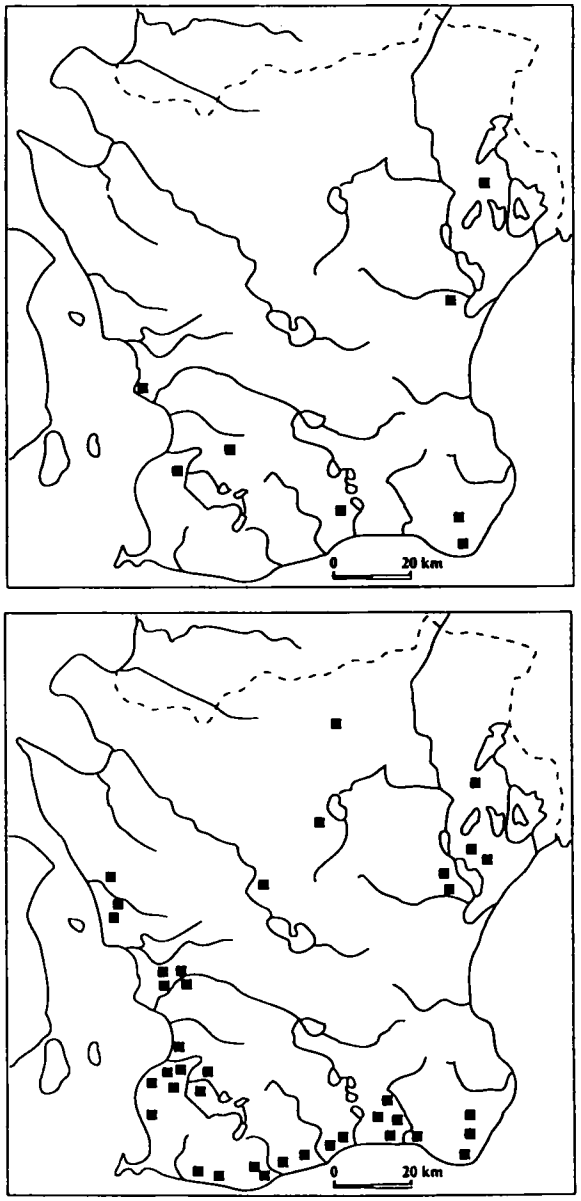

Fig. 2. Scania, with the distribution of graves from the early (top) and the late (bottom) Battle Axe Culture.

Stävie Group has increased noticeably in recent years, traces of settlement dating from an early part of the SYK are entirely lacking (Strömberg 1989). One of the important tasks of the Ystad Project therefore became to find settlements belonging to the SYK. By means of investigations in the Ystad area we have been able to find evidence of a number of sites. Those situated in the hummocky zone were, in the same manner as other Stone Age sites in this area, erased by agricultural activity to such a degree, that neither occupation layers nor features were preserved. The only surviving evidence was a flint material which does not permit

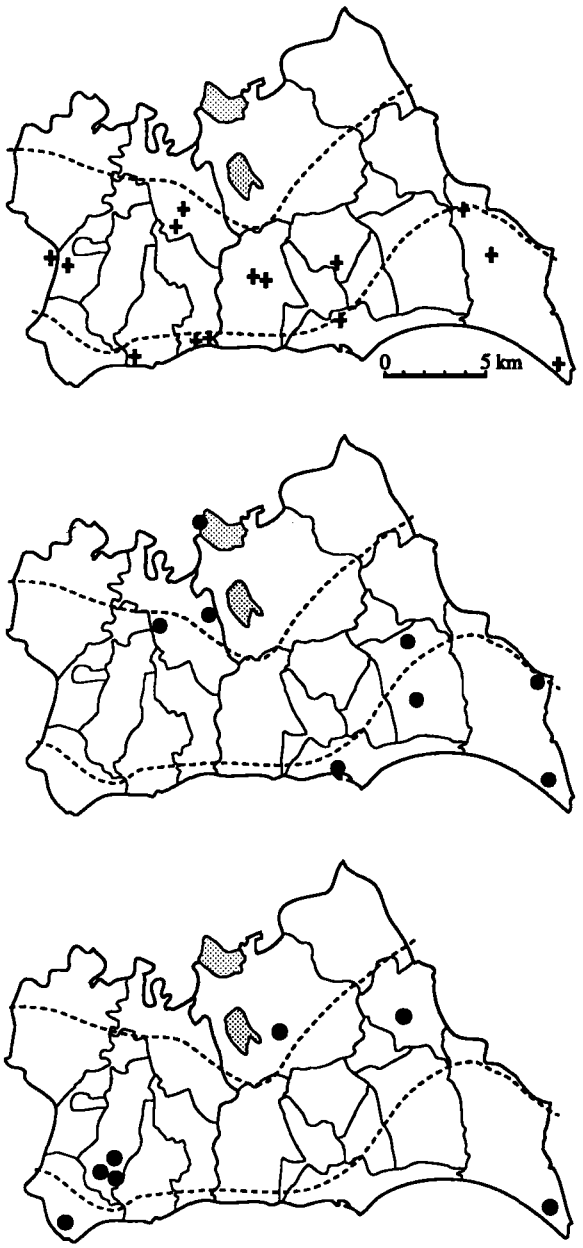

Fig. 3. Graves (top), sites (middle), and hoards (bottom) from the Battle Axe Culture in the project area.

any precise date. In the coastal zone where the destruction caused by ploughing is not so bad, a settlement from the late SYK with the remains of a house-site was investigated (Larsson 1989). This settlement had many points of resemblance with the remains of settlements from the late EGK (Hvass 1977; L. Larsson 1992).

For the purpose of examining the SYK from a point of view which takes in both its older and more recent phases, the graves are still the only adequate basis for the study of the distribution of the settlements.

As previously proposed by Malmer, the graves are concentrated on the best soils in the coastal regions of Scania (Malmer 1962). If the situation is examined in greater detail, however, in terms of both time and space, clear differences in distribution can be observed. The graves from an early part of the SYK are distributed in the innermost parts of the areas with the best soil, which corresponds to the hummocky landscape (fig. 2). During the late SYK, however, the majority of graves are situated in areas near the coast (fig. 2).

As far as the Ystad area is concerned, the graves are distributed both in the hummocky landscape and in the area near the coast (fig. 3). It should be emphasized that the graves in the hummocky landscape tend to be older than those in the coastal zone. The former have a markedly monumental location in opposition to those situated near the coast. In the hummocky landscape SYK graves are sometimes situated in the same positions as the burial mounds of the Bronze Age. The explanation can be that the grave as a symbol of society was given more emphasis during the earlier part than during the later part of the SYK.

An occupation in both the coastal zone and the hinterland can also be deduced from the distribution of settlements and hoards (fig. 3). This is a situation markedly different from the distribution pattern of the late TBK (fig. 1).

The distribution pattern can be explained in the following way:

An acculturated cultural form of the TBK and the GRK – the Stävie Group – existed in the area for a couple of centuries (Larsson 1986, Fig. 6). The representatives of the Stävie Group used the best soils adjacent to the coastal plain as well as the outermost parts of the hinterland. A well established and thriving community, supported by the Stävie Group, was able to withstand the influence of the new ideology for a couple of centuries. Consequently, the representatives of those who welcomed the new ideological influences were obliged to look for pastures and arable land outside the established settlements. Therefore, new social groups associated with the SYK were established in the hummocky zone peripherally in relation to the traditional areas of settlement. Nevertheless, the SYK proved to be a most vigorous form of social organization, as a consequence of which it spread down to the coast and incorporated, with more or less resistance, the traditional areas of settlement.

THE SOCIAL RELATIONS

In spite of the acculturation tendencies which can be traced in Scania during the Middle Neolithic period, the influences exerted by the SYK complex on the Continent appear not to have been accepted. These were very likely changes of a kind which had significance over and above economic change. The new forms of artefacts, and the change in the grave ritual, may be associated with the acceptance of a new ideology with marked religious and social archetypes (Malmer

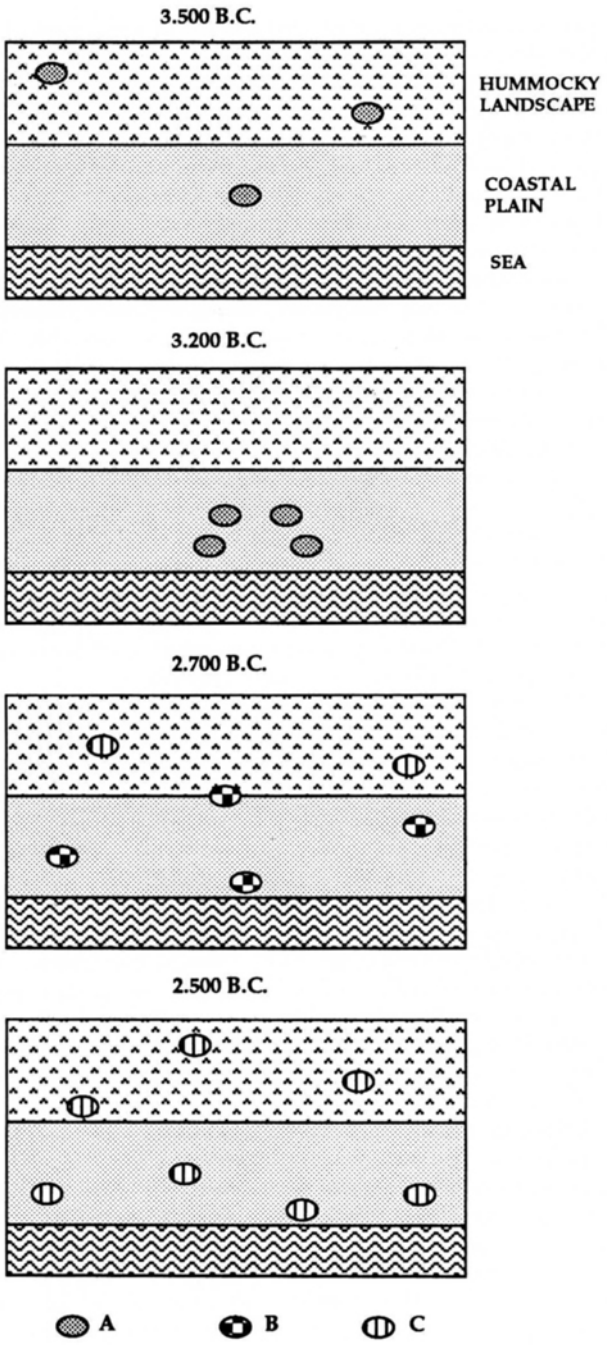

Fig. 4. Model for the settlement distribution during EN and MN A–B. A, sites from the Funnel Beaker Culture. B, sites from the Stävie Group. C, sites from the Battle Axe Culture.

1962:810 f.). The SYK was probably characterized by its strongly individual-oriented structure, with its highly regulated burial practicies. The continued use of the Megalithic graves during the late TBK, which is confirmed not so much through the pottery as by the axe forms, exhibited a more group oriented pattern of traditions during the earlier part of the same culture.

The evidence so far indicates clear foreign influences at the establishment of the SYK. But what was the nature of these influences? Going from one extreme to the other, should we believe in immigration of small missionary groups or in large scale movement of people? We hardly accept a large scale immigration of peoples who by themselves should have managed both to seize the most fertile ground on which to base their economy and to demonstrate their ideological supremacy. If this had been the case, we should observe a direct succession from the TBK to the early SYK especially in the coastal region. We would rather see the establishment of small groups with a strong ambition to recruit supporters and to change the ideology in existing societies. In some areas the new immigrants were successful. In certain parts of southern Sweden, for example in northeast Scania (fig. 2), this movement very probably experienced an unrestricted period of innovation. However, in parts of West Scania and South Scania it failed to gain foothold amongst the established societies. Only at a later stage – about two centuries later – did the social order of the SYK spread down into the old occupation districts, taking complete control over them.

The fact that there is no evidence of the initial traces of the SYK in the old districts can be interpreted as being indicative of the existence of differences between the social structures of such a kind as to exclude the possibility during an introductory phase of fusing together the established and the new social orders. This does not necessarily mean that there were fundamental differences from an economic perspective, as some researchers would have it. What emerge more clearly from an ethno-archaeological viewpoint are those attitudes and systems which rule out contacts of a permanent nature in the form of for example marriage. A factor such as the value attached to members of society may be of considerable importance in determining whether close contacts occur between two societies. In the case of the EGK, for example, it is felt that a re-appraisal can be identified between the roles of men and women, with the importance of men increasing at the expence of women (Randsborg 1986: 147 ff.). Marriage between partners from a patrilineal and a matrilineal social system is also made very difficult, in spite of the existence of great similarities with regard to most socio-ecological factors (Hodder 1982:153). It has also been noted that family groupings which have an identical economy and thus make use of the same resources, leading to repeated confrontations, consequently prefer to mark their individuality in the material culture with different forms of jewellery and different ornamentation on clay vessels (Hodder 1982:13 ff.).

An important theme in the discussion about the transition from MN A to MN B has been the pollen evidence indicating an increase in human activity during the final part of the Middle Neolithic, *i.e.* during the SYK. In previous papers dealing with the expansion phases during prehistoric times, this second expansion phase was taken to represent the time of major change towards the rapid establishment of a permanent cultural landscape which has had a noticeable influence

on the environmental picture (Berglund 1969). The findings of new studies have revealed the dating of this period of steeply increased human activity to be incorrect, and that it should instead be moved to the point of transition between the Early and Late Bronze Age (Berglund *et al.* 1991).

What this means is that the last part of the Middle Neolithic must be reinterpreted. According to new interpretations of the pollen analyses, the degree of utilization has thus not been found to be any greater than during the expansion phase of an early part of the Neolithic period (L. Larsson 1992, Fig. 58). Stagnation, or even a regression in the cultural landscape, can be demonstrated between these comparatively weakly marked periods of expansion. One factor which can explain the stagnation could involve the critical treatment of the sources, to the effect that an established area of coppiced woodland acted as a filter which prevented the distribution of pollen, with an associated decrease in certain species of trees (Göransson 1988). In this case, any increase in the environmental indications influenced by humans could be interpreted as a change associated with a limitation of coppiced woodland.

A marked clearing of woodland during the time of the EGK such as has been demonstrated in Jutland (Odgaard 1991) cannot be documented in South Scania. We should rather compare with the conditions in eastern Denmark where the indications for a cultural landscape are rather limited (Andersen 1991). In the Ystad area there is evidence for a continuous although restricted human impact in the inland area.

The concentration of the settlement which can be confirmed archaeologically to the transition between the Early and Middle Neolithic (Fig. 4) can also be associated with a change in the form of production – mainly animal husbandry in addition to a relocation of settlement to the coastal zone. From animal husbandry practiced in the vicinity of the settlement during the EN, the concentration of settlement was eventually to coincide with the introduction of transhumance. The reduction in the importance of pigs and the increase of cattle (Madsen 1982, Fig. 17) may be dependent precisely on the fact that the former species was more difficult to adapt to transhumance while the latter species was well adapted to this form of operation.

During certain parts of the annual cycle the livestock was moved northwards from the coastal area to the inland region used previously. This can explain why a settlement concentration is not reflected in the pollen chart as an increase first and foremost in grazing indications. A concentration of the settlement meant that quite a large area with extensive human influence was replaced by limited areas, but with a considerable cultural landscape influence together with a surrounding area with a reduced human influence.

At the same time as evidence can be given of the concentration of settlement, the seasonal sites used for the exploitation of fish cease almost entirely. Transhumance is dependent on seasonal settlement, but for entirely other reasons than previously. As in the case of the recent examples from continental Europe, transhumance may be the reason why several villages or farms coordinated their animal husbandry when it was practiced away from the permanent base. This can explain why megalithic graves and so-called central sites are present in a settlement pattern based on small farm units. The growing of crops was the main activity open to the individual farm, whereas animal husbandry during the summer months could be practiced jointly by several farm units. A system of this kind also means that the cattle could be kept in the immediate vicinity of the farm during those parts of the year when the whole herd of cattle was driven together at the permanent base, but without causing damage to the crops or to the adjacent grazing land which were needed in order to supply those parts of the herd which were not taken to summer pasture.

A society with a significant element of transhumance may have contributed to the two agricultural processes having taken on divergent forms. Arable farming was practiced by the individual farm unit, *i.e.* it assumed a more individual character, whereas animal husbandry increasingly took on the appearance of collectivism. It may thus be presumed that the sub-division into arable farming and animal husbandry was clearly sex related – a hypothesis for which clear parallels exist in the ethnographic material. Animal husbandry was a male dominated occupation in most societies, whereas the cultivation of crops was mainly done by women.

The concentration of the settlement which started during the EN/MN transition may have had its distinct advantages. Nevertheless, it resulted in the impoverishment of the land in the longer term. The renewed interest in again making use to a greater extent of sources of livelihood such as fishing and hunting may have arisen from the fact that the growing of crops was not producing such good results as it had previously. Competition for the grazing land may also have arisen, since the element of animal husbandry appears to have been significant within the SYK. Animal husbandry may have been practiced in a fashion which corresponds more closely to true nomadism (Kristiansen 1991). The animal husbandry within the SYK may thus have been performed in a way which was in conflict with the traditional collective manner.

By the establishment of the Stävie Group the old sources of livelihood were returned to once more as a possible means of compensation for the fact that areas which were previously used for transhumance had been taken over by social groups which were part of the SYK. The element of hunting and fishing is indicated by the specific position of the sites, for example on the shore. Another indication of change is the limited quantity of settlement remains, with regard both to the area covered by the site and to the quantity of finds. It is possible that what we have here are the traces of a certain relocation of the settlement. The loss of people to the new cultural phenomenon – the SYK – may also have functioned as an element which exposed traditional society to considerable disruption.

The late SYK saw the start of the development of a social system which was established during the Late Neolithic. New crops in the form of barley assumed considerable significance. The importance of sheep probably also increased (Hedeager & Kristiansen 1988:45). The reason for this may

be that better use now was made of the wool by spinning and weaving rather than by plaiting. The existence of different forms of houses and evidence for very big houses (Nielsen & Nielsen 1985) may indicate that society was organized in a somewhat different way than previously (Kristiansen 1987: 45).

However, it has emerged from both the results of excavations and the survey of ancient monuments that the pattern of settlement which can be traced during the Late Neolithic/ Early Bronze Age does not differ to any appreciable degree from that which existed during an early part of the Middle Neolithic. The way the fields were exploited in the old settlement districts by and large remained the same, indicating a close relationship in agricultural practice with the disappearing TBK society. On the other hand there may well have been considerable changes with regard to the structure of society and the ideological sphere.

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NOTE

1. Calibration of C-14 dates (in parentheses: BC) before c. 2000 bc is done according to Pearson *et al.* 1986; after c. 2000 bc according to Pearson & Stuiver 1986.

REFERENCES

ANDERSEN, S. T. 1991: Natural and Cultural Landscapes Since the Ice Age Shown by Pollen Analyses from Small Hollows in a Forested Area in Denmark. *Journ. Dan. Arch.* vol. 8, 1989, pp. 188–99.

BECKER, C. J. 1982: Om grubekeramisk kultur i Danmark. – Korte bidrag til en lang diskussion (1950–80). *Aarbøger for Nordisk Oldkyndighed og Historie* 1980, pp. 13–33.

BERGLUND, B. E. 1969: Vegetation and human influence in South Scandinavia during Prehistoric time. In B. E. BERGLUND (ed.): *Impact of man on the Scandinavian landscape during the Late Post-Glacial.* Oikos Suppl. 12, pp. 9–28.

BERGLUND, B. E., MALMER, N. & PERSSON, T. 1991: Landscape-ecological aspects of long-term changes in the Ystad area. In B. E. BERGLUND (ed.): *The cultural landscape during 6000 years in southern Sweden – the Ystad Project.* Ecological Bulletins No. 41, pp. 405–24. Lund/Copenhagen 1991.

BROWALL, H. 1986: *Alvastra pålbygnad: social och economisk bas.* Theses and Papers in North-European Archaeology 15, Stockholm.

DAVIDSEN, K. 1978: *The Final TRB Culture in Denmark.* Arkæologiske Studier vol. V, Copenhagen.

GÖRANSSON, H. 1988: *Neolithic Man and the Forest Environment around Alvastra Pile Dwelling.* Theses and Papers in North-European Archaeology 20, Stockholm.

HEDEAGER, L. & KRISTIANSEN, K. 1988: Oldtiden o. 4000 f.Kr. – 1000 e.Kr. In C. BJØRN (ed.): *Det danske landbrugs historie I,* København.

HJELMQUIST, H. 1982: Economic Plants from a Middle Neolithic Site in Scania. In L. LARSSON 1982,pp. 108–13.

– 1985: Economic plants from two Stone Age settlements in southernmost Scania. In L. LARSSON 1985, pp. 57–63.

HODDER, I. 1982: *Symbols in Action. Ethnoarchaeological studies of material culture.* Cambridge.

HVASS, S. 1977: A House of the Single-Grave Culture excavated at Vorbasse in Central Jutland. *Acta Archaeologica* vol. 48, 1977, pp. 219–32.

KRISTIANSEN, K. 1987: From stone to bronze. The evolution of social complexity in Northern Europe. In BRUMFIELD, E. & EARLE, T. (eds.): *Specialization, Exchange and Complex Society,* pp. 31–50. Cambridge.

– 1991: Prehistoric Migrations – the Case of the Single Grave and Corded Ware Cultures. *Journ. Dan. Arch.* vol. 8, 1989, pp. 211–25.

LARSSON, L. 1982: A Causewayed Enclosure and a Site with Valby Pottery at Stävie, Western Scania. *Papers of the Archaeological Institute, University of Lund* 1981–82, pp. 65–114.

– 1985: Karlsfält. A Settlement from the Early and Late Funnel Beaker Culture in Southern Scania, Sweden. *Acta Archaeologica* vol. 54, 1983, pp. 3–71.

– 1986: Skåne under sen trattbägarkultur. In C. ADAMSEN & K. EBBESEN (eds.): *Stridsøksetid i Sydskandinavien.* Arkæologiske Skrifter 1, pp. 146–55. København.

– 1989: Boplatser, bebyggelse och bygder. Stridsyxekultur i södra Skåne. In L. LARSSON (ed.): *Stridsyxekultur i Sydskandinavien.* University of Lund, Institute of Archaeology. Report Series 36, pp. 53–76.

– 1992: Settlement and Environment during Middle Neolithic and Late Neolithic. In L. LARSSON, J. CALLMER & B. STJERNQUIST (eds.): *The Archaeology of the Cultural Landscape. Field work and research in a South Swedish rural region.* Acta Archaeologica Lundensia 4: 19. Lund.

LARSSON, L. & LARSSON, M. 1991: The introduction and establishment of agriculture. In B. E. BERGLUND (ed.): *The cultural landscape during 6000 years in southern Sweden – the Ystad Project.* Ecological Bulletins No. 41, pp. 315–25. Lund/Copenhagen.

LARSSON, M. 1992: The Early and Middle Neolithic Funnel Beaker Culture in the Ystad Area (Southern Scania). Economic and Social Change, 3100–2300 BC. In L. LARSSON, J. CALLMER & B. STJERNQUIST (eds.): *The Archaeology of the Cultural Landscape. Field Work and research in a South Swedish rural region.* Acta Archaeologica Lundensia 4: 19. Lund.

MADSEN, T. 1982: Settlement Systems of Early Agricultural Societies in East Jutland, Denmark: A Regional Study of Change. *Journal of Anthropological Archaeology* 1, pp. 197–236.

MALMER, M. P. 1962: *Jungneolithische Studien.* Acta Archaeologica Lundensia, Ser. in 8, No. 2. Lund.

MALMROS, C. & TAUBER, H. 1977: Kulstof-14 dateringer af dansk enkeltgravskultur. *Aarbøger for Nordisk Oldkyndighed og Historie* 1975, pp. 78–95.

MØHL, U. 1962: Übersicht über Knochenfunde aus Gräbern der schwedisch-norwegischen Streitaxtkultur. In M. P. MALMER 1962, pp. 911–12.

NIELSEN, F. O. & NIELSEN, P. O. 1985: Middle and Late Neolithic Houses at Limensgård, Bornholm. *Journ. Dan. Arch.* vol. 4, pp. 101–114.

NIELSEN, P. O. 1979: De tyknakkede flintøksers kronologi. *Aarbøger for Nordisk Oldkyndighed og Historie* 1977, pp. 5–71.

ODGAARD, B. 1991: Cultural Landscape Development through 5500 Years at Lake Skånsø, Northwestern Jutland, as Reflected in a Regional Pollen Diagram. *Journ. Dan. Arch.* vol. 8, 1989, pp. 200–210.

PEARSON, G. W. & STUIVER, M. 1986: High-Precision Calibration of the Radiocarbon Time Scale 500 – 2500 BC. *Radiocarbon* vol. 28, No. 2B, pp. 839–862.

PEARSON, G. W., PILCHER, J. R., BAILLIE, M. G. L., CORBETT, D. M. & QUUA, F. 1986: High-Precision 14C Measurements of Irish Oaks to show the Natural 14C Variations from AD 1840 – 5210 BC. *Radiocarbon* vol. 28, No. 2B, pp. 911–934.

PERSSON, O. 1982: An Osteological Analysis of some Bones from a Settlement at Stävie 4: 1. In L. LARSSON 1982, p. 114.

RANDSBORG, K. 1986: Women in Prehistory: The Danish Example. *Acta Archaeologica* vol. 55, pp. 143–154.

RASMUSSEN, L. W. 1984: Kainsbakke A47. A Settlement Structure from the Pitted Ware Culture. *Journ. Dan. Arch.* vol. 3, 1984, pp. 83–98.

– 1986: Nye C14 dateringer for grubekeramisk kultur i Danmark. In C. ADAMSEN & K. EBBESEN (eds.): *Stridsøksetid i Sydskandinavien.* Arkæologiske Skrifter 1, pp. 211–212. København.

– 1991: *Kainsbakke. En kystboplads fra yngre stenalder.* Djurslands Museum/Dansk Fiskerimuseum, Grenaa.

STRÖMBERG, M. 1988: A Complex Hunting and Production Area. Problems associated with the Group of Neolithic Sites to the South of Hagestad. *Papers of the Archaeological Institute, University of Lund* 1987–1988, pp. 53–80.

– 1989: Stridsyxekulturens representation i Hagestadsprojektets arbetsområde. In L. LARSSON (ed.): *Stridsyxekultur i Sydskandinavien.* University of Lund, Institute of Archaeology. Report Series 36, pp. 77–87.

TAUBER, H. 1986: C14 dateringer af enkeltgravskultur og grubekeramisk kultur i Danmark. In C. ADAMSEN & K. EBBESEN (eds.): *Stridsøksetid i Sydskandinavien.* Arkæologiske Skrifter1, pp. 196–204. København.

WELINDER, S. 1978: The Acculturation of the Pitted Ware Culture in Eastern Sweden. *Papers of the Archaeological Institute, University of Lund* 1977–78, pp. 98–110.

WYSZOMIRSKA, B. 1984: *Figurplastik och gravskick hos Nord- och Nordösteuropas neolitiska Fångstkulturer.* Acta Archaeologica Lundensia Ser. in 4. No. 18. Lund.