

Does the Kongemose Culture exist? About the concept of culture

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Most of the culture labels, not least within the South Scandinavian Mesolithic have generally been defined based on the morphological appearance of different artifacts. Culture labels are too seldom related to living people and their conception of their world. Culture labels have a tendency of preventing us from seeing the natural transitions and developmental phases, that in fact also exist within cultures. Therefore, I feel that it is important to create a uniform definition of the concept of culture. Otherwise, one can easily think that one is talking about different groups of people when the culture labels are based on, for example, microlithic or arrowhead morphology.

KEY-WORDS: cultural definition, material culture, non-material culture, Kongemose culture, typology, function, methodology, dynamic habitation analysis, structures.

HISTORY OF RESEARCH

In Primitive culture, as early as 1871, the English ethnologist E.B. Taylor defined the concept of culture as: "that complex whole which includes knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as member of society". His definition is often quoted, and has been of great importance within cultural anthropology (see *e.g.*, Trigger 1989: 197 or Østmo 1989: 9).

Some decades later the modern anthropological concept of culture was launched by the German ethnologist Franz Boas, who characterized cultures using terms such as belief, folklore, material culture, relationships, family and traditions. According to Boas, culture is bound together by and based on tradition. However, traits acquired from other cultures do influence a culture (Hiris 1988: 107). Boas means that the process of diffusion is the most important factor when considering influence and change (Trigger 1989: 186). Trigger considers that both Boas and his colleague Friedrich Ratzel shared the conviction that cultures are ways of life which are derived from ethnic affiliation (*Ibid*: 185). The close connection between ethnicity and the concept of culture can be clearly observed in the rather indistinct definition of an ethnic group put forward by cultural anthropologists in 1969:

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“An ethnic group is a distinct category of the population in a larger society whose culture is usually different from its own. The member of such groups are, or feel themselves, or are thought to be, bound together by common ties of race or nationality or culture” (Lindqvist 1981: 39).

Hence, ethnicity can be defined as one or several cultures within a culture. Today it is commonly accepted that you can not define ethnicity as race, but as interactions between different groups and a social organization (Werbart 1994b: 42).

Ethnologists, cultural anthropologists and sociologists have added a wider dimension to the concept of culture than archaeologists. This is especially apparent in the works of A.L. Kroeber and Clyde Kluckhohn. In 1963 they enumerated 164 different interpretations of culture, naming, for example, concepts such as social inheritance, traditions, rules, behaviour, ideas, symbols, language, adaptation, learning, patterns, organization and structure (Fink 1988: 11, 18f). Since ethnologists, cultural anthropologists and sociologists study living societies of today, it is natural for non-material definitions of culture to dominate. On the other hand, the archaeologists working material is almost totally derived from the material culture.

Before one started to define archaeological cultures and tried to explain their origins in terms of diffusion and migration, cultural development was viewed as a natural and inherently desirable process (Trigger 1989: 246). Evolutionary development was then thought to have culminated in the Western civilization of the time (middle 19th century), which was considered its crowning achievement. However, even as we today reject evolutionistic ideas as an explanatory model for cultural development, we should consider that the ideas were prevalent at a time when many thought the earth and its inhabitants the finished creation of God, and no more than 4,000 years old.

Archaeology considered culture as a collection of cultural elements, with traits that were not related apart from belonging to the same time and place (Vestergaard 1988: 79). According to Trigger, it was the increasing preoccupation with ethnicity that gave rise to the growth of the archaeological concept of culture at the end of the 19th century. Archaeological remnants with geographically delimited characteristics were then first compared with ethnological cultures (Trigger 1989: 196f).

The first archaeologist to use the concept of culture more systematically was Gustav Kossinna, at the beginning of the 20th century. He thought that cultures should not be defined only as combinations of artifacts, but one should instead try to determine prehistoric ways of life. According to him, similarities and differences in a material culture correspond to similarities and differences in ethnicity (*Ibid*: 200, 201).

Serious discussion concerning the concept of culture first gained momentum with Gordon Childe and later David Clarke. Unfortunately, these discussions dealt almost exclusively with the causes of cultural change, which dominate even today, and less with cultural definitions and almost not at all with delimitation of archaeological cultures in time and space. However, as early as 1929, Childe

attempted to define an archaeological culture as “certain types of remains – pots, implements, ornaments, burial rites, house forms – that constantly recur together” (*Ibid.*: 206). In spite of the incompleteness of this definition, notice the emphasis placed on defining different cultures by means of different *fossiles directeurs*. A less materialistic emphasis is shown in his oft-quoted definition (see Kleppe 1983 : 3 or Østmo 1989 : 7) of the concept of culture in *Prehistoric Migrations in Europe* (1950):

“A culture is defined as an assemblage of artifacts that recur repeatedly associated together in dwellings of the same kind and with burials by the same rite. The ... implements ... are assumed to be the concrete expression of common social traditions that bind together people”.

If you compare the second part of Childe’s definition with Tylor’s definition from 1871 (see above), you could say that the archaeologists arrived at a similar definition of the concept of culture to the ethnologists’, but 80 years later. However, it must be noted that Childe’s definition is still considered valid today.

Those attempts at archaeological definitions of culture which were made in the 1960s and 1970s do not differ markedly to Childe’s from 1950. This is true concerning, for example, Malmer’s definition from 1963 (see Østmo 1989 : 8), Clarke’s from 1978 (Clarke 1978 : 247) and Hole and Heizer’s from 1973 (Hole and Heizer 1973 : 83f). They emphasize the non-material culture when they state that people who share a material culture can also be assumed to share such things as language, ideas about right and wrong, preferences in art, religion *etc.* (*Ibid.*: 84). On the other hand, Clarke has, with his functionalistic approach, a more materialistic view of culture and asserted in *Analytical Archaeology* that an archaeological culture is based upon its own conditions (Clarke 1978 : 12). In the same work, he constructs a hierarchical model of the concepts of archaeology (*Ibid.*: 206):

attribute – artifact – type – assemblage – culture – technocomplex.

By attribute Clarke means the human action that results in an artifact. As an example of technocomplex, he mentions, for instance, the hunter-fisher-collector society, the nomadic society and the agrarian society (*Ibid.*: 152, 342ff). I think Clarke is mistaken when he places “technocomplex” above “culture” in his hierarchical model. In my opinion a culture consists of several so-called “technocomplexes”. A specialization within hunting or fishing becomes more and more apparent the closer in time you get to the Neolithic period in Scandinavia. Upon study, the South Scandinavian Funnel Beaker culture includes examples of all three “technocomplexes”.

The concept of cultural subsystem first appears during this period and are, according to Hole and Heizer, technological, sociological, religious, ideological and economic systems (Hole and Heizer 1973 : 80). Thus, the subsystems are the component parts of a culture. As early as the beginning of the 1960s, Binford discusses subsystems; technology, social organization and ideology. He means that individual artifacts often contain information about all three (Trigger 1989 : 356).

Approximately during the same period he maintained that cultures are not internally homogenous, and that one can not treat artifacts as comparable and equivalent elements (*Ibid*: 355). I regard this as a new approach within the archaeological cultural view. Previously, cultures had merely been defined by their, seemingly, homogenous composition. In other words, one searched for similarities and continuity, but not for dissimilarities or discontinuities within a cultural sphere. Anders Hagen takes this a step further when he says that a culture can never be static, and that it will always be difficult to determine when an "archaeological culture" starts or when it ends, or how many periods it can pass through before a new "culture" is created (Hagen 1971: 272f). He clearly sees the major problems involved in, in time, delimiting different cultures, which is definitely one of the greatest problems within, for example, the South Scandinavian Mesolithic. Even Ian Hodder and Arne Skjølsvold acknowledge the problems involved in delimiting cultures. They both emphasize discontinuity as a way of describing cultural delimitations. According to Østmo, Skjølsvold states that the criteria for a well-defined culture is that it can clearly be delimited from others (Østmo 1989: 11f).

Criticism of the then current definitions of archaeological cultures became more noticeable during the 1970s. Hagen means that many archaeologists have undoubtedly confused culture with period, and classification of culture is often misconstrued as arranging groups of archaeological relics in chronological phases (Hagen 1971: 271). Further, he says that it is the ideas, and not merely the material objects, which give a culture its essential character (*Ibid*: 273f). In 1978 C.A. Moberg said that a point had been reached where usage of the concept of culture no longer worked, and that it ought to be replaced by economic and/or social structures (Østmo 1989: 10).

During the 1980s the discussion was characterized by the fact that the definition of culture must contain both a temporal and a geographical delimitation. Østmo emphasises that discontinuity must be seen in comparison with the environment, both synchronously and diachronously (*Ibid*: 12). Also, Kleppe maintains in her cultural definition that an artifact material must unmistakably belong to the same limited time span, and that comparable items must be found near each other geographically (Kleppe 1983: 3). She emphatically stresses the importance of the temporal and geographical aspects.

Criticism of the construction of a plethora of archaeological cultures has been put forward at regular intervals during the last decade. Hagen says that this is due to new finds that the archaeologists can not place in the context of earlier finds. Instead, they exhibit a culture of their own (Hagen 1971: 269). Denmark has some 20 to 30 different cultures within the Stone Age and in Sweden there have been a total of 47 cultures during the whole of prehistory (*Ibid*). Bożena Werbart believes that there are too many labels within archaeology and mentions 36 differ-

ent names for similar, related or quite identical cultures within the so-called Comb Pottery and Pitted Ware cultural spheres within the Baltic, Eastern European and South Scandinavian regions (Werbart 1994a:213ff). The criticism is at times extremely harsh, which is demonstrated when Werbart claims that there are “extremists” who wish to abolish the concept of culture (*Ibid*: 213).

DEFINITION

It is not solely access to the non-material culture that affords cultural anthropologists and ethnologists an advantage over archaeologists. Tattoos or body paintings, clothes, hair styles etc., are, together with the non-material conceptions and thinking of the prehistoric population, parts of a culture of which archaeologists all too seldom catch a glimpse. They are important indications of, amongst other things, status and identity within a group, which would be of great help to archaeologists in their interpretative work. Another problem is in deciding on how representative an excavated archaeological material is of a culture. Mellor writes very aptly concerning this problem:

“No one supposes that the members of a culture laid down all their artifacts to the exclusion of breathing, eating, sleeping, breeding and other archaeologically undetectable activities. And of the artifacts a culture did lay down, no one will suppose that all must have survived, let alone been discovered and correctly identified” (Mellor 1973:69).

In spite of the above mentioned problems, there are further parameters, other than merely artefacts or their remains, which are useful when reconstructing a prehistoric society.

When defining a culture it is also important to study the position of the habitation site or structure as well as different kind of deposits. Specifically, this means how the place was chosen, with regard to factors such as the supply of vegetation and fauna, the topography and soil and water (percentage of sweet and salt, type of watercourse), the type of habitation site or structure (house, monument, grave, depot *etc.*), whether it was a seasonal or permanent settlement, different activity areas, traces of structures and combinations of finds (internal/external). This method is known as dynamic analysis of habitation sites.

It is also important to study the population of a culture. Besides demographical analysis, one must also study power, status, social stratification, gender perspective, human communication, both spoken and written, art, symbols as well as trade, barter, immigration and different types of innovations from the outside, which all contribute to a cultures character. Where possible one should also study profane or sacred character traits.

The aim must be to understand a culture's sociological, religious, ideological and economical conceptions (subsystems). We will never know the truth about the conceptions prevailing in prehistory. Yet we do have theories about the non-material culture and changes therein, which are based upon an analysis of material remains and changes thereof. We can then use the label "archaeological culture". Material changes on their own, no matter how major, are not sufficient to construct a new culture.

If, for example, the introduction of agriculture or domestication of animals is only viewed as new plants or fauna, or if megalithic constructions are only interpreted as a new form of burial, one cannot speak of a new culture. If one instead views the changes as an indication of a new economy, a change of religion or the start of a new authority structure, then it is, in my opinion, a question of a new culture. We may not understand the significance of two different religions, but we can trace if and when a shift has occurred. By analogy, no physicist has ever seen an electron, but one can see the traces it leaves when shifting between different energy levels.

It is changes within the subsystems that delimit a culture temporally and geographically. Since a culture is the sum of different subsystems, a change in one of these ought to be reflected in the others.

Consequently, perhaps we will be spared definitions of cultures that, for instance, merely describe different forms of ceramics or its ornamentation. The number of "cultures" will also be reduced dramatically. Werbart concludes, regarding the 36 different cultures already mentioned, that instead of constantly creating new and "exciting" names and terms and "labelling" the cultures, it is more useful, and easier, to acknowledge a long tradition of foraging, fishing and gathering as a way of life in the inter-Baltic area, that was not the case in more southerly areas (Werbart 1994a: 216).

As a result of the appearance of different sets of ideas within a culture, subcultures arise. Hole and Heizer, as mentioned earlier, divide a culture into five different subsystems (sociological, religious, ideological, economical and technological). It is the sum of the four non-material subsystems that give rise to subcultures. The technology is the sum of the material traces that characterize a subculture. A subculture has its own doctrine of ideas and can also be delimited geographically from other subcultures. It is people with common ideas and traditions which gives rise to a subculture. They should thus be represented as an "ethnic group" according to the definition of the anthropologists. Examples of ethnic groups and/or subcultures are, for instance, the western and eastern parts of Denmark, respectively, geographically delimited by *Store Bælt* during the mesolithic period. Differences can be observed in, amongst other things, the artifact material, techniques, ornamentation, habitation patterns, fauna etc.

Change within a culture occurs more or less continuously. Change is a premise for the survival of the culture. The same is true of subcultures. Changes within them

do not happen at the same time nor are they necessarily of the same kind. Because of these circumstances we can trace contemporary regional differences between subcultures. Differences in time are also noticeable in a regional “phenomena of delay” or by the fact that innovations are more quickly accepted in certain regions. One should also not disregard the possibility that a subculture can undergo such a change that it results in a new culture. Since changes are regional and occur at different points in time, I do not think that archaeologists should place too narrow time limits when separating two cultures which chronologically follow upon each other. The geographical delimitation can in some cases be easier to distinguish. Topographical obstacles, or a culture’s or subculture’s need to affirm its identity at its borders, aid us in seeing the geographical limits. Yet there are limits that are indistinct due to cultural mixing. This can possibly be explained by the fact that there was little competition and, hence, little need of identification for the group.

From the discussion above one can construct a model of an archaeological culture. It is shown in Figure 1. From an archaeological point of view, the figure should be read from bottom to top, whilst the cultural process runs from top to

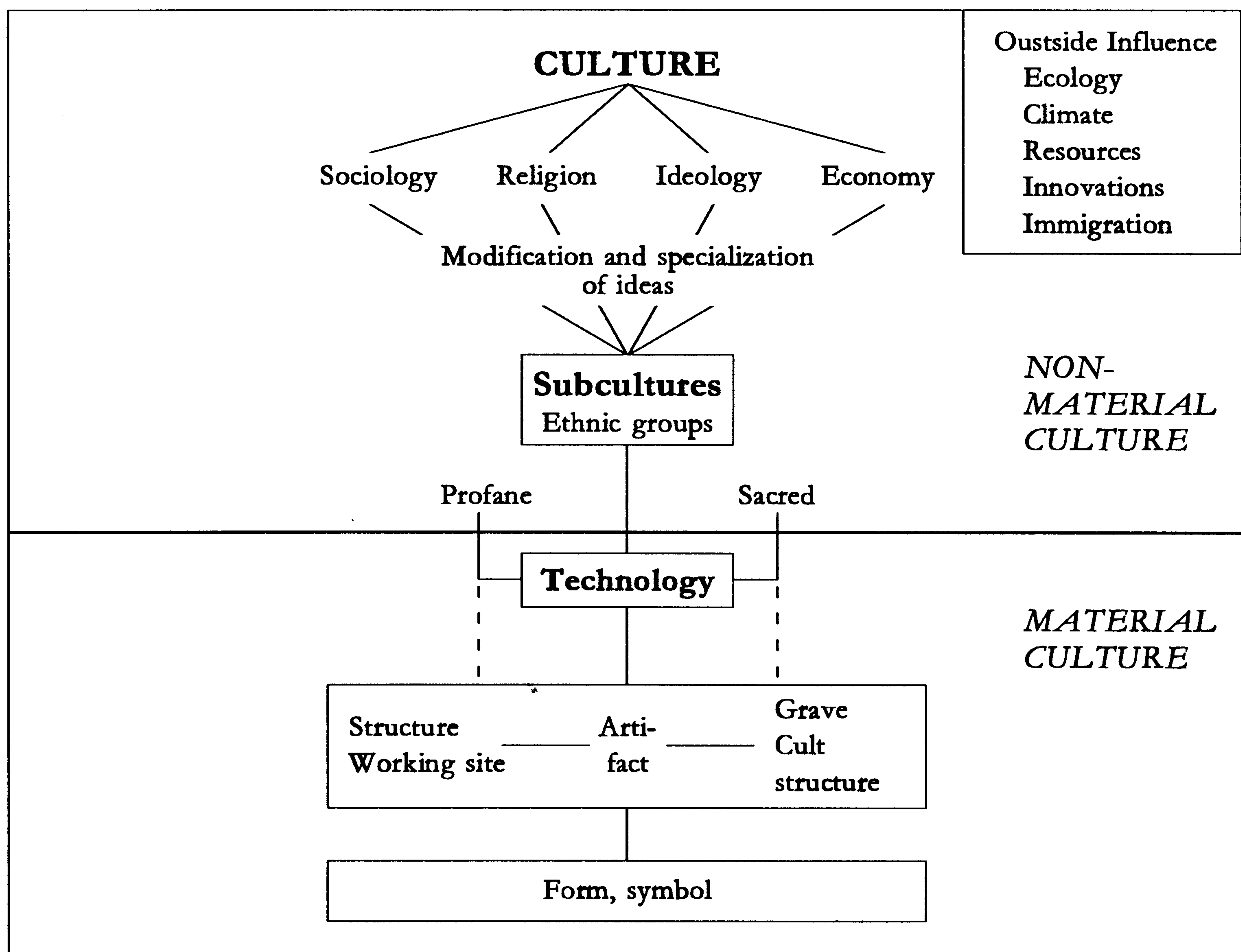


Fig. 1. A general model of the structure of an archaeological culture.

bottom, i.e. from idea to action. An archaeologist registers material based on its form and/or any symbols, ornaments or artistic contents. The function of the material is analysed and will, if possible, be interpreted as an artifact or structure with profane or sacred character. However, it must be emphasized that the line between sacred and profane is often very fine. The different sets of ideas do not change independently of each other, but instead affect each other. Economical, ideological or sociological change is reflected in religion and vice versa. From the gathered material one or several technologies can be discerned. Possible temporal and geographical differences can be analysed by means of comparative studies of several separate, dated materials. The ideas change and are constantly being affected from outside. The differences that arise lead to subcultures or ethnic groups. The sum of the sets of ideas in the subcultures define a culture.

Hence, an archaeological culture and an ethnic group should have the following definitions: An archaeological culture is the sum of the technology that reflects a common basic sociological, ideological, religious and economical view, and which can be delimited temporally and geographically. An ethnic group forms a fundamental part of a subculture and consists of people who have a common basic cultural view, but with a specific set of ideas and also a tradition of their own. It is held together by a social organization and through interaction. It is also delimited geographically.

THE KONGEMOSE CULTURE AND ITS BACKGROUND

In 1937 Therkel Mathiassen introduced the expression **Gudenå Culture**. The culture was based upon a number of inland settlements found on Jutland. Based on finds of burins, plane core scrapers and trapezes, Mathiassen considered the Gudenå Culture to be a parallel culture to the Maglemose Culture on the Danish islands (Mathiassen 1937: 116). He also considered that the Gudenå Culture was a parallel culture to the Ertebølle Culture (*Ibid*: 176). A critical article, *Gudenåkulturen*, published in 1971 by Andersen, shows how uncritically Mathiassen's primary publication from 1937 has been accepted (Andersen 1971: 15). He establishes that the concept is no longer favoured among Danish researchers, since it is not considered to define an actual existing Mesolithic culture (*Ibid*: 16). Furthermore, he states that the Gudenå sites are mixed surface finds with a large areal extension, containing almost all types of Mesolithic and Neolithic cultures (*Ibid*: 20).

The Kongemose settlement was excavated in 1955–56. Brøndsted did not consider the culture to fit into either the Maglemose Culture or the Gudenå Culture. He thought that the settlement, together with other settlements from the same period in Amosen, exhibited an implementational independence and named them the **Kongemose Culture** (Brøndsted 1957: 101f). He saw a "macrolithic" tendency in

the material; strong blades, broad rhombic arrowheads, large flint picks *etc.* (*Ibid*: 102). He distinguishes between inland and coastal settlements and considers that the younger part of the Kongemose Culture should continue to be called **the oldest coastal culture** (*Ibid*: 113). Nowadays, based on ¹⁴C-datings and similarities in the artifact material, one counts the oldest coastal culture, or the **old coastal culture**, and the older part of the **Bloksbjerg Culture** to the Kongemose Culture.

In the 1960s, Troels-Smith held that one could identify five separate groups of cultures during the Atlantic period: **Kongemose Culture, Vedbæk Culture, Bloksbjerg Culture, Dyrholmen Culture and Muldbjerg Culture**; the Ertebølle Culture falls under the last two. He made an interesting observation:

“there is a clear continuity in a progressive sequence in time – the younger settlement always having something in common with the immediately preceding ones (Troels-Smith 1966: 519).

Troels-Smith's investigation shows, in my opinion, a natural transition between the different phases, without clear boundaries.

It seems that the research is more and more concentrated on dividing the Mesolithic period into different phases, which to a great extent are based upon microlith, arrowhead and axe chronologies. Vang Petersen (1982: 181ff) maintained that he could recognize five phases of material change within the culture during the Kongemose and Ertebølle periods in north-east Zealand, based mainly on changes in arrowheads: **The Villingebæk phase** (large rhomboid arrowheads), **The Vedbæk phase** (narrow rhomboid and oblique transverse arrowheads), **The Trylleskov phase** (oblique transverse arrowheads), **The Maglemosegårds phase** (symmetrical transverse arrowheads with broad edges and concave sides) and **The Ålkistebro phase** (narrow transverse arrowheads with straight or slightly concave retouched sides). The last three belong to the Ertebølle Culture. Søren Sørensen has recently added an earlier phase before the Villingebæk phase, namely **The Blak phase**. It is the earliest phase within the Kongemose Culture and is characterized, above all, by broad trapezes. He motivates adding the phase to the Kongemose Culture by the fact that the trapezes are more similar to the rhombic arrowheads than to the microliths of the Maglemose Culture (Sørensen 1993: 33).

It is established that the different 20th century definitions of Mesolithic culture are entirely based upon the material part of the culture. Consequently, the Maglemose and Ertebølle cultures were defined relatively early. There existed, for a long time, a hiatus between the cultures, which was not filled by the Kongemose Culture until the 1950s. However, there had been earlier attempts to arrive at a continuous chronology. The Gudenå Culture was considered to extend from the Klosterlund stage of the early Maglemose Culture and into the Neolithic. The concept of a Gudenå Culture endured for some 30 years. The concept of a Kongemose Culture

has existed a little longer. The question is of how long it and the other Mesolithic cultures will endure as concepts.

Søren Sørensen gave what is probably the latest definition of the Kongemose culture when he said that a settlement, in order to belong to the Kongemose culture, must contain core axes, broad trapezes (at least three, counting rhombic arrowheads as a subtype), blades with equal or convex transverse retouch and angled burins on blades (Sørensen 1993 : 40). Thus, he only uses four artifacts, all made of flint, when defining the Kongemose Culture. He also mentions round butted axes as occurring throughout the culture, but not in such great numbers as those mentioned above (*Ibid*).

The most common definition is derived from the finds of the Kongemose settlement, *locus classicus*, which has been considered to contain the most representative and characteristic elements of the culture. Among the settlement's implements are most noticeably thousands of large blades, a great number of blade scrapers with leading edges at both ends, several hundred angled and dihedral burins and about 2,500 rhombic arrowheads, and among the core tools one notices about 50 oblique-edged axes and large flint picks, a large number of block, plane and keel core scrapers, about 35 bone needles, 25 pressers and 5 stag antler axes (Jørgensen 1957 : 27ff). One should also add bone daggers, usually ornamented, as well as slotted bone points with flint insets to the artifact material. These are often mentioned in the Danish works as being typical for the Kongemose Culture.

Sørensen stresses that the chronological classification of the Mesolithic cultures is generally based on the arrowhead finds (Sørensen 1993 : 33). Therefore, the boundary between the Maglemose and Kongemose cultures is the transition from triangle microliths to trapeze-shaped points. The Ertebølle Culture starts when oblique-edged transverse arrowheads predominate over small oblique arrowheads (Vang Petersen 1982 : 182f, 1984 : 10f).

The Kongemose Culture is delimited geographically to Denmark and Scania. Sørensen holds that the Blak phase is represented in Schleswig-Holstein (Sørensen 1993 : 105), but the culture, in contrast to the Maglemose and Ertebølle cultures, has not been acknowledged outside Southern Scandinavia.

CRITICAL ANALYSIS OF THE CLASSIFICATION OF MESOLITHIC CULTURES

What, therefore, are the *fossiles directeurs* of the Kongemose Culture? Among the flint material there are broad trapezes and rhombic arrowheads, considered typical of the Kongemose Culture. Handle cores already existed during the early part of the Maglemose Culture. Flake axes predominated during the Ertebølle Culture. Core axes, burins, blade scrapers, awls and strikers made from various

types of rock occur throughout the whole Mesolithic period. Round butted axes are also associated with the Ertebølle Culture. Among bone and antler artifacts one notices slotted bone points with flint inserts and flint-edge daggers, which also existed during the Maglemose Culture. Bone points are common Mesolithic artifacts. The stag antler axes are of the same type which existed during the older part of the Ertebølle culture, i.e. with the shaft hole near the burr. Even stag antler shafts existed during the Ertebølle Culture. Pressers existed during all three periods. Hence, there are very few *fossiles directeurs*. In fact, it is only the arrowheads that are considered typical of the Kongemose Culture, at least in Denmark.

As mentioned earlier, the definition of culture in Mesolithic Southern Scandinavia is exclusively based upon the material part of the culture. Arrowhead morphology is considered crucial for inclusion within the culture. It is not until the delimitation between the Kongemose and Ertebølle cultures that flint axes also become significant, according to researchers. The question is whether a small select group of flint artifacts can tell us about life in the Middle Stone Age. Only wider descriptions of the Mesolithic cultures include, for example, bone and antler material, if we concentrate merely upon the artifact material. Sørensen holds that it is the microliths and arrowheads that form the backbone of the typological/chronological course of development, and he sees wider phase descriptions as a problem when defining narrower delimitations (Sørensen 1993 : 37). I think that the arrowhead chronology is only useful as a complement to existing methods of dating, on condition that they are suitable as comparative material for different habitations. On the contrary, I oppose the type of Mesolithic research, which has as its main purpose, based on the morphology of a limited number of artifacts, to divide these into chronological phases, and also to describe their change in terms of culture.

If one uses arrowhead chronology for comparative studies and lacks ¹⁴C-datings, one must be certain that the morphological changes in the arrowheads have happened at the same time at the different habitations, and also that the changes are not random. Vang Petersen has defined the difference between a rhombic arrowhead (oblique arrowhead) and an oblique transverse arrowhead by means of a formula. He states that the ratio of the longest diagonal (LD) to the shortest diagonal (KD) should be greater than or equal to 1.5 for a rhombic arrowhead (Vang Petersen 1979 : 10). If the ratio is less than 1.5 it is an oblique transverse arrowhead (Fig. 2). Consequently, an early "Ertebølle human" must not make an oblique transverse arrowhead so oblique that it becomes a "Kongemose arrowhead". The result of this is that it is the technical competence of the specific individual, as well as the raw material, which can solely determine whether material belongs to one culture or another cultural belonging, according to Vang Petersen's definition. The difference between oblique transverse arrowheads and transverse arrowheads is equally small. To be regarded as a transverse arrowhead, the angle of the edge (v°) must be less than 10° (*Ibid*) (Fig. 2).

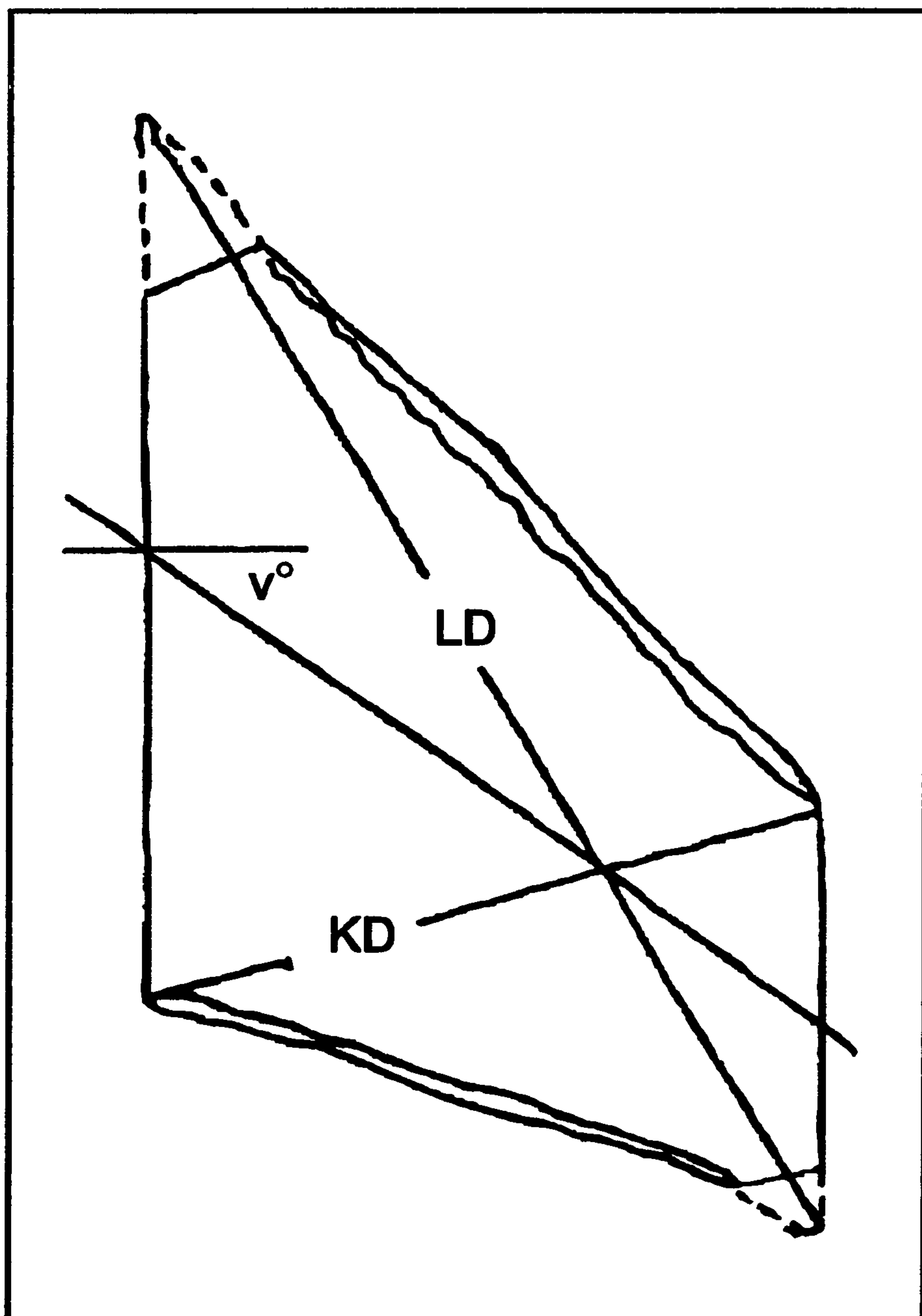


Fig. 2. Schematic representation of an arrowhead with the most important typological elements. LD=longest diagonal KD=shortest diagonal V° =angle of edge (Vang Petersen 1974: Fig. 5).

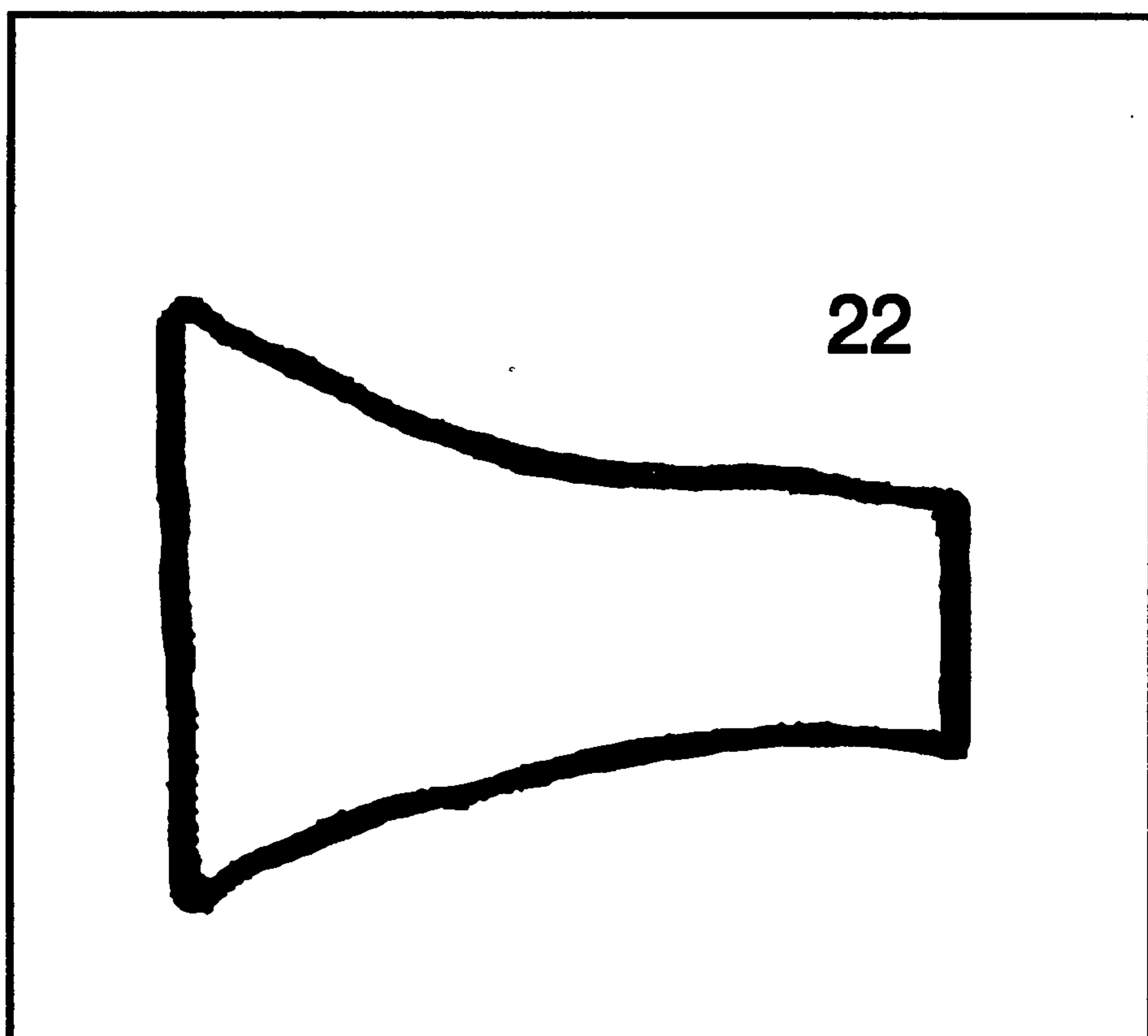


Fig. 3. Transverse arrowhead with concave base, type 22, according to Vang Petersen's arrowhead chronology (Vang Petersen 1979: Fig.6).

Vang Petersen's arrowhead chronology (*Ibid*: 9, 11) is built upon 31 morphological types, where type 22 is one of the most frequent (Fig. 3). This type has, in my opinion, the most natural form. If, as an experiment, one were to attempt to make a number of transverse arrowheads, I think most of the arrowheads would turn out like type 22. This type of arrowhead best fits Vang Petersen's description of the arrowhead of the Stationsvej phase (earlier called the Maglemosegårds phase), "transverse arrowhead with a broad leading edge and concave sides" (Vang Petersen 1982: 183, 1984: 11).

Another example that shows a typological factor of uncertainty is when Søren Sørensen criticizes Lars Larsson for having confused rhombic arrowheads from Denmark with broad trapezes from Ageröd I: B. The discussion concerned whether Ageröd I: B contained archaeological relics from both the Kongemose and Maglemose cultures (Larsson 1978: 122f, Sørensen 1993: 108). Problems incurred when interpreting arrowhead morphology is thus also a factor which can determine the phase or culture of the habitation. One must also be wary of conclusions which state that a settlement has been of long duration because of the presence of both rhombic and transverse arrowheads. This is an observation which is often made in Mesolithic literature.

On the basis of the above, one must be observant when conducting habitation analyses, when you consider the artifact material to be "impure". The individual flint smith, the raw material and the interest or need for change determine, for

the most part, a habitation's tool inventory and the implements morphology. A material is "pure" as long as it only contains one phase-typological trait. The question is whether you can find "pure" occupation layers that are representative for all of Southern Scandinavia. I think probably not.

Instead of expending so much energy on studying the typology and the morphology of an artifact type, one should concentrate on the function of the implement. The function of an arrowhead tells us more about its cultural belonging than its appearance. The function is not random, but a consequence of one or several needs. The appearance is of minor interest if we do not understand the function. For example, it is important to find out if the flake axes have been used as axes or, as Knutsson means, as "multifunction" implements, whose function as skin scrapers seems to have been predominant, whilst the function as axes was probably subordinate (Knutsson 1982:90). The morphological characteristics alone of the flake axes do not tell us anything about the economy of "the Ertebølle Culture", whilst their function does.

Sørensen points out that several major typological changes must occur before this gives rise to a new culture (Sørensen 1993:38). But it is also important to stress that these changes can occur without giving rise to a new culture. If we were to define cultures according to a certain number of typological changes, we would nowadays belong to a new culture every year. A new car model, computer model or a new fashion does not entail that we have altered our set of basic values. As I argued earlier, fundamental changes must occur within the non-material part of the culture, before a new culture is created. If we can not register these changes then we can not introduce a new culture label.

A general critical view of the existing Mesolithic concepts of culture is lacking, both in Sweden and, especially, in Denmark. However, as mentioned earlier, Søren H. Andersen has criticized the uncritical acceptance of the "Gudenå Culture". One of the reasons is said to be the highly individualistic nature of research, with each researcher having his own personal domain with its own chronological classification. Anders Fischer has investigated the last 25 years of Mesolithic research and states that several investigations have been started, but remarkably few important works, rich in perspective, have been presented. He blames this on the highly individualized research (Fischer 1993:58).

METHODOLOGY OF DEFINING CULTURES

To be able to analyze a culture, we must, besides merely studying the specific artifacts, also analyze the structures at micro and macro level. The primary position of the objects at an excavation is important. If they are moved from their

original position without first being measured, valuable information will be lost. To be able to analyze, for instance, habitation structures, the position of each object must be measured. Measuring is a prerequisite for “dynamic habitation analysis”. It is impossible to separate microstructures by studying concentrations of artifacts or waste material in excavated m² units. If one does not measure the finds, noting only the number in every excavated m² unit, then one must rely on hut bases, where a floor surface of *i.e.*, bark or twigs has been preserved, or other highly visible structures. Ole Grøn states that artifacts that are smaller than 5 cm stand a better chance of avoiding a secondary deposition or being cleaned away (Grøn 1986:9). These artifacts could fall through a hut floor and be preserved in their deposited position. The structure formed, together with phosphate analysis, could then indicate a dwelling area. Since the objects, for the most part, can be classified as waste material, they are of greatest importance during interpretation and analysis. In other words, the waste can tell us more about the non-material part of the culture than the artifact material. Most hut structures interpreted to this day have had preserved floors or contours, and most of them are dated to the Maglemose Culture (Sørensen 1987:60f). One of the reasons for the limited number of Mesolithic hut finds is that many excavations have concentrated too heavily on artifacts. The emphasis has chiefly been laid on typologizing and chronologizing artifacts. It is necessary to be able to discern different activity areas, hut or tent structures, hearths, graves etc. within a habitation and the dynamic relationship between them. By studying the distribution of an object, there is a considerable possibility of seeing the traces of different cultural activities. For the mesolithic period, structural analysis has mainly been carried out in those cases where clearly visible and preserved structures have been found. In most cases it is a matter of concentrations of flints around hearths, or, as mentioned before, preserved hut floors.

Some of the most interesting and informative types of structure are the graves. They can yield an insight into religious, ideological, social and economical conceptions, through study of the type of grave, as well as position, age, sex, grave gifts and embellishment. Lars Larsson writes that grave-fields are extremely fruitful, giving great insight into the ancient world of symbols (Larsson 1988:64). Structurally, there is both the possibility of studying the relationship of the graves and the relationship between grave/grave-field and habitation. Larsson has, through his own studies of the grave-field at Skateholm, been able to discern activities that have occurred in connection with the death, the interment, the filling of the grave/graves and after the interment (*Ibid*: 65ff). Since the grave ritual contains all four spheres of ideas, Larsson’s analysis of the course of events is of great importance for understanding the ancient society. The burial custom can tell us about the religious ideas, the social ties, the ethics and the hierarchic and organizational structure of the society and its industries. One must, however, bear in mind

that burial customs can easily give an idealized picture of prehistoric societies. That is to say, ancient man is showing us his idealized view of life. Funerals are well-directed phenomena with few randomized elements. One problem with the grave material found so far is that it is limited if one wants to do comparisons over time. The only grave-fields that have been found are at Skateholm on the south coast of Scania and at Bøgebakken in north-eastern Zealand. Both date from between the later part of the Kongemose Culture and the earlier part of the Ertebølle Culture. Few graves have been found from the early Mesolithic period.

Attempts have been made to perform demographical analysis when doing Mesolithic habitation analysis. Unfortunately, most of the studies merely concentrate upon population calculations. Vang Petersens attempt to calculate the population of north-eastern Zealand can be mentioned as an example. Based on an estimated biomass derived from the population of red deer, he assesses the population as being 300 people during the Ertebølle Culture, on an estimated calorie requirement of 2000/day (Vang Petersen 1976: 82). Lars Larsson has also made a similar study of the Segebro habitation. Supposing a meat consumption of 1 kg/day, he estimated the population to 110 people, if the habitation was occupied all the year round. Assuming a three month settlement, the number of individuals would amount to 444 (Larsson 1980: 12f). He also tries to estimate the population based upon the number of hearths and the habitation area respectively, which yields different results (*Ibid*: 13f). Consequently, he comes to three different conclusions based on three different calculating methods. Both Vang Petersen and Lars Larsson are aware of the possible sources of errors and the problems connected with these types of calculations, and one can, of course, question their validity. If it is possible to produce fairly reliable information, it is, of course, of interest. Demographic analyses do not merely consist of population censuses. It is also important to study the composition of and changes within a population. Variables such as age, sex, birth-rate, mortality and frequency of moving are significant.

Dynamic habitation analysis has not been applied until recent years and then only to a minor extent. One example is the excavation of the mesolithic site at Vænget Nord. The positions of all lithics were recorded with the soil discoloration as background, in 226 m² (Fig. 4) of the total 506 m² area investigated. A second registration was done after all the artifacts had been removed. All the backdirt was wet-sieved so that fragments would not be missed (Brinch Petersen 1989: 326). Different activity zones could be identified, as well as, amongst other things, pits, 200 stake-holes and 30 flakes that could be refitted back onto a flint core (*Ibid*: 328) (Fig. 4). This type of excavation method can better answer questions about the social organization and economic activities of the ancient society, than solely concentrating on the excavation of artifacts. No final analysis from the Vænget Nord excavation has been published as yet.

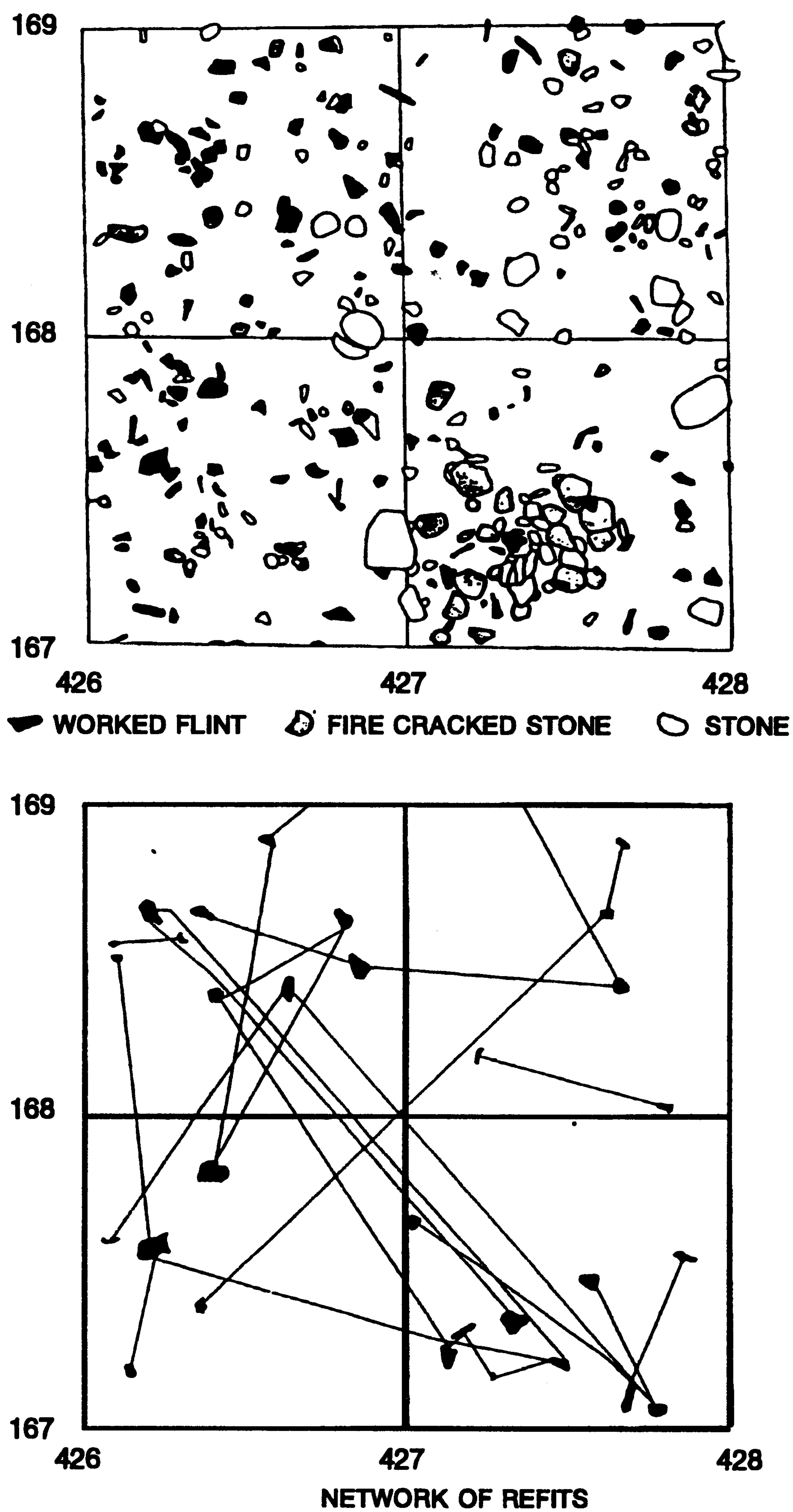


Fig. 4. *Décapage* and refits in four central metre squares at Vœnget Nord (Brinch Petersen 1989: 327).

Besides studying the relationship between waste material, artifacts and structures within a habitation, these elements must be seen in a wider macro perspective. The environment surrounding the habitation should be analyzed in order to be able to reconstruct the ancient topography, fauna and vegetation. At the excavation of

the Segebro habitation in Scania, an environmental analysis was done within a radius of 5 and 10 kilometres around the site. The distances were motivated through studies of the movements of recently existing groups of people, who live or lived by hunting, fishing and gathering (Larsson 1982 : 92). One obtained a good view of the early Atlantic shore-line. Earlier soil and topographic analysis facilitated the reconstruction of the flora, which gives rise to faunal conditions (*Ibid*: 93ff). Sørensen points out that the location of the habitations in relation to the resources yields an insight into the economic strategy during the Mesolithic period (Sørensen 1993 : 130). Even the relationship between different habitations ought to be studied. Comparative studies, with regard to seasonality, contacts, type of habitations *etc.*, are cultural indicational factors which can be advantageously studied.

Finally, a few factors should be mentioned that indicate the occurrence of regional differences during the Mesolithic period. It is of interest to be able to discern different ethnic groups or subcultures through regional studies. That these groupings arise can be due to different outside influences. Ornamentation can in this case be an indicator. Andersen (1981 : 36, 1984 : 25) sees ornamentation partly as a measure of status, and partly as important for group identification. It is also interesting to note that it was often certain types of artifacts which were ornamented, for instance bone daggers, stag-antler axes with the shaft hole near the burr and stag-antler shafts. The reason why the individual types of artifacts often have the same ornate patterns, can be due to innovation or migration. Ecological changes also influence cultures, which can be seen when studying the differences between the eastern and western sides of the topographical obstacle of the Store Bælt. Vang Petersen (1990 : 17) lists polecat, badger, lynx, aurochs, elk and bear as species of animals that disappeared from the eastern parts during the early Atlantic period. He writes that the explanation for this is increased hunting and also a transition from a light open boreal to a dark Atlantic forest. Through the disappearance of the listed species of animals, some of the resources decrease. The uneven geographical spread of geological resources may also yield different cultural prerequisites. These factors are, of course, reflected in the assemblage of artifacts and their appearance, since the artifacts function is connected with the supply of resources. Changes in climate certainly affect the above-mentioned factors, but also settlement patterns, and can, in a wider context, give rise to different cultures.

DISCUSSION

In my opinion there are two camps among the archaeologists, concerning the view of the Mesolithic concept of culture. One group advocates the arrowhead chronological classification of phases, as mentioned earlier. In the other group

there is confusion, both concerning the concept of culture and concerning ethnicity. This group has not been able to agree on an archaeological definition of culture, nor on the meaning of culture and ethnicity within archaeology. They are instead often inclined to abolish the existing concepts of culture and to replace the Maglemose, Kongemose and Ertebølle cultures with; early, middle and late Mesolithic. One of the reasons for this is the criticism of the arrowhead chronology and its significance for different regions. Arrowheads and microliths, which represent several different phases, have on several occasions been found mixed at one and the same habitation. Yet it is unclear if they represent a "cultural mix" or are due to disturbed layers. One also questions whether one can trace the culture and discern ethnic groups by arrowhead studies.

I oppose abolishing the Mesolithic concepts of culture out of hand, without first attempting to define the contents of the archaeological concept of culture. This definition ought to be tried on the Mesolithic, in order to find whether there are possible other cultural classifications than those prevalent. It is equally important to define the concept of ethnicity and via regional studies to test possible ethnic groupings and subcultures.

Archaeological research has mostly criticized the concept of culture, but has, with few exceptions, not proposed any of its own definitions. Of those cultural definitions which have been proposed, it is principally the social anthropologists and ethnologists who advocate the non-material part of the concept of culture. On the contrary, the archaeological definitions concentrate upon the material part of the culture.

By comparing the classification of the different researchers, one quickly sees that contemporary phases have been given different names by each individual researcher, based on the habitation they consider representative of the phase. The question is whether this "pure" habitation really is representative. It has been shown that most of the habitations exhibit traits, which could be related to several different phases. The habitations are then characterized as "impure". Since definitions of phases are based upon minor morphological differences, the classification of an arrowhead or axe is frequently haphazard. The individual's "skill" and the nature of the raw material can be of vital importance. Chance also plays an important part at the transition between two "cultures", since they are separated temporally by two adjoining phases. Another often disregarded factor is the "delay effect". Why should one be concerned whether an arrowhead's morphological change is contemporaneous? It is not natural for changes to occur contemporaneously within a whole cultural sphere. It is also probable that certain regional characteristics would be retained, and hence change would go in another direction, or old traditions might be preserved.

There is a contradiction within Mesolithic research. At the same time as they search for phase typological traits, *i.e.*, **similarities**, they are most particular to

point out **dissimilarities** in order to classify the Mesolithic period into phases and cultures. In my opinion, the most far-fetched is Vang Petersen's arrowhead classification of the Kongemose and Ertebølle cultures into 31 different morphological types. I can hardly accept that all these types are the result of deliberate design. Generally, I believe that the function of a tool or weapon is the decisive factor which determines the shape.

The use of only a few artifact types when defining a culture is disputable. Contrary to the latest definition of the Kongemose Culture, by Sørensen, I do not consider that core axes, broad trapezes, rhombic arrowheads, blades and angled burins, can alone form the basis for an insight into the living conditions and traditions of ancient peoples. The inherent weakness in the definition comes from first choosing a few "typical" cultural artifacts as the grounds for a cultural definition. After first having dated and geographically delimited "the culture", based on the selected material, one cannot later, as a second step, analyze the economy or the remaining artifacts, structures or traces thereof *etc.* All factors must be included when defining a culture. If one follows Sørensen's or Vang Petersen's definitions of the Kongemose Culture, it is irrelevant whether there are similarities in burial custom, settlement pattern, type of habitation, industries, ornamentation *etc.* in a comparable material from the Maglemose or Ertebølle Culture. If one at the same time finds core axes, rhombic arrowheads and angled burins made on blades, then the material is defined as belonging to the Kongemose Culture. If one instead includes as comprehensive a material as possible, it is questionable whether the definition holds. Perhaps, unlike when using just a few artifacts, one would be unable to identify any clearly delimited cultures.

If one critically analyzes artifacts of the Kongemose Culture, one must come to the conclusion that the rhombic arrowhead is the only characteristic artifact of the concept of culture. Narrow trapezes occur during the latter part of the Maglemose Culture, while broad trapezes occur during the youngest part of the Kongemose Culture. Hence, one can generally not count the trapezes as *fossiles directeurs*. The other dateable artifacts are represented in the adjoining cultures. I do not consider the present definition of the culture to be valid, based on an artifact analysis with only one real characteristic artifact.

If one were to test the suggested cultural definition on the Kongemose Culture, the inference would be that the period could not be defined as an independent culture, based on the premises from which it is defined. The same applies to the Maglemose and Ertebølle cultures. However, I can not at present deny the existence of the cultures, before a more comprehensive material has been tested. When defining a Mesolithic culture in Southern Scandinavia, there must be fundamental changes of an economic, ideological, sociological or religious nature during the period, before we can speak of a new culture. These changes should

also be archaeologically traceable. If we can not find these kinds of traces, then we have no right to establish temporal cultural delimitations. Instead, we must view the period as **one** hunting-fishing-collecting culture with **one** common tradition which has undergone continuous change, without interruption, during the Mesolithic in Southern Scandinavia.

Naturally the artifact material must form a part of the cultural definition, but without the present dominance. The position in situ of the structures, artifacts and waste materials position in situ, i.e. the position of the material when the excavation surface was uncovered, and the dynamic relationship between them, are perhaps the most interesting fields of research within Mesolithic archaeology today. Still, it ought to be combined with environmental studies of the surroundings of the habitations, to obtain information about, for instance, Mesolithic resources and topographical positions. This research has the greatest possibility of yielding a closer understanding of or insight into cultural changes during the Mesolithic. It is important to not forget that the prehistoric landscape was populated by humans and not by artifacts. Perhaps this is an obvious and banal statement, but archaeological researchers sometimes appear to have forgotten this fact.

REFERENCES

- Andersen, S.H. 1971. Gudenåkulturen. *Holstebro Museum Årsskrift* 1970-71: 14-32.
- Andersen, S.H. 1981. Ertebøllekunst. Nye østjyske fund af mønstrede Ertebølleoldsager. *Kuml* 1980: 7-62.
- Brinch Petersen, E. 1989. Vænget Nord: excavation, documentation and interpretation of a Mesolithic site at Vedbæk, Denmark. *The Mesolithic in Europe. Papers presented at the third international symposium*, C. Bonsall (ed.). Edinburgh
- Brøndsted, J. 1957. *Danmarks Oldtid. 1. Stenalderen*. Copenhagen.
- Clarke, D. L. 1978. *Analytical archaeology*. Second edition. Bristol.
- Fink, H. 1988. Et hyperkomplekst begreb. Kultur, kulturbegreb og kulturrelativisme In *Kulturbegrebets kulturhistorie*, H. Hauge and H. Horstbøll (eds). Aarhus.
- Fischer, A. 1993. Mesolitisk inlandsbosættelse. Ed. Steen Hvass and Birger Storgaard. *Da klinger I Muld... 25 års Arkæologi i Danmark*. Aarhus.
- Grøn, O. 1986. *An analysis of the social organization and group structure of the Maglemose culture on the basis of the artifact distributions in the dwellings of this culture*. Copenhagen.
- Hagen, A. 1971. Om arkeologins kulturbegreb. *Kuml* 1970: 267-77.
- Hole, F. and R.F. Heizer 1973. *An introduction to prehistoric archaeology*. Third edition. USA.
- Høiris, O. 1988. Kulturbegrebet i antropologien. In *Kulturbegrebets kulturhistorie*, H. Hauge and H. Horstbøll (eds). Aarhus.
- Jørgensen, S. 1957. Kongemosen. Endnu en Aamose-Boplads fra Ældre Stenalder. *Kuml* 1956: 23-40.
- Kleppe, E. J. 1983. The use of the concept of culture in archaeology. *Kontaktstencil* 22-23: 1-18.
- Knutsson, H. 1982. *Skiavyxor. Experimentell analys av en redskapstyp från den senatlantiska bosättningen vid Soldattorpet*. Uppsala.

- Larsson, L. 1978. *Ageröd 1 : B-Ageröd 1 : D. A study of Early Atlantic settlement in Scania*. Acta Archaeologica Lundensia, series in 4°, N° 12. Lund.
- 1980. Some aspects of the Kongemose Culture of Southern Sweden. *MLUHM* 3 : 5–22.
- 1982. *Segebro. En tidigatlantisk boplats vid Sege ås mynning*. Malmö.
- 1988. Dödshus, djurkäkar och stenyxor. Några reflektioner kring senmesolitiskt gravskick. In *Gravskick och gravdata*, E. Iregren, K. Jennbert and L. Larsson (eds). Report series No. 32. Institute of Archaeology, University of Lund.
- Lindqvist, C. 1981. Etniska grupper som de avspeglar sig i det arkeologiska materialet. *Kontaktstencil* 19 : 39–49.
- Mathiassen, T. 1937. Gudena-Kulturen. En mesolitisk Inlandsbebyggelse i Jylland. *Aarbøger for Nordisk Oldkyndighed og Historie* 1937 : 1–187.
- Mellor, D. H. 1973. Do cultures exist? In *The explanation of culture change. Models in prehistory*, C. Renfrew (ed.). Pittsburg.
- Sørensen, S. 1987. A Maglemosian hut at Lavringe Mose, Zealand. *Journal of Danish Archaeology* 6.
- 1993. *Kongemosekulturen i Sydsandinavien*. København.
- Trigger, B.G. 1989. *Arkeologins Idéhistoria*. Stockholm 1993.
- Troels-Smith, J. 1966. The Ertebølle Culture and its background. *Paleohistoria* 12 : 505–28.
- Vang Petersen, P. 1976. Bosættelsesmønstre i atlantisk tid i Nordøstsjælland. *Kontaktstencil* 12 : 77–94.
- 1979. *Atlantiska bopladsfund fra Nordøstsjælland og Skåne. Dateringsproblemer*. Copenhagen.
- 1982. Jægerfolket på Vedbækbopladserne. Kulturudviklingen i Kongemose- og Ertebølletid. *Nationalmuseets Arbejdsmark* 1982 : 179–89.
- 1984. Chronological and regional variation in the Late Mesolithic of Eastern Denmark. *Journal of Danish Archaeology* 3 : 8–18.
- 1990. Eksotiske faunarester i Kongemose- og Ertebølletid – et resultat af udveksling? *Hikwin* 16 : 17–30.
- Werbart, B. 1994a. Complexity in the use of culture concepts. Re-thinking concept of cultures. Example: fishing/foragers Neolithic cultures in NE Europe. *Current Swedish Archaeology* 2 : 211–17.
- 1994b. Kultur, folk eller keramik? Om pan-orientalister, kossinister och anti-kossinister. Fördomar om etnicitet i arkeologi. *Arkeologi och etik*, E. Iregren and B. Werbart (eds). Report series No. 52. Institute of Archaeology, University of Lund.
- Vestergaard, T.A. 1988. Kultur i dansk kulturforskning. In *Kulturbegrebets kulturhistorie*, H. Hauge and H. Horstbøll (eds). Aarhus.
- Østmo, E. 1989. Begrebet arkeologisk kultur og dets anvendelighed ved studiet av bronsalder og keltetid. *UO Årbog* 1986–88 : 7–17.