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## PROBLEMS CONCERNING NEOLITHIC AGRICULTURAL GROUPS IN NORWAY

As an introduction to my lecture, it is well to point out certain important factors which may be familiar, but that in this connection call for repetition and emphasis. The first is the geographical situation of Norway and its geological structure. As we know, Norway is a coastal country, but it is also a mountainous one. The coast constitutes a combined length of 20,000 km. and the mountains 60% of the total area of the country. Today 3 % of the land is under cultivation. Agriculture as such is carried on today in all parts of the country right up to the borders of Russia, the fact that stock-breeding and farming are feasible at all being due to the Gulf Stream. Here it is worth mentioning that the average temperature of Oslo is 5.4 °C, of Bergen 7 °C, of Trondheim 4.4 °C, and of Kirkenes 0.0 °C.

It is, as we know, primarily in certain districts of eastern Norway, South-Western Norway, and Trøndelag (the Trondheim district) that the area is sufficiently large, the soil rich enough and the climate favourable enough to provide conditions for economic and social development for a purely farming community. In these parts of the country, agriculture and stock-breeding are today as in Viking times, and probably also in the Late Neolithic period, the chief means of subsistence.

Among the countries of Europe, Norway is still, however, the one where hunting and fishing play relatively the most important part in the economy of the nation. This applies of course first and foremost to sea-fishing and hunting in Arctic areas. Whaling, seal-hunting and fishing still today constitute a very large proportion of the livelihood of a very considerable section of the population. But also game caught on land must still be reckoned with in terms of economy. Norway has a considerable stock of wild reindeer in her mountain districts. On the Hardanger plateau alone, the number is calculated at 50,000. This is the only surviving wild reindeer herd of any importance in existence in Europe. In addition it may be noted that during the past year approximately 10,000 elks were shot in Norwegian forests.

It is against this background of Norway's special natural conditions that its cultural problems must be judged, whether dealing with the Neolithic age or with other epochs. Also the position of the country as a reception area for influences from the north as well as from the south and east, not only complicates the question of cultural conditions but gives them in this context an added interest.

Seen in this perspective, however, Norway has not provided Neolithic settlers in early agricultural times with the same possibilities as the sub-Neolithic. In other

words, one may regard it as proven that Norway has not had the same immigrations, neither has it been in a position to receive the same cultural influences from farming groups as the rest of Northern and Western Europe. At the same time the country has yielded ample opportunity for Mesolithic reindeer hunters to continue their mode of life unchanged, and for the establishment of new hunting groups. From this point of departure it may be of interest to make a closer study of Neolithic problems as a whole in Norway – which Neolithic cultures, groups and impulses have been vigorous enough to penetrate to the most northerly and the most westerly outposts of Scandinavia, and how such foreign elements succeeded in adapting themselves to the geographical and climatic conditions encountered in the areas under discussion. Above all the question must be raised of the possibility of studying the relationship between the Neolithic farming groups and the Mesolithic and sub-Neolithic hunting groups.

The oldest purely Neolithic elements on record in Norway are in the Oslofjord area. This has been established partly by the archaeological material, partly by pollen analyses. To take the archaeological material first, we find that this is limited but incontestable. It consisted of thin-butted flint axes, a group of double axes as well as a small number of thick-butted flint axes of “megalithic” type. Compared with the abundant and well defined Southern Scandinavian material, these finds are insignificant, and one may well ask whether this material can be attributed to trading or to casual distribution, thus showing evidence of more or less random contacts between groups of hunters in Eastern Norway and farming settlements in Sweden and Denmark. One can, however, in principle it would seem, reject this explanation. Firstly, because the finds are present almost exclusively in the richer and more fertile agricultural districts of Eastern Norway where traces of Mesolithic groups, broadly speaking, are poorly represented. Secondly, because the finds can be placed, typologically and from their background, point for point as elsewhere in Scandinavia in the Early Neolithic period.

We have thus, as Erik Hinsch has shown in detail, a division of the material in votive finds, grave finds and depot finds. The majority are, however, single finds, but still mostly from farming districts. It is nevertheless regrettable that excavated settlements are non-existent and that the find observations are not always of the best. One fact it is as well to note in this connection is that Megalithic graves are practically unknown on Norwegian territory. The same is the case with regard to pottery from the Early Neolithic period. It would appear that Megalithic culture represented by the characteristic stone tombs had not found access to Norwegian areas. It must then primarily be the oldest Funnelnecked beaker groups of settlers to whom we owe our earliest agricultural expansion in Norway. This culture must in other words have been strong enough to reach such a comparatively peripheral area as the Oslofjord district.

If we now turn our attention to the extensive botanical research carried out by Dr. Ulf Hafsten, there is reason to stress particularly the conclusion of his important thesis that "the bogs and tarns of the Oslo district tell us that the early settlement of land here in the north was identical with the Danish pattern, not only in the way it happened, but also at which point of time". Thus he finds that the fluctuations in the pollen curves are the same point for point in the Oslofjord district as in Denmark. These are, however, far less marked in the north than they are in Southern Scandinavia.

If we accept the archaeological material as interpreted by Hinsch, and approve the botanical arguments put forward by Dr. Hafsten, we reach the conclusion that the earliest Neolithic occupation of land in the Oslofjord area coincided with the first agricultural period in South Scandinavia, and that its character, but not its extent, has been alike in both areas.

If we examine more closely, however, the further course of this Early Neolithic agricultural phase, we find that at the transitional period to the Middle Neolithic phase, a stagnation or decline must have set in for the farming community that had established itself.

We have already observed that the large stone graves of the Megalithic culture, with one single exception, are unknown in Norway. Further, that it is a fact that thick-butted flint axes of Megalithic character, double axes and other implements of a later Megalithic type are *few* and frequently difficult to differentiate among the Norwegian finds of the Middle Neolithic period. The finds there have shown, moreover, no concentration in the areas where a Neolithic settlement existed in the preceding period.

Of the grave finds and votive finds, which can with certainty be placed as belonging to a Middle Neolithic farming group influenced by Megalithic culture, there is only one in each category. This is, then, in striking contrast to the evidence we have of an older Neolithic habitation of Norway.

The conclusion to be drawn from these facts, which Hinsch *inter alia* has done, must be that the first agricultural settlements in Norway, such as were maintained by the Funnel-necked beaker culture, have lasted into the Middle Neolithic period, but subsequently are almost entirely absent in the archaeological material. Seen in relation to this fact, it is necessary to re-examine the results Dr. Hafsten has arrived at by way of his pollen analyses regarding the further development of the vegetational history of the Middle Neolithic age. In the transitional period from an Atlantic to a Subboreal climate, it has been possible as we already have seen, to prove that distinct agricultural indications are present in the pollen material. The encroachment upon the natural indigenous vegetation of which this is a proof, becomes apparently *weaker in the next epoch*, but here caution must be shown not to base conclusions too strongly on the pollen analyses, a point emphasised by Dr. Hafsten himself. The topography of the Oslofjord district, with its uneven terrain, probably provided in

Subboreal times a fairly open vegetational situation where smaller groups of farmers could find the means of subsistence without resorting to extensive forest clearance.

If, however, we venture to support the faint indications given by pollen analysis, we must conclude that Early Neolithic agriculture seems to decline at the period transitional to Middle Neolithic times.

Reverting to the archaeological material from the Middle Neolithic age, we find here two very marked features: the first, a strong expansion throughout all areas of the country of sub-Neolithic groups, the second, a distinct spreading of the clearly defined Swedo-Norwegian Boat-Axe culture.

We have, thus, the following possibilities to reckon with in the era under discussion.

- I. The existence of remains from Mesolithic groups such as Fosna (represented by finds from the West-country and the high mountain areas). Possible existence of "survivals" from the Nøstvet culture (represented by finds mainly from the East-country).
- II. Expansion of hunting groups of Northern origin. Direct traces in Western Norway and mainly indirect traces in the East-country. This hunting culture is characterised by widespread use of slate and quartzite as raw materials. It is found alike in coastal, mountain and forest areas.
- III. Vigorous expansion of Pitted-Ware culture groups. This is marked along all coastal districts from Østfold to north of Bergen. Whether this expansion is homogeneous over the whole of Scandinavia is a moot point. The same is the case with its origins. It is, however, reasonable to suppose a connection with the the livelihoods of hunting and fishing.
- IV. Sporadic presence of weak Funnel-necked Beaker elements. The absence of large stone graves (apart from one example) show that the form of religion these represent did not take root in Norway.
- V. The Swedo-Norwegian Boat-Axe culture.

This form of culture is, in parts of Norway – first and foremost Eastern Norway – represented by pottery as well as defined stone and flint implements and graves. It combines – as Malmer has clearly shown – agriculture and stockbreeding, with hunting as an important factor. It is not nomadic and does not represent a new people among the Nordic tribes.

The conclusion of these observations must be that the hunting groups almost entirely dominate the archaeological picture. Compared with the Mesolithic age, they show a wider dispersion, whereas the agricultural pioneers appear to be reduced in the period transitional to Middle Neolithic times. The presence, however of definite finds from the Battle-Axe culture show that cultivation of the soil at this stage has been vigorous enough to gain ground not only in the Oslofjord district, but also

in more scattered agricultural areas. Whether these finds can be attributed to migration as previously supposed, which in the case of Norway seems likely, or are the result of a process connected with the older indigenous Norse-Swedish farming groups as claimed by Malmer, we shall not here take up for discussion, the more so as our Norwegian material is scarcely rich enough to warrant an isolated judgment of these factors.

It has been said earlier on in this lecture that the Pitted-Ware culture, so strongly represented in the Middle Neolithic age, must have been dependent upon hunting and fishing to obtain a living. In principle this is correct, but the details give cause for discussion. It may be claimed, as indeed it has been, that within this culture may be found traces of agricultural elements. In Norway too settlements have been uncovered consisting of small collections of houses, and here the presence of grain and other cultivated plants has been proven by analysis of seed-impressions in clay from the house walls. Moreover in the tool material are elements of Neolithic type as well of Mesolithic. From Norwegian quarters (Erik Hinsch) the question has therefore been raised as to whether the solution to the problem does not lie in the following circumstances. By expanding towards Western Sweden and Eastern Norway, the Neolithic farmers of the Funnel-necked Beaker culture had spread beyond the natural limits of their area of subsistence. These scattered settlements of farmers were unable in the long run to obtain sufficient support and reinforcement from the peoples of the primary regions. Gradually their means of subsistence had to adapt itself to the natural resources of the country, and, commingling with the indigenous Mesolithic groups, a hunting culture of Neolithic character came into being – the Pitted-Ware culture. I am aware that this hypothesis is not shared by the most competent scientists in the field, but I cannot consider the theory here advanced as disproven by conclusive arguments.

If we examine, however, the further development of the history of agriculture in Norway, we find that the Late Neolithic period constitutes an extremely interesting but somewhat unexplored period. What can, however, be stated with complete certainty is that we now find a dispersion of Neolithic groups and Neolithic cultural elements in larger areas of the country. It can be expressed as follows: In all districts where stock-breeding and agriculture have any possibility of providing a reasonable livelihood in our times, there too farming has been successfully carried on during the Late Neolithic period.

If we regard the material from a strictly archaeological viewpoint, we find that an enormous number of *flint daggers*, *flint sickles*, *flint axes* and *shaft-hole axes* have been found. In addition, there are numerous votive finds, depot finds and, to a greater extent than before, also grave finds, not only of stone cists, but also simple earth graves, the latter being best represented in the finds.

The dispersal of the finds, partly in areas where Neolithic groups had settled

already in earlier phases, partly in districts favourable to agriculture outside these areas, shows the character of the expansion. It is worth noting that the frequency of Late Neolithic finds is strongest in districts with Cambro-silurian as the dominating geological formation. It should also be observed that these very areas are practically devoid of registered finds from hunting groups either of Mesolithic or sub-Neolithic character. This applies, primarily, to the wide forest-clad inland areas of Eastern Norway, but also in Western Norway the division between the Late Neolithic expansion and the sub-Neolithic settlement groups is frequently so marked as to be worthy of emphasis. It is in the inner fjord districts, cutting deep into the mountain country, where ecological conditions have not been as favourable for hunting tribes as in coastal districts, that we find most markedly elements of Late Neolithic type. These are precisely the most fertile and climatically most favourable agricultural and pastoral districts in Western Norway to this day. In other words, it was the areas most suitable for farming and not the hunting grounds which now for the first time were settled to any considerable extent. Whether this settlement of land has been the result of migration in Late Neolithic times or whether it is due to an inner expansion will not here be the subject of discussion. There is, however, reason to point out that, archaeologically speaking, the expansion in the Late Neolithic phase has been manifold compared with earlier periods.

To determine the degree and the type of expansion it is as well to return to the pollen analyses and their evidence. Here again we shall base our arguments on the widespread research carried out by Dr. Hafsten in Eastern Norway. From the period in question, approximately in the mid-Subboreal period, traces are found, not only in the coastal districts around Oslofjord but also in the heart of the rich Cambro-silurian inland area of Eastern Norway, of widespread forest clearance corresponding to that in Denmark during the Early Neolithic period. In the pollen diagrams the curve for deciduous mixed-oak forests now shows deep "drops" together with a marked increase of herbs as well as of cereals and allied weeds. Dr. Hafsten has interpreted these well-documented findings as the result of an almost explosive agricultural development, probably based on widespread burning of forests to provide pasturage and cultivable soil. In other words, the archaeological arguments are now supplemented and supported by information of great importance from natural science.

The term Neolithic revolution may then be employed with a certain justice to denote the expansion of the farming culture in Norway at the end of the Stone Age. After a first onset of Funnel-necked beaker elements during the Early Neolithic period, and later a renewed expansion of the Swedo-Norwegian Boat-Axe culture, came then, the establishment of an economy and settlements based on agriculture and animals husbandry in the transitional period to the Norwegian Bronze Age.

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