

English Summaries

Chronological period systems: A research-historical perspective

By Bo Gräslund

The chronological period is a widely used concept in archaeology. It is, like archaeological type-artifacts, a generalization. The use of periods is a prerequisite for the study of most aspects of prehistory. Archaeology needs many different sets of periods, based on as many different criteria as possible. Any system of periods has its value, provided that it represents something characteristic in the prehistoric sequence. It depends on the archaeologist to choose the right one for the purpose in question.

As I have tried to demonstrate elsewhere, the basic period systems of the Scandinavian prehistory were, first and foremost, chronological models (Gräslund 1974, 1976). One exception is Sven Nilsson's division of cultural evolution presented in his "Skandinaviska Nordens Ur-invånare" (Nilsson 1838), published in English only thirty years later (Nilsson 1868). This division is summarized in the following four stages: 1. The savage stage, based on an economy of hunting, fishing and gathering. 2. The nomad stage, with herding of domesticated animals and with hunting and fishing as subsidiary economies. 3. The sedentary

agricultural stage, with cereals and domesticated animals. 4. The stage of organized and specialized society with labour division, writing and coinage (Nilsson 1838). As expressed in economic terms Nilsson's model of cultural evolution in an interesting way anticipates those of Marx, Morgan and Engels.

The illustration of chronological systems in archaeological literature was rare before the first World War. During the following decades there was, along with a more dogmatic view of prehistoric chronology, a more widespread use of chronological diagrams, with a system of vertical and horizontal lines strictly separating the chronological stages.

Changes in archaeology and anthropology

By Poul Klejnstrup-Jensen

The paper gives a short review of some of the main trends in the two sciences from the mid-nineteenth century until today with special emphasis on the shifting views of cultural change.

The nineteenth century was characterized by evolutionism both in the natural and cultural sciences. The early cultural evolutionists saw humanity as passing through a succession of cultural stages culminating in western civilization. Primitive societies were looked at as a kind of "living museum" of earlier stages, and archaeological finds were used as a documentation of this. This inevitably led to a certain racism. L. H. Morgan made his classification of societies in "ethnic periods" (savagery, barbarism, and civilization) that was later used by Fr. Engels and P. Kropotkin among others. The Swede Oscar Montelius transferred to his typological method the whole of Charles Darwin's biological evolutionary apparatus with the result that the study of the artifacts became partly separated from the study of the societies of which they were manifestations.

As a reaction to the somewhat mechanical evolutionism the so-called "Kulturkreislehre" developed among German ethnologists towards the end of the nineteenth century. They laid more emphasis on the wide dispersion of cultural similarities and tried to explain these by means of earlier historical relations (diffusion, migration etc.). Their main method was the cartographic, the mapping of cultural elements. Similar developments took place in archaeology, more or less influenced by the ethnologists. An extreme line was taken by the German G. Kossinna, whose "Siedlungarchäologische Methode" was a mixture of linguistic, racial and archaeological postulates.

In the U.S.A. Franz Boas reacted against the early evolutionism and its generalizations and formulated his own "historical method". His pupils such as Kroeber and Wissler became widely influential in American anthropology and archaeology, and some of their main concepts – "culture-area" and "age-area" –

were very similar to those used by the "Kulturkreis"-school.

In England diffusionist theories were formulated by Rivers, Elliot Smith and Perry, but – partly because of the incredibility of the lastnamed's "heliocentric" theory – the diffusionist influences were limited. Instead there was a growing influence from French sociologists such as Durkheim as manifest in the "founders" of the functionalistic school of anthropology, A. Radcliffe-Brown and B. Malinowski. They were both evolutionists, but found that social evolution should be defined in terms of social structure (R.-B.), and that the answers to evolutionary questions should be sought through the empirical study of the facts and institutions whose past development was to be reconstructed (Malinowski).

As British anthropology came to be dominated by Radcliffe-Brown and Malinowski, from the thirties onwards the major influence in British archaeology came from two sources, V. G. Childe and Grahame Clark. Originally Childe held diffusionist views, but influenced by Soviet "stadialists" deriving their works from Engels he changed to a materialistic-evolutionary theory, though without dismissing the importance of diffusion in the explanation of historical changes. He paralleled the archaeological divisions with Morgan and Engels' evolutionary stages and ascribed the leap between them to economic revolutions, the neolithic and the urban, both followed by an increase in population. In the explanation of the shifting rapidity of cultural evolution he pointed to the internal antagonisms of the societies involved. Clark shares with Childe a moderate materialist determinism. He uses the Morgan-Engels scheme and Childe's economic revolutions, but is in practice more interested in functional synchronic relationships. His main importance

lies in his insistence on thorough ecological studies of both micro- and macro-range.

At the same time evolutionism had a revival in the U.S.A. In 1943 Leslie White formulated his "law of cultural evolution" seeing the amount of energy harnessed per capita per year as the measure of cultural development. White held a materialistic view as he found that the technological factor determined the form and content of the other cultural sectors. White saw evolutionism not as opposing the studies made by the historical school and the functionalists, but as completing anthropology as a science by providing the necessary generalizations. J. H. Steward opposed to White's unilinear evolutionism and formulated the concept "multilinear evolution" paying greater attention to empirical and historical facts. His other main concept "cultural ecology" was a methodology for the investigation of the mutual relationships between environment, technology and social organization. The pupils of White and Steward sought to unite their two positions. Sahlins formulated two aspects of evolution, "specific" corresponding to Steward's "multilinear", and "general" corresponding to White's energy-law. E. Service showed that specific evolutionary progress was reciprocal to general evolutionary potential. Both Service and M. H. Fried made new variations on Morgan's old classification of societies using the level of social integration as a scale, but the explanation of the transition from one stage to another was still a problem.

The "new" archaeology of the sixties and seventies is not a uniform direction, but two aspects seem to be in common. One is an optimism with regard to the possibilities of archaeology – the archaeological material contains information on all aspects of culture. The other is the interest in the study of cultural process,

partly deriving from the revival of evolutionism in anthropology. K. V. Flannery has shown the "processualists" to be divided in two groups – one deriving their methods from Carl Hempel's hypothetical deductionism, and one oriented towards systems theory. Within modern systems theory the most interesting model is the complex adaptive system. Here change can be generated both outside or inside the system. An important concept in this model is "multifinality" – similar startconditions can lead to different endconditions (Buckley).

In Soviet archaeology the stadialist theory of the twenties and thirties was abandoned after the war and replaced by the ethnogenetic approach that rose partly as a response to the Kossinna-school's production of archaeological "evidence" to be used as justification for the German aggression. However, as can be seen in the never writings of L. S. Klejn, there seems to be a growing interest in other types of explanations and theories and at the same time a growing dialogue between eastern and western European scientists on theoretical topics.

It has been beyond the scope of the paper to do more than hint at the relationships between the changes in anthropological and archaeological theories and the changes in the societies of which the sciences are part.

It would seem that the necessity of more uniform concepts in the cultural sciences is being increasingly felt today, and that we may look forward to what has been called a synthetic anthropology, integrating physical anthropology, archaeology, linguistics, theoretical anthropology and the other cultural and historical sciences.

Tracing the transition from the palaeolithic to the mesolithic in southern Scandinavia

By Anders Fischer

The main purpose of the article is to examine the chronological situation during the glacial-postglacial transition period. Following the usual practice within north European archaeology (and for lack of anything better) this geological change is used to mark the change from the palaeolithic to the mesolithic. The article's main study area is the present extent of Denmark together with Slesvig-Holsten and Scania. This naturally uniform area of lowlands, covered by young morainic deposits rich in flint, is for the present purposes described by the term "southern Scandinavia". The chronological investigations are based largely upon settlements, as these are the find category yielding by far the most information about the relevant period. The available source material is however a far from ideal basis for a chronological investigation. Those settlements which can with most certainty be regarded as "chronologically pure" are often so poor in finds that they are not very suitable to statistical treatment. Besides this the number of settlements dated by pollen – or C-14 analysis is extremely small. These basic problems weaken any chronological study in advance. The article thus does not aim at any absolute description of the situation, chronologically or culture-historically, at the time of the end of the ice age. It is rather the writer's hope that the theories and provisional conclusions presented here will form a fruitful basis for future research.

An attempt is made to put the settlements in chronological order by means of the so-called graphic

seriation technique. It must be emphasised in this connection that the sequence produced by seriation need not necessarily represent a chronological sequence. The order can also be influenced to a greater or lesser degree by variations in subsistence activities, social status and/or cultural background. The sequence can also be influenced by the so-called Doppler-effects. The attempt has been made to eliminate such non-chronological variables from the data. Social and functional differences have been minimised by selecting for each seriation sub-types of a single, simple and common flint tooltype. Attempting to limit Doppler-effects and differences in cultural background as small a study area as possible has been selected. Due to the small number and wide geographical spread of chronologically useful settlements, it has however not been possible to limit the area of study to anything smaller than the whole of southern Scandinavia. If conditions among ethnographically known hunting groups in arctic and subarctic North America are applicable as a general model for the groups in the northern European late palaeolithic and early mesolithic, the study area is however not overlarge.

Although it is thus likely that non-chronological factors have been minimized, it cannot be proved that the sequence obtained by means of seriation is necessarily a chronological one. Therefore the settlements are used in two seriations, each using its own independent data. Only if the two seriations place the settlements in the same order will the sequence be regarded as probably chronological. The available pollen and C-14 datings are used partly as another check of the seriation, but are used mainly as a means of orienting the time axis. The settlements have been selected on the basis of their being, as far as can be seen, the remains of a single, short-lived dwelling with associ-

ated activity areas. The only exception to this rule is the pollen dated Ahrensburg level from Stellmoor.

The available material from the late glacial and early post glacial is divided into two complexes: the "tanged-point technocomplex" and the "microlith technocomplex." In the case of the former the seriation is based upon the writer's own examination of the material, including a number of new and hitherto unpublished settlements. A more detailed presentation of these sites will take place in a forthcoming publication. As far as the latter is concerned, seriation is based almost entirely on information from the available literature.

The tanged point settlements are seriated on the basis of subdivisions within burins and tanged points. Both seriations give the same sequence (see fig 2. and 3). The sequence must therefore be regarded as in all probability chronological. In the oldest part of the sequence are the settlements referred to in the literature as belonging to the "Lyngby Kreis", while the youngest part consists of finds which have been grouped under the heading "Ahrensburg Kreis". These two groups have been regarded as representing different ethnic groups. In this view, the existence of these ethnic groups continued into the post glacial, being represented by the "North group" and the "Duvensee group" respectively. On the evidence of the seriations presented here these culture-historical interpretations must be discarded. The two »Kreise« should instead be seen as elder and younger elements in a single unilinear development.

A type characteristic of the later part of the tanged point complex only are tanged points fulfilling the following conditions:

1) Length less than 5.5 cm

2) The tip at the bulbe end (proximal end) of the flake.

The term "Ahrensburg point" should in future be applied only to points fulfilling these two criteria. Stray finds of this tanged point variant indicate that Denmark and Scania were occupied in this part of the tanged point period (see fig 4.).

The microlith settlements are seriated on the basis of subdivisions among microliths and axes. As simple burins are under-represented in the finds from older settlement excavations, it was not possible to seriate on the basis of this tool type. Fig. 8 and 9 show that the two seriations give one and the same sequence. This is, besides, in agreement with scientific dates. The oldest part of the sequence consists of settlements from the newly isolated "Barmose group". They are followed by Duvensee II, in turn followed by members of the North group. Because of insufficient data it was possible to include only one site from the Duvensee group in the analysis. Despite this there is no reason to suppose that the remaining south Scandinavian settlements of the Duvensee group diverge in either flint or bone tool types and would not fit into the sequence. There is thus no reason to continue regarding the Duvensee and the North groups as traces of two ethnic groups. On the contrary, all the evidence points to their belonging to a common, unilinear cultural development.

The oldest link so far known in this development is the recently excavated and little known site of Barmose I. A small sample of its flint tools is reproduced in fig. 5 to 7. It must be mentioned that among the bone tools from the site is a single finely toothed bone point.

A settlement similar to Barmose I and Hasbjerg II was excavated as early as 1902. This was Skottemarke, which, with its combination of symmetric flat-flaked

flake axes and finely toothed bone point, did not fit into the traditional view of the chronological and cultural development of south Scandinavia.

The youngest seriated find from the tanged point complex has been pollen dated to the younger dryas. A more exact place within the period could not be determined. Thus all that can be said is that it must be older than 8 200 B.C., the end of the younger dryas. The hitherto oldest find from the microlith complex has been shown by carbon 14 dating to have lain uncovered until $2\,520 \pm 100$ B.C., so the radiocarbon dating of charcoal samples from the level of the settlement should not be regarded as significant. Apart from this there is only one scientific date for the settlement. This is a provisional pollen date which suggests that the settlement rests on a level of preboreal date. Thus the settlement must be younger than 8 200 B.C., and it can hardly be younger than the end of the preboreal which in Zealand ends at about 7 400 B.C.. On this basis it is not possible to determine how much difference in time there was between the Ahrensburg level at Stellmoor and Barmose I.

If the flintwork from the earliest microlithic and the latest tanged point settlements in south Scandinavia is compared, considerable differences emerge. The tanged points have disappeared, while simple lanceolate microliths are produced using the microburin technique. Besides this there is an important innovation in the form of the flint-bladed axe. Even the artefact types present in both complexes show differences. While flint technology in the later part of the tanged point complex may be regarded as advanced, it is of a decidedly primitive standard on the early microlith settlements. Burins likewise show marked changes. While burins on retouch predominated on the late tanged point settlements, single blow burins

on existing surfaces are most common on early microlith settlements.

The writer would expect a continuity of culture and population between the occupants of the tanged point and microlith settlements. The considerable differences in the flint inventories of the two groups must thus be regarded as due to a chronological difference. It is not impossible, on the basis of the above-mentioned absolute dates, that the gap between the two complexes should be as long as 1 000 years. It is therefore the view of the writer that settlements are to be found in south Scandinavia which typologically and chronologically are to be placed between Stellmoor's Ahrensburg level and Barmose I. In the hope that it will help the localisation of such finds, an attempt is made at a closer description of this, "missing link". It is ascertained that none of the late tanged point settlements in north Germany known from the literature can be of help.

There is on the other hand a small number of settlements known from western Sweden and south-eastern Norway which occupy a typological position between the late tanged point and early microlith settlements. These are Tosskär A from Bohuslän and Mellemmyr, and Rørmyr I and II from Østfold. These four sites have many typological features in common with the youngest south Scandinavian tanged point sites. The few items on these sites which are unusual in or foreign from a tanged point context – flake axes and microburins – have on the other hand parallels within the early parts of the microlith complex. Whether these sites belong to the period around the end of the ice age has been a subject for discussion for a long time. If they were "shoreline-bound" or at least "coast-bound" their height above present sea level must date them to about 8 000 B.C.. Such a chronological pla-

cing has however been contested several times. This has happened on the basis of comparisons with south Scandinavia. It was here thought until recently that settlements where the axes were mainly made of flakes were typical of the late mesolithic and early neolithic periods. The same was expected to be the case further to the north in Scandinavia. With the demonstration of early mesolithic flake axe-dominated sites in south Scandinavia this suggestion can now be completely refuted. Tosskärr A and the Høgnipen settlements must belong in the period of transition from the late to the post glacial. Chronologically and typologically, therefore, there is nothing which would prevent these sites being used as an indication of what sort of finds might be expected to appear in south Scandinavia.

Finally a hypothesis is presented regarding the links between cultural development and the marked environmental changes at the time of the transition from late to post glacial in northern Europe. It seems likely that both the potential hunting kill per unit area and the area of inhabitable land rose. At the same time the large ungulate species changed from predominantly migratory herd animals to more dispersed, non-migratory types. These changes, taken together, are regarded as having caused a socio-economic devolution.

Periods and the transitions between them in the neolithic: on the suitability of various find-categories for division into chronological groupings

By Torsten Madsen

To begin with the difference between phases and periods is defined. Phases are usually geographically limited and often of short duration, defined on the basis of a single or a few artifact types. The term 'period' is on the other hand used for divisions based on more major cultural changes. A period must thus have more than local relevance, and must be applicable to a larger area covered by a relatively uniform cultural tradition.

The purpose of the article is to examine whether different types of finds give material of differing suitability for establishing the divisions between phases and periods as well as the chronological duration of the divisions.

Open finds in the form of surface and bog finds, and grave goods and offerings in and around megalithic graves, are seldom used for chronological purposes. An exception to this is the Funnel-necked Beaker Culture, the rich pottery finds from the megaliths being used by among others K. Ebbesen as the basis for chronological divisions.

It is argued that despite the fact that pottery from open finds can be divided up according to style and type, there is no *a priori* reason why these should constitute chronological groupings as well. Style and type may for example be determined by functional, regional, ethnic or social factors. Even if they are

chronologically determined there may be a considerable overlap period, which could easily involve as much as 50% of the production (Dethlefsen and Deetz 1966). It is therefore concluded that open finds are not suitable for division into chronological units.

Closed finds in the form of grave and hoard finds are traditionally those most utilised and relied upon for chronological purposes in Scandinavian archaeology. By means of the association of finds one seeks to establish which types are contemporary and which are not. While contemporaneity can be objectively established by this method, the fact that non-association does not necessarily mean non-contemporaneity is usually completely ignored. Grave and hoard inventories are not chance combinations of items from the period in question. As far as graves are concerned, factors of sex, age, ethnic origin and social status as well as religion can determine different find combinations which are not therefore chronologically based. Different traditions of craftsmanship in different production centres can have the same effect in hoards of trade goods.

Another source of error is differences in the main area of distribution between different types, which create geographically determined find combinations, which might be misinterpreted as chronologically determined. Finally it is mentioned that the usually small number of types which occur in sufficient numbers of find combinations in graves and hoards is often an insufficient basis for the definition of periods. They are more useful for defining phases, but possible phase overlap in chronological terms must often remain an imponderable, as a rather large number of find combinations are needed for such evaluations.

As an example, Ebbe Lomborg's "Die Flintdolche Dänemarks" (1973) is taken. It is demonstrated that

dagger types I and II are regional types, probably contemporary, and that types IV and V on the basis of find associations are predominantly contemporary. As the daggers in graves probably represent the category 'adult free man' it is unlikely that the find combinations from these graves are other than chronologically/regionally determined. In the case of the hoards, where most of the find associations occur, the situation is rather different. Hoards with varying type-combinations can derive from different centres of production each producing particular types. Thus factors other than the chronological may be involved in determining find associations.

Closed finds in accumulated deposits have as their greatest weakness the uncertainty involved in the length of the formation of the deposit. If one initially uses only those finds that excavations of professional quality can document as coming from deposits laid down over short periods (small pits, definite layers, pits and natural depressions), one is using that type of material most suited to chronological purposes. Not only is settlement material the most varied and representative material available to us, coming as it does as an unconscious selection from a situation of everyday activity, but its larger size makes it suitable for statistical studies and thereby for the examination of the nature of phase and period transitions.

Some Carbon 14-independent viewpoints on Becker's contact-hypothesis Answers to a "Postscript"

By Niels Sterum

From 1970 onwards C 14-dates of the Middle Neolithic (MN) of Jutland have caused problems for the credibility of the hypothesis of the chronological relations (fig. 1) between the Funnel-necked Beaker Culture (TRB), the Single Grave Culture (EGK) and the Pitted Ware Culture (GR), proposed by C. J. Becker (1954, elaborated 1957, 1959, 1973). The main postulate in the hypothesis was a parallelism between late TRB and full EGK, while C 14-dates suggest the main part of EGK to be clearly later than the final TRB.

In his "Postscript" (1977) Becker has asked for a demonstration of the possible errors in the archaeological argumentation used in constructing his hypothesis. This challenge had already been put forward to an international audience by Becker (1973), stressing the importance of some "safe contact finds". The present paper is an attempt to answer this challenge, and it concerns especially the "contact finds" and their chronological value.

The finds place GR in a key position according to the indirect method employed by Becker: phase A of the GR appeared to be connected with TRB and with phase B/C with the EGK. Thus a re-arranged scheme (fig. 2) is used for convenience. Although Becker emphasises "the lack of direct contact" between TRB and EGK, certain finds have been dealt with by Becker himself as expressing some sort of relation between TRB and EGK. These finds are also consi-

dered in the paper. As an example of "contact finds" exploited by other authors, only one find is dealt with in the paper.

In constructing the hypothesis, TRB-ceramics were used to define the subdivision of the MN in phase I-V, and it was emphasized that only pottery of the TRB, battle-axes of the EGK and tanged points of the GR could be dated with sufficient phase-exactness within the internal relative chronology of each culturegroup. Accepting these premises criticism is raised in the paper against the use made by Becker (1957, 1973) of the thick-butted and the "middlebladed" flintaxes: none of these objects can be dated to one and just one of the MN-phases unless precisely datable TRB-pottery is involved in an indisputable context. Such a context is not present among the "contact finds". Fig. 3 shows the distribution of thick-butted axes found in a reliable context, demonstrating their limited chronological value.

Insecurities occur from the mere fact that the "contact finds" are spread over an extensive geographical area (fig. 4). But serious errors are introduced in the hypothesis when only one half of the "contact" is composed of the objects mentioned (ceramics of the TRB, battle-axes of the EGK and tanged points of the GR), while the other part consists of chronological and typological interpretations and presumptions about quite different matters such as gravetypes and flint axe types. This affects the chronological positioning of the finds of *Kalhøve*, *Ans*, *Slauggård*, *Fragdrup* and *Gedsted*. Only the *Skærbæk* find contains precisely datable objects from two cultures.

Västerbjers forms a special element in the hypothesis. The contemporaneity of the GR and the EGK can only be maintained by presuming chronological unity of the gravefield. The relation between the GR and the TRB

involves flint axes, originally thought by Becker to be imported from Southern Scandinavia. In 1973 Becker himself expressed the possibility that the axes as well could be local products. Their significance is thus reduced to a pure typological clue for synchronism between the two cultures. Moreover only *grave 22* contains an axe (determined by type) associated with a phase-specific object of the GR.

Considerations based on published evidence show that the “contact finds” comprise a number of unsafe combinations. Surface-collections (e.g. *Jonstorp* and *Fiskevik*) reflect antiquated methodical traditions. This goes also for finds not excavated by experts (*Nr. Vesterkær, Västerbjers grave 7*). Stratigraphic finds from settlements (*Selbjerg, Sølager*) cannot support the hypothesis with arguments derived from find-circumstances (but once accepted the hypothesis can support the interpretations given by Becker). Some finds must be characterized as quite undatable (*type A tanged points of the GR in megalithic graves*). And the two totally disconnected finds from *Alvastra* must have been introduced in the hypothesis by mistake since the important TRB-flint-axes were found by drainage before excavation, 29 metres away from the excavation area where at least one of the tanged points of the GR was found.

The result of the stated criticism is that phase A of the GR (in terms of the “contact finds”) does *not in any way* show the presumed relation to the TRB. This in turn provides possibility of displacing the contemporary groups EGK and phase B/C of the GR. The positioning of EGK in the scheme was done by Becker on the basis of only an *estimate* of the duration of the GR-phases.

The nature of the reliable finds demands a less rigorous determination of the chronological values of these finds. Fig. 5 shows the chronological values

decided with a maximum of goodwill. From this, alternative hypotheses are constructed and discussed: all finds conform to fig. 6, only the find of Kalhave does not fit fig. 7-9 and the finds of Kalhave, Ans, Slauggård and Västerbjers oppose fig. 10. Some interpretations are suggested: re-use of flintaxes (already mentioned by Becker in the case of the Kalhave-find in 1957 as a possibility) and a dispersion of the datings of the graves of Västerbjers (the find-combinations do not oppose such a dispersion).

The paper takes no part in the discussion of the interpretations of C 14-dates from late MN in Southern Scandinavia, but underlines an anomaly which has developed over the years: originally proposed with flexibility and reservations on many decisive points, the hypothesis has become an unquestionable truth, subject to polemics which contradict common sense. Equally unacceptable is the inarticulate rejection of the hypothesis based on C 14 alone. The present paper is a contribution to the revaluation of Becker's hypothesis – on a more likely background.

Abbr. used in the figs.: æ = early, y = late, undergrav. = Bottom Grave Period, bundgrav. = Ground Grave Period, overgrav. = Upper Grave Period.

Period transitions in the nordic Bronze Age. An essay concerning the methodological foundations and the scientific function of chronological studies.

By Kristian Kristiansen

In this article the author questions the universal validity of the premises of typology, as reflected in the methodological principles of *continuity* (Malmer 1963,27) and *frequency* (Ford 1962). As a test case is chosen the well established chronological system of the nordic Bronze Age. Its history is briefly described starting with Thomsens broad stone, bronze and iron age classification (Thomsen 1836), succeeded by Worsaae's division in an early and a late part, based on stratigraphy (Worsaae 1856) and completed by Montelius' 6 period system, based on typology (Montelius 1885) – still in use (in general Gräslund 1974). Later discussions of minor chronological questions, however, have indirectly revealed problems of more general methodological interest, which are briefly outlined.

In 1885 Montelius stressed the interperiodical continuity of types (also Gräslund 1974, fig.24-25), whereas Müller, basing his analyses on style, stressed discontinuity (Müller 1909). In 1935 Kersten tried to solve the dichotomy by pointing to differences in regional development, and in 1968 and 1972 Randsborg elaborated this by demonstrating that some areas were strongly innovative, creating discontinuity, while others were more conservative, creating continuity. With reference to recent methodological discussions, concerning dating errors deriving from the many possible relationships between the *period of production*, the *period of*

use/circulation and the *period of deposition/consumption* of types (Almgren 1955, 70 ff.; Ørsnes 1969, 10 ff. and Gräslund 1974, ch.5-6), the circulation time of full hilted swords in one of the crucial regions is analysed (fig. 1). This reveals a significant change in circulation time from period II to III, showing that prolonged circulation time was an active factor in the retarded chronological development of this area, as was some resistance to innovations.

The basis of typological change is then analysed. It turns out that the innovating center for the development of period III at the same time experienced significant changes in settlement structure (fig. 2) and in social stratification (Randsborg 1974). When the same area later became conservative and chronologically »retarded«, this can be likened to a shift in foreign trade relations from western to eastern Denmark (Sprockhoff 1937, Karte 7, Thrane 1975, fig. 46 and 49) and a subsequent decline of wealth in bronze and gold in western Denmark (Kristiansen 1977, fig. 6), due to ecological deterioration and settlement concentrations (in general Kristiansen 1977). These results strongly suggest that principles of typological change are not universal, but heavily dependent on economic, social and political factors. During the nordic Bronze Age innovation/discontinuity occurred with economic development and conservatism/continuity with economic decline.

Lastly the place of chronological studies in the research process is discussed with reference to the above results. It is stressed that a proper evaluation of the implications of chronological analyses presupposes a theoretical knowledge of the possible economic, social and ideological mechanisms of the societies under study, as the degree of typological variation and the rate of change is generally dependent on the struc-

tural complexity of society, and, more specifically, on the place of the analysed objects in that society (e.g. prestige/production spheres).

Before, during and after Late La Tène in Vendsyssel – Gothenburg – Poland

By Carl-Axel Moberg

In 1976, the Göteborgs Arkeologiska Museum organized an exhibition and the publication of a book »The Coming of Iron«, and held a symposium on the Pre-Roman Iron Age in the Kattegatt area and in Poland. From the start it revolved around a much debated question: whether artifactual similarities, mainly in ceramics, between Vendsyssel (in northernmost Jutland), in the Gothenburg (Göteborg) area (on the central West Coast of Sweden, at the present outlet of the Göta Älv River), and in the area of the Przeworsk culture in Poland are so considerable that a special explanation is needed. Traditionally, for half a century, such »explanations« of a specific kind have been put forward: the similarities are said to be the expressions of a southeastward migration of »Vandals«, or a northwestward migration of »Vends«. Alternatively, interpretations have been put forward in terms of »trade«, or »contacts« or »influences«.

The activities in Göteborg in 1976 were carried out in collaboration with museums and colleagues in Denmark and in Poland. A special concern was to get some idea of the actual position of modern Polish research

on these problems. From the Polish side, the following participants were selected: Doc. Dr. Krzysztof Dąbrowski (Director of the Państwowe Muzeum Archeologiczne in Warsaw); Prof. Dr. Kazimierz Bielenin (Kraków); Drs Eleonora Kaszewska (Łódź) and Teresa Liana (Warsaw); and Prof. Dr. Konrad Jążdżewski sent a paper.

Members of the Department of Archaeology, especially those concerned with Northern Europe, at the university of Gothenburg, were kindly given considerable opportunity to follow the preparations and to participate in the symposium. Then the unique opportunity, with original finds brought together and available for comparison, was followed up by two months of concentrated research and teaching. In the publication from the museum, the author had presented a view of the development and current situation of the debate. (The English summary there ought to be corrected on one point: »the Kraghede group – – is *not* entirely intrusive« – as also said in the Swedish main text). The paper published now may be regarded as a concentrate of his views *after* the 1976 activities.

The Late La Tène situations in the three areas are now seen as basically different, even more so than before. In the Gothenburg area, cemeteries are even larger than those in the two other regions; usually, there is just one vessel in the grave; many vessels are non-ceramic; pottery is not damaged by fire; only a very limited number of exceptional vessels have traits in common with characteristic pottery in the other areas; there are very few weapons, but more sickles, and there are bronze neck-rings. Vendsyssel and Poland have in common the somewhat smaller size of the largest cemeteries; equipment with entire sets of vessels in the grave; stylistically, vessels have very much in common; there are considerable numbers of

graves with weapons; few sickles and no necklaces. In Vendsyssel a wagon-grave has even been found, and there are other non-Polish traits.

– As to the background in the preceding periods of the respective areas, there is much uncertainty, and interpretations are controversial. – After Late La Tène, differences are deepened: in the Gothenburg area finds from the first centuries A.D. are lacking almost totally; in Vendsyssel there is obvious continuation, without direct contacts with contemporaneous Poland; in Poland, on the other hand, the so-called »ducal« or »prince« graves appear (quite controversial labels, now), such as are known from other continental and Scandinavian areas, but *not* in Vendsyssel and *not* in the Gothenburg area; there remain no Roman bronze vessels in either of them.

Comparisons with other areas in Denmark, and especially inland in Sweden, could not be carried out now. But such are very much needed. Neither Vendsyssel nor Gothenburg should be studied in too much isolation. It might be very interesting to test hypotheses of spatial hierarchy within the areas, with Kraghede and Ekehögen (and Horn, Bjurum?) placed higher up in comparison with other finds. The Gothenburg area finds are not homogenous.

Attention was also given to spatial and social structure studies in Poland (such as by Nieweglowski, Pyrgala; Godlowski, Kempisty, Kietlińska).

In the social structure context, attention was concentrated on evolutionist models and attempted application of such in different areas, and/or or earlier or later periods. Marxist models are used in Poland. And neo-evolutionist models of the sort proposed by Service and Fried, have in some cases been tentatively applied in Scandinavia (Ø. Johansen, Kristiansen, Odner, Randsborg). Both sets of models coincide to some

extent: the Marxist image of a dissolving gens community with traits of »military democracy« has something in common with transitions from »tribe« to »chiefdom«, or from »egalitarian« to »ranked« societies. Such concepts from all sides may contribute in a useful way to the characterization of the appearance and decline of the Kraghede group, or of change in the Przeworsk group during the first centuries A.D. Only one must avoid being trapped in »evolutionary«, linear prejudices.

Generally speaking, the author is inclined to see the Scandinavian situations during Late La Tène as expressions, within a very wide frame, of »continentalisation« of areas across the sea, from the Gulf of Finland via the Scandinavian waters, as far as the English Channel.

The Transition from Roman to Germanic Iron Age

By Stig Jensen

History of Research

In 1937 J. E. Forssander defined the Sosdala and the Sjorup styles on the basis of two hoards from southern Sweden. The Sosdala style has since been used to mark the beginning of the Germanic Iron Age in Scandinavia, being first used in this way by H. Norling-Christensen in 1949. More recently U. Lund Hansen (1969) has examined the problems associated with the start of the early Germanic Iron Age. She has been

able to show that in the Scandinavian area there is a connection between the use of animal heads seen in profile and complicated stamped ornamentation (her definition of the Sosdala style), and also that objects with this type of ornamentation are chronologically linked with the cruciform fibula. U. Lund Hansen defines the start of the Germanic Iron Age as the appearance of this type of ornamentation.

General Discussion of Phase Transitions within the Iron Age
Several points are raised which are regarded as having decisive relevance to the use of a system of phases.

1) Phases must be separable from one another by means of clear typological definitions. It is suggested that M. P. Malmer's requirements for phase definition be used: the start of a phase should be defined by the appearance of a new artifact type or a new trait, and the end by the appearance of the type or trait which defines the start of the next phase (fig. 1).

2) The artifact or trait types used to define a phase must be linked with a broader archaeological assemblage in the area in which the phase system is used.

3) The artifact or trait types used to define a phase must be present throughout a large geographical area.

4) Phases must not be defined by means of imported items, but by locally produced material.

5) The artifact or trait types used to define a phase must be connected with, and thus chronologically linked with, the other European systems, and must also be dated in absolute terms.

6) Phases must not be defined by means of types of style.

7) Transition between phases should be demonstrable by means of a cemetery or a settlement which displays continuity across the transition in question.

8) Where there are no good grounds for not doing

so, transitions between phases should be placed where most practicable in terms of the archaeological material, for example where several artifact or trait types appear to change at the same time.

Analysis of the Transition from Roman to Germanic Iron Age
Taking as a starting point the points raised above, U. Lund Hansen's definition of this transition is analysed. She uses the Sosdala style to mark the transition to the early Germanic Iron Age, and it must therefore be emphasised that styles are not suitable for this purpose. It must be further noted that the Sosdala style is only known from two sites in Denmark and cannot therefore be linked with the main body of the archaeological material. It is therefore suggested that the appearance of the cruciform fibula should be used to define the start of the early Germanic Iron Age.

On the basis of stratigraphic observations at the settlement of Dankirke in southwestern Jutland it has been possible to define four characteristics for the pottery of the early Germanic Iron Age: 1) Pots with horizontally perforated clay lugs (fig. 3). 2) Small beakers as fig. 4. 3) Pots the sides of which, when viewed in profile, show another marked change in direction above the main change at the wide point of the belly (fig. 5 and 6). 4) Open bowls of the type shown in fig. 7. Other types of pot such as those shown in fig. 8 and 9 are on the other hand present in both the later part of the late Roman Iron Age and in the early Germanic Iron Age.

The Relationship between Phase Division and Culture History

It is argued that transitions between phases should be regarded only as chronologically fixed points in the development of a society, and not as transitions between stages of this development. Phase divisions

are therefore solely an aid to culture historical investigations. Finally it is stated that it is important that the local background of the appearance of the Sosdala style should be examined, and the exclusive craftsmanship that it represents, rather than, as has hitherto been the case, merely delineate its predecessors in stylistic-historical terms.

Prehistoric settlement – medieval settlement Continuity or change?

By Torben Grøngaard Jeppesen

Dating the establishment of medieval settlement is an important question in Danish settlement history. The article deals in particular with the question of medieval village-settlements. First it offers an introduction to the theories based on the results of place-name research. Partly on the basis of the existence of various types of place-names in Danelaw and partly on the basis of some dated linguistic data the place-name researchers have divided the villages into 3 main groups: the so-called oldest name group that includes villages whose names end with -hem, -ing, -lev, -løse and -sted; the middle name group whose names end with -torp, -by, -bølle and -tofte; and the third group with the endings -rud, -holt and -tved. According to the place-name researchers, the oldest group of villages is supposed to have been established between A. D. 400-800, the second group during the Viking Age (ca. A. D. 800-1050), and finally the third group is suppo-

sed to have originated at the beginning of the Medieval Age.

The theoretical basis for these datings of the establishment of the medieval villages is based on a presumption, that there was a correspondance in time between the establishment and the naming of the stable medieval villages. In the article this theoretical basis is criticised, and other interpretations are suggested. Place-name research can only date the name of the village, not the village itself. The village may either be older or younger than the name of the village.

Having rejected place-name research as a means of dating the villages the article points out the possibilities of archaeology and describes a number of investigations on Funen. The investigations have been carried out in connection with the project »The Establishment and Development of the Village« and include excavations in 11 existing villages and in one village which was deserted 1651. The excavations in the villages are carried out as test-diggings, and the article describes the methods in use and their limitations.

The results of these archaeological investigations are rather epoch-making, since none of the villages – not even the villages belonging to the oldest name group – can be dated back further than about 1000-1100 A. D. Compared to excavations on Zealand and in Jutland the investigations on Funen seem to prove that a general change of settlement had taken place by the end of prehistoric times.

Finally the article describes further investigations in connection with the project »The Establishment and Development of the Village«. Among other things these include an investigation of whether there had existed a settlement site continuity prior to the establishment of the medieval villages.

Romanesque and Gothic Art

By Aron Andersson

We call the art of the first two centuries of the second millennium A. D. Romanesque art, and most accurately so, because Christian art of the 11th and 12th centuries continues the traditions of the early Christian art of Rome, of Rome in the West and Rome in the East, Byzantium. The transition from Romanesque to Gothic style in the late 12th and 13th centuries marks one of the greatest turning points in European history, in fact the foundation of modern Europe, not only in art but also in science and philosophy, in social and economic life. The Gothic Cathedral is the convincing symbol of this new world, as an architectural expression of a glorious civilization a worthy counterpart of the Greek temple. The universities inherited the rôle of centres of learning and philosophy from the great Benedictine monasteries, and the growing power of wealthy commercial cities undermined the old feudal system of society.

In France secular and ecclesiastical power prepared the ground for a more rich development of Romanesque art than anywhere else in Europe, and Gothic art is a French creation. Abbot Suger of St. Denis and St. Bernard of Clairvaux are the two foremost sponsors of the birth of Gothic art, located to Northern France and still richly documented in a range of cathedrals erected in the century c. 1150-1250 A. D.

André Malraux, *«Métamorphoses des dieux»*, explains the contrast between Sacred art as the expression of religious truth and Humanistic art as depicting the world of appearance. Romanesque art is sacred art accepting inherited signs as expression of religious truth – Gothic art, however, turns to the world of appearance in search for new inspiration, and a new

development is initiated, as pointed out by Dom Angélico Surchamp, the editor of the *Zodiaque* series on Romanesque art, when commenting upon the work of Malraux.

The author contends the importance of the crusades to the Holy Land, opening new sources of inspiration for the sacred art of the West, in two respects: a new and fresh knowledge of classical art in the Mediterranean area and above all the intensified, direct contact with the country of the events of the gospel. The Son of Man, his human life, is now the focus of Sacred art, and the Incarnation legitimizes a new interest in the perishable world of mortal beings.

In the Romanesque dome or apse God the Father is depicted in his celestial abode (p. 129). In the Gothic Cathedral the presence of God is presented to the congregation both in a more subtle and in a more realistic physical way: in the light pervading the sanctuary, which includes a semicircular colonnade reminiscent of the Holy Sepulchre Church in Jerusalem (p. 130), and through the *«elevation»* of the Host, the transubstantiation being a main concern of the early Gothic period and eventually inspiring the institution of the Corpus Christi Feast.

In the West façade of Chartres Cathedral Christ in Majesty is represented according to the vision of Ezekiel and the Apocalypse, a masterpiece of sacred art, commanding in its presence and yet remote, abstract and supreme in artistic simplicity and perfection. In the South porch of the same Cathedral Christ of the Last Judgement is seated between the kneeling Virgin and St. John the Evangelist in a scene as corporeal as one could wish, still with a belated classical influence in the treatment of the drapery, but showing beings of our own flesh, placed on top of the doorway to mark the celestial abode, but otherwise in size and arrange-

ment belonging to our own familiar world. Between these two works, from the 1140's and the second decade of the 13th century, the Gothic style is born, in architecture and plastic arts, to reach its peak in Parisian art of the period of St. Louis. Gothic religious art seeks the beauty of this world to glorify the Creator, and when the artist makes his choice to show what is most noble, refined and elevated as an expression of God's will, he pictures the ideals of his own feudal lords as an expression of eternal truth.

Culture change or transition from one period to another?

By Peder Mortensen

The present essay is an attempt to define and illustrate by examples a dilemma, known to all archaeologists who have tried to describe and explain a cultural development or change. This dilemma is connected with the fact that all archaeological analyses of culture change are based on materials which have been arranged in chronological groups. Most often these groups appear as a reconstructed sequence of static situations – a kind of idealized picture of periods A, B, C, D, etc., defined by a series of elements which in time and space may be far apart. Traditionally, any attempt to describe a development or a cultural change is therefore concentrated on the *transition* from one static state to another in describing the difference or the contrast between period A and B. This contrasting effect is illustrated by two examples: V. Gordon Childe's and R. J. Braidwood's attempts to describe and explain »The Neolithic Revolution« in the Near East.

In the »New Archaeology« there is a tendency to

break down the chronological barriers, and see and explain *change* as a process within one cultural system. In Near Eastern prehistory this is exemplified by Binford, Hole, Flannery Smith, etc. Unfortunately, however, the chronologically arranged materials – and with those the comparisons between static situations – are unavoidable as soon as the archaeologist (even the »new archaeologist«) wants to be specific in his developmental analyses of the relationship between cultural variables, stimuli, and regulating mechanisms within a system. My recent investigations of changing prehistoric settlement patterns in Hulailan (western Iran) is briefly mentioned as an example of this approach.

A Style-change

By Ole Klindt-Jensen

It is often believed that a photo gives actual evidence of the motif. In this case, however, the original copy of »The participants of the Second Kitchen Midden Commision« has been touched up in a most satisfactory way.

The archaeologists and scientists, gathered around their impressive find, a skeleton, seem rather unconcerned and most of their hats rather shabby. The excavation took place at Aamølle, Mariager fiord, East Jutland, in 1893, and the chairman of the Aarhus Museum, Mr Reeh, was invited to take part in the interesting work.

We may assume that the director of the important investigation, Dr. Sophus Müller, asked the photographer to improve the appearance of the motif. The copy fig. 2 may be meant for the participants, for the guest was carefully removed and not least the hats and the skeleton create a fine impression.