

Prehistoric Migrations – the Case of the Single Grave and Corded Ware Cultures

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MIGRATION IN RETROSPECT

Diffusion and migrations are phenomena on a continuous scale of cultural and social interaction and change. Throughout the 1960's and 70's such studies concentrated upon developing our knowledge of the basic forms of such interaction – from reciprocal exchange over elite exchange/prestige goods exchange to trade (Earle & Ericsson 1977, Renfrew 1975). It has, however, become increasingly clear that a prerequisite for such studies is a better understanding of the social formation and constitution of culture as a spatial phenomenon. From acknowledging the complexity of the problem (Hodder 1978a) we have during the 1980's seen an increasing number of studies trying to delineate some of the mechanisms by which material culture is constituted and maintained as part of social and political strategies (e.g. Hodder 1982a & b).

Since diffusion and migrations were among the most criticized explanatory concepts of so-called traditional archaeology modern archaeology has not yet come to terms with them either in archaeological or in theoretical terms. This paper is a preliminary attempt to incorporate the geographical movement of social groups into the conceptual and explanatory framework of archaeology.¹ How do we delineate various types of migrations against such phenomena as elite exchange, trade and marriage alliances? And how do we account for such phenomena in structural and evolutionary terms? Before answering these questions it will be useful to discuss the background to the present situation in more detail.

Throughout the 1960's and 70's a number of studies demonstrated the archaeological inconsistencies and inadequate theoretical status of prehistoric migrations and diffusion (Adams 1968, Binford 1968, Clark 1966, Myhre & Myhre 1972, Renfrew 1973 & 1979). Although a number of studies that combined historical and archaeological sources could demonstrate convincing regularities between ethnic groups and material culture (Hachmann, Kosasack & Kuhn 1962), this proved impossible in

other cases (Hachmann 1970, Clarke 1968, ch. 9), just as the ethnographic record showed no clear pattern (Hodder 1978b). It seemed increasingly difficult to establish reliable criteria that could be used more generally (e.g. Crossland & Birchall 1974, Thompson 1957, Arutjunov and Chazanov 1981, Rouse 1986). On the other hand it could be shown that an internal framework of social and economic change often accounted more convincingly for the evidence as part of an autonomous development (summarized in Renfrew 1973 and 1979). Functional adjustments to various forms of social and ecological stress in combination with international information exchange adapted to local needs were seen as regulating factors (e.g. Renfrew and Shennan 1982, Bintliff 1985). Soon this relegated the concepts of migration and diffusion from the realm of serious archaeological discussion within the new archaeology of the 1960's and 1970's. Today it is implicitly accepted that migrations played no significant role in the course of European prehistory (e.g. Champion et al. 1984), also demonstrated in the latest work of Colin Renfrew (1987). Some point of critique should be raised against this approach:

1. Modern archaeology has convincingly demonstrated that material culture is complex and rarely reducible to an overlapping pattern of cultural traits (Clarke 1968 fig. 58), a basic notion behind the traditional concept of culture, language and ethnicity. However, it is still implicitly believed that a migration presupposes an unchanged geographical movement of recurrent cultural traits, otherwise it is refuted (Shennan 1978). Thus the new archaeology has, as a paradox, maintained the traditional notion of culture as a one dimensional phenomenon in its critique of migrations. One reason for this is of course the refusal to take population movements seriously, since they were not considered relevant to explaining social change. Therefore the concept was not dealt with in a systematic way. But I believe there is more to it.

2. Just as the old parallelism between cultural change and migrations was rooted in a modern notion of national and political history, cultures and migrations replacing nations and battles, so it can be argued that the prevailing parallelism between social change and peaceful internal development is rooted in post-war decolonization and the development of modern middle class welfare society, international information exchange and internal social change substituting for international cooperation (United Nations, EC etc.) and social reforms. Culture, ethnicity and migrations were thus seen as linked to the political ideology that led to the disasters of two world wars. (Jensen 1988, Klejn 1974). A new theoretical framework was

therefore needed that was in accordance with the political ideology after World War Two. It became one of evolution, progress and peaceful internal development. I propose that these changes in ideological climate of the present are important in order to understand some of the reluctance of modern archaeology to deal with the traditional concepts of culture, ethnicity and migrations. This, however, had some serious consequences.

3. A theoretical and methodological framework without devices for identifying and interpreting the movement of social and/or ethnic groups, normally labelled under the general term migration, is unlikely to make convincing progress in other fields of social and cultural interaction. To exclude one phenomenon of social and cultural change in favour of others distorts our general ability to identify and explain such change. A framework of social change should thus include both conflict and harmony, migrations and information exchange. Migrations may both be a result of and result in social and economic disruption, including geographical displacement and warfare. The inclusion of the study of migrations into modern archaeology, however, makes it necessary to make certain theoretical claims. First it should be made clear that any such study should be contextualized, culturally and structurally. There exist no universal categories that allow the identification and explanation of such phenomena. Second: any such study must be evaluated against the historical background preceding it. Only in this way can changes be identified and explained. Third: a migration, of whatever kind, is always a symptom, not a primary cause, and so it has to be explained within a broader framework of social organisation, contradiction and change

In a recent paper I have tried to take this into account on a larger scale of social transformation in temperate Eurasia (Kristiansen 1989). In the following I shall concentrate on a case study, that of the Single Grave Culture, or Battle Axe Culture, in Jutland, which is part of the larger complex of Corded Ware cultures that spread throughout Europe during the early third millennium. The objective is to create a more systematic archaeological basis for analyzing and evaluating the question of migration and social change.

THE SINGLE GRAVE CULTURE – A CASE STUDY

In recent years the conception of the origin of the Single Grave Culture has changed according to the general shift in explanatory framework within archaeology. Earlier scholars such as Sophus Müller (1898) and P. V. Glob (1944) saw this culture as representing a migration into Denmark of Indo-European speaking peoples, bringing with them a new, dominant culture that gradually took over and subordinated the peaceful megalithic people. Out of this evolved the ranked Bronze Age society. With the advent of C14 it became clear that the Single Grave Culture succeeded the TRB or Megalithic Culture in Jutland (Malmros and Tauber 1975), whereas the latter still lived on in the Danish islands in modified form (Davidsen 1980). In combination with the new trends in archaeology research focused

on demonstrating internal change from the TRB to the SGC (e.g. Ebbesen 1980, Kristiansen 1982, Malmros 1979) in combination with international information exchange of new ritual and social value systems. Since such explanations had taken precedence in explaining the Corded Ware/Battle Axe Complex (Malmer 1962, Häußler 1963 & 76, Neustupny 1969), it was difficult to maintain a different explanation for the Danish case. No systematic attempt was ever made, however, to refute or confirm the migration hypothesis. With few exceptions (Davidsen 1975 and 1978, Jørgensen 1977) there simply occurred a drift in approach that was never sustained by systematic research (Becker 1981 for a summary). Let us therefore in some detail consider the criteria employed to support the two hypotheses.

The migration hypothesis:

1. The SGC appears at once and fully developed. There are no links to the existing TRB culture. SGC differs from TRB in terms of material culture, technology (pottery, flint), religion, and, as we now know, social organisation and subsistence (see discussion below for references).

2. Its primary area of settlement, the more marginal soils in central, western and southern Jutland, mostly lies outside the settlement areas of the TRB culture. The two cultures are thus in the earliest phase mutually exclusive (Davidsen 1975, fig. 7), with a brief period of chronological overlap at the peripheries of expansion (Damm 1989).

3. Where geographical overlap with the TRB culture occurs in the initial phase it represents a break of cultural continuity, the TRB comes to a complete stop, and is replaced by the SGC (Rostholm 1982, Jørgensen 1977 & 1985).

4. There is virtually no evidence of contact between the SGC and still existing TRB culture groups in eastern Denmark. Amber, controlled by the SGC, thus disappears from the TRB culture, just as good flint and its technology, controlled by the TRB, is not available to the SGC (Ebbesen 1986). Ebbesen concludes his analysis in the following statement: "Thus during MN B (the time of the SGC) there existed a distributional, and probably also a communicational barrier between the classic SGC regions in middle and central Jutland and the rest of the country" (Ebbesen 1986, 37 f.).

5. The subsequent stages indicate a continuous expansion of settlement; that is, a slowed down continuation of migration into previously settled regions of the TRB culture, creating a mixed culture (Skaarup 1986, Andersen 1986).

It should be noted that these findings are based upon one of the most complete and representative archaeological materials in archaeology, since the SGC was systematically excavated in a large campaign in the late 19th century, later followed by numerous excavations. The material has been systematically analysed by Glob (1944), Struve (1955) and the preceding period of the TRB culture in Jutland by Davidsen (1978). Local in depth studies confirms this picture, both regional settlement surveys (Mathiassen 1948, Skamby 1984) and local excavation programs, although we lack a modern treatment of the numer-

ous finds since Globes work. Although archaeological formation processes could be responsible for some of the variation between Jutland and Eastern Denmark (Malmer 1986), recent research has confirmed that regional and chronological differences between the SGC and the TRB are to be considered real and representative for eastern Denmark (Ebbesen 1986, Andersen 1986, Skaarup 1985).

The autonomous hypothesis:

It follows from the above observations (1–4) that it is impossible to point out traits that indicate cultural continuity between the TRB and the SGC. One can, however, point out a number of changes within the TRB culture that may account for the readiness of the final TRB to adopt a new social and cultural organisation in Jutland. They are:

1. A gradual change in ecology and economy in some regions towards open pastures and husbandry, the dominant subsistence strategy of the SGC (Davidsen 1978: 140 ff., Madsen 1982, fig. 17).

2. A local change in burial customs in Jutland towards single burials in stone packed flat graves, although this was still related to the megalith and different from the subsequent burial customs of the SGC in barrows (Jørgensen 1977).

3. Pressure from expanding coastal fishers and hunters, the Pitted Ware Culture (Becker 1980), from Sweden and the Baltic, leading to some changes in material culture (e.g. pottery), and economy (e.g. hunting). This might be seen as reflecting a crisis of the traditional farming communities, in combination with climatic change (Kristiansen 1982: 260, Hedeager & Kristiansen 1988: 71 ff.).

According to this scenario, expansion of settlement onto the marginal lands in Jutland, as a result of internal crisis of the TRB culture, led to radical social and cultural changes. Thus the SGC is regarded as a social and ecological adaptation to marginal environments, just as the Pitted Ware Culture is regarded as an adaptation to the Swedish and Danish coasts.

This internal framework, however, fails to account for a number of features that remains unexplained or only partly explained. Anthropology teaches us that significant cultural changes may occur as a response to external and internal crisis, e.g. religious movements, although most cases relate to the effects of western imperialism (e.g. Wallace 1970). In the case of the Single Grave Culture the change was complete – within a generation or two a new and mature cultural, religious and social framework was in place. To imagine that this should have happened as a internal transformation, from a culture that in most respects was quite different, leaving no traces of the former culture (it should be stressed, once more, that the change is not only religious, but includes all major aspects of social and economic life), demands support from the material evidence of the late TRB Culture in terms of demography (population pressure), abandonment of TRB settlements in Eastern Denmark, and some technological and cultural continuity, at least at the level of cultural relicts. This support is difficult to mobilize, looking at the published evidence. First of all it does not seem

very likely that the TRB culture could supply the numbers of people indicated by the archaeological and palaeobotanical record, showing that most of central and western Jutland was settled by the SGC, except if there still existed a local population of hunters and fishers. The evidence does not point towards surviving hunter/fishers in Denmark (Andersen and Sterum 1970–71). On the other hand it is known that demographic growth can be rapid, and we know too little about TRB settlement continuity/discontinuity in Eastern Jutland/Denmark. Mapping of single finds, however, suggest some settlement continuity (Nielsen 1977: fig. 14, Ebbesen 1986), which does not support local migration and cultural change on a larger scale within Jutland.

Although the TRB culture had already transformed the forest into pastures in some regions in Jutland (Odgaard 1985), especially in eastern Denmark (Andersen 1985, Andersen et al. 1984), the SGC is characterized by a major clearance and burning horizon throughout Jutland (a real “landnam” much more extensive than the earlier TRB “landnam”), whose main purpose was the creation of heathland or pastures for large herds (Odgaard 1985 & 1987, Andersen in press). No agricultural indicators occur at this stage, and no house structures have yet been identified.² In the later stages houses are small and partly subterranean, occurring in small clusters of two or three (Hvass 1986). Some agriculture was practiced, however, although grain impressions on pottery are much less frequent than in the TRB (Rostholm 1986). Recent evidence also suggest that the SGC cultivated barley only, in opposition to the TRB which preferred wheat (Robinson & Kempfner 1987, Hedeager & Kristiansen 1987, 76 ff. for a recent summary).

If one accepts the autonomous hypothesis it also has to be explained why there was no contact between the mother group (the TRB culture) and its offspring (the SGC), except if one envisage a revolution, stimulated by the new expanding SGC ideology, followed by warfare and local migrations. This presupposes a build up of local contradictions and political organization on a scale I consider unlikely, although contradictions within the TRB groups were presumably part of the process of social transformation in several regions in Europe, where the two cultures merged. In Jutland, however, it is obviously more likely that such a situation was the result of an immigrating people which the TRB culture resisted by all means. Such a cultural barrier corresponds well to a situation on internal stress and resistance between two ethnic groups, as proposed by Hodder (1979, plus examples in Hodder 1982). During the process of expansion, however, it seems likely that many TRB people in Jutland “converted” to the SGC ethnicity, since ethnicity is a cultural code that can be adopted through socialization, e.g. marriage alliances – or force (Damm unpublished). The social organisation of the SGC was geared to expansion (Sherratt 1981), by establishing new settlements through alliances and cultural inclusion, supplemented by warfare, to secure domination, much in the same manner as described for tribal pastoralists in Africa (Sahlins 1961, Bonte 1977). Milisaurus and Kruk have recently through detailed research of a micro-region in Poland come to conclusions that would seem to support such a scena-

rio (Milisaurus and Kruk 1989). In fact even researchers who reject the migration hypothesis, agree that the SGC and Battle Axe cultures were based upon an ideology of hierarchy, warfare and domination (Malmer 1989). How such an ideology should be accepted peacefully by an alien culture, with whom there had been no previous contacts remains the paradox.

Also the continuous eastward expansion over time of the SGC into areas of TRB culture, leading to a number of cultural changes (Skaarup 1986, Andersen 1986), apparently through both warfare and alliances, would seem to be a more likely scenario for a still expanding foreign people.

To this can be added that the cultural resistance or opposition between the original core areas of the SGC in Jutland, and the rest of Denmark, continued to manifest itself very clearly in the archaeological record until 1500 B.C., that is through more than 1000 years, when the mature Nordic Bronze Age Culture finally integrated it within its framework (Kristiansen 1987). This adds a significant historical dimension to the migration hypothesis, since such resistant social and cultural traditions are most probably to be seen as a result of ethnicity, and perhaps also a different language at first.

Having discussed the two alternative hypotheses there is little left in support of a "pure" autonomous hypothesis. The evidence is, as it stands today, rather conclusive: the case of the SGC in Jutland must be considered to represent a classic example of a migrating, tribal people, settling within a very short period of time in a new, sparsely populated environment, largely defined by resistance from existing TRB settlements. They belonged to the Corded Ware/Battle Axe cultural complex, and show greatest familiarity with similar groups stretching through Northern Germany (Schl.-Holstein) to the Netherlands (van der Waals 1965), local groups in Switzerland (Strahm 1971) and the Baltic/Poland (Kilian 1955, Machnik 1981b, Wyzomirska 1989), with more remote links to the lowlands north of the Carpathians and the forest/steppe zone of the Pontic region (Machnik 1981a: Taf. 1, p. 281, Rulf 1981).

This of course is not the final word about the Single Grave Culture. However, the exercise of presenting and testing the two traditional alternative hypotheses has hopefully served its heuristic purpose – to establish a more well defined and well argued platform for future discussions. The burden of falsification now lies on the shoulders of supporters of the autonomous hypothesis. Having left the middle ground between the two alternatives rather open, I expect this to be more fully explored in the future.

THE CORDED WARE CULTURE – A REVIEW

How do these findings relate to the European Corded Ware Culture of which they are part?³ It is difficult to point out any obvious local parent group to the SGR Culture. What makes the problem even more intriguing, and interesting, is the fact that the SGC in Jutland is among the few regions where virgin settlement took place. Thus the original migrating cultural complex is intact, in opposition to most other local groups of the

Corded Ware complex. This makes comparisons difficult. Finally, no understanding of the origin of local groups is likely to materialize before the problems of the genesis of the whole Corded Ware complex reaches a more mature stage in terms of theoretical framework and archaeological analysis. Little has happened in these respects since Mats Malmer's analytical developments (1962) and David Clarke's methodological proposals (Clarke 1968: Table II). At present two conflicting "models" are at hand, basing themselves upon very different perspectives of cultural change, one giving priority to internal forces, another to external forces. They have been summarized most coherently in recent works by respectively Steve Shennan (1986 a & b, critique Malmer 1989: 8) and Maria Gimbutas (1979, 1980 & 1986, critique Häusler 1985).⁴

Shennan sees the changes as an interaction between changing ecological conditions of production and interregional exchange of corresponding new social and religious value systems, whereas Gimbutas rather sees changes as caused primarily by so-called Kurgan steppe pastoralists intruding into Eastern and Central Europe in a number of waves leading to social and economic transformations. Shennan argues that changes were peaceful, since dispersed settlements replaced more centralized and fortified settlements (also Starling 1983), whereas Gimbutas argues, on the basis of axes, new bow and arrow techniques and horse riding, that it was one of conflict. Both agree that warfare must have taken on a new character and that changes in social organisation were decisive.

Model 1 does not account for various types of population movements since they are *a priori* denied, whereas model 2 uses migrations as an explanation, instead of trying to explain why they should occur. It is apparently taken for granted that Kurgan people were expansive, but this needs qualification.⁵ In much the same way Shennan takes for granted that social interaction was the prime integrating mechanism. That also needs qualification. None of these frameworks are thus fully satisfactory, although Shennan's model is the more acceptable, since it takes into account and tries to explain the actual processes of change from a theoretical perspective. A major critique to be raised against Gimbutas' approach is that it has not responded to the theoretical critique of its prewar ethnic/migratory framework, nor defined the conditions to be met in order to identify various types of migration and acculturation. Therefore, although some of the general historical trends may be correct, acceptable theoretical and methodological underpinnings are lacking.

Both Shennan's and Gimbutas' interpretations are models, or explanatory frameworks, trying to account for the historical and social processes at work in general terms. To proceed from that we need to develop and apply such models in the working out of more specific case studies that take into account the whole variety of evidence, not only burials types or pottery, such as Gallay (1981), Strahm (1981) or Machnik (1981) (fig. 1). During the prevailing discussion of the origin of the Corded Ware Culture opponents and proponents of the migration hypothesis have relied upon empirical studies of material culture without paying due consideration to the cultural and structural frame-

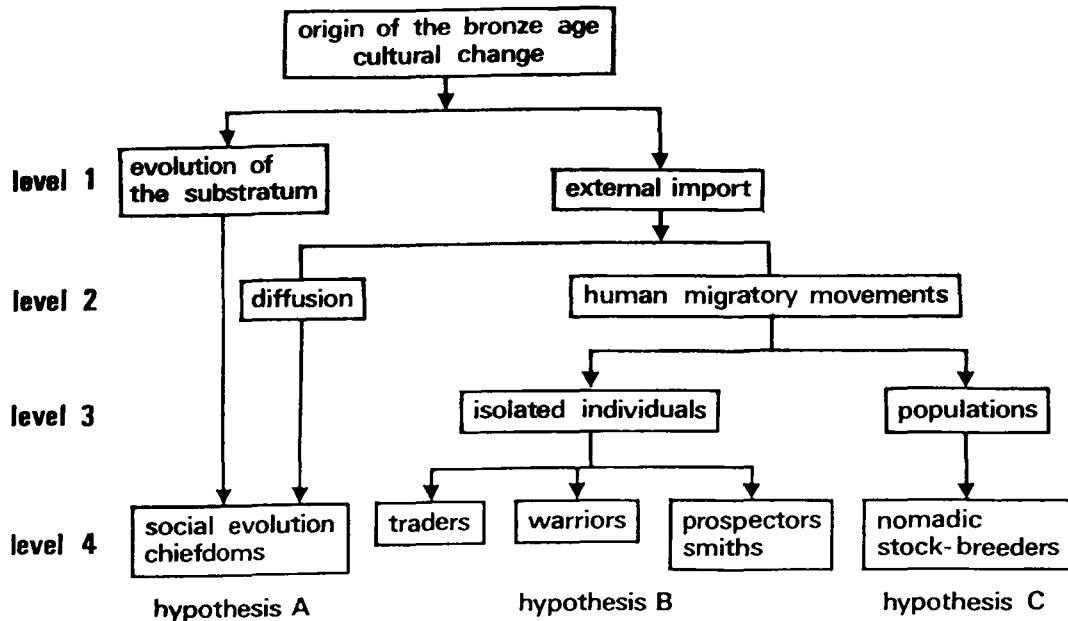


Fig. 1. Explanatory models for the evolution of Bronze Age society in the Alpine region. The components of the models may interact simultaneously in various combinations through time and space (after Gallay 1981).

work within which it operated. Proponents have often relied on a select list of traits, focusing only on points of similarity, but ignoring the local cultural context. Opponents, on the other hand, have focused on points of variation and have therefore been so eager to take all aspects of material culture into account that they have dissolved it into too many components, regardless of their internal social and cultural meaning (discussion in Klejn 1969, Clarke 1968, 287 ff.).

In order to throw some more light on the nature of change, and the present situation of research, I shall briefly discuss some of the factors considered to be significant.

Genesis: Today most researchers agree that the genesis of the Corded Ware complex is, for the major part, to be sought in Central Europe, rooted in large scale economic and social changes, with Baden and Globular Amphorae Cultures playing a major role (Sochacki 1980, Kruk 1980, summarized in Sherratt 1981). These major economic changes and their continuity in the Corded Ware Cultures were already summarized 20 years ago by Neustupny (1968). They created a necessary economic and social background, although they were also subject to external influences throughout their development, some of them much discussed, e.g. Gimbutas' Kurgan wave 1 and 2. Thus the Globular Amphora Culture has an eastern branch, defined by pottery, which cannot be derived from its western branch (Nortman 1985, in opposition to Sulimirski 1968: 50 f.), and this may account for some of its so-called Kurgan traits (Gimbutas 1979). However, neither Häusler in his recent work (1983), nor others are able to point out a specific region of origin for e.g. the Corded Ware pottery (a recent summary by Buchvaldek

1980). But it is generally agreed that the CWC spread in obedience to local conditions and exhibits a large variety both in terms of the actual processes of expansion and in terms of cultural mix. This leads on to a consideration of the impact of Kurgan traditions of the steppe and forest-steppe regions in the actual formation of the Corded Ware and Battle Axe cultures.

Kurgan influences: Although both pottery and battle axes of the CWC may be given a Central European origin, it also seems rather obvious that this does not account for a number of distinct features in burial ritual. Here a Kurgan origin is still most likely, although Häusler in his works maintain that the CWC of Central Europe and the Ochergrabkultur, by some also called the Pit Grave, Jamna or Kurgan Culture, stretching from the Volga to Hungary, represent two different cultural complexes (Häusler 1963, 1967, 1974 & 1976). Such a distinction is obviously dependent upon definitions, but it seems to be generally agreed that the pastoral farmers of the Pit Grave or Ochre Grave Culture proper did not expand beyond the river Theiss in Hungary (Ecsedy 1979). It also seems clear, however, that it is exactly this mixture between Kurgan burial ritual and Corded Ware material culture that produces the classic package of the Battle Axe/Single Grave Culture in Northern Eurasia, or some of the classic early Corded Ware groups, as pointed out by many scholars (see especially Struwe 1955).⁶ And it has not, in my opinion, been convincingly argued that they could not have mixed in a combined process of migrations and local processes of change. On the contrary, C14 dates seem to support a rapid process of migrations and acculturation from 3000/2900 B.C. in Eastern Europe to 2800 B.C. in Jutland and Northern Euro-

Niederlande	Dänemark	Südwest d. BRD	Mittellelbe - Saale - Gebiet	Oberlausitz		
Einzelgrabkultur bzw. Schnurkeramik			Blockenbecher-Kultur	Aunjetitzer Kultur	Schnur-Keramik	
Mecklenburg	Haffküsten-Kultur	Małopolska	Fatjanovo-Kultur	Schwedische Streitaxtkultur	Estnische Kultur	Mitteldnepr-Kultur (Nordgruppe)
Schnurkeramik bzw. Einzelgrabkultur						

Fig. 2. Schematic presentation of basic principles of burial positions in the Late Neolithic/Early Bronze Age Cultures in northern Eurasia (after Häusler 1983).

pe (Gimbutas 1979, Pape 1981). This is reflected in the so-called "gemeineuropäisches Horizont" (Buchvaldek 1986 for a recent status), which by many scholars is taken to represent an initial migrating phase from the east, originating at the interface between Kurgan and Late Neolithic Cultures between the Dniepr/Dnestr and the upper Vistula/Oder⁷ (Sulimirski 1968: 84 ff., map VIII and X; Buchvaldek 1985), which in terms of topography forms a natural continuum. It lends support to the hypothesis that we also find this phase in Jutland, and that it represents a genuine case of tribal migration, actually the conclusion of a common-European migration. As has been pointed out correctly by Buchvaldek recently, a first generation of settlers are not likely to leave much evidence, compared to succeeding generations (Buchvaldek 1985: 488, Abb. 3). Häusler has further demonstrated that in terms of burial positions the SGC belong to a northern Eurasian complex characterized by strict divisions according to kin, sex and age (fig. 2).⁸ On this background it seems probable that recent excavations in both Jutland and the steppe region may reveal further similarities in terms of burial constructions and ritual, e.g. house or hut constructions, if subjected to systematic, comparative analyses.

Nature of expansion: Also the nature of geographical spread of the Corded Ware and Battle Axe cultures lends support to this model (fig. 2): in Central Europe small pockets of local Corded Ware groups at rivers and in valley systems, with large "empty regions" between them where resistance was too strong, alternating with regions of more massive expansion where conditions were favourable or receptive, as in the North European lowlands characterized by the Single Grave/Battle Axe Cultures. To this may be added an often observed, but none the less significant geographical dimension: the massive spread not

only to central and northwestern Europe, but also to Sweden, Finland and eastwards into the USSR (the Middle Dnieper and Fatjanovo groups, e.g. Ozols 1962) that would seem to favour an eastern rather than a central or west European source. Since most groups of the Corded Ware and Battle Axe cultures are chronologically synchronous (Pape 1981), this also suggests radiation in many directions from one or a few regions of origin.

Anthropology: Although the sample is uneven and small it seems clear that no specific anthropological type is linked to the CWC in Europe. The material varies regionally and locally, but is generally dominated by the more gracile Mediterranean type, supporting an autochthonous tradition. Some "kurganisation" in populations can be observed in eastern Europe, decreasing westward and is not observable in western Europe (Schwidetzsky 1980). This is by some taken to account for an influx of "kurgan" populations throughout the neolithic of Europe (the three "waves": Gimbutas 1979), but should probably be restricted to account for the small, well defined "Kurgan" populations penetrating into Eastern Europe (e.g. Ecsedy 1979). The Kurgan type is anthropologically characterized as tall (average of males 173 cm), robust and with curved forehead. Two variants are distinguished: proto-Nordic and proto-Cromagnon. Again a marked border is the river Theiss, east of which a Kurgan population can be defined, apparently most clearly among males, whereas the women are often of the gracile European/Mediterranean type, reflecting marriages with local women (Marcswik 1979). Also the Baltic group is distinctly different from the common European type.

In Denmark (and Sweden) a marked increase in mean height (7–8 cm) can be observed between the TRB and the Late Neolithic Dagger Period (Bennike 1985: fig. 13), which

may have taken place during the Single Grave period. Unfortunately most skeletal material originates from Eastern Denmark, that is outside the original Single Grave core region, and here continuity prevails. A recent Danish find with preserved Single Grave skeletons from Jutland, however, seems to suggest anthropological traits falling outside the normal Neolithic range, which may be supported by a reanalysis of some of the Swedish evidence (Petersen 1988, During 1989), but we must await more complete, up to date analyses, just as we need more material from the SGC. Since very few skeleton remains are preserved from the SGC we cannot evaluate the impact of new populations compared to other factors, e.g. changed or improved diet. Especially milk products tend to raise the height. A recent survey of dental conditions of Single Grave/Battle Axe material in Denmark and Sweden has indicated some differences compared to other neolithic groups. Especially "enamel hypoplasia", which reflect periods in young age of starvation/bad nutrition or periods of illness and fever, was rare, suggesting excellent living conditions for the buried populations, probably due to a dominance of milk/meat products (Alexandersen 1989: 176).

While anthropological data from Denmark does not at present allow the identification of a migration, due to lack of representative data, it seems clear that there existed larger regional differences throughout Europe rooted in a more remote past (Menk 1980). In the Late Neolithic/Early Bronze Age (Aunjetitz) there is apparently a distinct difference between Scandinavian and Central European populations. Anthropological evidence does then seem to rule out Central Europe as the origin of the Battle Axe/Single Grave Culture in Denmark and Sweden.

Indigenous hunter/gatherers. The question of a surviving mesolithic substratum is an old one, but has recently been revived by especially Krzak (1981) proposing that the Corded Ware complex originated in areas of mesolithic tradition in Europe. This has been firmly rejected and, it seems, quite rightly (e.g. Häusler 1983). On the other hand there are a number of traits in burial customs of the Ochre grave/Kurgan cultures that bear resemblances to mesolithic traditions of northern Eurasia, as observed by especially Häusler in his works. In the early third millennium there existed two major cultural complexes in this region: in the forest region the Combed Ware/Pitted Ware-groups of semi-neolithic hunter/fishers (Wyzomirska 1984: fig. 5) and in the steppe region the Ochre Grave/Corded Ware cultures. Quite naturally they interacted throughout their frontiers in the Baltic and in the USSR. It is remarkable, however, that they both expanded westwards around 3000 B.C. – the Pitted Ware shortly before, the Kurgan/Battle Axe Cultures shortly after. This leads on to the impact of climatic change.

Climatic change. A number of independent climatic observations suggest that a climatic change towards cooler and wetter climate occurred around 3000 B.C. or shortly after. (Aaby 1976, articles in Harding 1982, Wigley et al. 1981, especially Bowden et al. 1981: fig. 21.2 & 21.3 and Porter 1981). The first significant climatic deterioration after the Boreal/Atlantic optimum occurred around 4000 B.C. coinciding with the advent of agricul-

ture in northern and western Europe, later to be followed by other climatic fluctuations. It may not then be accidental that the climatic decline around 3000 B.C. in much the same way saw an expansion of new social and economic practices. Such a climatic change may have favoured grassing of more marginal soils and may have caused problems in the traditional agricultural communities, establishing a pattern of long term oscillations between central and marginal agricultural regions throughout Europe (discussion in Whittle 1982). In Scandinavia the effect of climatic deterioration in the later 4th millennium is demonstrated in the southward retreat of agriculture and the concomitant expansion of hunter/fishers of the Pitted Ware/Comb Ware tradition from northern Eurasia (Graslund 1981). Thus the Pitted Ware and the Battle Axe cultures could be suggested as representing different but interacting responses to large scale ecological and climatic changes in respectively the forest zone and the steppe zone of Eurasia.

It should be stressed, however, that no climatic determinism is to be implied. Social and economic dynamics determine the course of development whereas ecology and climate set barriers that are sometimes transcended.

Technological and economic innovations. The importance of the secondary products revolution as a contributory factor to the spread of the Corded Ware/Battle Axe Cultures is perhaps somewhat overstated. As indicated by Sherratt (1981 table 10.9 & 10.10) both ox-traction, arid ploughing and probably also wheels and milk products belong with the TRB Culture of the 4th millennium. What is left for the Corded Ware and Single Grave Cultures is mainly the exploitation of sheep for wool and perhaps horse riding. This had some social and economic consequences: sheep tolerate soils of lower quality and the horse allowed more rapid social interaction. Another basic precondition, however, was the combination of open landscapes in the settled areas and still large tracts of unsettled secondary soils. Thus the scene was set for wide scale changes and interactions between the semi-arid steppe regions of Eurasia and the lightly forested secondary soils in Europe, as convincingly demonstrated by Sherratt (1981: 295 ff.). This included both actual migrations and the spread of new linguistic and social systems (Sherratt and Sherratt 1988).⁹ It seems to me that Sherratt's interpretation more satisfactory than others accounts for the available evidence and allows a combination of both Shennan's and Gimbutas' models.

Although we may be able to define and locate some of the constituting elements in the development of the CWC, it is not, at present, possible neither to describe nor *explain* its precise origin, although Sulimirski (1968) and Buchvaldek (1985) have made convincing proposals (fig. 3). One reason for this is already mentioned – the general lack of theoretical and analytical sophistication in Corded Ware studies. Another is the neglect of coming to terms with the nature of population movements. Neither parties have taken into account the complex nature of migrations. *First:* a migration need not take place in one sweep, but can act as a kind of catalyst, one group forcing others to break up, thereby dissolving the image of a unified material culture. *Second:* migrations put very specific demands

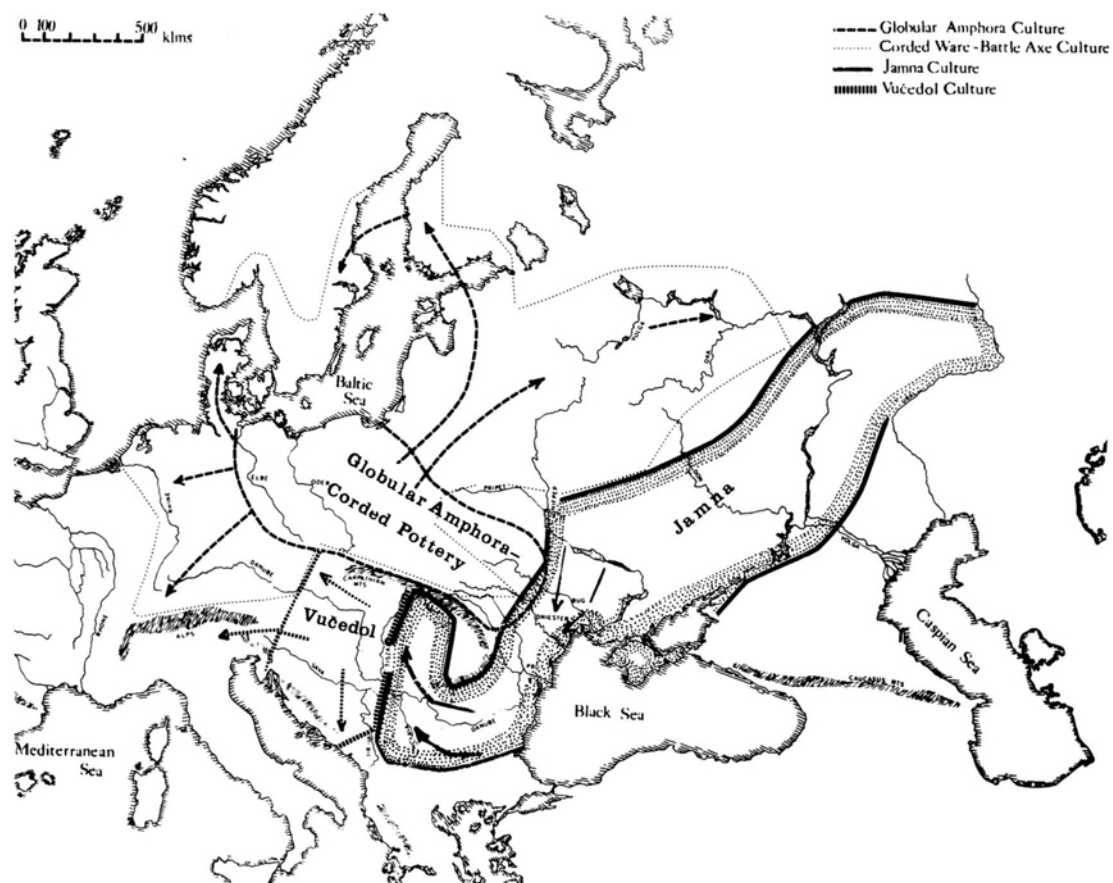
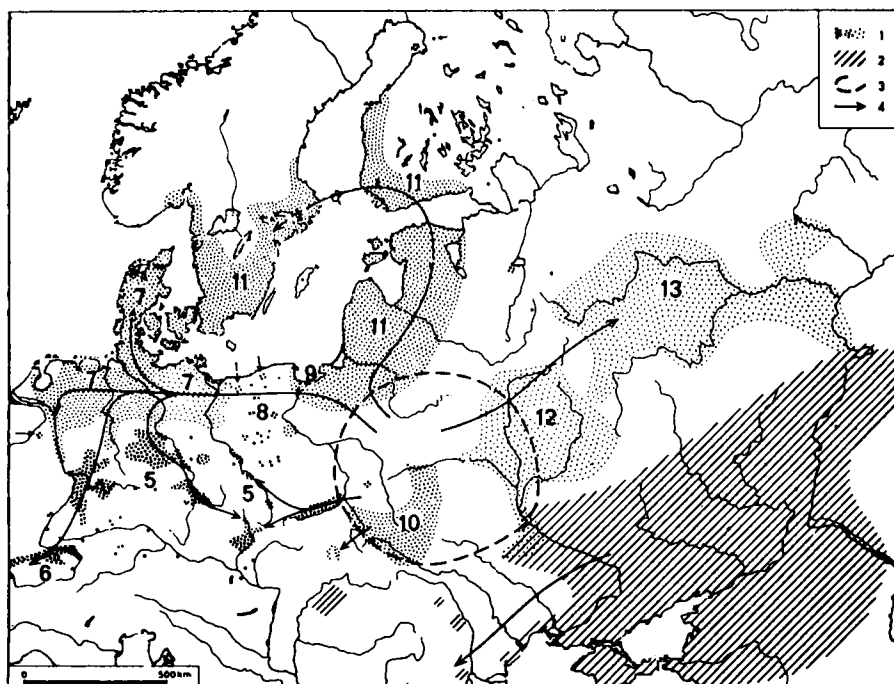


Fig. 3a. Geographical model for the genesis and expansion of the Corded Ware/Battle Axe cultural complex (after Gimbutas 1986).

b. Geographical presentation of Corded Ware/Jamna cultural groups, and a proposal for the origin and spread of the Corded Ware/Battle Axe cultural complex. 1) Distribution of Corded Ware Culture Groups; 2) Jamna Culture; 3) presumed area of origin; 4) presumed main directions of the primary distribution; 5) CW in Central Europe; 6) CW in Switzerland; 7) CW in NW Europe ("Single Grave Culture" in Denmark and NW Germany, "Standvoetbeker" culture in the Netherlands, CW on the lower Oder river; 8) CW in Great Poland; 9) "Rzucewo-Baltic Half Culture"; 10) CW in the West Ukraine and in SE Poland; 11) East Baltic of "Boat-shaped axes"; 12) Middle Dnieper group; 13) Fatjanovo and Balanovo groups (after Buchvaldek 1980).



upon those involved leading to specific changes and adjustments in material culture and social organisation. Consequently we cannot expect *à priori* to find a unified material culture between areas of supposed origin and areas of final settlement. Thus the selective mechanisms operating under the specific conditions of migrations have never been systematically analyzed. We here need comparative studies under historical control. In order to improve on this situation I shall finally discuss the identification of migrations and after that try to outline some types of migrations and their contexts. It is a heuristic sketch without any attempt to cover or refer more than a segment of the relevant literature.

A TENTATIVE SCHEME FOR POPULATION MOVEMENTS

We have until now employed the traditional concept "migration". As it bears many simplistic and value loaded associations with it, one might prefer the more neutral expression "population movements" to stress the diversity of such movements – from individuals over select groups of traders and warriors to whole populations. In the following we are mainly concerned with movements of larger groups of people. Although "large" remains a relative word, it serves to differentiate between individual movements of marriage partners, mercenaries, traders or settlements from the co-ordinated movements of a group of people, whether voluntarily or forced, to occupy a new area. It marks a not easily definable difference between "interaction" and "take over" (or at least an attempt to take over) by moving in larger groups of people, whether farmers, traders, warriors or all at the same time. There are obviously intermediate stages of various types of domination.

The first problem confronting any study of such phenomena is that of identification.

Identification includes three elements:

- intrusion of an alien group (resettling)
- a migratory route (connection)
- a mother culture (origin)

Historically the process operates in the opposite order to this, but identification in the archaeological sense is mostly reversed, beginning where the process stops; and for very good reasons, since the replacement of one culture by another is often the most conclusive evidence archaeologist can come up with (e.g. the Single Grave Culture). As previously indicated it may take many forms from virgin settlement to various types of cultural mix, the processes of which are still badly known.

Migratory routes are the most difficult to trace due to the selective mechanisms at work. In several well documented cases both the mother culture and the final region of settling down can be traced, whereas the route is only represented by scattered finds (e.g. the Bastarnae: Schlette 1977, the Cimbric/Teutonic migrations: Seyer 1976 Abb. 51, several Germanic migrations: Krüger 1977, the Langobards: Werner 1962). Thus, it is clear that without literary sources a number of well known migrations could not have been identified archaeologically, at least not in our present stage of knowledge (e.g. the

Cimbric/Teutonic, and several North American and African historical migrations). This, however, also depends upon the scale and nature of migrations to which we shall now turn.

Contexts and types of population movements. In the following we distinguish between full scale and select movements. Other criteria may be employed, such as speed and directionability, but they belong with a later archaeological discussion about the nature of migrations, e.g. differences between settlement expansion and population movements and the possibility of distinguishing between them (Neustupny 1981).

1). The full scale movement of social groups may be differentiated into three types:

- displacement by states/empires
- social conflict/tribal competition
- ecological/economic pressure

The full scale movement of tribal groups, including children, livestock etc. is not very well documented in prehistory, except for Caesar's description of the Helvetii, and some Celtic and Viking immigrations. The Single Grave Culture, however, probably belongs here. It should be pointed out that even such large migrations did not normally deprive a region of its population, but rather represented the combined effect of several groups or settlement units joining together, as it is known from the Viking period. We should not therefore *à priori* expect major displacements or decline of settlement in those regions providing the people, although it may sometimes occur.

Causes include political displacement of oppositional ethnic groups, a policy followed by all empires throughout history (the Jews in Babylonia, Celtic and Germanic tribes by the Romans etc.), internal social conflict/exclusion (part of the Viking expansion, e.g. Eric the Red and his group leaving for Greenland, some of the Polynesian expansion), political subordination or the threat of it by intruding dynasties (several Iron Age migrations), social and ecological constraints (the Corded Ware Culture/the Single Grave Culture in Jutland, the Cimbric/Teutonic migration from Jutland), and planned migrations to take up new land (the Helvetii as described by Caesar, several of the Pueblo cultures in the American Southwest).

2). Select movements of social groups may be divided into at least four variants:

- conquest
- mercenaries
- trading stations/colonies
- labour/stigmatized groups

Migrations of select social groups is probably as widespread in prehistory as in history. It includes the intruding of foreign chieftains/kings and their retinue taking over control – so-called conquest migrations. Examples include the recurrent influx of nomadic groups in Europe, from the Scythians, the Huns to Genghis Khan, some of the Tumulus expansion of the Middle Bronze Age, part of the Celtic and Viking expansion and the widespread feature of intruding dynasties in the myths of origin of African kingdoms. This may either result in a fast acculturation or an influx of larger groups from the home base of the new leaders, which could explain part of the Nordic Bronze Age expansion. Also mercenaries probably belong

here, since on return they often bring with them strong influences, such as the Germanic mercenaries in the Roman army.

From historical sources we have ample evidence of such military/political movements and take overs (for comparative discussion, see Webb 1975), that have often left rather weak traces in the archaeological records (e.g. the Huns as documented by Werner 1956, or the Vikings). This is not at all surprising given the nature of such migrations. What has left an impact, however, is often place names, since they symbolize the political/administrative take-over of a region. Thus place names are probably a good indicator of successful conquest migrations.

Another type is represented by trading stations/colonies, which is often characterized by the same lack of a clear archaeological identification, or of a mix, such as the Vikings in Russia, the Myceneans/Greeks and Phoenicians in the Mediterranean (Kimmig 1982).

Finally there are the eternal migrations of stigmatized ethnic groups taking up specific tasks, such as blacksmiths/potters, trade and barter (jews/gypsies), labour (slaves), which is to be seen as a more permanent structural outcome of large scale processes of ethnic displacement and exploitation in empires throughout history.

From the above observations a certain processual development in the type of migrations may be suggested, tribal migrations of the neolithic mainly caused by ecological/demographic problems, to trade and conquest migrations/further migrations of conquered peoples in later periods from the Bronze Age onwards. This also implies differential impact upon material culture. Such a scheme was recently proposed by Colin Renfrew, although he preferred to fix the evolutionary fault line for elite domination with the beginning of the Iron Age (Renfrew 1987:131 ff.). We should, however, be cautious not to apply excessively simplistic models. Tribal chiefdoms may very well from an early stage have migrated according to a model of elite domination, just as migrations without any rational demographic or ecological background may be found, e.g. to seek mythical origins or just sheer explorations of new land. In most cases that we know of, there was already a familiarity with the new lands either through exchange, trade, alliances or explorations (Helms 1988).

In conclusion the archaeological identification and the cultural and structural contexts of migrations or population movements are still badly understood. They depend on the level of social and political organisation and their interaction with demographic, economic/ecological and political factors. Some cases are rather clearly due to ecological/demographic problems (some of the Iron Age migrations, e.g. the Cimbric/Teutonic migration), but in more advanced stages of social and political organisation military conquest may also force subdued groups to migrate. Even internal contradictions and competition is known to have led to migrations (e.g. Eric the Red). States and empires reallocate whole ethnic groups, just as they in periods of crisis are tempting centres of wealth for migrating tribes from outside the empire (e.g. the Germanic people and the Roman empire). All this is historically well known, but has attracted only little attention from archaeologists.

When dealing with the structural and cultural framework of migrations we also have to face the problem of ethnicity and language (Barth 1967, Hodder 1982, Herrmann 1988) and their relationship to material culture, since a strong element of ethnicity is implicitly assumed in the identification of migrations. This includes the difficult problems of "ethnogenesis" towards whose prehistoric reality I remain sceptical.¹⁰ We should be aware that ethnicity may often be exclusive and class defined and that the modern notion of ethnicity as all-embracing (a people) may not be applied uncritically to prehistory. We should also be aware that different ethnic groups may co-exist, as demonstrated by Barth (1967), often as a result of migrating groups taking up new niches.

Thus, our ability to identify and understand ethnicity, population movements and language in the archaeological record depends primarily on our ability to identify and explain the social and economic framework within which they operated, as recently suggested by Colin Renfrew (1987). But even that will not do. If we want to see some future advances in the study of population movements, it is necessary to carry out comparative studies under historical and contextual control in order to specify those conditions under which they may occur and the selective mechanisms at work during processes of replacement and change. This is a precondition for understanding and identifying the material correlates of various types of population movements.

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This paper was first presented at the second Nordic conference on the Battle Axe Period, held in Lund, Sweden, 31st October to 2nd November 1988, and later in England at the TAG conference in Newcastle, December 1989, in a session organized by this author titled: "New Perspectives on Prehistoric Migrations". The lively and constructive responses received on both occasions convinced me that time was ripe to re-open the discussion about prehistoric migrations – 40 years after the publication of Childe's "Prehistoric Migrations in Europe". Although I have maintained the paper mostly unchanged, the contributions from both occasions have helped to clarify some of the more crucial questions and formulations. Finally I want to thank David Liversage for correcting the English.

NOTES

1. A note of clarification: diffusion is a covering, descriptive concept for the transmission and change of material culture that does not account for its underlying social mechanisms. Migration is likewise a covering concept for the movement of people, from whole populations to smaller groups. Here, too, the underlying social mechanisms are not accounted for.
2. A few indeterminate structures have been excavated. One is circular and certainly not a house (Rostholm 1986). Another consists of lines of stake holes (Liversage 1987, fig. 1), resembling similar

structures from New Guinea, used to tether pigs at the tribal feasts and exchanges (Feil 1987). As more and more SGC sites have been uncovered in Jutland with machinery (stripping of plough soil) in search of constructions with negative results (no postholes), the question must now be raised if the early phase employed solid house constructions at all, or only tent like constructions that could be easily moved. We know, however, from burials that wooden construction was mastered without difficulty.

3. Presentations and discussions on the Corded Ware/Battle Axe cultures in Europe are found in Behrends & Schlette (1967) and in Behrends (1981).
4. A lively discussion about the nature of autochthonous development, migrations versus cultural exchange and their role in social change was carried out some years ago by Klejn (1978) and Häusler (1978). Since then Häusler has developed his arguments, especially against Gimbutas, in a number of works (Häusler 1981 and 1985). The problem with the discussion, however, is that it is not underpinned either theoretically or with systematic analyses of a body of material (e.g. simple statistics and diagrams). Instead we are presented with numerous references to select finds and literature whose significance cannot be evaluated due to the lack of a proper theoretical and methodological framework. It is symptomatic that Häusler has not applied his useful definitions of burial positions systematically in a concrete analysis, nor has Gimbutas ever defined a migration.
5. In a recent work Anthony (1986) has reconsidered the Kurgan cultures in terms of social and economic adaptations and changes. Especially the role of the domestication of the horse is considered with reference to the Plains Indians of North America. This study is among the first to offer a satisfactory theoretical framework for understanding and explaining the dynamics of Kurgan Cultures.
6. Häusler defines à priori certain elements as indicators of an autochthonous cultural development, such as the position of the dead. He argues, quite rightly, that burial ritual reflects a ritual core relating to social organisation, but he selects only certain traits as significant. Even here there seem to be more similarities than differences, despite claims of the opposite. The many specific similarities between e.g. Fajánovo and Middle Germany, or the Middle Dniepr Culture and the Single Grave Culture in Jutland are ascribed to information exchange, but with no attempt to explain how and why that should have happened between these groups so far apart (see also note 4).
7. Although this horizon has been subject to critique during the 1960's, recent excavations and research have tended to confirm its historical authenticity as the oldest phase (Machnik 1981: 190, Rulf 1981, Sulimirski 1968, map IX). Strahm in his analysis of the Swiss evidence concluded about origins: "Sicher ist aber, das zwischen aller schnurkeramischen Kulturen ein genetischer Zusammenhang besteht, der alle Gruppen auf eine gemeinsame Grundform reduziert" (Strahm 1971).
8. Polarization of male/female is a feature of pastoral societies that are characterized by strict division of labour between the sexes, and by kinship systems aimed at securing herd relationships, transmission of property and alliances (discussion in Bonte 1977, Goody 1976). In the archaeological record of the Corded Ware/Battle Axe culture these features are underlined by dichotomies of left/right,

east/west, north/south in positioning the dead. Together with other ritualized social features, such as double male burials (twins), wagon, horse and dog burials, the stressing of warfare in burials etc. they have been taken to represent some of the classical features of Indo-European social organisation. Also Häusler has pointed out striking similarities between burials rituals as described in the Vedas and as documented in the Ochregrave complex in several of his works cited above.

9. I shall not enter the discussion about the Indo-European problem, but rather point out, that the two dominating models – the autochthonous and the intrusive – imply different interpretations of the origin and spread of indo-european languages (Renfrew 1987, Gimbutas 1986; discussion in *Current Anthropology* 1988, vol. 29, no. 3 and *Antiquity* 62, 1988). Until we reach a more mature understanding of migrations and the transmission of information in European history, archaeology will not be able to provide a useful framework for linguistics (see Mallory 1989 for a useful summary of the archaeological evidence of the Pontic regions and beyond). With respect to Indo-European social organization on there is probably more to be gained by comparison with various types of prehistoric social structures. Here there is little correspondence between the kind of social structures dominating in the Early Neolithic of Europe (Vinca/Starcevo/Bandkeramik) and so-called Indo-European social structures (Dumezil 1956, Benveniste 1973, critically discussed by Renfrew 1987, 250 ff.), which bear more resemblance to later Neolithic/Bronze Age types of social organisation, although Renfrew prefers the Iron Age as the proper parallel. These differences have been pointed out in terms of ideology and religion most strongly by Gimbutas (in press), but are widely recognized in terms of economy, settlements and social organisation (Thomas 1988). A good case for comparative evidence in terms of processes of social and linguistic expansion and change is offered in Oceania (Kirch and Green 1987). Especially the chiefly package identified as Lapita, offers some interesting parallels to the Corded Ware complex.
10. The recent discussion about the ethnogenesis of the Lapps by Odner (1985) offers a good example of this problem, especially the relationship between the rise of ethnicity, language and social and economic changes (Olsen 1985). See also the recent discussion of the Celts in Renfrew (1987, ch. 9). For a more traditional approach, see Horst and Schlette (1988).

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