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# THE WESTERN ALPS FROM 2500 to 1500 b.c. (3400-2500 B.C.) TRADITIONS AND CULTURAL CHANGES

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The purpose of this paper is to review the hypotheses put forward to explain the appearance of the Early Bronze Age in the western Alps at around 2000 - 1700 b.c., C14 non-calibrated dating (2500-2200 B.C., calibrated).

This study comes within the framework of present-day discussions opposing the supporters of a "social" archaeology, who insist on the internal evolutive dynamism of prehistoric societies (e.g. Renfrew, 1979), and the supporters of a "historical" archaeology, who insist on principal changes identified in Europe at the end of the Neolithic are to be related to population movements (e.g. Gimbutas, 1970 and 1973; Machnik, 1972-73, 1974 and 1975). This study is also the continuation of our work on the "Petit-Chasseur" site at Sion (Valais, Suisse. Gallay, 1976b and 1978), in connection with the analysis of the significance of the Bell Beaker phenomenon (Gallay, 1976a, 1979b).

We shall concentrate therefore on the meaning which should be given to the Neolithic-Early Bronze Age transition.

## Identification of the cultural entities

The first stage concerns the identification of the cultural entities involved in the discussion (figure 1.)

### *Level 1*

Will be taken into consideration all the cultural entities identifiable in the western Alps and the immediate surroundings (northern Italy, Switzerland, eastern France), within the chronological sequence, 2500-2000 b.c., C14 dating (3400-2500 B.C. calibrated dating) that is to say, all the entities likely to be involved in a discussion bearing on the origin of the Bronze Age in the Alps (2000 - 1500 b.c. C14 dating, 2500 - 1800 B.C. calibrated dating).

### *Level 2*

We will distinguish firstly between the "ancient" Neolithic Mediterranean substratum and the new imports.

*The substratum* corresponds to the cultural components inherited directly from the first agricultural cultures of Mediter-

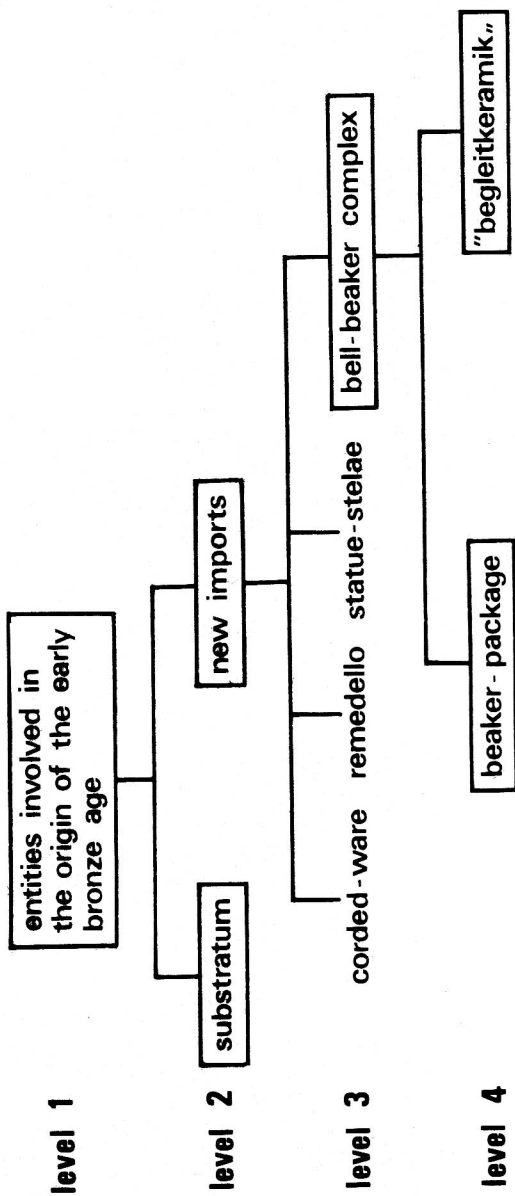


Fig. 1 Cultural entities involved in the discussion

anean origin which had penetrated deeply into the interior of the Alpine arc (Chassey-Cortailod-Lagozza complex from 4000 to 2500 B.C., Gally, 1977). From 2500 to 2000 the unity of the Neolithic of Mediterranean origin tends to fade and numerous local groups appear (Provençal Chalcolithic, Courtin, 1974; Saône-Rhône culture, Strahm and Thévenot, 1977). These various groups testify to the stability of the first agricultural settlement in the Alps. This is an equilibrium phase showing a perfect adjustment of the production economy to the external environment.

We can associate with this substratum the first manifestations of Alpine Rock art, notably the styles I and II of the Val Camonica in Italy (Anati, 1978), certain engravings from the Valais (Corboud, 1978) and perhaps the initial phases of the engravings from Monte Bego.

*The new imports*, in contrast, comprise all the elements absent from the substratum, whatever their origin (local emergence or external import). In order not to prejudice the interpretation of the facts, we consider these elements not as "cultures" in the archaeological sense of the word, but as "cultural components" whose emergence is not necessarily linked to determined populations (ethnic groups).

### *Level 3*

From among the new imports we shall retain four entities:

1. *Corded Ware*. The elements connected with Corded Ware (Strahm, 1969 and 1971) appear to the north of the Alps on the Swiss plateau and in the Jura, in relation to lake shore settlements.

2. The elements connected with *Remedello*, on the contrary, are concentrated in northern Italy, in the lower part of the Po River basin (Renfrew, 1979, p. 205). The pottery connected with this group is unfortunately still not well known.

3. *The statue-stelae* (Anati, 1977, Gally, 1978; Landau, 1977) present several zones of concentration. The most important are the stelae of southern France, linked to the Chalcolithic (D'Anna, 1977), the stelae of Lunigiana, the stelae and monumental compositions of the Valtellina and of the Val Camonica (Anati, 1968 and 1972), the stelae of the Val d'Aoste (Saint-Martin de Corléans, Mezzena, 1978) and of the Valais (Petit-Chasseur).



4. *The Bell Beaker complex*, is essentially linked to inland sites, with certain concentrations in southern France, the Saône basin, the Valais (Petit-Chasseur) and the meridional fringe of the Alps in northern Italy (Barfield, 1974, 1976a and b, 1977; Bill, 1973).

#### *Level 4*

The Bell Beaker complex is in fact a heterogeneous group within which one should distinguish:

1. *The Beaker package* properly so-called (Burgess and Shennan, 1976), comprising the decorated beakers strictly Bell Beaker, as well as the associated metal objects and ornaments.

#### *2. An accompanying pottery*

In central Europe, notably Czechoslovakia, the pottery which usually accompanies Bell Beakers, appears to present affinities with Vučedol and provides the prototypes of the Early Bronze Age pottery of Unetice. This pottery is usually qualified by the term of "Begleitkeramik" (Burgess and Shennan, 1976). Barfield (1974, 1977) considers that the accompanying pottery linked to the Bell Beakers of northern Italy should be linked to the Begleitkeramik of central Europe. It would be interesting to try to find out, whether certain pottery from southern France, distinct from the classical Chalcolithic forms (Fontbousse, Vézazien, Couronien, etc.), can be assimilated to the same group.

On the other hand, we have put forward the hypothesis that the "Bell Beaker" morphological human type ("planoccipitale Steilköpfe"), whose diffusion center is situated in central Europe, is not specifically linked to Bell Beaker pottery but to the "Begleitkeramik" (Gallay, 1979; Menk, 1979).

Taking all the mentioned entities together, it is now possible to demonstrate the link existing between the Bell Beaker complex and the Alpine Early Bronze Age (level 3), and more precisely between the "Begleitkeramik" and the Early Bronze Age (level 4, Gallay, in press).

### **The spatio-temporal articulation of the cultural units**

In a second stage we shall deal with the spatio-temporal articulation of the Bell Beaker complex, this complex being considered through its relation to the Early Bronze Age.

We shall retain successively two aspects, the transitional processes on the one hand (chronological aspects), and the space occupation modalities (spatial aspects) on the other.

#### *The transitional processes*

We shall oppose at this level two groups, namely the Neolithic substratum and the Early Bronze Age – Bell Beaker complex, by seeking to know if the emergence of the components of the second group constitutes or not a discontinuity with regard to the substratum (fig. 2).

#### *Bell Beaker pottery*

Whatever the hypothesis retained concerning the origin of Bell Beaker decorated pottery, we can affirm that this type of pottery is totally intrusive in the western Alps and constitutes an entirely new cultural component.

In Switzerland, the “Petit-Chasseur” site (Sion) has revealed a complex horizon of megalithic tombs, with Bell Beaker grave goods posterior to a dolmen with Saône-Rhône type grave goods. However, this funerary context does not prejudice the situation existing at the level of the habitats (Bocksberger, 1976).

We can therefore admit as a hypothesis, that Bell Beaker pottery appears as an isolated element in contexts of the Saône-Rhône type.

In southern France, Bell Beaker pottery (at least the archaic forms such as the AOO and the AOC beakers) is also intrusive in Chalcolithic contexts.

The more evolved forms such as the “Pyrrhenaean” beakers present, on the contrary, a greater independence (Guilaine, 1976) and can be associated to original contexts announcing the Early Bronze Age.

The same ambiguity is found again in Italy, where Bell Beakers can occur, isolated, in contexts belonging to the substratum, or on the contrary, associated to a “Begleitkeramik” which announces Polada forms and appears to be of foreign origin (Monte Covolo, Barfield, 1972 and 1977).

To summarize, Bell Beaker pottery appears to be a foreign isolated element, inserted into a stable archaic substratum. Certain groups found in Italy and in southern France are exceptions to the rule, since the pottery found together with beakers differs from the forms that are linked to the local

traditions. It announces, instead, the forms that are proper to the Early Bronze Age (Begleitkeramik).

#### *Begleitkeramik*

Undeniably, there exists in Italy a Bell Beaker accompanying pottery which differs from local traditions and announces the forms of the Polada culture. The origin of this pottery however, remains uncertain, and its affinities with the Begleitkeramik of central Europe are, in our opinion, far from being established. The situation is even more uncertain for southern France. For the time being therefore, we find it necessary to adopt an attitude of caution concerning this question.

#### *Fine Ware of the Early Bronze Age*

In Switzerland, Fineware of the Roseaux type (A. and G. Gallay, 1972-73) derives unquestionably from Bell Beaker prototypes. The small decorated cups from Petit-Chasseur constitute in this respect excellent prototypes (Gallay, 1976, fig. 12, 7; 13,13; 15,8). The pottery with barbed-wire decoration described in the Rhône basin (Bill, 1976) is situated exactly in the same evolutive line. In Italy, cups of the Polada type, on the contrary, derive from prototypes belonging to the Begleitkeramik (Aspes and Fasani, 1976).

In a general way therefore, Early Bronze Age Fine Ware has its origin in the Bell Beaker complex (Bell Beaker pottery + Begleitkeramik) and not in the Neolithic substratum.

#### *Coarse Ware of the Early Bronze Age*

In Switzerland, Early Bronze Age Coarse Ware derives, in our opinion (A. and G. Gallay, 1972-73), directly from the Coarse Ware of the Saône-Rhône culture, notably from the pottery of the Auvernier phase. The sequence brought to light in the MXI dolmen at Petit-Chasseur is, in this respect, a clear indication of this evolution (Gallay, 1976). On this site the discontinuity constituted by the Bell Beaker horizon is therefore probably linked to the funerary context of the Petit-Chasseur finds and does not, on any account, constitute an argument in favour of a discontinuity in Domestic Ware traditions.

The situation encountered in southern France is probably very similar to that of the Coarse Ware of the Chalcolithic groups. They have furnished prototypes that were integrated by the rhodanian Early Bronze Age Rhône pottery. As far as we know, relevant data is lacking concerning Italy. On the whole,

we can reasonably admit to a total continuity between the substratum and the Early Bronze Age as far as Domestic Ware is concerned, without taking into account the hiatus, probably artificial, provoked by the transitional horizon of Bell Beaker pottery.

This continuity reappears at the economic level (and, as far as the Bell Beaker horizon is concerned), either at the level of agriculture or at the level of stockbreeding. Once the ecological adaptation to the Alpine environment realized, the economic structures apparently did not undergo any notable changes until the Early Bronze Age.

### *Metallurgy*

If we make an exception of the metallurgy associated with Corded Ware (Strahm, 1971) which does not concern us here, for reasons that we will develop in the spatial analysis, we can identify four distinct groups (Gallay and Lahouze, 1976):

*Neolithic Pre-Beaker metallurgy.* This group is represented by some rare, generally pure-copper objects, appearing at the period of the Chassey-Cortailod-Lagozza complex, and reappearing in the derived groups linked to the substratum. The objects the most characteristic of this phase are the simple flat axes.

*Metallurgy connected with Remedello.* In this context appear the first copper-arsenical alloys. The triangular dagger blades present at Remedello and abundantly represented in Alpine Rock art, are characteristic of this group and reappear in the Final Neolithic of Swiss Lake shore settlements (Bocquet, 1974; Strahm, 1961-62).

*Bell Beaker metallurgy.* Bell Beaker metallurgy forms an autonomous whole, very characteristic with its tanged daggers which, in the Alps, are the most often in pure copper.

*Early Bronze Age metallurgy.* The Early Bronze Age witnesses the very progressive appearance of copper-tin alloys (Gallay, 1976), with a florescence of metallic types evidently linked to the invention centers of central Europe (Unetice).

Each of these four groups possesses its own technology and its own morphological types. It is difficult therefore, to bring to light at this level, local chronological continuities. For instance, we simply do not see on what facts is based the generally accepted opinion, according to which Early Bronze Age metallurgy should derive from Bell Beaker metallurgy. On the con-

trary, this type of material lends itself better to seek for synchronic long distance relations, which is not unusual for metal objects.

The metallurgy connected with Remedello presents certain affinities with the Aegean Early Bronze Age (contested, however, by Renfrew, 1979, p. 229-240).

Bell Beaker metallurgy covers practically the whole of western Europe, whereas the metallurgy of the Early Bronze Age is obviously closely connected with central Europe (e.g. Hundt, 1974), in spite of the ascertained originality of the Rhone Early Bronze Age.

#### *Art and ideology*

We shall limit the discussion here to the problem of the statue-stelae. These appear in the cultures belonging to the end of the Neolithic, i.e., in what is termed here the substratum. The evolution of these representations varies, however, from region to region. In southern France, the statue-stelae are connected with the local Chalcolithic groups (Provencal Chalcolithic, Fontbousse, etc.), but disappear with the arrival of the Bell Beaker (D'Anna, 1977). In Switzerland (necropolis of Petit-Chasseur), the stelae which appeared in the Late Neolithic reappear in the Bell Beaker phase and apparently persist in the Early Bronze Age (Gallay, 1978); however, the Bell Beaker horizon marks a clear break in the aesthetics of the decoration. In Italy, chronological data is sorely lacking, but the situation appears to be quite close to the one that we observe in Switzerland (Gallay, Favre and Blain, 1976). The Lunigiana group appears even to extend well beyond the Early Bronze Age. The ideology — expressed by the stelae — was constituted at the level of the Neolithic substratum, and extends therefore, at least in certain regions, up to and beyond the Early Bronze Age.

#### *Tombs*

The period under study witnesses the disappearance of megalithic collective tombs and the generalization of single graves. The modalities of this transition vary, however, from region to region. In southern France, Bell Beaker tombs and those of the initial phases of the Early Bronze Age, are generally associated to the re-utilization of megalithic monuments linked to the substratum. They correspond therefore to the final phases of collective tomb utilization (Guilaine, 1972; Montjardin, 1974).

In Switzerland, at Petit-Chasseur, the Bell Beaker horizon is, in an exceptional way, linked to a final phase of megalithic cist construction, whereas full-ground single graves appear only at the end of the Early Bronze Age (Bocksberger, 1978), the phase of megalithic monument re-utilization being situated at the beginning of the Early Bronze Age (Gallay, 1978):

Finally, in Italy, the tradition of single graves, specific to the Chassey-Cortailod-Lagozza complex persists, although there are some minor changes in the arrangement of the tombs and the position of the bodies; megalithic traditions being virtually absent from these regions.

### *Anthropology*

Despite our scepticism concerning the utilization of physical anthropological data in the reconstruction of the historical processes, we think that a new approach to this discipline can bring forth interesting elements for discussion. With this perspective in view, we have attempted to confirm, in collaboration with R. Menk (Gallay, 1979b; Menk, 1979), the reality of an anthropological type (characterized by high stature and a well marked brachycephaly: planoccipitale Steilköpfe; Gerhardt, 1976), linked specifically to the Bell Beaker complex of Central Europe. This type seems much less well represented when we move away from central Europe, but is still identifiable in Switzerland, at Petit-Chasseur, and in southern France.

We think that we should link its existence to the diffusion of the *Begleitkeramik* and not to that of the pottery strictly Bell Beaker, as we thought up to now. In the western Alps, its appearance constitutes undeniably a discontinuity in comparison to the gracile populations of Mediterranean origin (Sauter, 1975). However, this anthropological type disappears rapidly and can hardly be found in the Early Bronze Age, which is not surprising, considering the great lability of phenotypical anthropological characters (Langaney, 1977). If this human type really exists, its spatial extension is in any case limited as is its chronological extension.

### *General conclusions*

An overall balance of the continuities and discontinuities enumerated so far, shall now be proposed (fig. 3).

*The transition between the substratum and the Bell Beaker horizon* is marked by the appearance of what can be called the

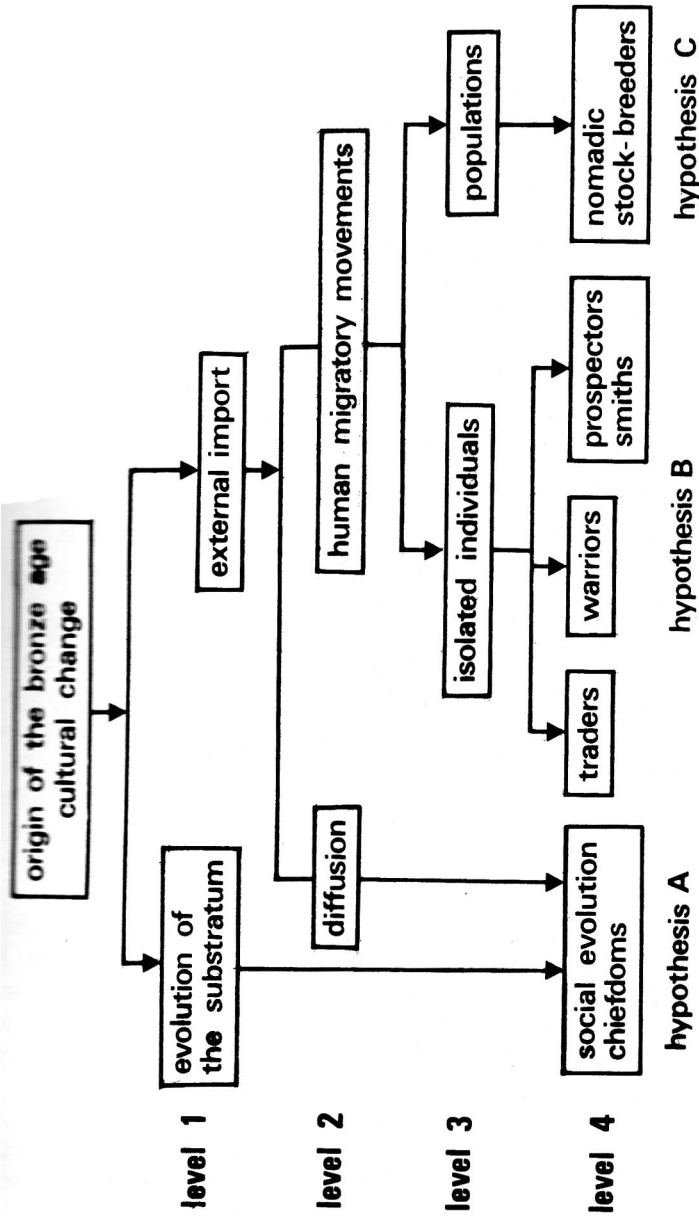


Fig. 3 Interpretation and explanatory models



Beaker package, i.e., by the appearance of prestige goods previously unknown, finely decorated pottery, new-fashioned metal objects, ornaments etc. (Clarke, 1976; Burgess and Shennan, 1976). These prestige goods undeniably mark a certain *discontinuity*. In contrast, what is known of the connections existing between the Domestic Ware typical to the substratum, and the Domestic Ware of the Early Bronze Age, speaks in favour of a certain *continuity* of the most humble domestic traditions. The funerary traditions, also, evolve slowly without sudden breaks, since the ancient megalithic monuments continue to be used, although this type of construction is progressively abandoned in favour of single inhumations.

Similarly, no discontinuity is revealed at the level of the ideological traditions, represented by the statue-stelae which appeared well before the Bell Beaker horizon, except certain aesthetic details as at Petit-Chasseur in Sion.

In contrast, we reserve our opinion as to the pottery groups qualified, in the western Alps, as Begleitkeramik. This pottery is still not known well enough to allow a proper evaluation of the material. The interpretation of anthropological data is likewise delicate, for it depends, to a great extent, on the value that can be accorded to phenotypical anthropological characters.

*The transition between the Bell Beaker horizon and the Early Bronze Age* presents, above all, indications of continuity, if we make an exception of the diffusion of new metallic types. The significance of this last discontinuity is however limited considering, that it does not even coincide with the generalization of copper-tin alloys, which intervenes solely in the final phases of the Early Bronze Age (Gallay, 1976).

#### *Space occupation modalities*

Attention shall now be turned to the structures of spatial opposition existing between the entities defined in level 3 (new imports), i.e., between the Bell Beaker complex (and the elements belonging to the beginning of the Early Bronze Age which are closely associated to it), the Remedello elements, the statue-stelae and the Corded Ware.

*In Switzerland*, in the Jura and in Burgundy, there exists a clear spatial opposition between the zones where Corded Ware is found, and the zones where Bell Beaker and groups linked to

the beginning of the Early Bronze Age are found; this opposition could correspond to an opposition of an ecological nature: lake shore settlements (Corded Ware) and inland settlements (Bell Beaker pottery) (A. and G. Gallay, 1968).

This spatial opposition is all the more astonishing since nothing of the like seems to exist in central Europe, where Bell Beaker and Corded Ware occupy the same territories (J. Neustupný, 1978). For the time being, therefore, the stelae linked to the substratum do not reappear except in the zones subsequently occupied by the Bell Beakers (Petit-Chasseur).

*In Italy*, it is possible to oppose spatially three groups:

1. The stelae and the associated rock figurations are only found in two privileged zones: in the interior of the Alps on the one hand (Val Camonica, Valtellina, Alto Adige), and in Liguria on the other (Lunigiana). The archaeological context of these representations is totally unknown (Anati, 1968, 1972, 1978).

2. The most important Bell Beaker groups (associated to the Begleitkeramik) are found on the periphery of the Alps, at the outlets of the valleys into the Po plain, and in the areas apparently devoid of substratum (Barfield, 1974, 1977). These areas were subsequently occupied by the groups which are connected with Polada.

3. The Remedello culture is limited to the lower Po valley (Barfield, 1971).

On the contrary, no clear spatial opposition exists in *southern France* between stelae and Bell Beaker complex. These dispositions are difficult to interpret. The relative independence of the stelae, in regard to the other groups can be explained by their slightly more ancient origin, and therefore by their preferential link with the substratum. The reasons for the opposition Bell Beaker/Corded Ware and Bell Beaker/Remedello, by contrast, remain more obscure, since the latter can be linked to factors of ethnic and/or ecological nature.

### Interpretation and explanatory models

Data interpretation refers to the questions raised concerning the definition of objectives:

- Is the Alpine Early Bronze Age the result of an internal evolution of local neolithic societies, or is it due to external influences?

- Are the external influences due to simple contacts between

groups or to the arrival of new populations?

— What has been the nature of the contacts between the eventual “newcomers” and the local populations?

The alternatives proposed are summarized in the diagram of fig. 3. They will be discussed starting with the more simple interpretations and ending with the hypothesis the most loaded with “ethnological” meaning.

### *Level 1. Evolution of the substratum or external contribution*

#### *In favour of a local evolution of the substratum:*

The continuity observed in the evolution of the Coarse Ware connected with domestic activities is a good argument in favour of the stability of a settlement, which showed very little mobility since the first colonization of the Alps by the agriculturalists of the Chassey-Cortailod-Lagozza complex.

#### *In favour of external contributions*

The imports are nevertheless evident as regards metal objects (notably at the aesthetic level) and prestige-goods, in the sense understood by Clarke (1978) and Burgess (Burgess and Shennan, 1976), i.e., concerning richly decorated objects, long to make and/or manufactured in rare materials, fine pottery, jewellery, etc.

Moreover, it is possible to distinguish two chronological phases. The first phase corresponds to the Bell Beaker complex, within which it is possible to distinguish two diffusion gradients, one connected with Bell Beaker pottery which has its origin probably in Holland (Lanting and van der Waals, 1976), and the other connected with the Begleitkeramik which has its origin in Czechoslovakia and perhaps more to the East (possible connections with Vučedol?). The second phase corresponds to the Early Bronze Age. The exogenous contributions have essentially to do with the metallic types, with a diffusion gradient which has its origin in the Unetice culture. The importance of these imports is limited, as testifies the certain originality of some aspects of the Rhône metallurgy (e.g. see Bocksberger, 1964).

At this level therefore, it is not possible to eliminate one of the two alternatives. However, we find that the two rival interpretations do not concern the same cultural sector. Domestic Ware testifies to the stability of the substratum, whereas prestige-goods and metallurgy testify to the intensification of

contacts between sometimes far-distant regions.

The analysis of spatial opposition relationships can be interpreted in the same way. The foreign contributions are not inserted at random, but seem to conform to previously established structures, whose signification is still not well understood, but which could be of ethnic relevance. This situation is particularly clear when we consider the insertion of elements connected with the Bell Beaker complex.

### *Level 2. Diffusion or human migrations*

The external contributions can be interpreted in two ways: they can result from a simple process of diffusion connected with what can be called, from the ethnological point of view, exchanges in the broad sense (institutionalized exchanges and/or cultural contamination between neighbouring ethnic groups). On the other hand, they can indicate human migratory movements over more or less great distances.

#### *In favour of a simple diffusion*

The relative independence of the various exogenous elements, chronologically and geographically speaking, can be interpreted in the sense of exchange processes. This independence is located at two levels, according to the polythetic distribution models of D.-L. Clarke (1968). Chronologically, the arrival of the imports is phased (statue-stelae, Beaker package, Early Bronze Age metallurgy) over more than a millennium (2500-1500 b.c., non-calibrated). Geographically, the various components do not overlap and often have different geographical origins.

#### *In favour of human migratory movements*

The only argument in favour of the existence of human migratory movements is provided by the biological components (physical anthropology). However, we are aware of the justified scepticism which surrounds the taking into consideration of this type of data (Gallay, in press).

The only elements that we can retain here concern the human type that we associate, hypothetically, to the diffusion of the Begleitkeramik.

To summarize, if there are human migratory movements, these movements exist only at the level of the eastern section of

the Bell Beaker complex (central Europe and western Alps). They are therefore limited, both in time (around 2000 b.c.) and space (contacts between central Europe and the Alps).

*Level 3. Populations or isolated individuals*

The alternative proposed is only relevant with regard to the diffusion of the Begleitkeramik and of the Beaker package; the latter being indirectly linked to the former.

*In favour of the migration of populations*

There is no conclusive evidence which permits us to affirm the migration of large populations.

Such a hypothesis usually implies the existence of nomadic stockbreeding populations, comparable to the "great stockbreeders" of central Asia (Steppe areas) or of Africa (Sahel and east Africa) (level 4). Nothing justifies, at present, in central and western Europe, to admit the existence of similar populations (hypothesis C). The economic context of the Bell Beaker complex, when known, is an agricultural context (Neustupný, 1978; Barfield, Cremaschi and Castelletti, 1975). Furthermore, the ecology of our regions cannot support the economic solutions adopted in central Asia or in Africa.

*In favour of isolated individuals*

The second alternative is therefore much more realistic and concords better with the pattern of settlement stability, as witnessed by the Domestic-Ware on the one hand (level 1), and with the relatively limited range of the identified movements (level 2), on the other.

*Level 4. Social and economic status of the eventual migrants*

From this level on, reference to "exotic" ethnographic contexts, sub-recent or recent, is almost unavoidable. The interpretation given by various authors to the eventual presence of relatively small and mobile human groups, almost always centers around the same stereotypes, such as itinerant-traders, warriors, or the metal prospector-smiths (see, Guilaine, 1967, p. 130, Briard, 1976, p. 37-42; Machnik, 1972-73). It is extremely difficult to find the archaeological facts enabling us to choose between the various interpretations (hypothesis B).

*Traders.* This hypothesis is the least improbable since the

cultural components whose mobility has been established, are essentially prestige-goods. However, we would like to point out that these prestige-goods belong to the Beaker package and not to the Begleitkeramik, to which we have associated the Bell Beaker anthropological type.

*Prospectors and smiths.* In turn, this interpretation runs into two difficulties. The first one is linked to the problem previously mentioned, since we have to explain the diffusion of one type of pottery, the Begleitkeramik, and not that of the Beaker-package comprising the metallurgical components.

Moreover, the problem is equally insoluble of the Bell Beaker, whose diffusion does not appear particularly linked to a search for zones rich in copper ores (see for example the case of Portugal, Gally, 1979).

*Warriors.* This hypothesis is also difficult to base on archaeological facts, although ethnographic examples showing the formation of a dominant warrior caste of foreign ethnic origin are many.

#### *Level 4. Internal social evolution*

The alternative to the hypotheses proposed at levels 3 and 4, can be found in the position upheld by C. Renfrew (1979), notably concerning the emergence of the Wessex culture in Great-Britain. This author shows that the emergence of what is usually called the Wessex culture, corresponds probably to the formation of a stratified society, comparable to the chiefdoms of Oceania, and derives, in fact, solely from an internal evolutionary process. An identical evolution could explain the emergence of the Early Bronze Age cultures on the Continent.

In the case which interests us here, this interpretation must be moderated nevertheless by introducing certain diffusion processes, whose reality has been proved at Levels 1 and 2 of our demonstration. This model is plausible, but the demonstration of its reality remains delicate, for our knowledge of western Alp archaeology is far from reaching the precision and abundance of British knowledge, as much, at the level of the relationships existing between habitats and funeral and/or cultural sites, as at the level of data which can be interpreted from a demographic view-point.

## Conclusions

Analysis of the archaeological facts related to the appearance of the Bronze Age in the Alps allows us, we think, to reject the interpretative hypothesis C. No argument exists for the presence of a new intrusive population that we could assimilate to nomadic shepherds.

The choice between hypothesis A and the various hypotheses B (without internal distinctions) is in contrast more difficult, and this for two reasons:

1. The identification of newcomers is based solely on the interpretation of physical anthropological data. However, we are aware of the difficulties and uncertainties linked up to now to this type of approach.

2. The two models are not necessarily exclusive, and both testify to the emergence of a new type of society, a society clearly more complex than the so-called "egalitarian" auto-subsistence societies of the classical Neolithic. In this type of society, the emergence of a centralized political power of the chieftdom type is not in contradiction with the appearance of specialized castes, regrouping corporations of the trader, warrior or smith type. We know on the other hand, that certain of these castes can effectively be linked to foreign ethnic groups. African societies show many examples of this type. Therefore, we should not be, at least for the time being, too exclusive in our hypotheses on the emergence modalities of the Early Bronze Age. The only fact of which we are sure, as far as the western Alps are concerned, is that there is no reason to introduce a numerically important, new foreign population.

## Résumé

Cette communication passe en revue les hypothèses proposées pour expliquer l'apparition du Bronze ancien dans les Alpes occidentales aux environs de 2000-1700 av. J.-C. en datation C 14 non calibrée. L'analyse des faits archéologiques permet de rejeter l'hypothèse qui établit une relation entre l'apparition de l'âge du Bronze et l'intrusion massive d'une nouvelle population assimilée à des pasteurs nomades. Il est par contre difficile de savoir si les transformations observables à cette époque résultent uniquement de transformations internes à la société (apparition des chefferies) où s'il faut prendre en compte l'influence de nouveaux arrivants peu nombreux, commerçants ou prospec-



teurs d'origine centre européenne. Ces deux modèles ne sont en effet pas obligatoirement exclusifs et témoignent tous les deux de l'émergence d'un nouveau type de société plus complexe que les sociétés d'autosubsistance dites "égalitaires" du Néolithique. Dans ce type de société l'émergence d'un pouvoir politique plus centralisé n'est pas en contradiction avec l'apparition de castes spécialisées regroupant des corporations de commerçants, guerriers ou forgerons, d'origine ethnique étrangère.

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