

Think and Act. Local Data and Global Perspectives in Bell Beaker Archaeology

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Each year, as the number of discoveries increases, Bell Beaker Europe is both expanding towards its margins and becoming denser in many regions (Fig. 1). France is a shining example with 242 Bell Beaker sites known in 1963 (Riquet et al. 1963), 338 in 1968 (Treinen, 1970), and nearly 1600 today (Fig. 2) (Gadbois-Langevin 2013, Lemerrier 2014, Lemerrier in 2018 a). It appears that, on a European scale, the Bell Beaker ceramics have very different characteristics according to region (burials, presence of domestic settlements, nature of remains; Bueno Ramirez et al. 2008, Czebreszuk/Szmyt 2012, Desideri et al. 2012, Fokkens 2012 a, García Puchol et al. 2013, Heyd 2007, Lemerrier 2012 b, Mikołajczak/Szczodrowski 2012, Sheridan 2012, Turek 2013, Vander Linden 2012). These different aspects probably correspond to a diversity of diffusion modalities (objects, ideas, individuals, populations...), equally diverse integration modalities, and possible developments dependent on the cultural entities present before the Bell Beakers and their stage of development (i.e. Metallurgy). A small time lag from one region to another also plays an important role (Lemerrier in press).

Despite the notion that Bell Beakers of different natures inhabited the different regions (van der Waals 1984, Shennan, 1986, Lewthwaite 1987, Case 1987, etc.), preventive/rescue archeology and the multiplication of the number of excavations have clearly shown that the Bell Beaker impact was generally quite important everywhere where their occupation has been found. Bell Beakers normally developed over a long period (of several centuries) and caused significant cultural changes in many areas compared to earlier local cultures (Lemerrier et al. 2014 a).

In the north-western Mediterranean (North-East Spain, Mediterranean France, Central Italy, Sardinia...), the wide variety of decorative styles of Bell Beaker ceramics, the existence of a specific common ware, a complete material culture, and the presence of domestic sites as well as the examination of discovery contexts and combinations of objects make it possible to propose chronological periodisations of the Bell Beakers (Martín Colliga 2001, Lemerrier et al. 2007). These periodisations allow the observation of the appearance, insertion, and subsequent development of the Bell Beakers in the local sequences as well as the acculturation of the local groups of the late Neolithic over several centuries.

In Mediterranean France – considered here as a region including the great arc of the Pyrenees to the Alps, extending to the region of Toulouse to the west and to the sector of Geneva up the Rhone basin – about six hundred sites have been listed and correspond to about seven hundred different occupations. In this region, I worked a lot on the nature of Bell Beaker assemblages in order to divide this large set chronologically as, with occupations spread over at least six centuries of time, this phenomenon is not a single reality.

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The result is a division of the Beakers of Mediterranean France into 3 phases (Lemerrier 1998, 2004, 2012 a, 2012b, Lemerrier et al. 2014 b) (Fig. 3):

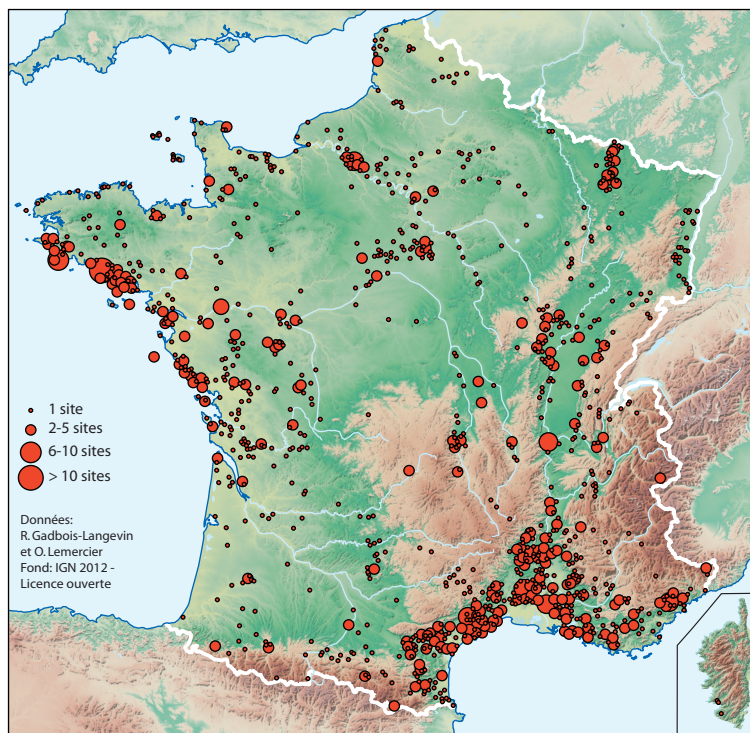
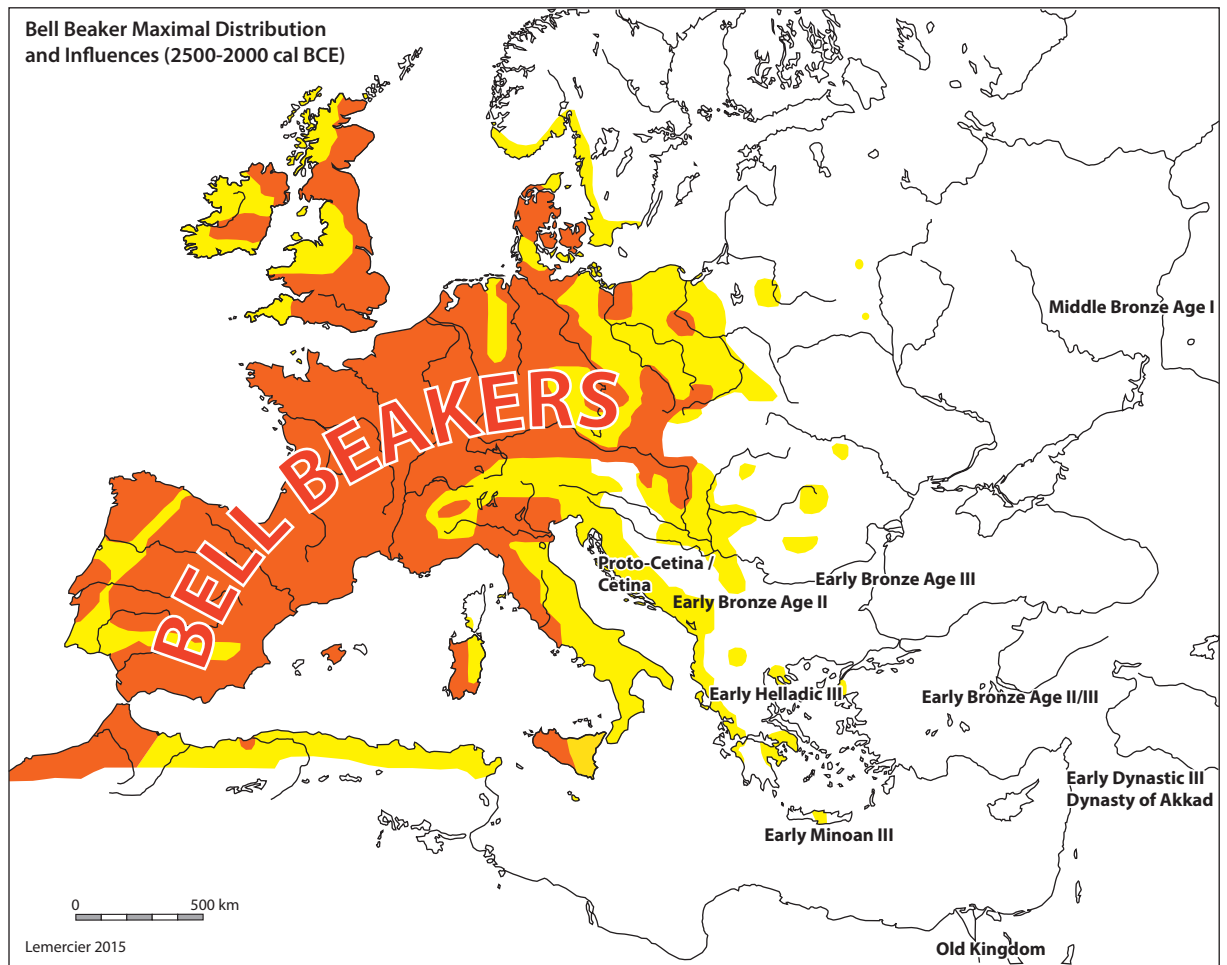
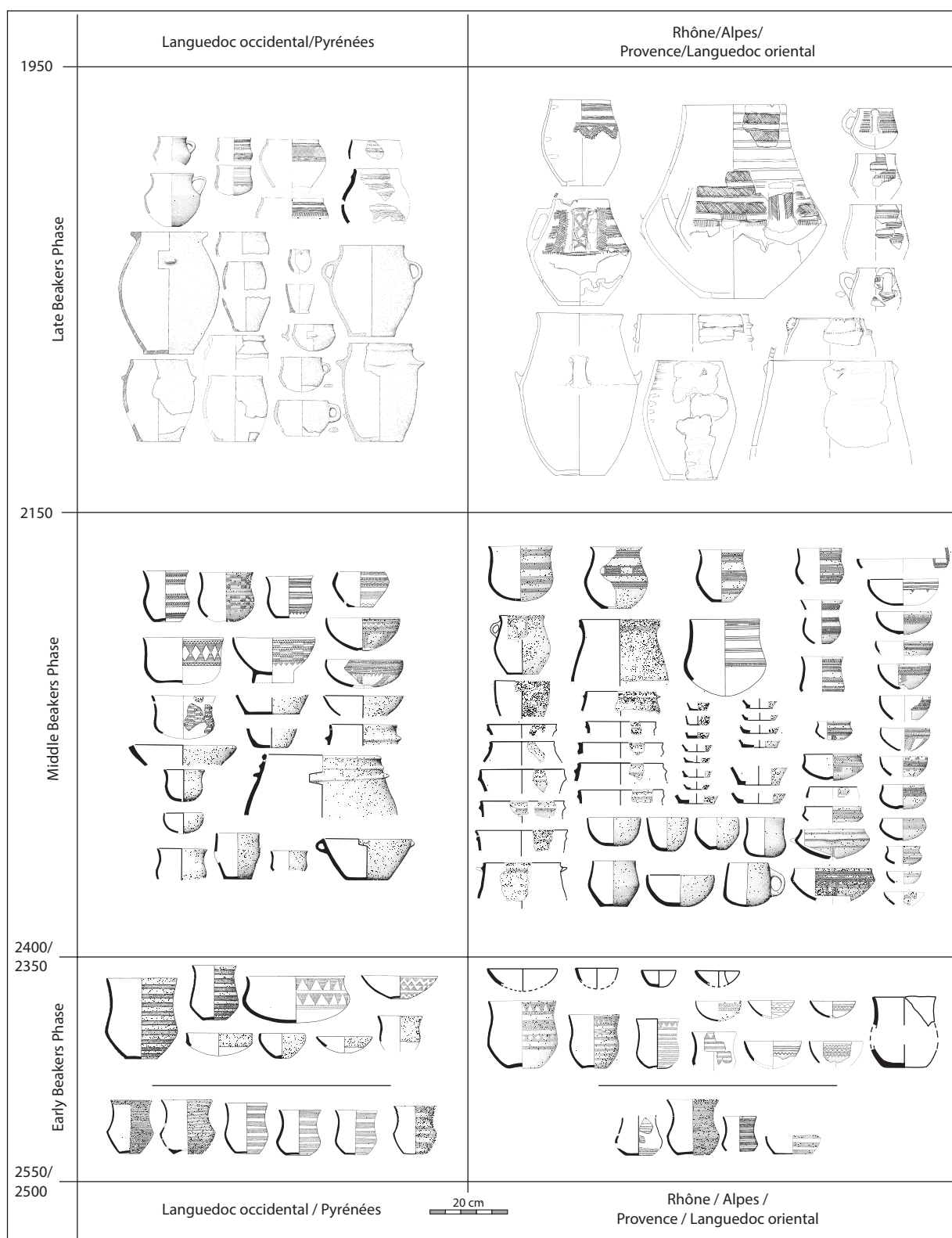


Fig. 1. Bell Beaker maximal distribution and influences (after Heyd 2013 and various authors, modified, CAD O. Lemerrier).

Fig. 2. Distribution map of the Bell Beaker remains in France (data R. Gadbois-Langevin and O. Lemerrier, CAD O. Lemerrier).



The Early Beaker phase (2550/2500 – 2400/2350 BCE)

The first phenomenon, characterized by Maritime styles, AOC, and mixed-style Beakers but also the geometric comb-zoned decorated vessels that probably developed very quickly after the initial appearance of Beakers and the arrival of elements of foreign origin to the region (objects, ideas, individuals?), shows wide movement on the scale of the continent (whatever its nature or natures).

Fig.3. Periodisation of the Bell Beaker pottery in southern France (detailed legends in Lemerrier 2012 and Vital et al. 2012, CAD O. Lemerrier).

The Middle Beaker phase (2400/2350 – 2150 BCE)

This phase of Bell Beakers, characterized by multiple regional groups (Rhodano-Provençal and Pyrenean Groups...) from the point of view of ceramic decoration, shows at the same time the existence of large assemblages from the point of view of the common ware (cultures) and a very wide Community or European network of the exchange of objects, practices, or ideas that perhaps formed a broad Bell Beaker civilization.

The Late Beaker phase (2150 – 1950 BCE)

The beakers are marked by incised and barbed wire-decorated ware. This Bell Beaker tradition was in a different context, namely the transition to the Bronze Age.

An important observation is that the initial, early phase Bell Beakers did not replace the local cultures of the Late Neolithic, but instead represent an introduced type that then developed into a complete culture in the Bell Beaker middle phase. Again, in this middle phase, there is considerable evidence in certain regions demonstrating that the local cultures of the Late Neolithic did not disappear, but rather evolved in parallel with the regional Beaker groups.

This division of the Bell Beakers in Mediterranean France into three moments of clearly different nature mirrors the model proposed by Stuart Needham in 2005 (Needham 2005).

In Mediterranean France, this division allows the Bell Beaker sets to be considered individually rather than mixing everything up (which was too often done). We first consider the issue of a local or exogenous character of Bell Beakers in Mediterranean France, the nature of this phenomenon, and its possible origins. There seems to be a break reflected in numerous parts of the archaeological record where the development of indigenous Neolithic cultures is replaced by an increasing influence of Bell Beaker practices.

In this region, the fine decorated ceramic-ware does not seem to derive from indigenous cultures either from a stylistic point of view or from a technical point of view. A ceramic “standard” can be identified (Salanova 2000): the Maritime Beaker style with shell impressions that was common in Bell Beaker Europe and essentially of Atlantic distribution between Portugal and Brittany (Cardoso 2014a, Kunst 2005, Salanova 2000, 2005, 2008), although it is well represented in the Western Mediterranean as well (Lemerrier 2004, 2012 b).

This seems to apply also to the lithic industry. Although local raw materials around the sites were used, there was a significant increase in arrowheads and the appearance of the tanged and barbed type arrowhead (with squared-off barbs) (Furestier 2007). These were previously unknown and became widespread at this time at the scale of Western Beaker diffusion (Lemerrier 2011, Bailly 2014, Nicolas 2017).

This is also true for the introduction of metal objects as they had already appeared in local Neolithic traditions (copper objects were present in this region from 3800/3600 BCE, van Willigen 2017; and metallurgy developed from 3100/3000 BCE, Ambert/Vaquer eds. 2005). But, different types of copper, the use of hammering, and a more intensive work of shaping were introduced (Labaune 2016, Lemerrier et al. 2014 a).

Certain types of personal adornments, like the V-perforated geometric bone buttons, were also previously unknown (Barge/Arnal 1985). Other new characteristics include the placement of the first major settlements on hilltops and the rare huts known for their oval morphology and similar modules (Lemerrier/Strahm in press). There

are very few individual burials with codified orientations and positions (Lemerrier et al. 2011), although the permanence of the collective burial remains in great majority (Lemerrier/Tcheremissinoff 2011).

Finally, there is a shift in the animal economy. Although it remains overwhelmingly based on livestock, the practice of hunting small and big game animals, an activity that did not exist in the indigenous cultures of the late Neolithic in Mediterranean France, is introduced. Even if hunting can be considered marginal from a food perspective, it provides other products (raw material, pelt etc.) and could perhaps give a special status within the community to hunters or to those receiving the hunting products (Blaise 2010, Blaise et al. 2010, 2014). Thus, with the exception of burial traditions, each of the observed components shows profound differences between the local Neolithic traditions and the Bell Beaker practices or production. In my opinion, these changes reflect the exogenous nature of this phenomenon.

Regarding movement in this study area.

Objects move little or not at all. This is demonstrated by petrographic studies of ceramics, which show that the majority of ceramics are manufactured locally and that there is little movement of vessels over distances that are, at most, regional (Convertini 1996, 2009, 2017). The same is true for the lithic raw materials, which are often from local or nearby sources (Furestier 2007).

The only production for which it is currently possible to consider movement is that of metal objects (Cattin 2008, Labaune 2016). The first results from an ongoing program of lead isotopic analyses tend to show a different origin for Bell Beaker metal than that used in the final Neolithic era.

What move mostly are the object types or the idea of the object, as already mentioned elsewhere (Edmonds 1995). We can cite, among others, the morphologies and decorations of ornamented ceramics (the shape of the beakers, the decoration with the shell or the comb and its grammar...), as well as certain types of lithic artifacts (tanged and square barbed type arrowhead, wrist-guard...) and metallic objects (tanged copper blade, palmela point...) as probable outcomes of imitations. These types of objects are scattered over vast geographies, but the materials out of which they are made are of local origin. Technical standards are also moving. This is the case for the manufacture of ceramics and is most visible in the choice of temper, which at some sites represents the intrusion of a foreign standard into indigenous techniques (Convertini 1996, 2009, 2017). The presence of allochthonous technical standards at some sites has been seen as evidence of the movement of individuals.

The movement of individuals is approached at a European scale by the various fields of bioanthropology. Studies of dental nonmetrics were carried out in Spain, France, Switzerland, Bohemia, and Hungary (Desideri 2011, Desideri/Besse 2010, 2012). These showed close links between Bell Beaker peoples and locals only in Spain and Bohemia. Significant differences have been identified between Eastern and Southwestern Europe, making it possible to propose the movement of individuals. The same is true of isotopic geochemistry studies, which have been increasing in recent years (Heyd et al. 2005, Kern 2012, Pearson et al. 2016, Pellegrini et al. 2016, Price et al. 2004...). The study of Sion-Petit Chasseur (Swiss) showed that up to 30% of the population was displaced (Desideri et al. 2010). Finally, studies of ancient DNA complete and confirm these initial results, supporting probable significant migrations that would have modified the European genetic pool at this time either as a whole (Allentoft et al. 2015, Brandt et al. 2013, Brotherton et al. 2013, Lazaridis et al. 2014...) or in

specific regions (Olalde et al. 2018, Martiniano et al. 2017, Szecsenyi-Nagy et al. 2017). The resulting migratory interpretations for Bell Beakers, like for Corded Ware, must be analyzed and discussed (Heyd 2016, 2017, Kristiansen et al. 2017, Needham 2007, Furholt 2017, Van-der Linden 2016).

Numerous elements, including the styles of decorated beakers in the early Bell Beaker phase (Salanova 2000), the shape of certain settlements (Lemerrier/Strahm in press), the corpus of radiocarbon dating (Muller/van Willigen 2001), and also certain data on human mobility (Desideri 2011; Desideri/Besse 2010, 2012) – which will have to be confirmed by the continuation of studies – tend to show a diffusion from west to east and south to north.

However, the data are not unambiguous, and other elements such as the rare individual burials, the use of grog as a temper for ceramic production, string decorations, and certain types of common ware and the use of the beaker, could be reminiscent of the northern and eastern spheres.

There is every reason to believe that mobility is very important at this time and that individuals, ideas, and sometimes also objects from different sources circulated throughout Europe in different ways.

But the question of origins is still difficult, since the different elements that compose the Bell Beakers in Mediterranean France could be of different origin (Lemerrier 2014; referring in some ways to the Network Theory of Alain Gailly 1979, 1997, 2001). This explains why so many origins have been proposed for the Bell Beakers since the end of the nineteenth century (Lemerrier 2015).

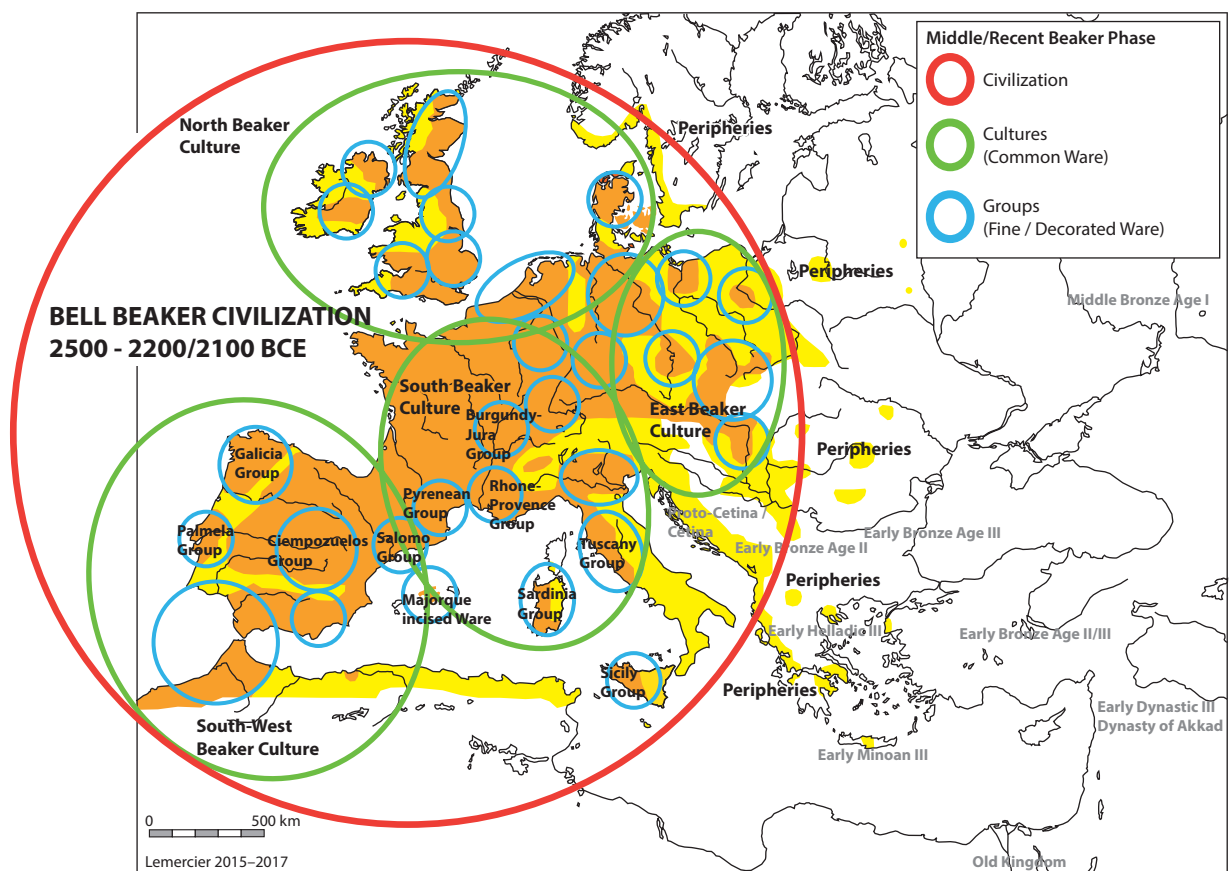
In recent work (Lemerrier 2015), I have made thirteen proposals related to perspectives for Bell Beaker research which should be discussed:

1— The Bell Beakers should not be considered a homogeneous group geographically or, even more importantly, chronologically. There is clearly an initial or first phase: Beaker phenomenon distinct from the second phase: development of regional Bell Beaker cultures (from the local cultures of the final Neolithic have integrated and “democratized” the Bell Beaker elements/ideas). These regional Bell Beaker cultures have been identified in many parts of Europe (Portugal: Cardoso 2014b, Spain: Rojo Guerra et al. 2005, central Italy: Nicolis/ Mottes 1998, Baioni et al. 2008, Sardinia: Lemerrier et al. 2007, Mediterranean France: Lemerrier 2004, 2012a, 2012b, center-east of France: Salanova/ Ducreux 2005, Lemerrier 2014, Swiss: Desideri et al. 2012, Germany: Heyd 2001, Mertens 2003... Czech Republic: Turek 2005, Hungary: Kalicz-Schreiber/ Kalicz 2001, Austria: Neugebauer/ Neugebauer-Maresch 2001, Metzinger-Schmitz 2004, Netherlands: Fokkens 2012a, Denmark: Vandkilde 2001, Britain: Needham 2005, etc.). There is also, in some regions, a third Bell Beaker phase which concerns some Beaker traditions present during the beginning of the Early Bronze Age. Confusion between these three phases is the main source of misunderstanding of the Bell Beakers.

2— The first Bell Beaker phenomenon did not take place after the disappearance of local cultures of the late Neolithic or Copper Age, but in the context of the continued existence of these cultures. Local cultures could survive the development of Bell Beaker regional groups, sometimes for centuries, to participate, according to region, to the genesis of the regional Early Bronze Age. A phase of synchronism between Bell Beakers and local cultures is manifest. This has been established in Mediterranean France (Lemerrier 1998, 2004, 2012, Lemerrier et al. 2014, Guilaine et al. 2001, Convertini et al. 2004), but has also been proposed in many other regions (Vorz

1996, Strahm 1996, Gallay 1997, Heyd 1998, 2001, Salanova 2001, Tusa 2001, Bermond Montanari 2001, Czebreszuk 2003, Salanova/ Heyd 2007, Kopacz et al. 2008, Sarauw 2008, Cardoso 2014a, etc.). Some researchers insist on the part of local cultures in the development of Bell Beakers groups (Besse et al. 2009).

3— This first Bell Beaker phenomenon is followed, in a second phase and in a number of areas, by something that could be considered a Bell Beaker “Civilization” (Fig. 4), formed of a number of regional “groups” with a specific material culture and regional traditions of settlement types and economic practices. That is to say, the degree of acculturation is dependent in part on the local cultural milieu. Bell Beaker groups separated by their decorated ceramics share, at a larger scale, the same common ware (Besse 2003, Piguët/ Besse 2009). There are probably three or four macro-regional Bell Beaker “cultures” identified by a specific common ware: the cultures of central Europe, Western Europe, Iberian Peninsula and British islands.



4— By the early phase of the Bell Beaker, settlement and domestic contexts with associated Bell Beaker objects and large quantities of elements of local cultures are recognized in some areas. These Bell Beaker assemblies therefore cannot be considered as a simple funerary package.

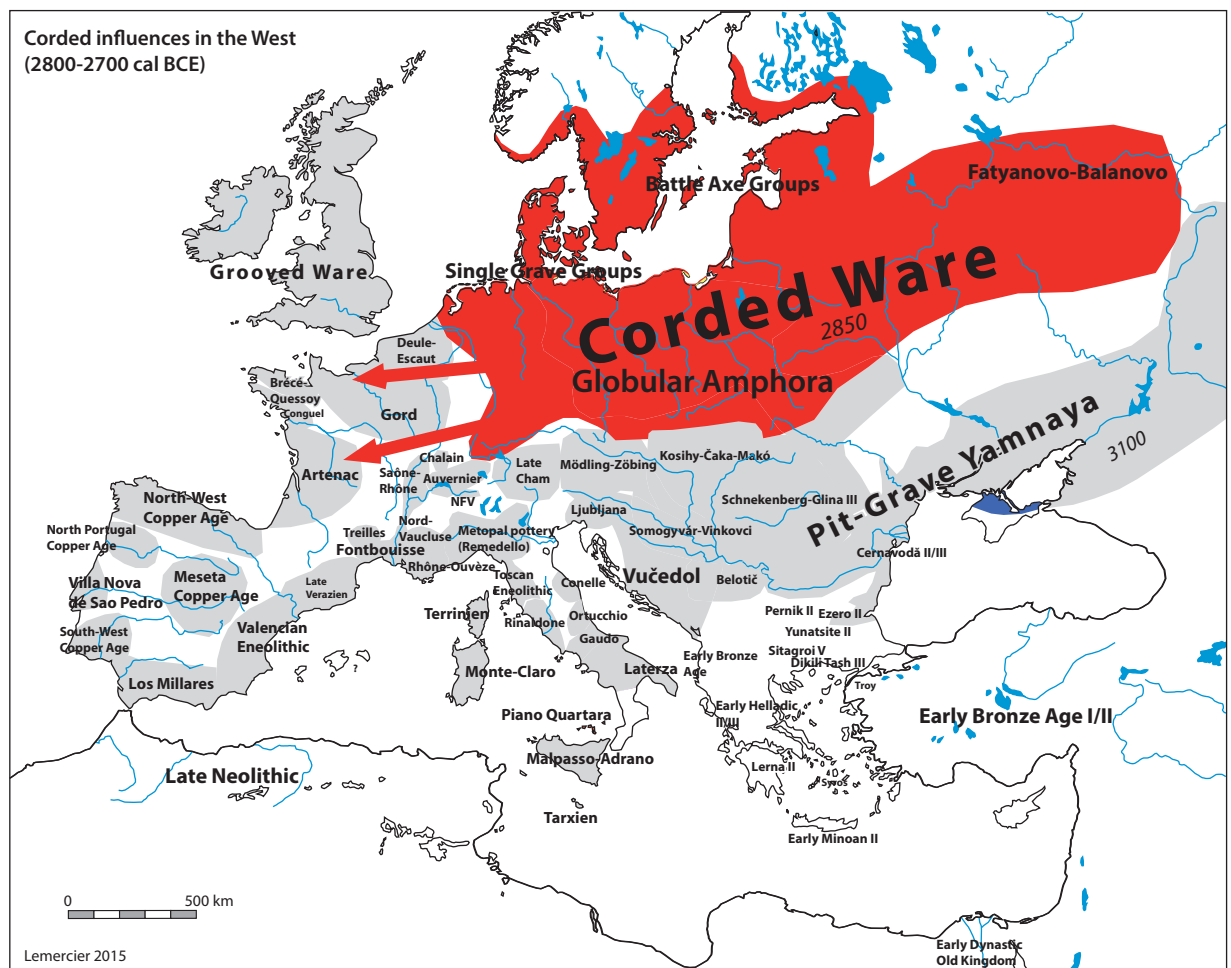
5— However, Beaker packages are available in funerary contexts during the second phase as well as during the early phase, varying by region and by individuals. A panoply of weapons (particularly daggers and archery elements) can be distinguished and related to adult male individuals; but, these items are not associated with all adult males and may thus have a special status (Salanova 2007, Lemerrier 2011).

Fig.4. Bell Beaker Civilization (CAD O. Lemerrier).

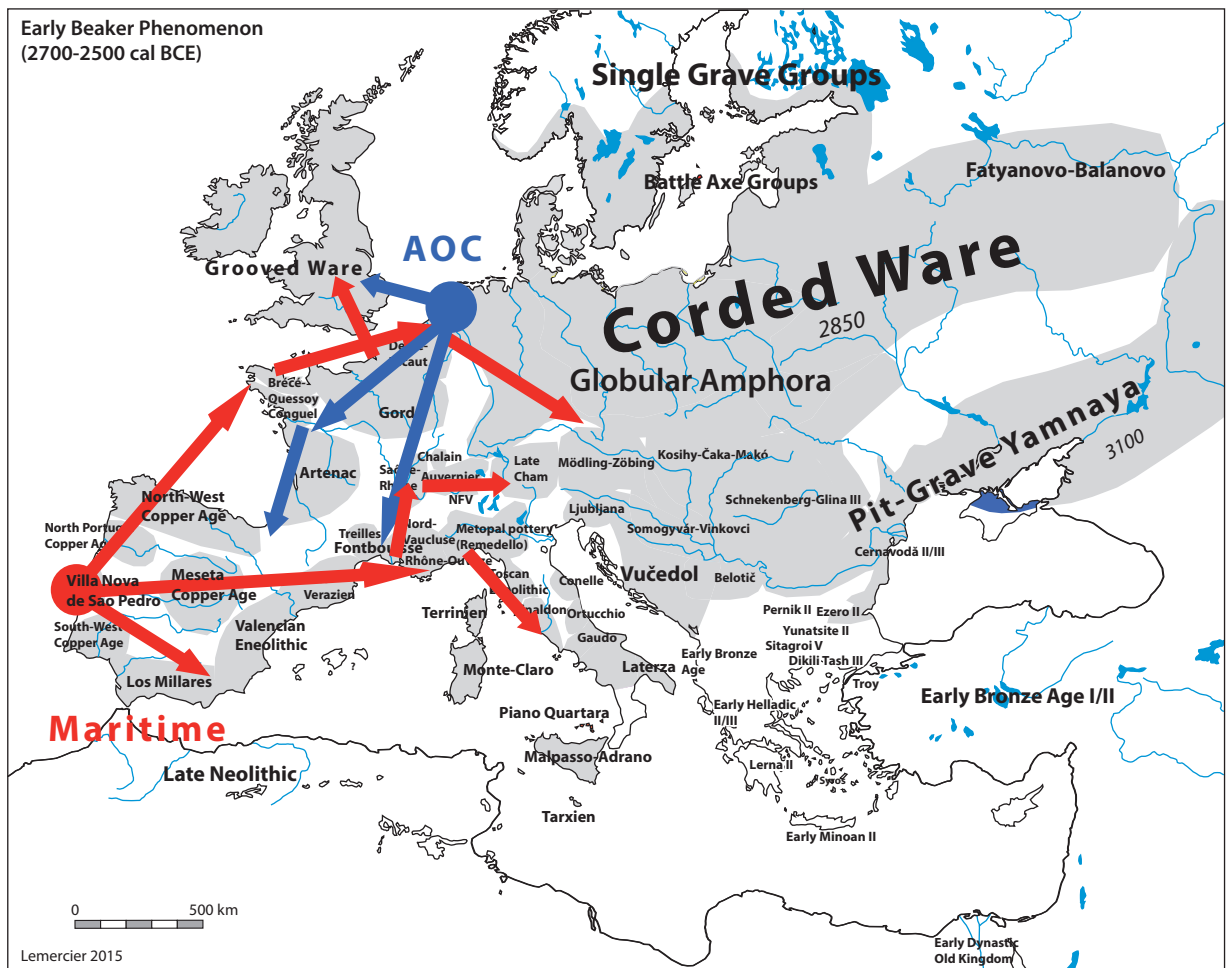
6— A Beaker burial rite is identifiable, with burial in a regionalized but codified position and orientation (Besse/ Desideri 2005). It is probably present in all Europe. A number of deposits in the context of collective burials can be attributed to this special rite (Chambon 2004, Salanova 2007). However, it is not the only Beaker rite. Cremations have been recognized from the Eastern Province (Müller 1998, Turek 2008) to the north (Drenth 2014) and in eastern France (Christin et al. 2016). Collective burials also probably always existed in some areas of Europe (Lemerrier/ Tchérémissinoff 2011, Jeunesse, 2014).

7— Based on current knowledge drinking vessels, codified individual burials without mounds, and the warrior idea come from a set of cultures that stretch across Europe from their source in the eastern steppes (Harrison/ Heyd 2007, Heyd 2007, 2012, Jeunesse 2015, 2017). We will not enter here into the exciting debate about the nature of these diffusions / migrations etc. However, and this is very important, Western Europe seems to know these innovations prior to the emergence of the Bell Beakers (Fig. 5). It is therefore not possible to consider these innovations as arriving from the east with the Bell Beakers. These eastern innovations contribute instead to highlight an “atmosphere” of Eastern origin in a big area between the boundaries of the extension of the Corded Ware and the Atlantic Ocean.

Fig.5. Corded influences in the West (2800–2700 cal BCE) (after Guilaine 1998, Demoule 2007, Harrison/Heyd 2007 and various authors, CAD O. Lemerrier).



8— More than 50 years after some researchers claimed that searching for the geographical origin of the Bell Beakers was useless or nonsense (Shennan 1976, 1977a, 1977b, Clarke 1976, Burgess/ Shennan 1976, etc.), the debate is still alive (Beckerman 2012, Fokkens



2012a, Guilaine 2004, Jeunesse 2015, Lanting 2008, Salanova 2004, 2009, Turek 2012, Vander Linden 2012, Müller 2013, for example).

It is difficult to find the origin of Bell Beakers in one place (Fig. 6). In reality, it is a question of definition: do we reserve the term Bell Beaker only for Maritime vessels, or also apply it to the AOC beakers? The production of Maritime vessels, very likely of Atlantic origin (Salanova 2000...), and the production of AOC beakers, probably of Rhine origin or developing out of Corded Ware, seem to have begun equally early according to radiocarbon dating.

Thus:

- either the Maritime beaker developed out of the AOC beaker, but after a first diffusion these AOC beakers to the Atlantic regions,
- or the Maritime beaker developed in parallel with the AOC beaker, but in the context of the development of a particular drinking practice as a drinking beaker.

In the latter case, we must consider that hybridization of both types occurred somewhere between the Rhine and the Atlantic, in a second time, but probably very fast.

9— The oldest Atlantic Bell Beaker productions cannot be summarized to the beaker morphology or to the Maritime style, and very quickly a fine vessel for presentation, serving and consumption was developed.

10— The Bell Beakers diffusion is multiform. It is both the diffusion of objects (metal items, rare beakers..., Convertini 2009), but also of ideology and knowledge, diffusions that involve human mobility

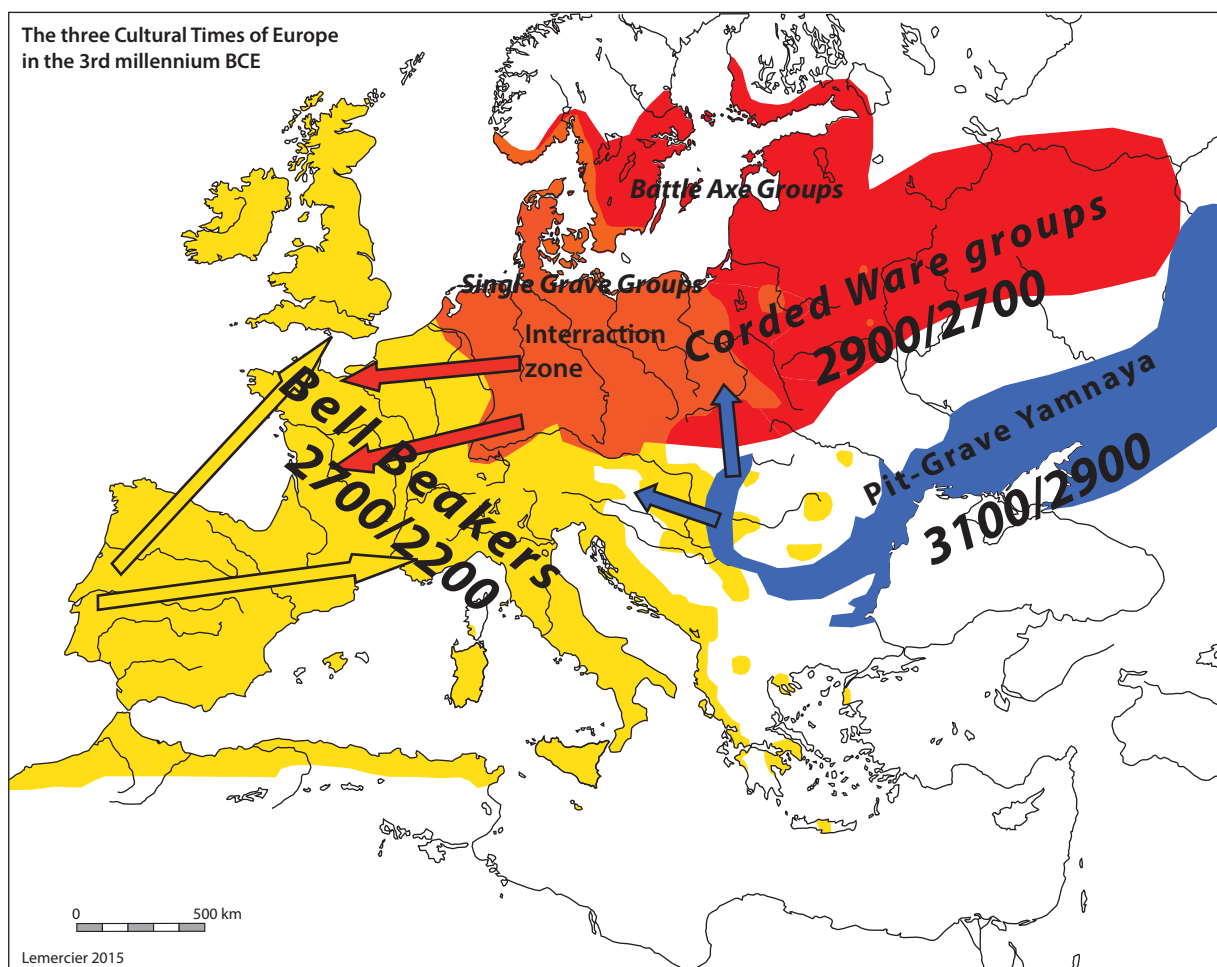
Fig.6. The Early Beaker Phenomenon (General Beakers map after Heyd 2013 modified, CAD O. Lemerrier).

and the traveling of individuals or groups. This mobility is probably of multiple types, depending on region and period. It is impossible to explain all of the observations and analyses only by exogamy, as envisaged by some researchers (Vander Linden 2007, Knipper et al. 2017), although this may have contributed to the Bell Beaker phenomenon.

11— The main supposed direction of the Bell Beaker diffusion in the first, early Bell Beaker phenomenon, based on dating and ceramic styles, is from west to east and from south to north. But, very quickly, exchange and multipolar and multidirectional flows would have characterized the Bell Beaker culture. In this sense, the Edward Sangmeister Ruckström model (Sangmeister 1963), regarded by many as too complicated, was probably too simplistic in reality; the network theory of Alain Gallay (1979, 1997, 2001), though without a doubt incomplete, better reflects the complexity of the data.

12— The social dimension of the Bell Beaker phenomenon is difficult to prove on an archaeological basis. It is probably possible to approach by observing different funerary assemblages, particularly linked to some armed adult men (Case 2004, Fokkens 2012b, Heyd 2007a, Lemerrier 2011, Salanova 2007, 2012, Salanova/Sohn 2007, Sarauw 2007, Turek 2014, 2015, 2017, Vandkilde 2006) and commensality rituals (Garrido Pena et al. 2011). The ideological dimension of the Bell Beaker phenomenon (Strahm 1998) seems easier to perceive. However, it is not unique to Bell Beaker, but belongs more broadly to the “beaker cultures” of east origin.

Fig. 7. The three cultural times of Europe during the 3rd Millennium BCE (General Beaker map after Heyd 2013 modified, CAD O. Lemerrier).



13— Thus, the Bell Beaker phenomenon, with Maritime beakers and a specific set of weapons and ornaments, could result from the combination of an ideology of easter origin linked to status (warrior) and social practices (banquet) which formed a region of advanced civilization in the western Iberian Peninsula (Fig. 7). Among a variety of adaptations or reactions, the Bell Beaker phenomenon would correspond to the adoption of certain elements of an ideology of distant origin by certain groups or individuals. These elements, largely integrated thereafter, lead to a profound transformation of material cultures and practices of cultural groups, culminating in the appearance of a kind of Bell Beaker civilization of continental scale. The modes of diffusion of these ideas and practices seem today more varied both in space and in time than originally expected (objects, ideas, individuals, even whole groups). It seems vain to want to comprehend all the Bell Beakers manifestations in a single theory.

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