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The Bell Beaker Phenomenon in the Southern Upper Rhine Valley. A Presentation of Old and New Excavated Graves of the South Baden Group in Germany

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Abstract: The southern Upper Rhine Valley forms the most westerly part of the Bell Beaker East Group and is archaeologically particularly significant due to its border to the West Group. By analysing old and new excavated graves in the South Baden region of Germany, a classification of the remains can be presented. Despite the special location and many possible reference points to other Bell Beaker areas, the southern Upper Rhine Valley seems isolated from foreign influences from the middle Bell Beaker phase onwards (after Heyd 2000) also within the Eastern Group.

The archaeological and anthropological examination of the graves also emphasises how important the combination of both disciplines is. The South Baden sample provides valuable insights into the people of the Bell Beaker phenomenon and their living conditions. It is shown that the grave goods and the bipolar gender-differentiated burial habit give clues to the gender role of the buried, but this does not necessarily coincide with the sex of the deceased. This study supports findings (e.g., Metzler 2005) that suggest Bell Beaker societal flexibility concerning the individual ingestion of gender and that biological women and men could take on both roles in different variations.

Keywords: Archaeology and Biological Anthropology, Bell Beaker East Group, South Baden Group, Isolation, Gender Roles

1. Introduction

The Bell Beaker East Group extended within Central Europe from present-day Poland and Hungary to the westernmost part, which is called the Southern German Group (Schmid 1995: 84). This includes the southern Upper Rhine Valley with parts of southwest Germany, Switzerland and Alsace (Heyd 2004: 181).

The entire area was characterised by almost uniform burial rules, which are shown by individual body burials in single grave pits (Müller 2005a: 36-37). Distinctive is the bipolar gender-differentiated orientation and crouched position. Female individuals were usually buried S-N aligned lying on the right side of the body, whereas male individuals were laid down on the left along the N-S axis. Both genders therefore look to the east. In addition to the typical bell beaker and the characteristic complementary ceramics, special grave goods were added depending on the gender (e.g., Heyd 2007: 332). The typical ceramic decoration style is the metope decoration, which became characteristic for the entire Eastern Group from the younger Bell Beaker phase B1 onwards (Heyd 2000a: 312).

The study area of this article is located in the southern Upper Rhine Valley and marks a geographically limited area between the Black Forest in the east, the Vosges in the west and the Basel Rhine knee in the south. Northerly, the area is limited by an absence of finds and features to the northern Upper Rhine Valley

(Sangmeister 1966: 104; Pape 1978b: 25). The reason therefore was probably the appearance of the Corded Ware Culture on the French side north of Strasbourg (Preuß 1998: card 9; Hald and Strahm 2008: 14). On the German side, this may be explained by a high risk of floods (Sangmeister 1966: 104; 1971: 32; Pape 1978b: 25; Bodenübersichtskarte Baden-Württemberg, 2019; Party, Muller and Sauter 2012: 10, fig. 5). In addition, the Bell Beaker material of the northern Upper Rhine Valley is more closely related to the central German complex (Sangmeister 1966: 93). Since the south is strictly based on the southern German Bell Beaker phenomenon (Sangmeister 1966: 102; Hey 2000a: 345), a limitation at this point is also supported by the characteristics of the archaeological material.

Detailed research on the area's Bell Beaker complex began at the end of the 19th century. At this time, the first Bell Beaker graves were discovered in this region. Various researchers then classified the material historically and chronologically (Schmid 1995: 84). Predecessors for the currently accepted chronological structure of the Upper Rhine area were Kraft (1941-1947: 127-137), Sangmeister (1966: 81-184; 1974; 1976), Gallay (1970), Bill (1976) and Pape (1978a). In 2000 Heyd published a relative chronology for the Danube area in southern Germany, which shows generally strong similarities to the southern Upper Rhine Valley (Heyd 1998: 87; 2000a, 2000b) and forms the basis for the typological and chronological classification of the finds and features discussed in this article.

An important figure in the research of the area was Edward Sangmeister. He pointed out that the southern Upper Rhine Valley was a regional part of the Eastern Group (Sangmeister 1951; 1964) which was mainly related to the Danube region in southern Germany (Kraft 1941-1947: 129; Sangmeister 1966: 81; Heyd 1998: 89). He also discovered that the southern Upper Rhine Valley compared to other regions hardly showed any influences from other areas and seemed to be isolated (Sangmeister 1966: 102). Since then, new sites have been discovered, and the assumptions of Sangmeister will be reviewed again as a main part of this article.

The Bell Beaker complex of the southern Upper Rhine Valley currently consists of 106 single finds, burials and

settlement complexes from 39 sites. Figure 1 shows the find distribution, with supplementary information available online through the University of Geneva's Archive Ouverte (<https://archive-ouverte.unige.ch/unige:156835>).

With 73% (77/ 106), burials are the main category of Bell Beaker features known from this area. Thereof, 20 graves are seemingly isolated while 13 grave groups with two to eleven burials have been documented so far. These contain a total of 77 individuals of which, as expected, only 3% (2/ 77 burials) were cremations.

The single finds represent around 20% of the total corpus (22/ 106). 86% of them are ceramic vessels or

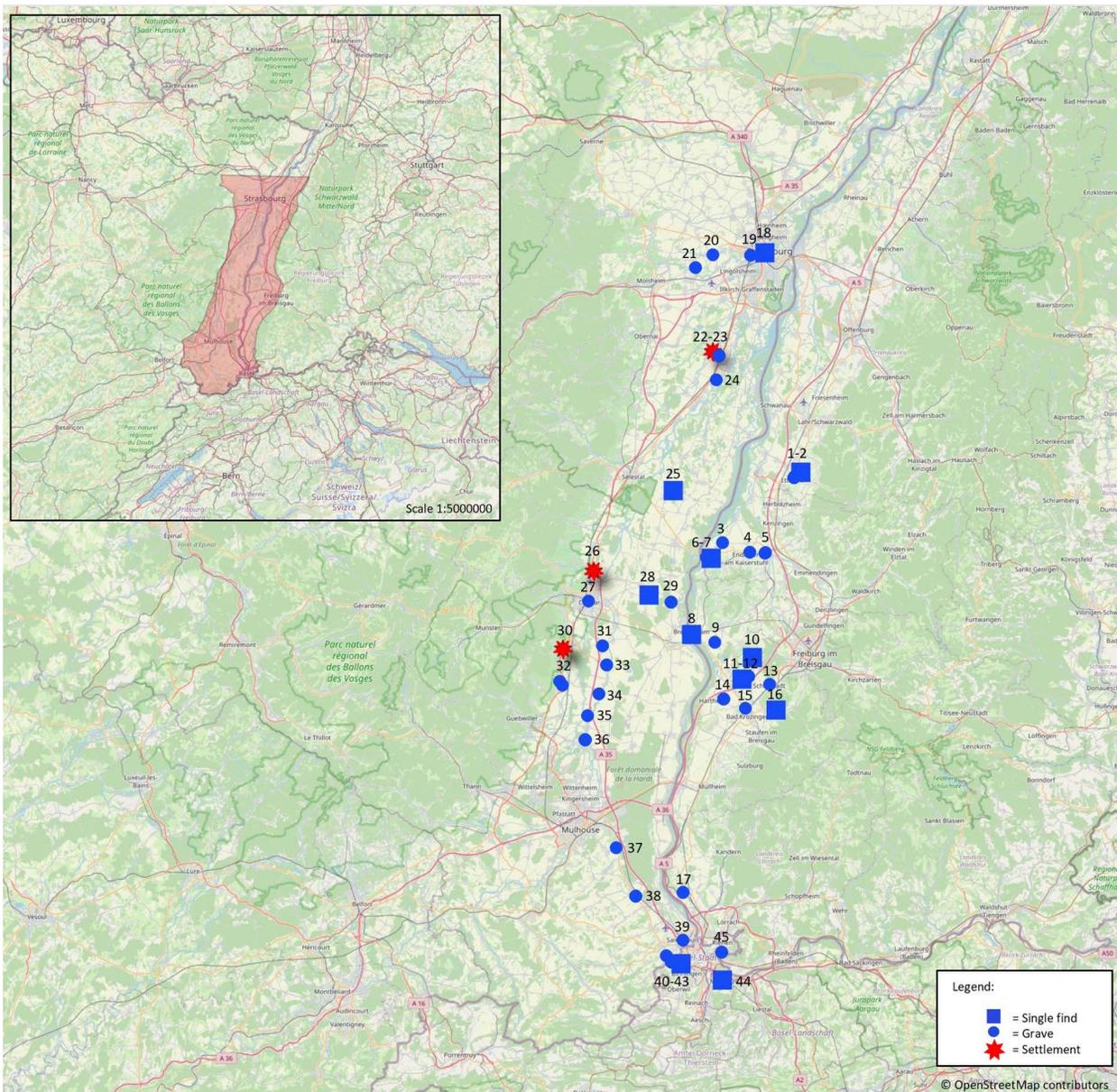


Figure 1: The southern Upper Rhine Valley with the Bell Beaker feature and find distribution numbered by site (scale 1:1500000, north-oriented). For more information, see the Supplementary Information available online at the University of Geneva's Archive Ouverte (<https://archive-ouverte.unige.ch/unige:156835>).

fragments of such (19 of 22 single finds). Wristguards can be documented in three cases.

The indication for settlements in the southern Upper Rhine Valley is less than 3%, because only three Bell Beaker settlements are known in Alsace (Erstein (no. 22), Hattstatt (no. 30), and Houssen (no. 26)).

Overall, the sources in the southern Upper Rhine Valley fit into the general pattern of the Bell Beaker period (Heyd 2007: 332). Out of the just summarised overall material, this article focuses on the archaeological and osteological analysis of the death ritual of the South Baden Group. This refers to the graves on the eastern side of the Rhine, which in turn form a group themselves. Figure 1 shows the South Baden Group's find distribution with the numbers 1 to 17.

2. Archaeological Features

The South Baden Group currently comprises 29 buried individuals in 27 graves. These are analysed here with a focus on burial type, burial ritual, grave shape and regularities in added grave goods (Eggert 2012: 55-78).

Most of the South Baden individuals were buried in grave groups while only 22, 2 % (6/ 27) were isolated. Here it is important to note that many of the grave complexes are located in today's settlement areas and could only be discovered in limited areas due to construction work or test trenches. The surroundings are often built over or difficult to access archaeologically for other reasons.

Overall, inhumations, following the typical Bell Beaker tradition (Müller 2005a: 36-37), are by far the most common. For the South Baden Group, only one cremation from Bad Krozingen (no. 15) can be noted. Why this individual was not buried in the usual way is still unclear. Since this type of burial occurs mainly in the eastern areas of the Bell Beaker phenomenon, an influence e.g. from the Csepel Group (Hungary) (Kalicz-Schreiber 1976; Heyd 2007: 332) could be assumed. It should be noted, however, that the individual from Bad Krozingen was buried with two decorated Bell Beakers, an undecorated beaker, a cup and a sickle insert. With such a comprehensive grave inventory, which culturally fits perfectly into southern Germany, the deceased belongs to the particularly rich equipped individuals in the South Baden region. Possibly this was a person of higher social status or a migrant who had used the death ritual to separate themselves from their surroundings.

The burials in South Baden exclusively took place in flat graves. The grave pits were mainly created in a rectangular shape with rounded corners. Only three graves of buried males appeared in a clear rectangular shape. Rounded pits only appear in two cases and

square shape only occurs in one female burial. The expected grave size is 145.0 cm by 102.4 cm.

Three graves stood out from the group because of their special burial structures. This includes a double grave from Efringen-Kirchen (no. 17), where one woman was buried atop of another. In the rest of the southern Upper Rhine Valley only one other double grave was found, located in Achenheim (no. 20).

Another exceptional burial variation was excavated in Riegel, Grasäcker (no. 5) in 1940 when a cable trench was built (Kraft 1941-1947: 131). Later, several circular ditches could be discovered by taking aerial photographs of the same area. The burial mentioned above was positioned in the centre of one of these ditches. Therefore, this can be interpreted as a Bell Beaker necropolis consisting of at least seven graves with surrounding circular ditches (Heyd 2000b: 129). Until now, this is the only case in the whole southern Upper Rhine Valley (see Supplementary Information). In addition, there is a burial in Riegel, Breite I (no. 5) with a rectangular grave pit surrounded by a 10 cm to 30 cm wide darkly discoloured border. This could be caused by an additional wooden cladding or burial chamber (Schlenker and Stöckl 1989: 77-78). This particular kind of grave building can be found two more times in the southern Upper Rhine Valley. These two male burials from Sierentz (no. 39) even provide clear indications of wooden box constructions (Verгдаud 2014: 173-210).

The individuals who stand out due to their grave construction can be described as rather richly equipped in comparison to the other flat graves. Only one of the two female individuals from Efringen-Kirchen (no. 17) was buried without any grave goods. Due to the lack of anthropological data, nothing can be said about the age distribution. The construction of a double grave pit cannot be compared to circular ditches or the construction of burial chambers in terms of complexity. Therefore, it can be assumed that the extraordinarily elaborate graves in South Baden were mainly built for male individuals due to their higher social status.

The typical funeral ritual of the Eastern Group can also clearly be recognised within the South Baden Group (Müller 2005a: 36-37; Heyd 2007: 332). The grave and corpse orientation was carried out in accordance with the rules of the preferred southwest-northeast axis. The positioning of the deceased facing east was also strictly followed. Even though the arms were usually found in a parallel position, the crossed arms variation could be documented in two cases. The legs were found in a typically crouched position, although in different flexion degrees as depicted in Figure 2.

In general, there were burials without any grave goods, but also individuals who had been equipped with up to

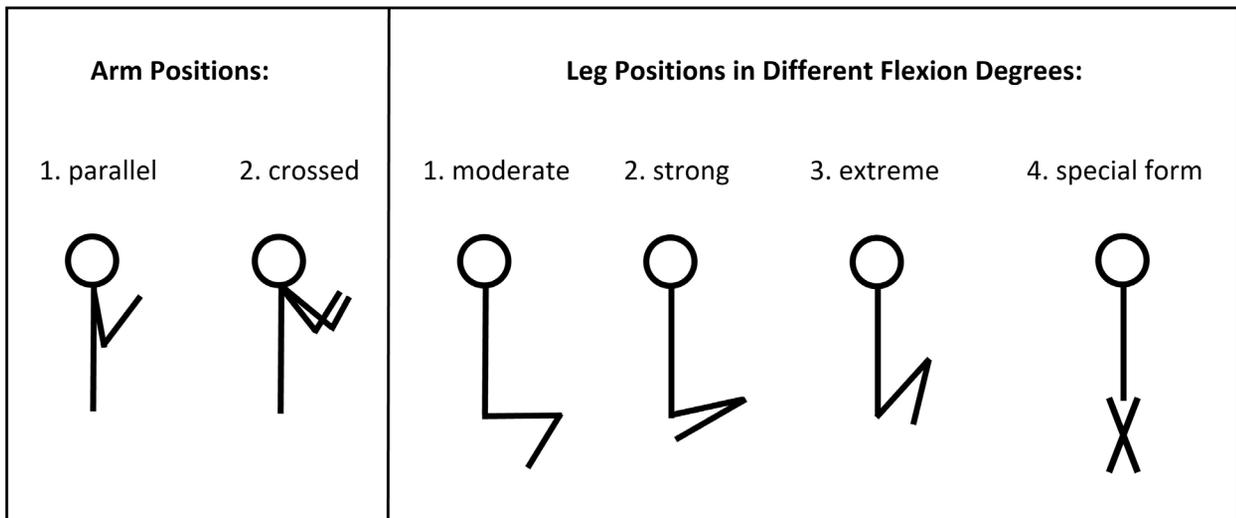


Figure 2: Arm and leg positions of the Bell Beaker South Baden Group.

six objects each. However, the latter was rare. In total an average of two objects were found in the graves. In general, male individuals ($\bar{\emptyset} = 3.5$ grave goods) received more grave goods than females ($\bar{\emptyset} = 2$ objects). In reference to age, adults ($\bar{\emptyset} = 4$ grave goods) were better equipped than children and adolescents ($\bar{\emptyset} = 2$ objects).

Most grave goods are ceramics. Stone and bone objects, which also include meat offerings (Bökönyi 1978; Peške 1985; Heyd 2007: 339), are rather rare and only in two cases metal awls were found. Regarding the placement of the artefacts, it could be determined that pottery is mainly laid down in the foot area or behind the heads, but they can occur anywhere in the grave. Bone objects are more commonly placed close to the torso. On the other hand, metal and stone artefacts can only be described as occurring irregularly due to their low appearance. In general, the areas in front of the body were mostly used for storing grave goods while no objects were placed directly in front of the face.

Nevertheless, the South Baden Group also shows some atypical burials, for example by discrepancies between the osteologically determined sex and the presumed gender as evidenced by orientation and position of the individuals (see Supplementary Information).

For example, the Munzinger grave group (no. 12), which differs significantly from the norm due to its east-west orientation, is striking. Further information about the archaeological feature was not documented during the excavation in 1935. However, the grave goods can be assigned to the Bell Beaker complex based on their shape (Kraft 1941-1947: 130, pl. 43a; Sangmeister 1964, pl. 4; Heyd 2000b: 129). This could be a combination of Bell Beaker and Corded Ware burial traditions (Turek 2001: 1; Heyd 2007: 362) due to cultural exchange or other relationships between the two groups (Müller

2001: 592). One of the Munzinger skeletons (no. 12, grave 1) was also discovered in a prone position with crossed legs. However, due to the poor excavation documentation it remains questionable whether this was the original position of the corpse. Furthermore, there is one South Baden individual from Ettenheim (no. 1, grave 3) who was buried in contradictory orientation and crouched position (SW-NE, left side) without any gender-indicating grave goods. Therefore, this individual can be assigned to both or neither gender role. The osteological sex determination gave no result due to poor preservation. Two other inconclusively buried individuals are known from the southern Upper Rhine Valley. These include the skeletons from Erstein (no. 23, grave 104) and Sierentz (no. 39, grave 137). In the Bell Beaker East Group, such cases also occur in other areas. Much more often there are burials in which it is not the burial ritual *per se*, but rather sex and gender that is contradictory to the supposing burial rules (Müller 2005b: 45; Müller 2001: 597). These include the individual from Ettenheim (no. 1, grave 1, socially female, biologically male) and the skeleton from Gündlingen (no. 9, socially male, biologically female), as well as two more cases from the entire southern Upper Rhine Valley (Sainte-Croix-en-Plaine (no. 31), Allschwil (no. 42, grave 1)).

In addition, the overview reveals a man from Ettenheim (no. 1, grave 1) buried with a bone toggle button and further buttons, which are usually interpreted as typically female grave goods, as well as a woman from Efringen-Kirchen (no. 17, grave 1), who was buried with an arrowhead which is considered a typically male object (Harrison and Heyd 2007: 188, fig. 41). Further such cases are known from the entire Bell Beaker East Group (Müller 1998: 123-124; Heyd 1998: 91; Müller 2005a: 37; Müller 2005b: 45).

These examples show the importance of an exact and critical osteological examination of the skeletal material for comprehensive archaeological evaluation. The individuals mentioned above could provide evidence that the Bell Beaker society was more flexible regarding the individual gender roles and that women and men could even take on both roles (Metzler 2005: 63). However, regarding the social position of gender, the South Baden group shows a rather patriarchal orientation according to the higher number of grave goods and the more elaborate grave constructions for men.

3. Archaeological Material

The archaeological material of the South Baden Group is typologically and chronologically analysed according to Heyd (2000a).

Regarding the range of ceramic shapes, the South Baden Group fits well into the Bell Beaker East Group of southern Germany. The cups fit in shape group 3 defined by Heyd, whereas the bowls are mainly assigned to shape type 1. The undecorated cups were mostly squat, the decorated ones on the other hand show various shapes. The only exception is the jug from Riegel, Grasäcker (no. 5, Fig. 6) because the vessel shape shows a direct relationship to ceramics from Bohemia and Moravia (Heyd 2000a: 351). The decoration styles of the ceramics shown in Figure 3 also clearly fit into the Bell Beaker Group of southern Germany. A total of eight patterns can be classified. Mainly, in South Baden, as well as in the entire southern Upper Rhine Valley, there are line decorations ranging from horizontal or oblique to vertical, which are attached to continuous horizontal bands in a constant pattern. Style number 2, the horizontal lines, can also be impressed by cords and show a possible Corded Ware influence (Sangmeister 1966: 100). Overall, the South Baden Group shows a uniform and reduced decoration range compared to southern Germany and the rest of the Bell Beaker East Group (e.g., Heyd 2000b, pl. 35-38). Considering the entire southern Upper Rhine Valley, the Alsace offers five more decoration styles, which are not currently found in the German or Swiss parts. However, the French styles represent mostly variations of the already known ones.

Furthermore, the typical Eastern Group metope decoration is completely missing in the whole study area (Sangmeister 1966: 93; Heyd 2000a: 346). This is noteworthy, since the adjacent areas such as the northern Upper Rhine Valley or the otherwise always comparable Danube area of southern Germany have an extensive metope repertoire (Heyd 1998: 90).

In the 29 South Baden graves, only eight stone artefacts can be documented. Moreover, only ten bone objects

occur in just two different variants (one toggle button, nine v-perforated buttons). In addition, two metal awls were discovered. One greenish discoloration on a skull can be added here, which could indicate a further metal awl, due to its shape (Heyd 1998: 92; Otto *et al.* 2003: 71).

The non-ceramic objects, in contrast to the ceramics, show traces of use and were probably used secondarily as burial objects. Regarding their range of shapes, they are clearly oriented towards the Bell Beaker East Group but are comparatively less varied. Influences from the Bell Beaker West Group or other areas of the Eastern Group can almost not be recognised. Only for the toggle button, the nearest and best comparisons can be found in the northern Upper Rhine Valley (Sangmeister 1984: 79).

Overall, the origin of the raw materials can be located in the South Baden region. The stone artefacts consist of locally occurring Jurassic chert (Hahn 1991: 11) and red sandstone (Bundsandsteinvorkommen Baden-Württemberg 2019). According to many researchers the ceramics mostly are made out of local clays (Rehman, Robinson and Shennan 1992; Convertini 2001: 550). However, this could not be verified in the presented study. The nearby copper deposits Hardt and Schauinsland in Baden-Württemberg (Sangmeister 1971: 32) also support the argument of using local resources.

The location of the study area as a direct neighbour of the Bell Beaker West Group should receive special attention at this point. Until now western influences, like typically tanged arrowheads (Othenin-Girard 1998: 60) or other complementary ceramic shapes (Strahm 2014) are absent in the archaeological material of the South Baden Group at this point. Whether the absence of the metope decoration can be interpreted as a relation to the West is still questionable (Sangmeister 1966: 91). Even in parts of the Western Group, metopes are visible and interpreted as a clear eastern influence (e.g., Rhodano Provençal Group in France (Lemerrier 2012: 133, fig. 13.7). However, it has never been documented in the southern Upper Rhine Valley which is considered the western part of the Eastern Group. This observation is quite striking and will be studied further later on.

4. Anthropological Material

From a total of 29 skeletons found in South Baden, the osteological information of only twelve individuals can be included in the study. Just one of these skeletons was previously age and sex determined (Gündlingen (no. 9)). For this article it was only possible to systematically study the skeletons from more recent excavations (n = 11) according to the procedure of Harbeck (2014) by using standard methods for age determination (Nemeskéri, Harsány and Acsádi 1960; Brothwell 1963;

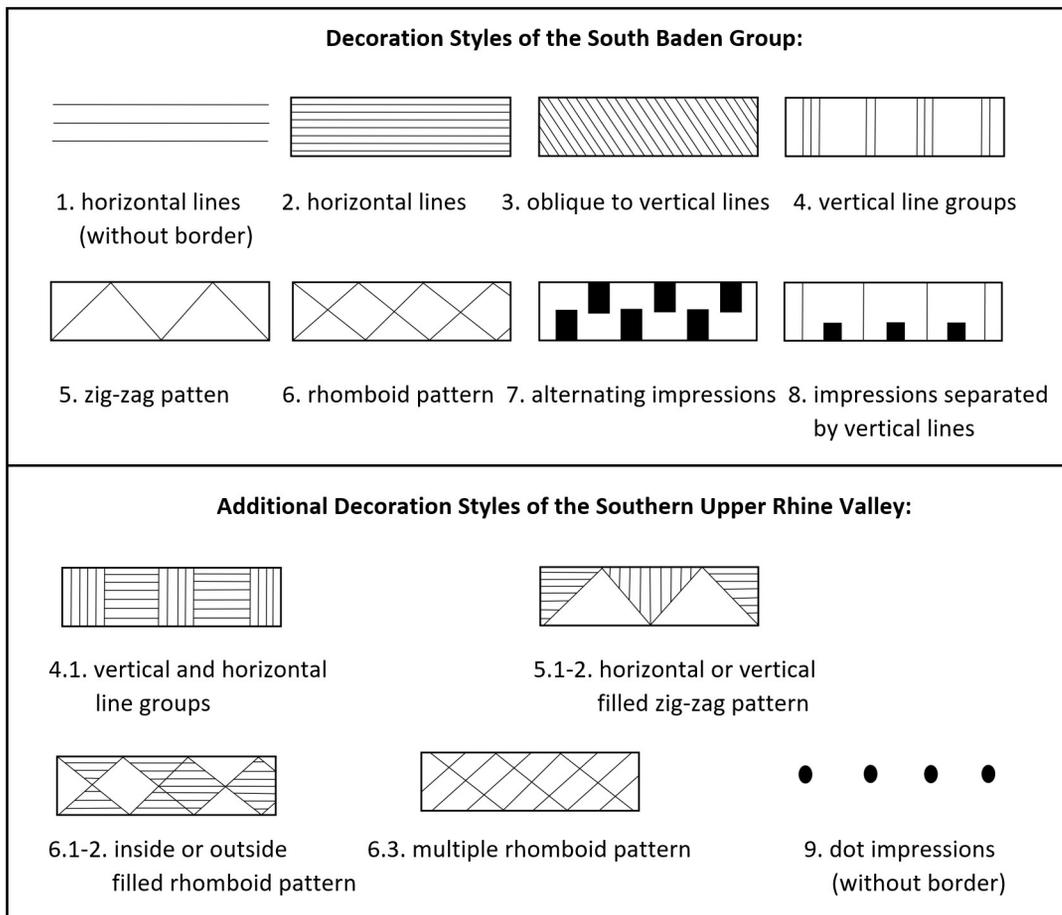


Figure 3: Decoration styles for ceramics of the South Baden Group and the whole southern Upper Rhine Valley.

Ubelaker 1978; Lovejoy 1985; Isçan and Loth 1986; Wahl 1988; Herrmann *et al.* 1990; Mann *et al.* 1991; Buckberry and Chamberlain 2002; Scheuer, Black and Schaefer 2010; Calce 2012), sex determination (Herrmann *et al.* 1990; Schutkowski 1990; Grupe, Harbeck and McGlynn 2015) and body height estimation (Pearson 1899; Ruff 2007; Ruff *et al.* 2012). Therefore, the examined sample represents 41% of the South Baden Group. Although this limits the significance of the results achieved in this study, the outcome is nonetheless interesting when compared with the Mittel-Elbe-Saale series of Bell Beaker skeletons from central Germany (Nicklisch 2017: 76-80).

The general conservation status of the skeletal material is considered as astonishingly good, with most individuals almost fully represented and with a very low grade of fragmentation. Only one skeleton from Ettenheim (no. 1, grave 2) and the highly fragmented cremation from Bad Krozingen (no. 15) must be described as poorly preserved (Grupe, Harbeck and McGlynn 2015: 253).

The age distribution ($n = 12$), which is 50% children and adolescents and 50% adults, conforms to the expectation of palaeodemographic studies, which show that the proportion of children and adolescents in prehistory was around 50% (Häusler 1966; Neustupný 1983). Most of the individuals died within an age range of 20-40 years. The youngest ones were buried at an age between two and four while only one female individual died at a more mature age ranging between 40-60 years. Nicklisch's comparison series confirms the results (Nicklisch 2017: 76-77).

For the adult individuals ($n = 6$) the sex distribution shows approximately 50% males, 33% females and 17% indeterminate. For the children and adolescents ($n = 6$) 33% females, males and indeterminate can be documented.

Male adults from the South Baden Group are estimated to have an average body height of $1.66 \text{ m} \pm 3 \text{ cm}$ in contrast to females with $1.54 \text{ m} \pm 4 \text{ cm}$. Both values correspond with the calculated heights from the Mittel-

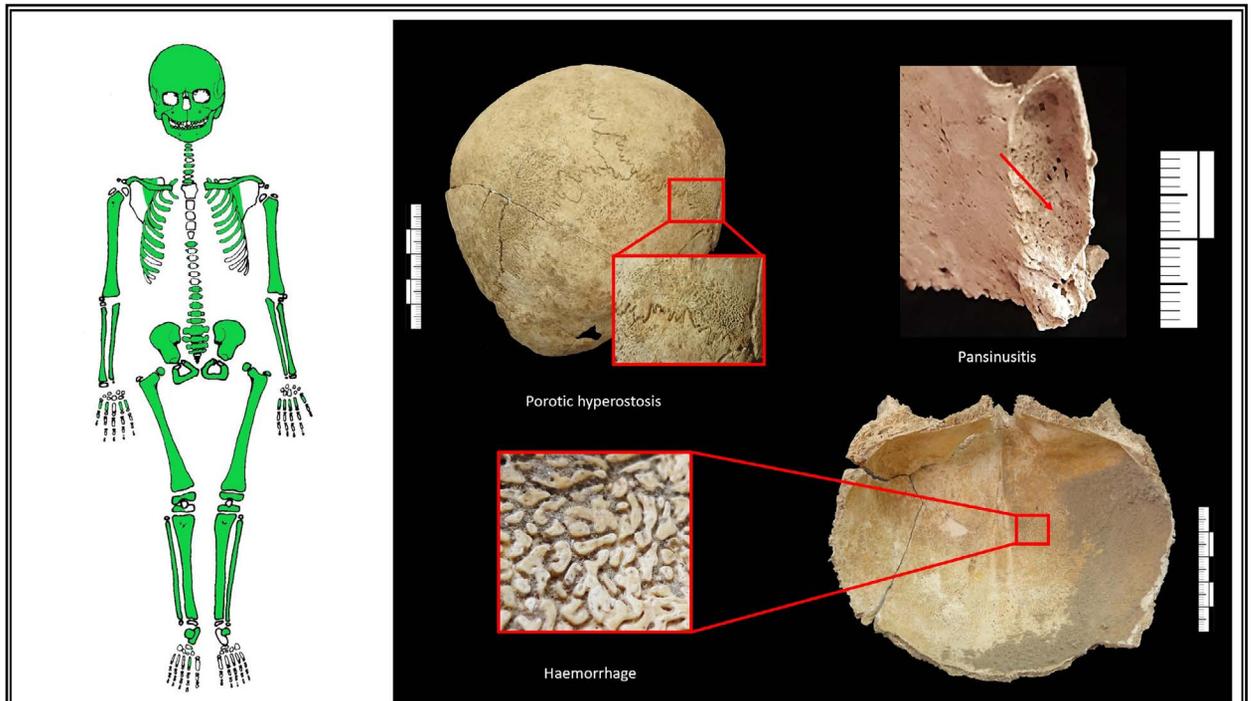


Figure 4: Pathologies of the seven-year-old female from Endingen (Supplementary Information no. 4).

Elbe-Saale area (Nicklisch 2017: 78-79) which were conducted using the same methods as in the present study.

The health status of the sample can be evaluated by examining occurring pathologies on teeth and bones (Nicklisch 2017: 22-23). Mostly inflammatory bone reactions like periostitis (no. 5, Breite I and III) or spondylodiscitis (no. 5, grave 2), are indicators for physical overload such as tendopathy followed by exostosis (no. 1, grave 3), healed fractures e.g., of the tibia (no. 1, grave 3) and deficiency symptoms like anemia (no. 4) can be documented on the South Baden sample.

Overall, the individuals in South Baden show an increased stress level e.g. regarding the dental hypoplasia which are 100% for adults and 60 % for children and adolescents compared to Nicklisch's series with around 29% for adults and approximately 8% for subadults (Nicklisch 2017: 79-80).

One illustrative example of pathologies linked to health is the seven-year-old girl from Endingen (no. 4, also see Figure 4). The individual displays heavily thinned cortex of the long bones with enlarged marrow spaces, indicating characteristic symptoms of anemia (Grauer 2019: 514-519, fig. 14.25c). Corroborating this diagnosis, cribra orbitalia and porotic hyperostosis can be observed (Herrmann *et al.* 1990: 168-169; Grauer 2019: 514-519). Other porotic changes can be found on the entire

palatinum, pointing to a stomatitis or paradontitis as a possible reason for those issues. This can be supported by a tooth abscess that was found as well (Herrmann *et al.* 1990: 155-156; Grupe, Harbeck and McGlynn 2015: 311). In addition, newly built fine porotic bone deposits in the maxillary and paranasal sinuses as well as in the nasolacrimal ducts can be documented. This indicates an inflammation of the associated mucous and thus for a pansinusitis (Schultz 2003: 102-105). Overall, the morbid changes point to a chronic vitamin C deficiency, which probably caused scurvy (e.g., Schultz 2003: 105). Presumably, anemia and chronic vitamin C deficiency led to a weakened immune system, causing various inflammations in the mouth and nasal area. As a result of haemorrhage (Schultz 2003: 94, fig. 6.33) coarse ramified appositions can also be found on the inside of the skull calotte. These bleedings could also be the cause of death (Schultz 2003: 93).

5. Results and Discussion

All in all, the analysis of the archaeological features and material shows that the South Baden Group is strongly related to the Bell Beaker East Group of the Danube area in southern Germany. However, it is also shown that a comparatively reduced range of pottery shapes and decorations as well as a low artefact repertoire seems to be characteristic. Common and widespread types like bow-shaped bone pendants or various beads and button types are not documented. Objects made out of gold or amber are missing entirely.

A look at the entire southern Upper Rhine valley displays a similar picture. In Switzerland only five graves are known. These fit perfectly into the South Baden image. The French material, however, is slightly different: for example, a greater number and variation can be observed in the added stone and bone artefacts. In addition, a few beads made of amber could be discovered in the grave from Kolbsheim (no. 21). Nevertheless, no gold objects and only one metal bead could be found. Furthermore, the ceramic ornamentation styles are strongly oriented towards the South Baden patterns with a few additional variants. In total, the French material shows a little more variance in relation to the artefact and decoration repertoire, which is probably due to the higher find density of the sub-area (Figure 1). Nevertheless, even in this area no metope style decorations have been found so far. Overall, the whole study area fits well into the image of the South Baden Group.

It is questionable, whether the presented artefact and variation scarceness in South Baden is possibly due to a deposition filter. Conservation problems cannot be assumed in the study area. The skeletons as well as the inorganic and organic grave goods are in particularly good condition. The metals have also been preserved in the ground. A greenish, awl-shaped discoloration on one of the skeletons, where a metal object was not otherwise present, is the only indication for a lack of artefact preservation. However, other taphonomic processes should also be considered, such as geological sediment rearrangements or bioturbation (Schiffer 1987; Sommer 1991). A likely explanation could be a later grave robbery (Kümmel 2009). However, there is no such evidence. The skeletons were all discovered undisturbed and in correct anatomical articulation. Even a generally simpler burial tradition does not seem to be conclusive since the study area was culturally strongly oriented towards the southern German neighbouring area with additional influences from farther east. Especially from these more eastern regions, richly equipped burials, which differ significantly from the South Baden Group (e.g., Heyd 2007: 333; Hackelberg 1995: 29-40; Hecker 1995: 41-66), are known.

Overall, the Bell Beaker society in South Baden appears to have buried their people comparatively modestly. If one considers the Eastern Group as a whole, the study area lacks particularly rich equipped graves as well as valuable grave goods. The health status of the sample examined also indicates some overworked, stressed and malnourished individuals.

As a result, a rather impoverished society within the Bell Beaker East Group can be assumed for South Baden. The natural conditions of this area, which are mostly predestined for agriculture (Bodenübersichtskarte Baden-Württemberg 2019), cannot be considered as

a valid argument for this. One reason could be the possible separation of the group already argued by Sangmeister in 1966.

Finally, if the earlier results of Sangmeister and the insights gained from this work are considered in conjunction, the following scenario is possible (Figure 5):

1. The Bell Beaker phenomenon met the local Neolithic population of the South Baden area.
2. Afterwards, there was an exchange between the South Baden group influenced by the Bell Beaker and the Corded Ware culture in the discussed area. This resulted in the cord-decorated Bell Beaker ceramics (Figure 6), which date back to the early Bell Beaker period (A1 after Heyd 2000a: 391-392). This can be supported by the graves from Munzingen, which were oriented east-west according to the Corded Ware tradition and belong, indicated by their grave goods, to the Bell Beaker phases A1 to A2 (Heyd 2000b: 257, fig. 99).
3. Subsequently, an influence from the eastern part of the Bell Beaker East Group was exerted. Until now this is documented by the jug from Riegel (no. 5, A2 to B1 after Heyd 2000a: 351, fig. 8) and the cremation from Bad Krozingen (no. 15, A1 to B1 after Heyd 2000b: 257, fig. 99). The mentioned jug shows references to comparable objects from Bohemia as well as Moravia. The stated burial ritual probably derives from the Csepel Group located in today's Hungary.
4. Ever since the younger Bell Beaker phase (B1), the whole Eastern Group developed the metope decoration (Heyd 2000a: 312). However, this did not have an impact on the southern Upper Rhine Valley, although their culture was strictly orientated towards the Bell Beaker East Group. To miss such a comprehensive development, some kind of separation must have taken place beforehand. Also, according to the current state of research, the eastern and Corded Ware influences on the area must have ended by then. After that a possible isolation of the southern Upper Rhine valley from the rest of the Bell Beaker East Group took place.

This theory of separation is not only supported by the analysis of ceramic styles. Also, the rest of the archaeological material suggests that all contacts with other groups had been cut off at one point. Despite its location at the Rhine as an important transport and exchange axis (Schmid 1995: 85; Heyd 2004: 177) no further cultural influences from other areas can be detected from Heyd's younger Bell Beaker phase onwards. Although the group strictly maintains its

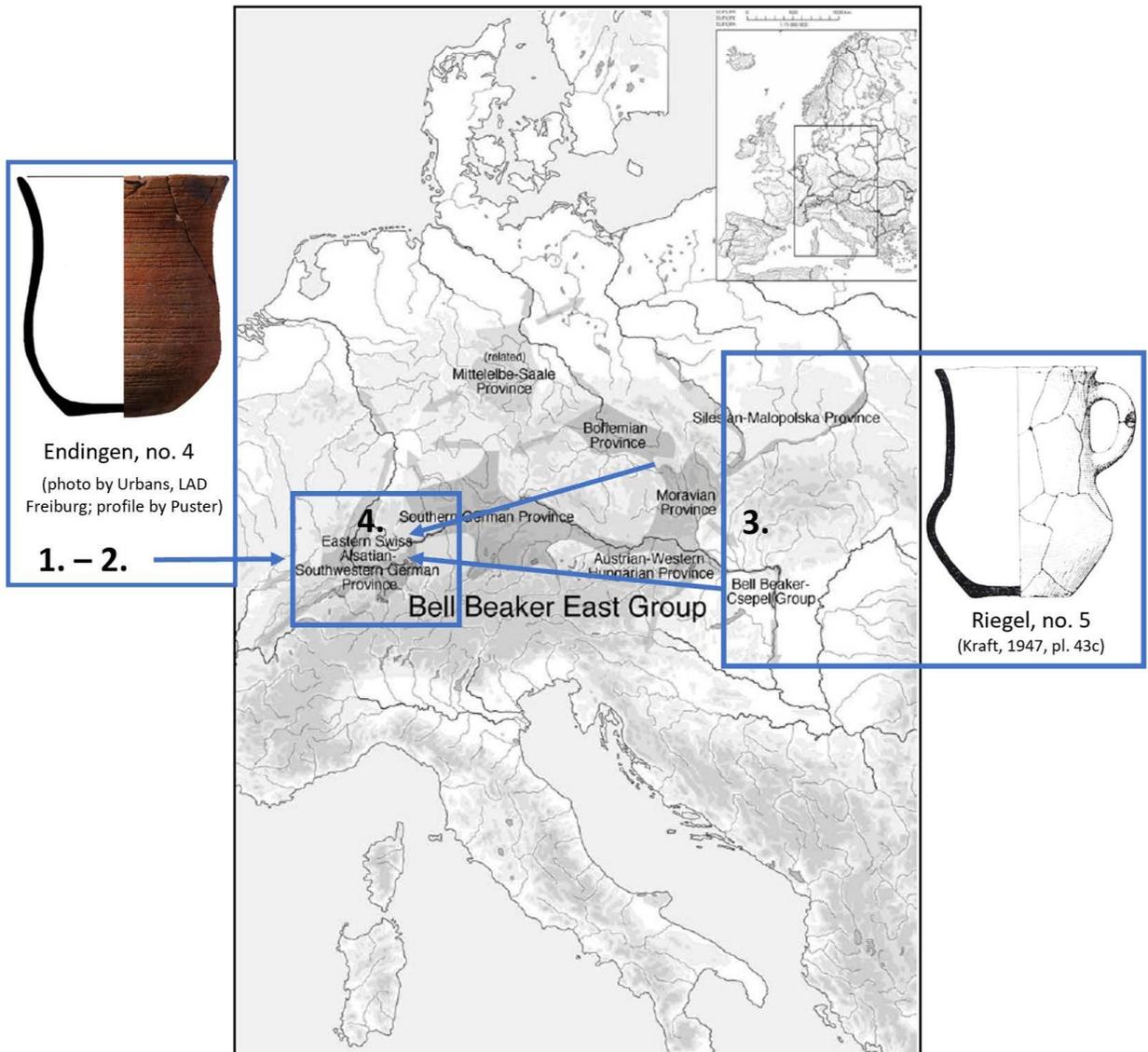


Figure 5: Hypothesized scenario for Bell Beaker influences and interactions in the southern Upper Rhine Valley (map after Heyd *et al.* 2004, modified).

East Group traditions it did not accept any further developments. The reason therefore could be the hindered connection to the Bell Beaker East Group through the adjacent and unpopulated Black Forest in the east. Perhaps maintaining the connection to each other had been too difficult over time so that the South Baden Group became isolated.

6. Outlook

A comprehensive publication is still in preparation but so far it can be said that future Bell Beaker research in South Baden would greatly benefit from further discoveries and excavations of the complex. These would be necessary to enlarge the current material basis to close the remaining feature and finding gaps in the geographic distribution (Figure 1), and also to

investigate, confirm or disprove the theory of isolation based on new findings.

Moreover, an excavation of the suspected necropolis of Riegel, Grasäcker (no. 5) would be particularly interesting because only one of the seven graves has been excavated and clearly assigned to the Bell Beaker phenomenon so far. Due to the exceptional construction of this amount of graves, the cemetery could be of greater importance for the entire South Baden Group.

Finally, it was noted that only the osteological information of 41% of the South Baden individuals could be included in this study, mostly because dedicated analyses are missing. This demonstrates the neglect of osteology and its underestimated value for answering archaeological questions in earlier times. A detailed

osteological analysis of the remaining skeletons is necessary to obtain a complete picture of the South Baden Group, especially regarding the burial ritual and the gender roles.

*Supplementary Information is available online at the University of Geneva's Archive Ouverte: (<https://archive-ouverte.unige.ch/unige:156835>)

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