

Mind the Gap: Bell Beaker Presence in Copper Age Campania, Southern Italy

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Abstract: The aim of this paper is to analyse the Bell Beaker evidence currently known for the Campania Region, South Italy, between old discoveries and new excavations in light of broader Bell Beaker trends in Italy and Europe. South Italy is particularly receptive of external influences during the Copper Age, either coming from the Balkans and Aegean or from the rest of Italy and Europe. Nevertheless, the Bell Beaker phenomenon is poorly attested, documented mainly as few and isolated fragments in different sites. This pattern strongly differs from the considerable evidence attested in North Italy and Central Italy. In the case of Tyrrhenian South Italy, and especially the Campania region, two main types of evidence are generally detected: fragments of actual Bell Beakers in different contexts both funerary and domestic (e.g., Paestum) or objects generally circulating in Bell Beaker environments such as metal and bone ornaments detected in different sites (e.g., Paestum and Acerra). The spot presence of Bell Beaker influences in Campania from one side confirms the large diffusion of this phenomenon also in peripheral areas, on the other suggests different degrees of permeability to external influences in the Copper Age communities across the Italian Peninsula.

Keywords: Copper Age; Campania; Italy; Bell Beaker; pottery; t-headed pins; disk-headed pins.

Introduction

The Bell Beaker presence in Italy is characterised by a diversity of phenomena and evidence that spread across the peninsula with different times and modes. In particular, in the Southern Tyrrhenian shore only few Bell Beaker specimens have been reported in literature, often coming from uncertain contexts or partly unpublished ones (Fugazzola Delpino and Pellegrini, 1998; Cocchi Genick, 2004; Giannitrapani, 2009; Pacciarelli, 2011). This sporadic presence, mainly inferred from ceramic fragments, is very different from the structured presence that progressively emerged in Central-North Italy (among others Nicolis, 1998; Leonini et al, 2008; Bernabò Brea and Mazziere, 2013) where specific groups can be distinguished (Vander Linden, 2006, fig. 116; Lemercier, 2018, p. 83). Therefore, Southern Italy, except for Sicily which has its own development (Giannitrapani, 2009), has always been regarded as a periphery of the Bell Beaker influence (Vander Linden, 2006, p. 102; Heyd, 2013; Lemercier, 2018).

This framework certainly leads to several questions about the pattern of Bell Beaker diffusion and at the same time about the network of interaction of Southern Italian communities during the 3rd millennium BC and their permeability to foreign influences. In recent years, the gap in this area is progressively being filled, especially thanks to preventive archaeological excavations, such as in the area of Rome (Anzidei and Carboni, 2020) and in the Campana plain (Nava et al,

2007; Di Vito et al, 2021), which hint to different and more complex interactions with the Bell Beaker world. The aim of this paper is to further investigate the evidence yielded from the Campania Region, between old discoveries and new excavations in order to examine the connections with Bell Beaker routes and environments.

The Bell Beaker in Campania

In the literature two main evidence are classically reported for Campania: fragments of Bell Beakers have been detected in two sites located in the southern part of the region, in the area of the Sele River Plain, south of Salerno. The first Bell Beaker specimen comes from the site of Paestum in the southern part of the plain (Figure 1.1), where the later Greek colony flourished. In this site, a fragment of a Bell Beaker has been reported from the Tomb 1 of the Laterza burial ground near the temple traditionally known as Temple of Cerere (currently reinterpreted as the Northern Sanctuary, Arcuri and Livadie, 1988; Albore Livadie et al, 2011; Aurino, 2019). This context is located about 2 km away from the more renowned Gaudio burial ground, and it is quite close to another Laterza burial site and living area beneath the greek Agorà (Aurino et al, 2017). The site near the Temple of Cerere was excavated in the 1960s (Voza, 1962) and later reanalysed (Arcuri and Livadie, 1988; Albore Livadie et al, 2011; Aurino and De Falco, 2021). The exploration revealed a 200 sq. m. triangular depression in the travertine bedrock, which yielded a considerable Neolithic phase (Serra d'Alto and Diana

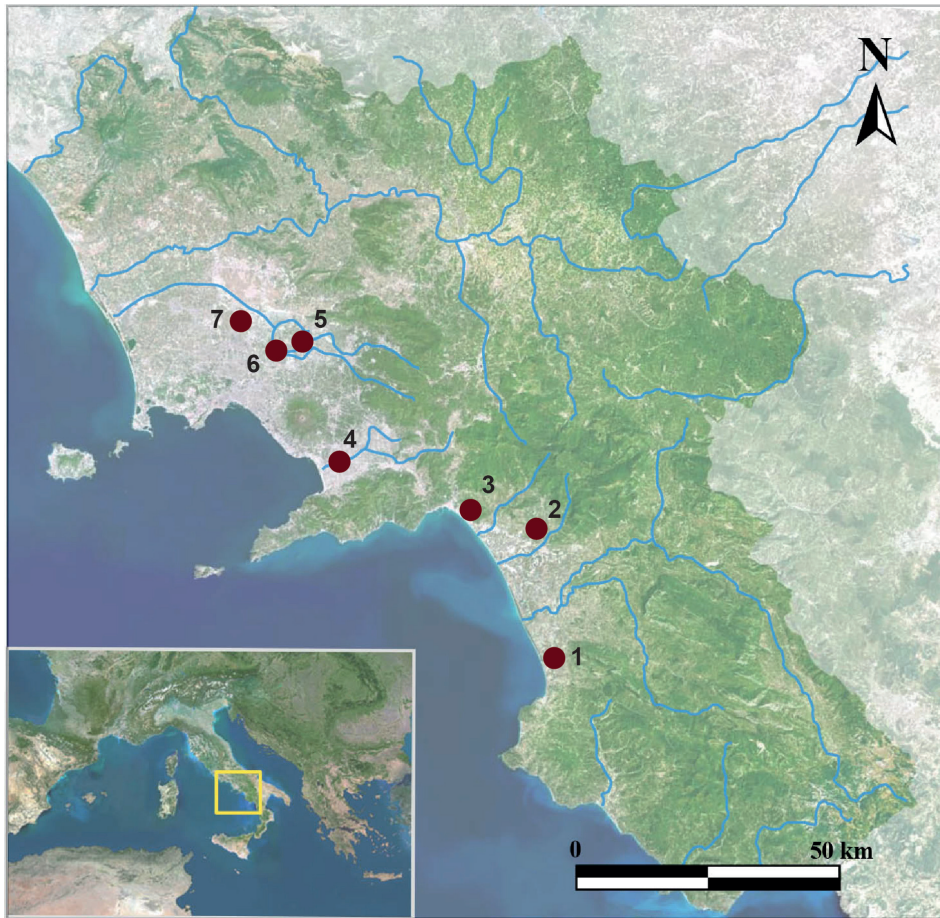


Figure 1: Map of Campania Region with the sites cited in the text: 1. Paestum; 2. Olevano sul Tusciano; 3. Oliva Torricella; 4. Pompei, S. Abbondio; 5. Gaudello, Acerra; 6. Afragola; 7. Gricignano d'Aversa.

cultures, Voza, 1962; Aurino et al, 2017), followed by the onset of five burials attributed to the Laterza culture. The burials were partly located in natural niches of the bedrock and partly in the central area of the depression. They show different structures: in two cases burials in rocky niches (Tomb 4 and 5), one closed with stone slabs and hosting a collective burial of about ten individuals (Tomb 4), in the other cases (possibly tomb 1, 2 and 3) graves with single or double inhumations.

The old excavation did not allow for a proper reconstruction of the tombs plans and stratigraphy and in some cases the provenance of the materials is not clear. According to the reconstruction by Albore Livadie et al (2011, p. 330), Tomb 1 probably hosted two individuals crouching in opposite position and in anatomic connection. The burial yielded mainly materials fully ascribable to the Laterza culture, such as the typical decorated bowls and patera, one flint dagger and three arrowheads. The Bell Beaker fragment (Figure 2A) is very small but with a clear impressed decoration below the rim, made by impressed comb, as suggested by the type and shape of the impressions (Lipowicz et

al, 2008; Forte, 2020, pp. 57-68). The type of decoration and motive is typical of the International style widely attested in Central-North Italy and the Mediterranean (Leonini and Sarti, 2008a, p. 90 fig. 3.2, p. 91 fig. 4.2-3; Fugazzola Delpino and Pellegrini, 1998, fig. 49.30). The small dimension of the fragment, unfortunately, did not allow for a more accurate typological and technological characterisation.

The second Bell Beaker known in literature for Campania comes from the Cave of St. Michele at Olevano sul Tusciano (Figure 1.2), located in the Picentini mountains in the northern part of the Sele Plain, in a river valley that serves as a natural route towards the Adriatic shore. This is a natural cave excavated during subsequent campaigns and frequented from Prehistory to the Middle Age. Its prehistoric sequence spans from the Neolithic to the Middle Bronze Age (Gastaldi 1974; Capodanno and Salerno 1992). During a survey of the inner cave in the 1970s over seventy fragments of a Bell Beaker were collected (Gastaldi 1974). These fragments were recently re-analysed and recorded. They probably belong to a single very fragmented beaker, only partially

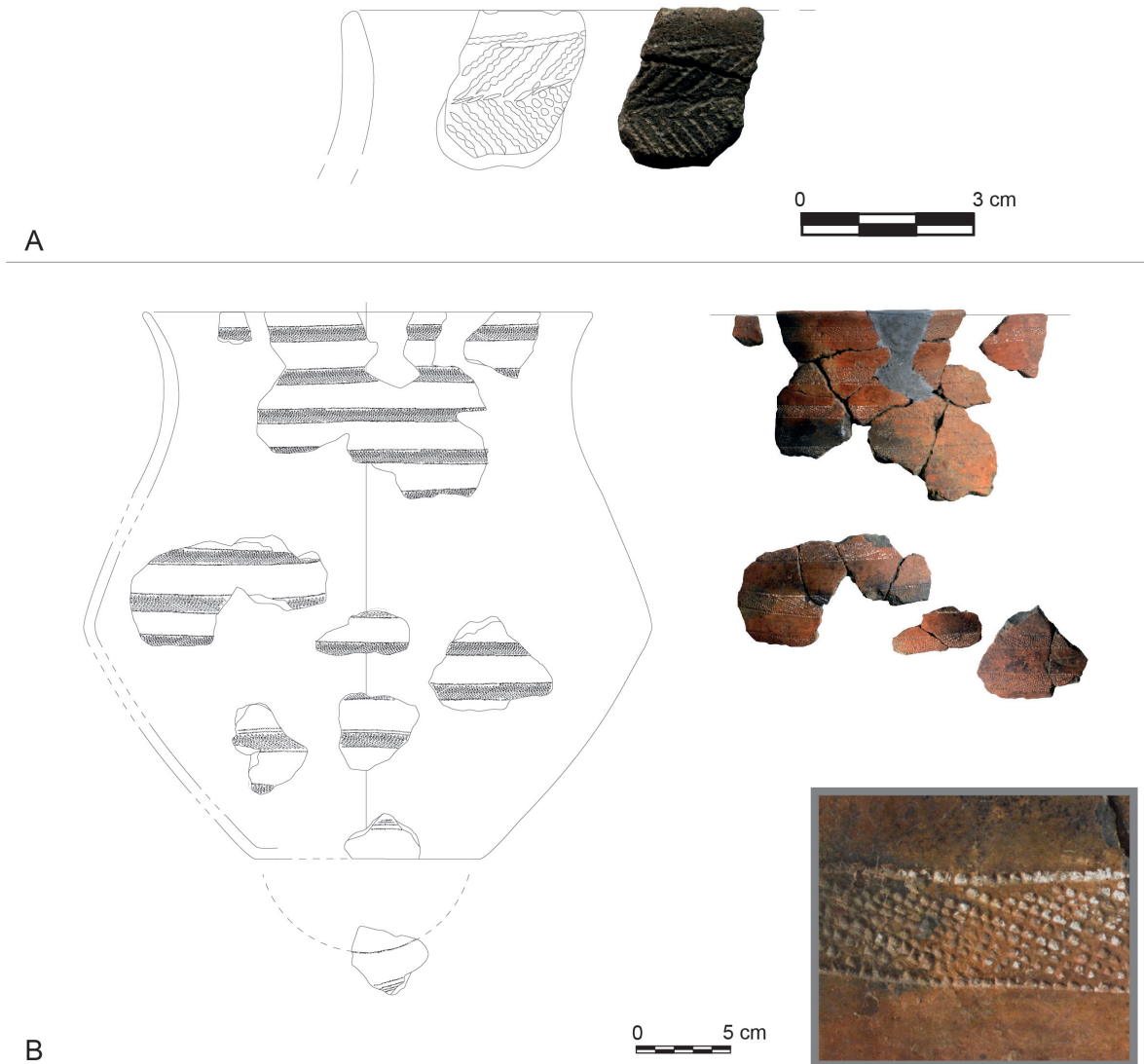


Figure 2: Bell Beaker fragments from the sites of Paestum (A) and Olevano sul Tusciano (B).

reconstructed (Figure 2B). The beaker is decorated in the Maritime style, the surfaces are reddish and thoroughly burnished, and the decoration is made by impression of a fine comb or indented tool filled with white paste still partially preserved. Its shape, decoration, and technique can be compared to several examples of Bell Beakers from Central-North Italy (e.g., in the site of Fontanile di Raim, Fugazzola Delpino and Pellegrini, 1998), and also further south in Calabria from Passo Murato (Lo Torto et al, 2001; Pacciarelli 2011, fig. 13) and from the wider European context (especially in the Atlantic area, e.g., Gallay 2001, p. 46). The beaker was found in association with fragments of Laterza style collected during the same survey (this culture is documented also in the nearby site of Pontecagnano; Bailo Modesti and Salerno 1998, pp. 34-38; Aurino and Bailo Modesti, 2009). Unfortunately, the uncertain circumstances of the find do not allow for a better understanding of the original context, but a re-

analysis of the Copper Age material yielded by the cave is currently ongoing.

In both these cases there is evidence of International and Maritime style beakers in association with the Laterza culture. These styles of decorations are generally dated in Italy between about 2670-2470 cal. BC in the area of Rome (Phase I and II of Ortucchio; Anzidei and Carboni 2020: 229) and correspond to Steps 1 and 2 of the Florentine area (Leonini, Sarti 2008a). In Europe, the International and Maritime styles relate to the early Bell Beaker phase (2550/2500 – 2400/2350 cal. BC in France, Lemerrier, 2018, p. 79; 2500-2440 cal. BC in the Danube area, Heyd, 2007, pp. 333-334), though with some later attestation as well (e.g., in the British Isle, Fitzpatrick, 2011). The dates currently available for the Laterza culture in Campania match this chronology well, with dates spanning between 3340 and 2470 cal. BC (2 σ), with a major concentration from 2880 cal. BC



Figure 3: Tomb 495. Example of a typical burial from the cemetery of Gaudello, Acerra (excavation AC3_620) and detail of the metal grave goods represented by a disk headed pin and a hair ring.

onwards (radiocarbon dates recalibrated in Anzidei and Carboni, 2020, pp. 201-202, tab. 3.7.1). This culture is characterised by a variety of evidence in South and Central-North Italy, from the collective cemeteries of South-East Italy (Biancofiore, 1967), to the villages of Tyrrhenian Italy (Fugazzola Delpino et al, 2003, 2007; Anzidei and Carboni, 2020). It was formerly hypothesised that this culture could represent an area in which Bell Beaker failed to permeate (Cocchi Genick, 2004). As mentioned above, though less evident and structured, a certain connection between these communities and the Bell Beaker world is attested especially along the Tyrrhenian shore in Campania and Lazio. Nevertheless, this type of Bell Beaker influences become more evident in later phases on the verge of the Early Bronze Age. An example is the area of Rome, where locally produced Bell Beakers and local adaptation of the style are attested in the 'Dragged-comb' phases (also known as the Ortucchio culture), spanning between 2700 and 2120 cal. BC (2 σ , Anzidei and Carboni 2020, p. 250, tab. 3.8.1). A similar pattern is emerging also in the Campana Plain, both from previously known excavations (such as Gricignano d'Aversa, Figure 1.7, and Afragola, Figure 1.6, Fugazzola Delpino et al, 2003, 2007; Nava et al, 2007), but especially from the large preventive excavations

recently carried out in the site of Acerra, which suggest a more complex network of connections.

Acerra is located about 2 km far from the river Clanis, in the north-eastern area of Naples. Here, in Gaudello locality (Figure 1.5), a large village and a wide adjoining burial ground were excavated, dating to a transitional phase between Copper and Bronze Age (Mancusi and Bonifacio, 2020; Di Vito et al, 2021). The village is located on a plateau directly on top of the Agnano Monte-Spina eruptive layer (4420 \pm 58 BP, Lirer et al, 2013; Zanchetta et al, 2019; 3335-2913 cal. BC, 2 σ , recalibrated with IntCal 20) where 7,500 sq. m. were excavated. The site consists of several dwellings with two apses on the short sides and in some cases also with a concentric outer corridor, a building type already attested in the site of Gricignano (Fugazzola Delpino et al, 2003, p. 201). The last phase of occupation of the area consists in a wooden palisade and longhouses which cut some of the earlier structures and can be dated to an initial phase of the Early Bronze Age. On the opposite side of the village a large burial ground of over one hundred tombs was set between the end of the Copper Age and the beginning of the Bronze Age. It consists generally of single inhumations inside large sub-rectangular pit-graves (Figure 3). The tombs are regularly organised with a NW-SE orientation and they sometimes preserve traces of a possible original cover made of stones and calcareous pebbles. The grave goods are not always present, they are generally ceramic vessels, often fragmented, or personal ornaments in metal or bone, or weapons such as daggers and halberds. The material culture of the settlement points towards the Laterza culture as also suggested by the settlement organisation. Its pottery has parallels both from Southeastern Italy (Biancofiore 1967), from the closer settlements of Gricignano (Fugazzola Delpino et al. 2003, 2007) and Carinara (Laforgia et al. 2007) and from the Laterza and Ortucchio/Dragged Comb phase detected in the area of Rome (Anzidei and Carboni, 2020: 203-52).

Pottery with Bell Beaker or 'Pseudo-Bell Beaker' style was yielded both by the settlement and by the burial area. The most striking example comes from tomb 319. This burial yielded two fragments of a beaker with a dragged comb decoration (Figure 4.1). The pattern resembles Bell Beaker styles for its organisation on parallel registries, as in the sites of Torre Crognola and Poggio Nebbia (Anzidei and Carboni, 2020: 210, Fig. 3.8.7), even though it must be noted that the technique does not match the classical Bell Beaker impressed decoration since it is realised by incision with a three-toothed comb dragged rather than impressed. Nevertheless, the shape, the decorative pattern, the presence of a white paste in the incision, the reddish and highly burnished surfaces seem to point towards Bell Beaker models (Strahm 1998: 27; Anzidei and

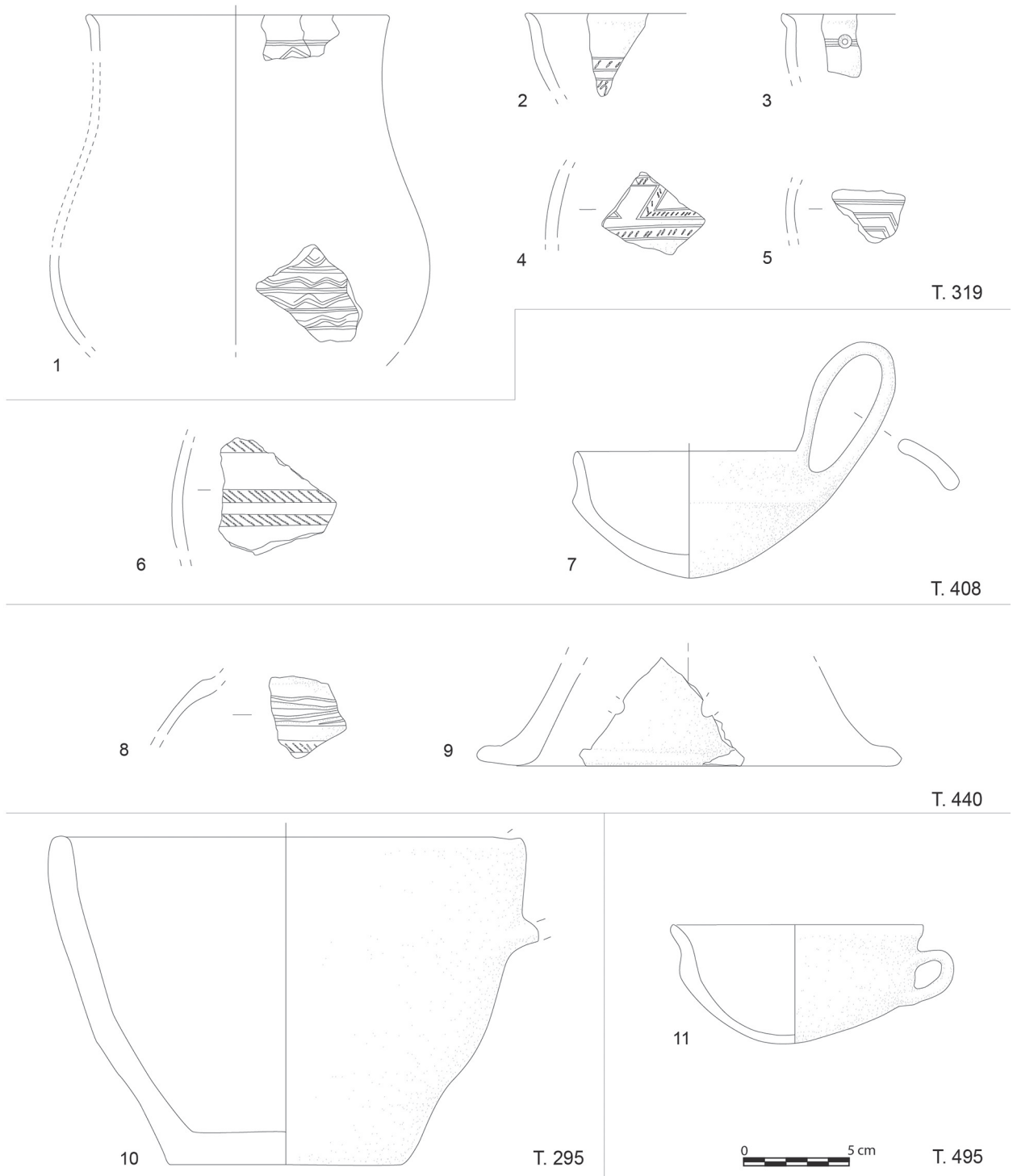


Figure 4: Pottery repertoire yielded by the tombs showing Bell Beaker influences, Gaudello, Acerra, excavation AC3_620. 1-5 : tomb 319; 6-7 : tomb 408; 8-9 : tomb 440; 10: tomb 295 ; 11: tomb 495.

Carboni 2020: 224). Fragments with a dragged comb decoration and bands filled with impressions were also found in the infill of the tomb (Figure 4.2-5). Other tombs (408 and 440) yielded fragments decorated with the so called 'Pseudo-Bell Beaker' style (Anzidei and Carboni 2020, p. 225), characterised by the classic

impressed comb decoration in bands, but with incised linear margins, rather than impressed ones (Figure 4.6, 8). These fragments were found in association with ceramic material, such as carinated bowls (Tomb 408, Figure 4.7), biconical pedestal so called 'sostegni a clessidra' or cups on high feet (Tomb 440, Figure 4.9),

typical of the Palma Campania repertoire (Soriano 2020, p. 180 n. 66, p. 170 n. 7). This culture is widely attested in Campania and Northern Apulia and its early phase can be dated between 2376–1829 cal. BC (2 σ , Lanos et al, 2020, pp. 75, 81–82).

Several further ceramic vessels with this 'Pseudo-Bell Beaker' and dragged comb decorations were yielded by the area of the cemetery (Figure 5A) and of the village (Figure 5B). The decoration motives, especially the complex meander and angular ones, find strong parallels in the area of Rome in particular with phases II and IV of Ortucchio (Anzidei and Carboni, 2020, pp. 242, 248). The Ortucchio/Dragged Comb phases are dated between 2700 and 2120 cal. BC (2 σ), with original Bell Beakers attested in phases I and II and 'Pseudo-Bell Beakers' in phases I, II and IV. In this case the impressed comb decoration has been interpreted as an adaptation of the Bell Beaker models (Anzidei and Carboni, 2020, p. 225). A similar organisation on parallel registries and decorated bands is widely attested also in the Laterza phase (as also noted by Guilaine, 2004; e.g., the rich repertoire of Tomb 3 of the Laterza cemetery, Biancofiore 1967), but the decoration technique differs since it is never made by the impression of such fine combs or indented tools; it is generally made by incision or in some cases impression suggesting a variety of tools. A change can be detected also in the morphology of decorated vessels, shifting from the low hemispheric bowls of Laterza to the slightly S-shaped bowls or slightly necked shapes typical of the Dragged Comb phases (Figure 5.5-7, 12, 14-15). A similar pattern is attested also in the area of Rome in Ortucchio phases (I-IV, Anzidei and Carboni, 2020, p. 249), while in the Florentine area similar shallow S-shaped bowls, in this case with a Bell Beaker decoration, represent the regional evolution of the style proper of step 2 and 3 (Leonini and Sarti, 2008a).

Some fragments with a comparable angular pseudo-Bell Beaker decoration are also attested in the site of Afragola (Figure 1.6), where some potsherds with a 'Bell Beaker style' decoration were reported in a possible living context in association with some Laterza and Capo Graziano style pottery (Nava *et al.* 2007: 111, fig. 5C). In particular, they find parallels with some fragments from Acerra (Figure 5.9), Gricignano (Figure 1.7; Salerno and Marino, 2011, p. 325, fig. 1.4) and Casetta Mistici (Anzidei and Carboni, 2020, p. 249, fig. 3.8.53). Similar angular motives are also attested in Ligurian and Sicilian contexts, either incised or with impressed comb/cord (Nicolis 2001, p. 210, fig. 2; Del Lucchese, Odetti 1996, fig. 1.1; Tusa, 1998, p. 204, fig.1).

Overall, this pottery repertoire characterised by Bell Beaker influences seems to develop from a previous Laterza tradition, but with strong correlation with the

Dragged Comb phase and with the later Palma Campania culture. The presence of dragged comb in association with Bell Beaker has been already attested in Central Italy and it was interpreted as a local tradition with Bell Beaker contaminations in the decorative organisation and motives (e.g., at Torre Crognola, Leonini and Sarti, 2008b, p. 126). On the contrary, the correlation between Pseudo-Bell Beaker and Palma Campania features is at present a peculiarity of these sites of the Piana Campana. In fact, in the area of Rome and Florence, the later Early Bronze Age phases are generally precluded by a transitional Epi-Bell Beaker phase (Anzidei and Carboni, 2020, pp. 249–252; Sarti, 2004).

Metal objects

The foreign influences in the pottery are paralleled also by the acquisition of a new repertoire of metal objects, such as weapons and ornaments, once again pointing to connections with Central and Western Europe. In particular, several burials from the same cemetery of Gaudello, Acerra, yielded metal ornaments rarely attested elsewhere in Campania. Tomb 295 yielded a lozenge-shaped pin (Figure 6.4) which has a wide circulation in the Early Bronze Age (Carancini 1975, p. 93, tavv. 1-2) occurring also in Western European Bell Beaker contexts (Van Vilsteren, 2004, p. 30, Fig. 8). The grave good consisted also in a fragmented cup typical of the Laterza culture repertoire (Figure 4.10, parallels in Gangemi 1988; Laforgia and Boenzi, 2011, p. 251, Fig. 2D; Anzidei and Carboni 2020, vol. 2 p. 195). Another type of artefact detected in the cemetery and generally dated to the Early Bronze Age is represented by disk-headed pins made of a copper alloy. In the Tomb 427 two disk-headed pins were found on the right side of the skeleton near the shoulder. The disks are decorated with circles on both sides, alongside the edge and in the centre (Figure 6.2-3). Tomb 495 yielded a disk-headed pin (Figure 6.1) and other types of ornaments such as a hair ring and two beads. On top of the grave, in the first layers of the infill a flipped ceramic cup was deposited (Figure 4.11), with general parallels in the Early the Bronze Age.

This type of pins is generally rare in Southern Italy, but further examples are attested in two Early Bronze Age contexts in Campania. An undecorated specimen was found in Tomb 26 in the Palma Campania cemetery of S. Abbondio, Pompei (Figure 1.4; Albore Livadie, 2020, p. 229) and a highly decorated one from the area of Salerno, in the site of Oliva Torricella (Figure 6.5; Albore Livadie 2020, p. 226–227, fig. 1.4, 2.6, pp. 230–231). This site (Figure 1.3) yielded two tombs covered by pebbles and located near a larger settlement with eight huts with ovens, working and butchering areas. In Tomb 1 the deceased was deposited on the right side and only had the bronze disk-headed pin as grave good, located

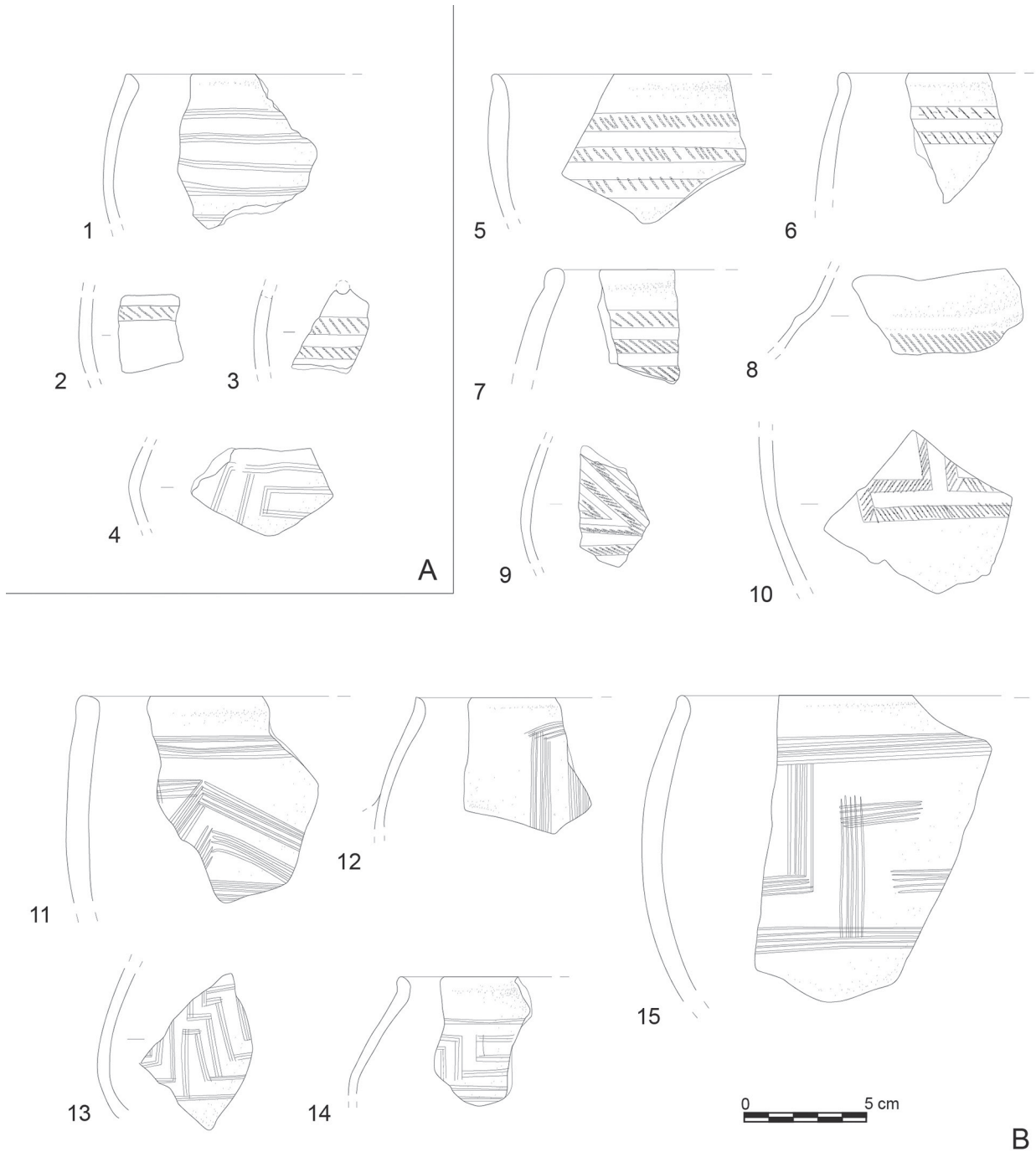


Figure 5: Pseudo-Bell Beaker and Dragged Comb style pottery from the burial area (A) and the village (B), Gaudello, Acerra, excavations AC3_600 and AC3_620.

between the right arm and the left forearm. The bronze pin has a highly decorated laminar disk with four rows of incised triangles and a bending stem. The decoration motive is very similar to specimens from the area of the Middle Danube, Lower Austria, Moravia and Slovakia between the end of the Early Bronze Age A1 and the beginning of Early Bronze Age A2, such as in Gemeinlebarn, Galgweis-Gerweis in Baviera, Kyjovice in Moravia and Vycapy-Opatovce in Slovackia (David-

Elbiali, 2000, pp.143-147, fig. 13.1-4). Further examples come from the cemeteries developing between the Early Bronze Age A1a-b and A2 in Mintraching, Ziegelei Orter and Ziegerlei Jungmeier where similar disk-headed pins are found together with other metal artefacts, such as daggers, halberds and ornaments like rings, lozenge and roll-headed pins very similar to those yielded by the Acerra cemetery (Kim 2005, pp. 106-108). The disk-headed pins from Acerra characterised by

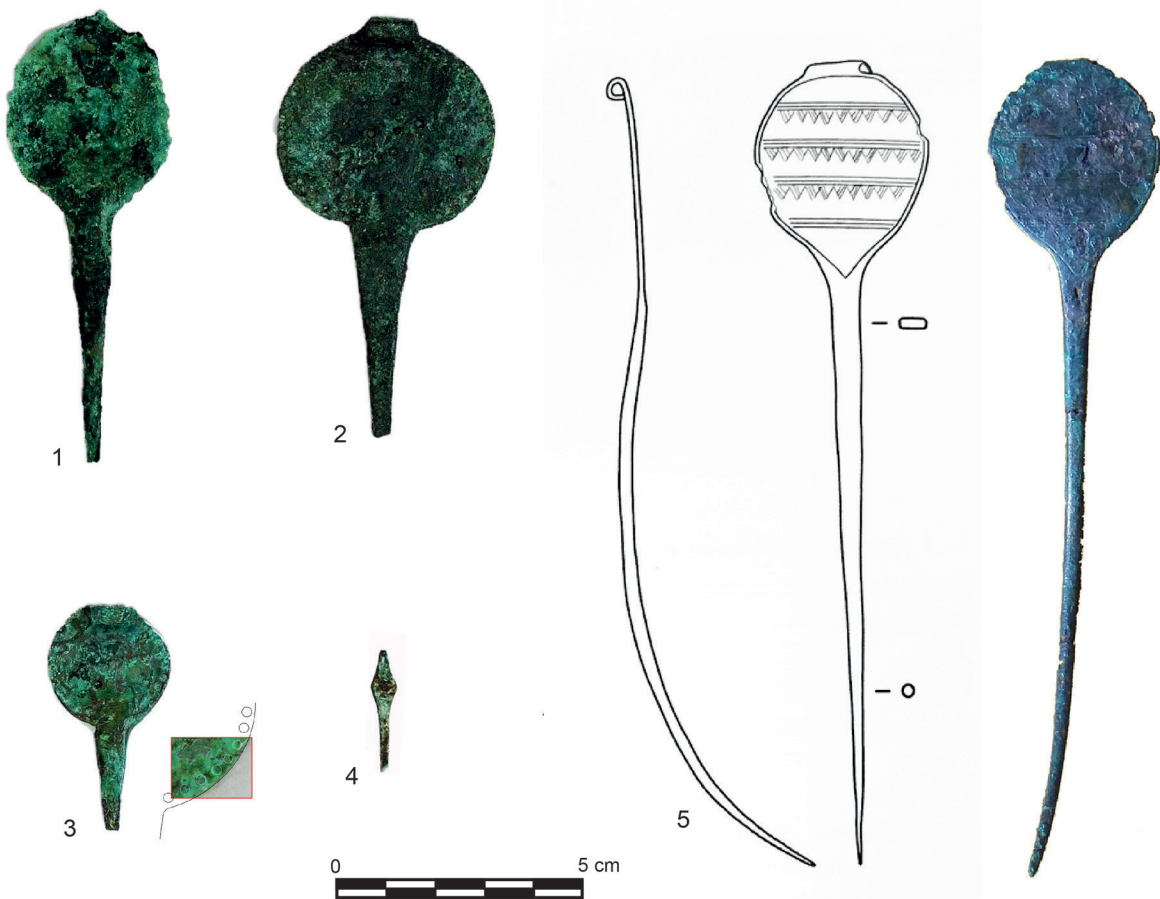


Figure 6: Metal ornaments from the Campania Region. 1-4. Metal pins from the cemetery of Gaudello, Acerra, excavation AC3_620: 1. Disk-headed pin from Tomb 495; 2-3. Two disk-headed pins from Tomb 427; 4. Lozenge-shaped pin from Tomb 295. 5. Disk-headed pin from the site of Oliva Torricella (SA), Tomb 1 (Albore Livadie 2020, p. 226, Fig. 1.4).

circular decorations have parallels mainly in Northern and Central Italy (Carancini 1975, pp. 92-94, tavv. 1-2). This type of pins is generally attested in a later Early Bronze Age phase, A2a, in the area of Sion and in the Valais, such as in the cemetery of Vollèges Plachouet, with close connection with groups from Southern and Western Germany (Straubing e Adlerberg) (David-Elbiali, 2000, p. 145, fig. III.58.6,9).

Foreign connections

A precedent to these connections with Northern Italy and Central Europe can be also found in earlier phases of the Copper Age in the site of Paestum (Aurino, 2016, 2019). In the already cited Gaudo Burial ground, dated between the mid-4th and mid-3rd millennium BC, five t-headed or hammer-headed bone pins have been found in four different burials (Figure 7). This type of artefact is very rare in the Italian peninsula especially when made of bone. Some parallels can be found in metal or hybrid pins from Central and North Italy. The cemetery

of Remedello (Tomb BSII, Cornaggia Castiglioni, 1971, p. 62), yielded a metal pin of transalpine typology, often associated with the so-called 'Yamnaya set' or 'package' acquired in Northern Italy and the Western Alpine region (de Marinis, 2013, p. 333). Two metal pins of Straubing type were found in the Buca di Spaccasasso (Pellegrini, 2007, Figg. 3-4) and attributed to the Corded Ware. A further example comes from Petralia Sottana (Fontebrera, 2011), with parallels with the roll pin and double spiral pin common during the 3rd millennium BC in the Near East (Calvi Rezia, 1967). A possible *trait d'union* between these metal examples from Northern Italy and the animal bone pins of Paestum is represented by a silver pin head from the Rinaldone cemetery of Sette Miglia (Anzidei et al, 2007, p.554, fig. A). This pin head was probably mounted on a bone or wooden stem.

The hammer-headed pins made of bone, deer antler or pig tooth are mainly attested outside the Italian Peninsula in the area of the Corded Ware in western and central Europe (Strahm, 1979, pp 44-66) as in the

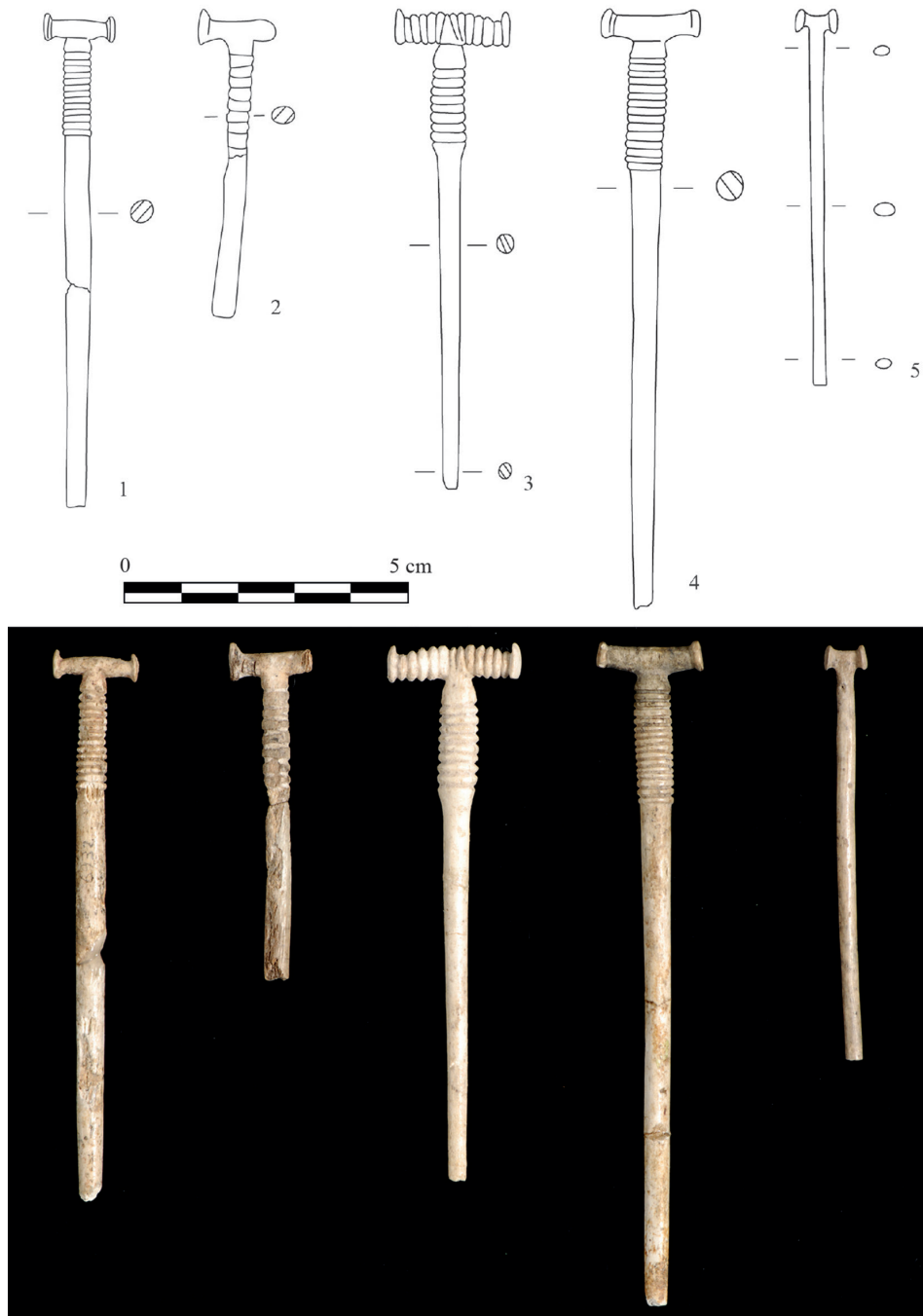


Figure 7: T-headed bone pins from the Gaudio burial ground, Paestum (Tombs IV, II, and IX).

case of the Bleckendorf grave, (Sachsen-Anhalt, D), and in Switzerland (Vinelz, Corcellettes and St. Blaise, Strahm, 1979, Fig. 1, 5) especially undecorated ones. Their origin is generally set in the Caucasus around 3000 BC, as a typical Yamnaya production (the earliest date is between 3300 and 3000 BC), their maximum expansion around 2800 and 2600 BC and their disappearance around 2600 BC (Shislina et al, 2011). Therefore, both the Remedello (4070±70 BP, 2874-2467 cal. BC, 2σ recalibrated with IntCal 20, de Marinis, 1997; Bagolini and Biagi, 1990; de Marinis, 2013, p. 346) and

Rinaldone (Anzidei et al, 2007, p. 558) metal examples might correspond to the period of maximum expansion of this model. The bone pins from Paestum have more uncertain dates since the burial contexts have been used for several centuries (between 3550 and 2500 ca. BC, Aurino 2013) and given the old excavations the association between the artefacts and the individuals is not clear. Though their closer models might be the European t-headed pins, the specific type attested in Paestum for decoration and material mostly resembles the examples from the Caucasus where, between the

Caspian Steppe and the lower Don region, about 221 t-headed pins were recorded in 1200 tombs (Shishlina et al, 2011, p. 109). In this area, in the cemetery of Kabardino Park in Nalčik, Russia, a metal t-headed pin similar to the Remedello example is also attested (de Marinis 2013, p. 333; Heyd and Harrison 2004, pp. 163-168, fig. 14).

A further point to consider is the presence of this type of pins in some Bell Beaker burials from the UK. In the famous Amesbury Archer burial (tomb 1289, Fitzpatrick, 2011, p. 69-87) a hammer-headed pin, possibly in antler, was buried on top of the black bracer (Fitzpatrick 2011, pp. 157-158). It was dated to 2470-2239 cal. BC (2σ , 3895±32 BP, recalibrated with IntCal 20, Fitzpatrick, 2011, p. 169). Another example from England was found in Barrow Hills, Radley (Tomb 4660, Barclay and Halpin, 1999) together with a copper dagger and a Maritime style beaker dated to the same period. The presence of these pins contributes to testify the mobility of Copper Age peoples and the long circulation of these models also in the later Bell Beaker environment. The same models are attested earlier in Western-Central Europe as in the case of the examples from Vinelz (Kanton Bern, Switzerland, dated to 2734-2626 cal. BC, Winiger, 1989, pp. 157-162, Winiger, 1993, pp. 60-78) and in the cemetery of Franzhausen in lower Austria (Neugebauer 1992, p. 152, abb. 3,7). The bone pins from Paestum might date back to the same period of these last specimens since the burial site is still in use until the mid-3rd millennium BC (Aurino, 2013).

The close similarity between the Amesbury Archer's pin and the ones from Paestum might suggest that the acquisition of the model or the artefact took place within the same network. This system of relations might be connected with the procurement of metal raw materials, absent in Campania, which might have brought Gaudio people in contact with Central Italy and probably also further north. Other bone and shell ornaments found only in the tomb XIII of Paestum might be linked to the same area of circulation (Aurino, 2016, pp. 196-197). In this burial, two rectangular shell plaquettes with side holes and five pierced pendants from boar teeth and shells were found. Similar ornaments are attested in the same Italian and European contexts considered for the pins, such as in the case of the plaquettes found in the necropolis of 'Le Petit Chasseur' Sion (Final Neolithic 2500 BC, Heyd and Harrison, 2004, p. 153, fig. 7). These contacts with the broader Central European world and the acquisition of foreign objects or models might have further continued in the later phases of the Copper Age as suggested by the evidence from Paestum, Olevano sul Tusciano and Acerra. A possible mediation was probably represented also in this case by Central and North Italy, in particular by the Florentine area, where the need of metal raw materials might have brought the Copper Age communities of Campania during the

second half of the 3rd millennium BC, on the verge of the Bronze Age.

Conclusions

In conclusion, the Campania Region shows a lack of a widespread Bell Beaker presence compared to Central-North Italy. However, the Copper Age communities of the region appear highly connected to the broader European environment throughout 3rd millennium BC. On one side, the pottery evidence suggests the presence of original Bell Beaker models in some funerary and cave contexts (Paestum and Olevano sul Tusciano). On the other side, it also shows the local re-adaptation of foreign influences, especially towards the end of the 3rd millennium BC (e.g., Acerra). Similar patterns can be also detected by looking at other classes of artefacts, such as metal ornaments which show strong transalpine connections. These connections suggest a broad circulation of ideas, technologies, and raw materials between different communities. This trend well reflects the constant movement of people and ideas that emerged thanks to aDNA and isotopic analyses for Europe during the 3rd millennium BC (a recent review on these topic applied to the Bell Beaker is in Lemerrier, 2020, p. 123 and references).

Was it a movement of goods, people or ideas? The latest excavations helped to understand more about the mechanisms of absorption of these influences by local communities, characterised by different degrees of permeability. The highly coded Gaudio culture reveals a strong cohesion to its identity and self-representation, poorly permeable to foreign influences. Its long duration and consistency is testified also by the long use of the collective burials such as in the case of tomb IX from Paestum, used for almost a millennium (Aurino, 2013). Nevertheless, the presence in the Gaudio cemetery of metal objects and of artefacts of foreign models, such as the t-headed pins, suggests that long-distance contacts with the same environments were already in place. Considering this long time span of use, the continuity and homogeneity of the funerary rituals and material repertoire appears striking (Bailo Modesti and Salerno, 1998; Bailo Modesti, 2006). Later Copper Age communities seem to respond in a different way to foreign influences. The evidence available for the period suggests a more receptive environment, more variable and propense to re-adapt foreign models and ideas as exemplified by the site of Acerra. Similar evidences are already available for the area of Rome where the local production of typical Bell Beakers and their local re-adaptation took place roughly in the same period (Aurisicchio and Medeghini, 2020). In the Campania Region, the absorption and remodelling of foreign influences will directly result in the codification of another repertoire and set of habits emerging in the Early Bronze Age culture of

Palma Campania. The ongoing research on these sites involving archaeometric analyses on ceramic and metal objects, isotopic and aDNA analysis of the populations, will probably contribute to the biographies of objects and life histories to reconstruct a more complex and intertwined broader historical picture.

References

- Albore Livadie C., (2020), Su alcuni reperti metallici del Bronzo antico della Campania, in Albore Livadie C., Vecchio G., eds., *Nola - Croce del Papa. Un villaggio sepolto dall'eruzione vesuviana delle Pomice di Avellino*. Napoli, pp. 226-242.
- Albore Livadie, C., Arcuri, F. and Napoli, G. (2011) 'Vecchi scavi, nuove conferme: riesame della necropoli di facies Laterza presso il tempio di Cerere (Paestum, Salerno)' in *Atti della XLIII Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria*. Firenze: Istituto Italiano di Preistoria e Protostoria, pp. 229-334.
- Anzidei, A. P. and Carboni, G. (2020) *Roma prima del mito*. Oxford: Archaeopress.
- Anzidei, A. P., Aurisicchio, C. and Carboni, G. (2007) 'Manufatti in argento dalle tombe a grotticella della facies di Rinaldone del territorio di Roma' in *Atti XL Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria*. Firenze: Istituto Italiano di Preistoria e Protostoria, pp. 553-9.
- Arcuri, F. and Albore Livadie, C. (1988) 'Paestum (Salerno): le tombe eneolitiche presso il tempio di Cerere', *Rassegna di Archeologia*, 7, pp. 568-9.
- Aurino, P. (2013) 'Al tempo del Gaudio: riflessioni sull'età del Rame in Campania' in Cocchi Genick D., ed., *Cronologia assoluta e relativa dell'età del Rame in Italia*. *Atti dell'Incontro di Studi, Università degli Studi di Verona*, 25 giugno 2013. Verona: Quiedit, pp. 157-71.
- Aurino, P. (2016) 'Gli oggetti di ornamento nelle necropoli del Gaudio tra funzione e diffusione' in *Preistoria e Protostoria in Etruria. Atti del Dodicesimo Incontro di Studi, Valentano (VT) Pitigliano (GR)*, 12-15 settembre 2014. Vol. I, pp. 189-201.
- Aurino, P. (2019) 'Water and Land Routes: Interactions and Exchanges in Paestum Prehistory' in Zuchtriegel G., Carter P. and Oddo M.S., eds, *Poseidonia Water City. Archaeology and Climate Change, Paestum*, pp. 65-73.
- Aurino, P. and Bailo Modesti, G. (2009) 'Pontecagnano (SA) - Between the city and the Sanctuary: the excavations along the motorway's SA/RC extension', *Newsletter Archeologia (CISA)*, 2009, pp. 6-21.
- Aurino, P., De Falco, M. (2021) 'Le forme del culto: strategie produttive e scelte rituali nella ceramica eneolitica di Paestum', *Dialoghi sull'Archeologia della Magna Grecia e del Mediterraneo*, Paestum 15-17 Settembre 2019, vol. IV.3. Paestum: Pandemos, pp. 693-706.
- Aurino, P., De Falco, M., Mancusi, V., and Moretti, M. (2017) 'Prima di Poseidonia: la vita e la morte sotto i templi', *Dialoghi Sull'Archeologia Della Magna Grecia e Del Mediterraneo*. Paestum: Pandemos, pp. 151-65.
- Aurino, P., Boenzi G., Di Vito M., Laforgia E. (in press) 'Interazione tra attività vulcanica e assetti insediativi nel settore meridionale della Piana Campana a nord e a sud del fiume Clanis' in *Archeologia del cambiamento. Modelli, processi, adattamenti nella Preistoria e Protostoria, Atti della LIV Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria*, Roma 2019.
- Aurisicchio, C. and Medeghini, L. (2020) 'Caratterizzazione chimica e mineralogica delle ceramiche campaniformi "originali" dal territorio di Roma' in Anzidei, A. P. and Carboni, G., eds, *Roma prima del mito*, pp. 661-2.
- Bagolini, B. and Biagi, P. (1990) 'The radiocarbon chronology of the Neolithic and Copper Age of Northern Italy' *Oxford Journal of Archaeology*, 9(1), pp. 1-23.
- Bailo Modesti, G. (2006) 'Interpretare il Gaudio', in *Atti del VII incontro sulla Preistoria e Protostoria in Etruria*, pp. 447-53.
- Bailo Modesti, G. and Salerno, A. (1998) *Pontecagnano. II.5 La necropoli eneolitica*, AION Quaderni - Archeologia e Storia Antica, 10. Napoli: L'Orientale Università degli Studi.
- Barclay, A. and Halpin, C. (1999) *Excavations at Barrow Hills, Radley Oxfordshire. Volume 1: the Neolithic and Bronze Age Monument Complex*. Oxford: Thames Valley Landscapes 11.
- Bernabò Brea, M. and Mazziere, P. (2013) 'Nuovi dati sul campaniforme in Emilia', in De Marinis R. C., ed., *L'Età del Rame. La pianura padana e le Alpi al tempo di Ötzi*, pp. 503-24.
- Biancofiore, F. (1967) 'La necropoli eneolitica di Laterza. Origini e sviluppo dei gruppi protoappenninici in Apulia', *Origini*, 1, pp. 195-300.
- Calvi Rezia, G. (1967) 'L'introduzione della metallotecnica in Sicilia', *Rendiconti dell'Istituto Lombardo*, 101.
- Capodanno, A. and Salerno, A. (1992) 'Nota preliminare sugli scavi nella Grotta di S. Michele ad Olevano sul Tusciano (SA)', *Archeologia Medievale*, 19, 549.
- Carancini, G.L. (1975) *Die Nadeln in Italien. Gli spilloni in Italia continentale, Prähistorische Brnzefunde, Abteilung XIII-Band 2*, München.
- Cocchi Genick, D. (2004) 'Le evidenze del Campaniforme in Calabria nell'ambito dei processi della comunicazione culturale dal tardo Eneolitico al Bronzo Antico nell'Italia meridionale', *Atti della XXXVII Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria*, pp. 309-20.
- Cornaggia Castiglioni, O. (1971) 'La cultura di Remedello. Problematica ed ergologia di una facies dell'Eneolitico padano', *Mem. Soc. It. Sc. Nat.*, XX, Milano.
- David-Elbiali, M. (2000) *La Suisse occidentale au IIe millénaire av.J.C. Chronologie, culture, intégration européenne*, Lausanne.

- de Marinis, R. C., (1997) 'The eneolithic cemetery of Remedello Sotto (S) and relative and absolute chronology of the Copper Age in northern Italy', *Notizie Archeologiche Bergomensi*, 4, pp. 33-51.
- de Marinis, R. C. (2013) 'La necropoli di Remedello Sotto e l'età del Rame nella pianura padana a nord del Po', in De Marinis R.C., ed., *L'età del Rame. La pianura padana e le Alpi al tempo di Ötzi*, Brescia, pp. 301-351.
- Del Lucchese, A. and Odetti, G. (1996) 'Nuovi dati sull'antica età del Bronzo nella Liguria di Ponente' in *L'antica età del Bronzo in Italia, Atti del Congresso* (Viareggio, 9-12 gennaio 1995). Firenze, pp. 433-40.
- Di Vito, M. A., Aurino P., Boenzi G., Laforgia E., Rucco I., (2021) "Human communities living in the central Campania Plain and eruptions of Vesuvio and Campi Flegrei", *Annals of Geophysics*, vol. 64, n. 5.
- Fitzpatrick, A. P. (2011) *The Amesbury Archer and the Boscombe Bowmen. Bell Beaker burials at Boscombe Down, Amesbury, Wiltshire*, Aberystwyth: Cambrian Printers.
- Fontebrera, C. T. (2011) 'I contatti tra la Sicilia e il Mediterraneo orientale alla luce della produzione metallurgica' in *L'età del Rame in Italia, Atti della XLIII Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria*, pp. 501-04.
- Forte, V. (2020) *Scelte tecnologiche, expertise e aspetti sociali della produzione: Una metodologia multidisciplinare applicata allo studio della ceramica eneolitica*. Oxford: Archaeopress.
- Fugazzola Delpino, M. A. and Pellegrini, E. (1998) 'Presenze campaniformi nell'Italia centro-meridionale', in Nicolis, F. and Mottes, E. (eds) *Simbolo ed enigma. Il bicchiere campaniforme e l'Italia nella preistoria europea del III millennio a.C.* Provincia Autonoma di Trento: Servizio Beni Culturali Ufficio Beni Archeologici, pp. 155-60.
- Fugazzola Delpino, M. A., Salerno, A., Tagliacozzo, A., Tinè, V. and Vanzetti, A. (2003) 'Una comunità di facies Laterza nella pianura campana: l'area 'Forum' di Gricignano-US Navy (CE)' in *Atti della XXXV Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria*. Firenze: Istituto Italiano di Preistoria e Protostoria, pp. 199-214.
- Fugazzola Delpino, M. A., Salerno, A. and Tinè, V. (2007) 'Villaggi e necropoli dell'area 'Centro commerciale' di Gricignano d'Aversa' in *Atti della XL Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria*. Firenze: Istituto Italiano di Preistoria e Protostoria, pp. 521-36.
- Gallay, A. (2001) 'L'énigme campaniforme', in Nicolis F., ed., *Bell Beaker today. Pottery, people, culture, symbols in prehistoric Europe*, Trento, p. 41-57.
- Gangemi, G. (1988) 'Sepolture eneolitiche da Casalbore, loc. Santa Maria dei Bossi (Avellino)', *Rassegna di Archeologia*, 7, pp. 572-73.
- Gastaldi, P. (1974), 'Olevano sul Tusciano. La Grotta dell'Angelo', in *Seconda Mostra della Preistoria e Protostoria del Salernitano*. Salerno: Amministrazione provinciale, Soprintendenza alle antichità, pp. 65-6.
- Giannitrapani, E. (2009) 'Nuove considerazioni sulla diffusione del Bicchiere Campaniforme in Sicilia', *Rivista di scienze preistoriche*, LIX (59), pp. 219-42. doi: 10.1400/205904.
- Guilaine, J. (2004) 'Les Campaniformes et la Méditerranée', *Bulletin de la Société préhistorique française*, 101(2), pp. 239-49. doi: 10.3406/bspf.2004.12991.
- Heyd, V. and Harrison, R. (2004) 'Sion, Aosta e le trasformazioni nell'Europa del terzo millennio a.C.', *Notizie Archeologiche Bergomensi*, 12, pp. 143-173.
- Heyd, V. (2007) 'Families, prestige goods, warriors & complex societies: Beaker groups of the 3rd millennium cal BC along the upper & middle Danube', *Proceedings of the Prehistoric Society*, 73, pp. 327-379. doi: 10.1017/s0079497x00000104.
- Heyd, V. (2013) 'Europe 2500 to 2200 BC: Between Expiring Ideologies and Emerging Complexity' in *The Oxford Handbook of the European Bronze Age*. Oxford: Oxford University Press, pp. 47-67.
- Kim, J. I. (2005) *Formation and change in individual identity between the Bell Beaker culture and the Early Bronze Age in Bavaria, South Germany* (Vol. 1450). British Archaeological Reports Limited.
- Laforgia, E. and Boenzi, G. (2011) 'Nuovi dati sull'Eneolitico della piana campana dagli scavi A.V. in provincia di Napoli', in *Atti della XLIII Riunione Scientifica - L'età del Rame in Italia (Bologna, 26-29 novembre 2008)*, pp. 249-255.
- Laforgia, E., Boenzi, G. and Viscione, M. (2007) 'Un insediamento dell' Eneolitico finale a Carinaro : dati preliminari dagli scavi condotti all'interno del Polo Calzaturiero', in *Atti della XL Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria*, pp. 623-26.
- Lanos, P., Lefèvre, J-C., Oberlin, C., Albore livadie, C., Dufresne, P., (2020) 'Chronologie de l'éruption et des cultures archéologiques associées par le logiciel de statistique bayésienne ChronoModel', in Albore Livadie C., Vecchio G., Nola -Croce del Papa. *Un villaggio sepolto dall'eruzione vesuviana delle Pomici di Avellino*, Napoli, pp. 71-83.
- Lemerrier, O. (2018) 'Think and Act. Local Data and Global Perspectives in Bell Beaker Archaeology', *Journal of Neolithic Archaeology*, (December 2018), pp. 77-96. doi: 10.12766/jna.2018S.5.
- Lemerrier, O. (2020) 'The Bell Beaker Question: from Historical-Cultural Approaches to aDNA Analyses' in Lachenal, T., Roure R. and Lemerrier O., *Demography and Migration Population trajectories from the Neolithic to the Iron Age*, Proceedings of the XVIII UISPP World Congress (4-9 June 2018, Paris, France) Vol. 5, pp. 116-40.

- Leonini, V. and Sarti, L. (2008a) 'Bell Beaker pottery in the Florentine area', in M. Baioni, V. Leonini, D. LoVetro, F. Martini, R. Poggiani Keller, L. Sarti, eds, *Bell Beaker in Everyday Life. Proceedings of the 10th Meeting "Archeologie et Gobelets"*, pp. 87–102.
- Leonini, V. and Sarti, L. (2008b) 'Bell Beaker pottery in Central Italy', in M. Baioni, V. Leonini, D. LoVetro, F. Martini, R. Poggiani Keller, L. Sarti, eds, *Bell Beaker in Everyday Life. Proceedings of the 10th Meeting "Archeologie et Gobelets"*. pp. 119–128.
- Leonini, V., Martini, F., Pizziolo, G., Sarti, L., Baioni, M., Lo Vetro, D., Poggiani Keller, R. (2008) 'Bell Beaker in the florentine area: comments, problems and hypotheses', in M. Baioni, V. Leonini, D. LoVetro, F. Martini, R. Poggiani Keller, L. Sarti, eds, *Bell Beaker in Everyday Life. Proceedings of the 10th Meeting "Archeologie et Gobelets"*.
- Lipowicz, A. J., Travaglini, S. and Volante, N. (2008) 'Technology of the Bell Beaker decoration in the florentine area: preliminary observations', in M. Baioni, V. Leonini, D. LoVetro, F. Martini, R. Poggiani Keller, L. Sarti, eds, *Bell Beaker in Everyday Life. Proceedings of the 10th Meeting "Archeologie et Gobelets"*. Millenni Studi di Archeologia Preistorica, 6, pp. 370-75.
- Lirer, F., Sprovieri, M., Ferraro, L., Vallefucio, M., Capotondi, L., Cascella, A., Petrosino, P., Insinga, D. D., Pelosi, N., Tamburrino, S., Lubritto, C., (2013) 'Integrated stratigraphy for the late quaternary in the eastern Tyrrhenian sea' *Quaternary International*, 292, pp. 71–85.
- Lo Torto A., Pacciarelli M., Rombolà C., Rombolà F., Staropoli F., Varricchio M. R. (2001) 'Rinvenimenti di ceramiche campaniformi nel promontorio di Tropea (Calabria, Italia)', in Nicolis F., ed., *Bell Beaker Today*, II, Trento, pp. 675-76.
- Nava M. L., Giampaola D., Laforgia E., and Boenzi G. (2007) 'Tra il Clanis e il Sebeto: nuovi dati sull'occupazione della piana campana tra il Neolitico e l'età del Bronzo', in *Atti della XL Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria. Firenze: Istituto Italiano di Preistoria e Protostoria*, pp. 101-26.
- Neugebauer J. W. (1992) 'Quellen zur Chronologie der späten Schnurkeramik im Unteren Traisental, Niederösterreich', in Buchvaldek and Strahm, eds, *Die Kontinentaleuropäischen Gruppen der Kultur mit Schnurkeramik, Schnurkeramik-Symposium 1990, Praga, Praehistorica 19*, pp. 143-55.
- Nicolis, F. (1998) 'Alla periferia dell'Impero: il bicchiere campaniforme nell'Italia settentrionale', in Nicolis, F. and Mottes, E. (eds) *Simbolo ed enigma. Il bicchiere campaniforme e l'Italia nella preistoria europea del III millennio a.C.* Provincia Autonoma di Trento: Servizio Beni Culturali Ufficio Beni Archeologici, pp. 47-68.
- Nicolis, F. (2001) *Bell Beakers Today: Pottery, people, culture, symbols in prehistoric Europe. Proceedings of the International Colloquium, Riva del Garda (Trento, Italy) 11-16 may 1998*, Trento: Provincia Autonoma di Trento, Servizio Beni Culturali, Ufficio Beni Archeologici.
- Pacciarelli, M. (2011) 'L'eneolitico della Calabria tirrenica: nuovi dati sull'articolazione cronoculturale', *Origini*, XXXIII(V), pp. 249–302.
- Pellegrini, E. (2007), 'I metalli della Buca di Spaccasasso' in Cavanna, C., ed., *La Preistoria nelle grotte del Parco naturale della Maremma. Atti del Museo di Storia Naturale della Maremma*, Suppl. al n. 22, pp. 183-190.
- Salerno, A. and Marino, P. (2011) 'La necropoli dell'area Forum di Gricignano d'Aversa, Caserta, US Navy: composizione e articolazione dei contesti tombali di facies Laterza', in *Atti della XLIII Riunione Scientifica - L'età del Rame in Italia (Bologna, 26-29 novembre 2008)*, pp. 323-27.
- Shishlina, N. I., Van Der Plicht, J. and Zazovskaya, E. P. (2011) 'Radiocarbon Dating of the Bronze Age Bone Pins From Eurasian Steppe', *Geochronometria* 38 (2), pp. 107-15.
- Soriano, E. (2020) 'Le forme: ordinamento e funzione', in Albore Livadie C. and Vecchio G., eds., *Nola Croce del Papa. Un villaggio sepolto dall'eruzione vesuviana delle Pomice di Avellino*. Napoli: Centre Jean Bérard, pp. 165- 212.
- Strahm, C. (1979) 'Les épingles de parure en os du néolithique final' in Camps-Fabrer, H., ed., *L'industrie en os et bois de cervidé durant le néolithique et l'âge des métaux*. Paris, 44-66.
- Strahm, C. (1998) 'Il bicchiere campaniforme: fenomeno e cultura' in F. Nicolis and E. Mottes, eds, *Simbolo ed Enigma. Il bicchiere campaniforme e l'Italia nella preistoria europea del III millennio a.C.*, Trento: Provincia Autonoma di Trento, pp. 21-44.
- Tusa, S. (1998), 'Prospettiva mediterranea e integrità culturale del bicchiere campaniforme siciliano' In F. Nicolis and E. Mottes, eds, *Simbolo ed Enigma. Il bicchiere campaniforme e l'Italia nella preistoria europea del III millennio a.C.*, Trento: Provincia Autonoma di Trento, pp. 204–19.
- Van Vilsteren, V. (2004) 'El Túmulo de 'Odi': Una tumba Neolítica excepcionalmente rica en Holanda', in J. S. Díaz, ed., *Campaniforme. Intercambio en la Prehistoria. Intercambio entre museos, Catalogo della mostra*. Alicante, Museo Arqueológico de Alicante, pp. 23-39.
- Vander Linden, M. (2006). *Le phénomène campaniforme dans l'Europe du 3ème millénaire avant notre ère. Synthèse et nouvelles perspectives*. British Archaeological Reports Limited, Vol. 1470.
- Voza G., (1962) 'Paestum, giacimento preistorico presso il tempio di Cerere' in M. Napoli, B., D'Agostino and G., Voza, eds., *Mostra della Preistoria e Protostoria del Salernitano*. Salerno: Amministrazione provinciale, Soprintendenza alle antichità, pp. 13-37.
- Winiger, J. (1989), *Bestandesaufnahme der Bielerseestationen als Grundlage demographischer Theoriebildung*, Bern, Ufersiedlung am Bieler See 1.

Winiger, J. (1993), 'Dendrodatierte Schnurkeramik der Schweiz', *Praehistorica*, 20, pp. 9-118
Zanchetta, G., Bini, M., Di Vito, M. A., Sulpizio, R., & Sadori, L. (2019) 'Tephrostratigraphy of

paleoclimatic archives in central Mediterranean during the Bronze Age' *Quaternary International*, 499, pp.186-194. <https://doi.org/10.1016/j.quaint.2018.06.012>