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Chalcolithic Remedello Culture of Northern Italy



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several papers published in comprehensive volumes regarding the early Metal Ages of southern Europe (Whitehouse and Renfrew 1974; Renfrew 1970). Nevertheless, we still know very little about this important north Italian Chalcolithic aspect for many reasons, some of which are discussed in the following account.

Introduction

The scope of this entry is to contribute to the interpretation of the Remedello culture, its origin and chronology, and to frame it within the evidence currently available for the Chalcolithic and Early Bronze Age of southern Europe. One of the important questions to be answered is: did the Yamnaya culture influence this north Italian aspect, as new genetic studies have somewhat suggested (Saupe et al. 2021)? And, in case it did, has Remedello yielded any grave good that would support this evidence? (Biagi et al. 2022)

The Chalcolithic cemetery of Remedello-Sotto was excavated between 1884 and 1886 (Colini 1899). The site is located in the lowermost northern side of the central Po Plain in south Lombardy (northern Italy). The Remedello graveyard is the type site of the eponymous culture (Laviosa Zambotti 1939; Cornaggia Castiglioni 1971), whose distribution covers a small, almost triangular territory that is situated between the courses of the Gambara, Chiese, and Oglio Rivers. Thanks to its importance, Remedello has been reported in

The Remedello Culture

The Remedello culture is one of the Chalcolithic aspects, otherwise called local facies, as it has been defined by Cornaggia Castiglioni (1971: 15), which characterize the early metal age in northern Italy. Its attribution to this period was first suggested by Chierici (1884: 151), mainly due to the presence of some unique grave goods, which were almost unknown in northern Italy around the end of the nineteenth century, among which G. Chierici reports triangular daggers and flat axes made from copper, as well as daggers made from flint.

The graves of the Remedello-Sotto cemetery have been accurately described by several authors (Colini 1899; Cornaggia Castiglioni 1971; de Marinis 2014). They all agree that the Remedello communities practiced different types of inhumation, among which is secondary deposition, though this point is in reality very controversial (Perini 2008: 109). Only two unique grave pits yielded the remains of two individuals each (tombs XLVI and L: Colini 1899: 65). The

crouched position on the left side seems to have been a very common practice. The orientation of the individuals is variable. It does not seem to have played any special role in the burial ritual (Cornaggia Castiglioni 1971: 42 and 43).

As reported above, Remedello is famous mainly because of the beautiful flat-retouched, bifacial, barbed-and-tanged chert arrowheads and daggers, and the variety of copper implements, among which are flat axes, triangular daggers and different types of pins, as well as because of the presence of a hammer-headed silver pin, rectangular polished greenstone adzes with vertical sides, and ornaments made from marine shells, beads, and necklaces. In contrast, ceramic vessels are very rare, although they are represented by unique, often biconical types.

According to some of the excavators, at least 300 graves were excavated at Remedello-Sotto, though other authors consider this number overestimated, and believe that at least 124 graves from the cemetery should be attributed to the Chalcolithic period (Cornaggia Castiglioni 1971: 38). However, during the first excavation season, many of the tombs were destroyed by the workers, and some of the skeletal remains were reburied (Perini 2008: 109), and the finds dispersed.

Historical Background

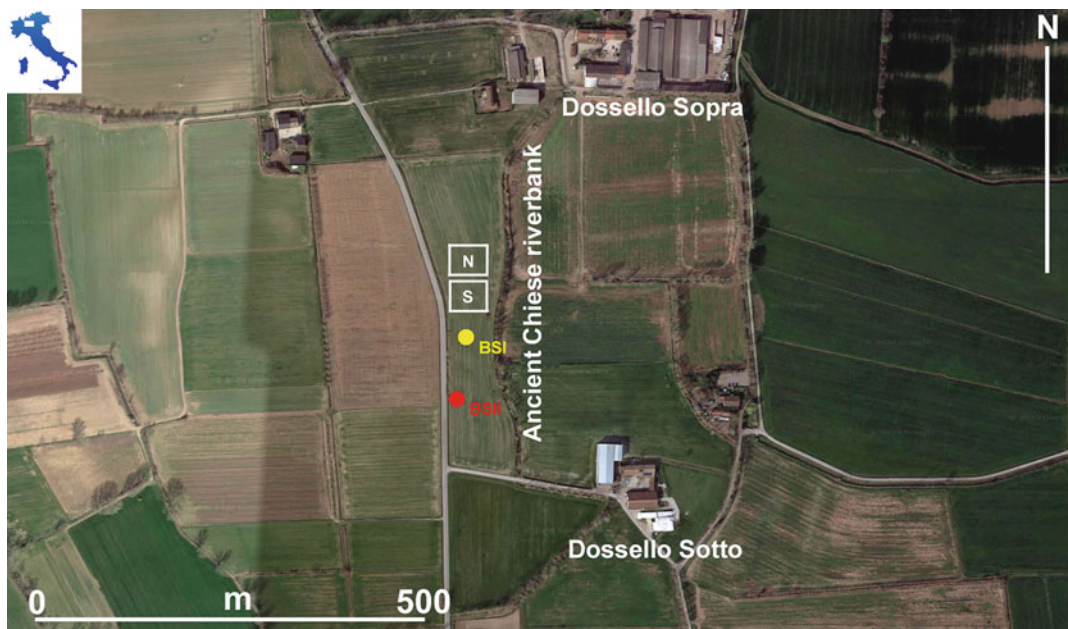
The first Remedello-Sotto graves were accidentally discovered in 1884 in a field called Dovarese. The cemetery is located along the edge of the ancient, right (western) terrace of the River Chiese, which flows in a north-south direction across the southernmost part of the Province of Brescia (Lombardy). The site was discovered between two farms, respectively called Dossello-Sopra and Dossello-Sotto, along the road that proceeds from the small town of Asola, in the south, to the village of Remedello, in the north. Following the descriptions provided by Colini (1899: 6) and Cornaggia Castiglioni (1971: 20) in their seminal volumes on the Remedello

cemetery, before 1884, the terrace looked very undulating due to the presence of many hillocks.

In 1884, some 60 graves were brought to light in a vineyard at Remedello-Sotto. Unfortunately, they were all destroyed by the workers, and the human bones and grave goods went lost. The excavations were resumed in 1885, during which at least 107 graves were discovered. Most skeletons were reported to have been found aligned inside two large, almost square compartments, which the excavators called the *Riparto Nord* (northern allotment) and the *Riparto Sud* (southern allotment) (Colini 1899: 9 and Tav. I) (Fig. 1).

The excavations were resumed again in 1886. During that year, important burials were uncovered, two of which are known as tombs BSI and BSII (Colini 1899: Tav. 4). Tomb BSII is very important because of the unique characteristics of the deposition and associated grave goods. According to Colini (1899: 56), the individual had been displaced on his left side in a crouched position. The right arm was missing and the grave pit was encased in an earlier grave, Tomb BSIII, which was damaged when the more recent one was dug out (Colini 1899: 57). According to recent anthropological observations, the BSII individual had been placed into an oval burial pit, the transversal dimension of which was too small to contain it. This is the reason why the legs look hyperflexed. In contrast, more room was available in the upper part of the grave pit so that the skull moved a little up because of later soil processes (Sparacello 2020, personal communication).

The grave goods found in tomb BSII consist of four triangular, pedunculated flint arrowheads, one small white marble star-like wheel, and one hammer-headed silver pin transversally placed on the chest of the skeleton (Fig. 2). These items are unique in the Chalcolithic of northern Italy. A few calcaneum bone fragments were sampled for AMS dating and yielded a date of 4070 ± 70 BP or 2874–2467 cal BC (Beta-35224, ETH-6196) (Biagi 1991).



Chalcolithic Remedello Culture of Northern Italy, Fig. 1 Remedello-Sotto: Location of the *Riparto Nord* (N), *Riparto Sud* (S), graves BSI, and BSII according to

the plans published by Colini (1899: Tav. 1) and de Marinis, Pedrotti (1997: Fig. 4). (Drawing by P. Biagi)



Chalcolithic Remedello Culture of Northern Italy, Fig. 2 Remedello-Sotto: tomb BSII (left) with the indication of the point from which one bone sample was taken for

dating (yellow dot), and hammer-headed silver pin on the chest of the same individual. (Photographs by P. Biagi)

Key Issues

According to Colini (1899: 57), the spot where Tomb BSII was discovered is unique. It shows that the BSII grave pit was opened when the memory of a previous grave which had been excavated just below it had already been lost. This means that at least two generations passed between the older (BSIII) and the more recent deposition (BSII). Also, the place where these two tombs were discovered is very important. According to the distribution map provided by de Marinis and Pedrotti (1997: Fig. 4), which is based on an earlier map published by Colini (1899: Tav. 1), the tomb BSII was uncovered ca 50 m south-southwest of the *Riparto Sud*, where also the BSIII and BSIV individuals had been buried. These two latter graves yielded one characteristic biconical vessel each (Fig. 3) (Cornaggia Castiglioni 1971: Tav. XVI, n. 2, and Tav. XIV, n. 2).

Also, tomb BSI was found ca 20–25 m south of the *Riparto Sud* (Ruzzenenti 1886: 81). It is the burial of a male, crouched on his left side. The grave goods consist of one very large, pedunculated dagger (Fig. 4, left), six triangular tanged arrowheads, and one small greenstone adze just below the feet. A small calcaneum bone sample was taken from this skeleton for AMS-MICADAS dating (GrM-25081: 4391 ± 27 BP or 3093–2917 cal BC). The result is very

important for four reasons: (1) it fills the gap between the suggested older group of dates obtained years ago, and the more recent ones (de Marinis 2014: 346); (2) it shows continuity between the two groups of graves; (3) it fits perfectly into the chronological time-span of Tombs 78 and 83 (Cornaggia Castiglioni 1971: Tav. III), which have been recently redated (Valzolgher 2014), and helps refine the chronology of the Remedello-Sotto cemetery; (4) it shows that the comparative techno-typological analyses of the chert daggers are not detailed enough to support a reliable absolute chronology of the graves inside which they had been placed. This opinion had already been expressed by Dolfini (2010), and critically discussed by Valzolgher (2014).

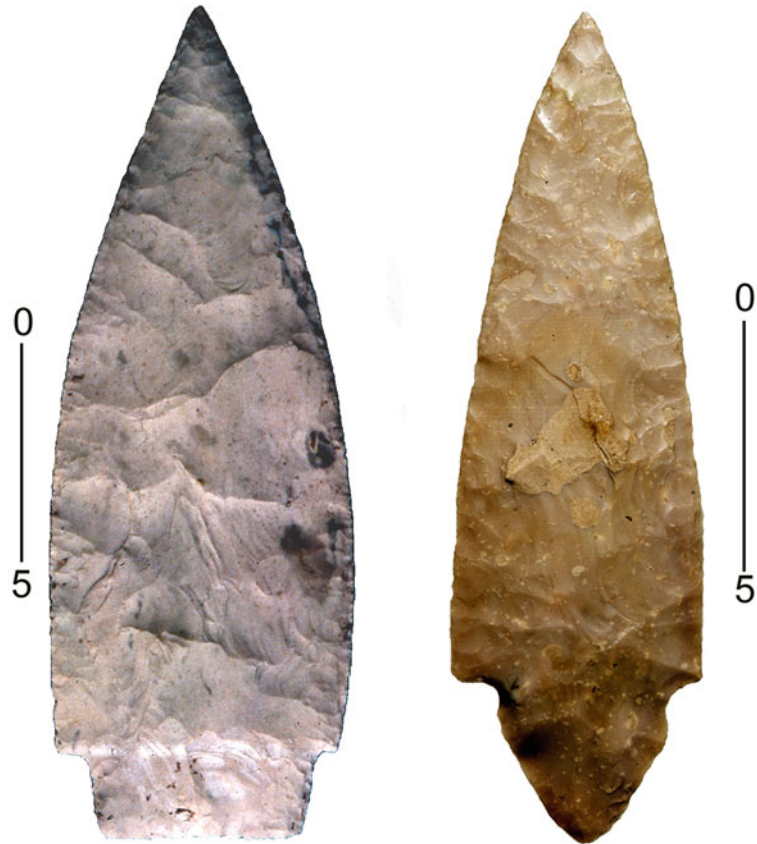
The chronology of the Remedello-Sotto cemetery has been previously established mainly on the basis of the techno-typological characteristics of the flat-retouched chert daggers (de Marinis and Pedrotti 1997: Fig. 5). The comparative typological analysis of these tools has been extended to other finds of the same class known from other sites, among which are also rock art engravings and stele-statues. It is important to remark that the first 13 AMS Remedello-Sotto radiocarbon dates were obtained from human bones sampled from only 11 graves out of all the tombs excavated from the same cemetery, most of which have been lost for ever. All the aforementioned AMS results have yielded quite high standard deviations of



Chalcolithic Remedello Culture of Northern Italy, Fig. 3 Remedello-Sotto: biconical vessels from tombs BSIII (right) and BSIV (left). (Photographs by P. Biagi)

Chalcolithic Remedello Culture of Northern Italy,

Fig. 4 Remedello-Sotto: pedunculated chert dagger from tomb BSI (left) and chert dagger from Torbole in the Brescia province (right). (Photographs by P. Biagi)



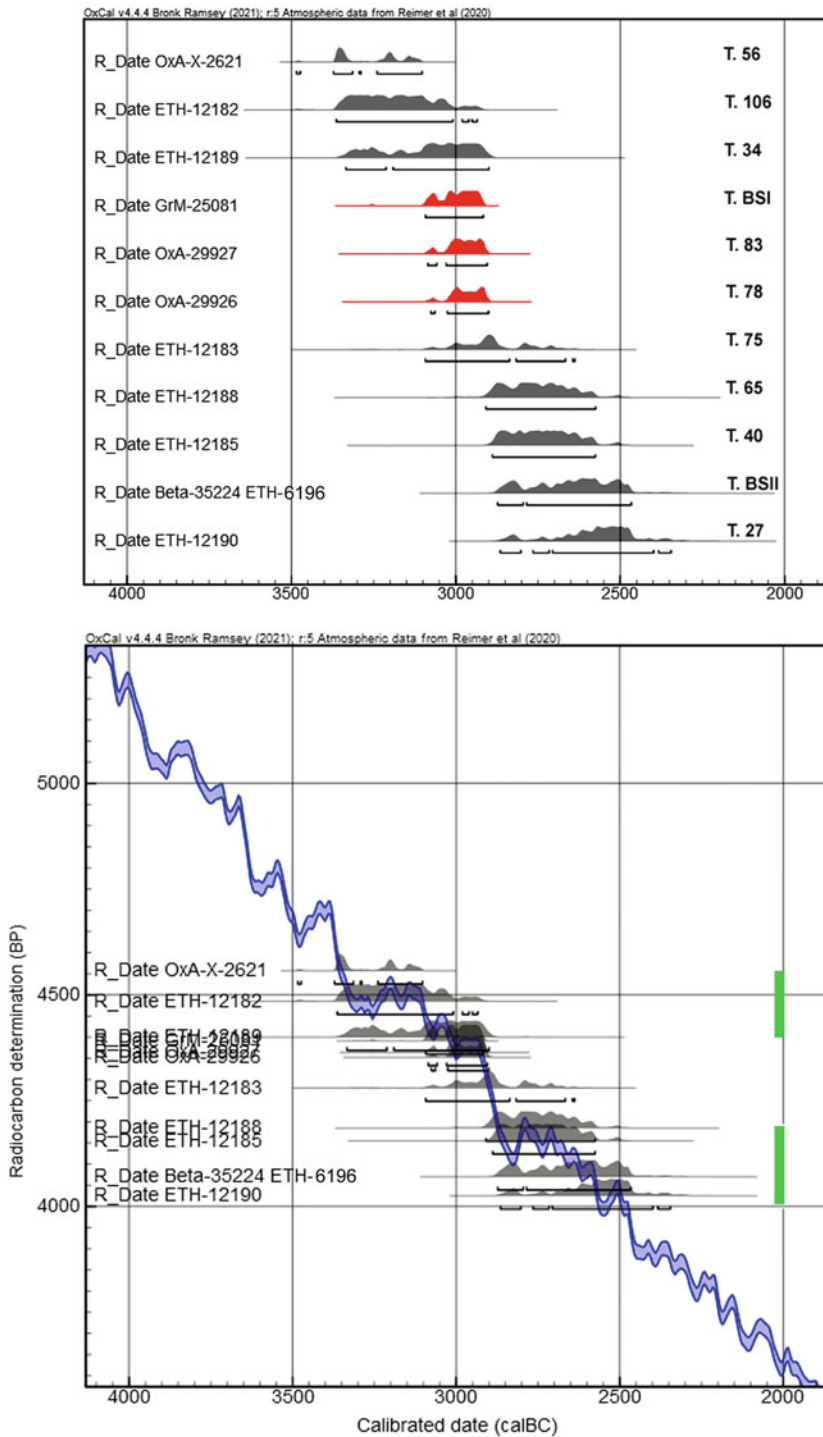
60–70 years. Only 7 of them are considered to be reliable (de Marinis and Pedrotti 1997: 286). Two burials were recently redated. They yielded comparable results. They are: Tomb 78: OxA-29926: 4352 ± 28 BP or 3026–2901 cal BC (93.0%), and Tomb 83: OxA-29927: 4364 ± 29 BP or 3030–2905 cal BC (88.5%) (Valzolgher 2014: 247 and 254) (Fig. 5 and Table 1).

Following the comparative analysis reported above, the Chalcolithic Remedello-Sotto graves were subdivided into two main groups, or phases of deposition, the older of which is characterized by individuals with simple-based chert daggers (two AMS-dated tombs), the more recent by graves with one of the at least five typologically different types of pedunculated chert daggers (five AMS-dated tombs). Moreover, the two depositional phases were suggested to be followed by a more recent one which took place between the end

of the Chalcolithic and the beginning of the Bronze Age (de Marinis 2014). Other important chronological elements to be accurately reconsidered are the swings of the calibration curve of the Chalcolithic period, which elongate the calibrated results to ca 400 years.

Remedello in its Regional Context

According to O. Cornaggia Castiglioni, the Remedello culture is just one aspect of the variegated picture of the north Italian Po Plain and pre-Alpine Chalcolithic (otherwise called Aeneolithic: see Pearce 2019: 239). Moreover, to our present knowledge, the Remedello culture is represented only by cemeteries, single graves or groups of burials, while so far we do not have any reliable evidence for villages or habitation



Chalcolithic Remedello Culture of Northern Italy, Fig. 5 Remedello-Sotto: OxCal5 plots of the calibrated dates obtained from human bones sampled from 11 graves. The uncal BP results are from de Marinis and Pedrotti (1997), Valzolgher (2014), and the present paper (GrM-25081 and

OxA-X-2621). The red dates are those filling the gap between the two previously suggested older and recent groups of tombs. The green boxes show the periods during which the calibration curve is very winding. (Drawing by P. Biagi)

Chalcolithic Remedello Culture of Northern Italy, Table 1 Radiocarbon and calibrated dates at present available for the Remedello tombs

Tomb n°	Material	Laboratory n°	Date uncal BP	Date cal BC 2σ	References
56	H bones	OxA-X-2621	4557 ± 28	3485–3103	Biagi et al. (2022)
106	H bones	ETH-12182	4485 ± 60	3364–2935	de Marinis and Pedrotti (1997)
34	H bones	ETH-12189	4400 ± 70	3335–2900	de Marinis and Pedrotti (1997)
BSI	H calcaneum fr.	GrM-25081	4391 ± 27	3093–2917	Biagi et al. (2022)
83	H bones	OxA-29927	4364 ± 29	3086–2905	Valzolgher (2014)
78	H bones	OxA-29926	4352 ± 28	3076–2901	Valzolgher (2014)
75	H bones	ETH-12183	4280 ± 65	3094–2639	de Marinis and Pedrotti (1997)
65	H bones	ETH-12188	4185 ± 70	2909–2576	de Marinis and Pedrotti (1997)
40	H bones	ETH-12185	4155 ± 60	2889–2576	de Marinis and Pedrotti (1997)
BSII	H calcaneum fr.	Beta-35224/ETH-6196	4070 ± 70	2874–2467	Biagi (1991)
27	H bones	ETH-12190	4025 ± 65	2865–2346	de Marinis and Pedrotti (1997)

structures, despite a report regarding the discovery of circular hut foundations excavated by G. Bandieri in the late 1880s (Cornaggia Castiglioni 1971: 40), which are probably to be interpreted as rubbish pits. However, according to the presence evidence, it is most probably inappropriate to consider the Remedello cemetery just a burial ritual, given the great variety of disposals, orientations, grave goods, and also chronology revealed by the analysis of the finds.

Although the publication of the Remedello graveyard has been undertaken by several authors from the end of the nineteenth century onward (Chierici 1884; Colini 1899; Laviosa Zambotti 1939; Acanfora 1956; Cornaggia Castiglioni 1971; de Marinis 2014), we still know very little of this aspect of the north Italian Chalcolithic. This is due mostly to the scarcity of detailed excavation data, provenance analysis of the raw materials employed for making artifacts, and, last but not least, radiocarbon dating of all the available human and other organogenic remains.

The most important aspects to reconsider regard the origin of the Remedello culture and the reason why it is distributed over such a small

territory which is crossed by many important watercourses, most of which originate from the Alps. These two points are difficult to understand also because of our insufficient knowledge of the chronology of the preceding Late Neolithic Lagozza culture and its Po Valley distribution, spread, development, if any, and its decline and final disappearance. In contrast with the studies recently conducted in central Italy to try to define the cultural and economic changes that took place between the Late Neolithic and the beginning of the Bronze Age (Dolfini 2020), no such work has ever been undertaken in northern Italy, where the available situation does not seem to be strictly comparable with that of the peninsula (Parkinson et al. 2021: 327). Moreover, the radiocarbon results available from some Italian regions are far too few to build a robust chronological framework.

In other terms, what was the Po Plain like around the middle of the fifth millennium BP? What do we know about it? Why did O. Cornaggia Castiglioni call the Remedello people “colonizers” (Cornaggia Castiglioni 1971: 73) as had already been proposed by G. Chierici in

1884? Where did these people come from and when? Why do the Remedello material culture assemblages show only a few traits in common with those of the preceding Lagozza tradition and the following Bell Beaker and Polada cultures (Barfield 1971)? What was their economic system like? Moreover, why are the differences between the Remedello-Sotto cemetery and that of Spilamberto-San Cesario, in the province of Reggio Emilia, south of the Po River, so striking? This important site is located along the course of the Panaro River, in the Province of Reggio Emilia. The graveyard was located close to a settlement of the same age. It yielded only graves of supine individuals, oriented in east-west direction. The grave goods consist of triangular, tanged arrowheads and one dagger with a rounded, notched base, obtained from Apennine chert, as well as two triangular, flat daggers made from almost pure copper. Ceramic vessels are very common. They consist of one handle mugs, and open bowls with “scales,” rough surfaces, which are a distinctive coarse ware type, which recurs in the southeastern part of the Po Valley, south of the River Po (Bagolini 1981).

Are these factors to be sought in the different origin of the two aspects or (and) in their different chronology? Only one ordinary radiocarbon date from charcoals has been obtained from the Chalcolithic settlement of Spilamberto (I-11816: 4195 ± 95 BP or 3016–2561 cal BC [92.3%]), though at present we do not have any date from any of the graves. The Spilamberto cemetery ceramic assemblage shows close parallels with that from the Panighina di Bertinoro water-well discovered in the same Emilia region, especially as regards characteristic long-necked mugs with only one handle that find comparisons in some cultural aspects of central Italy, Conelle di Arcevia for example. Pottery typological comparisons suggest that its origin is to be found somewhere in the peninsula, though this opinion may contrast with recent scientific analyses, which show that Chalcolithic mobility patterns in central Italy were quite limited, and that metal tools in northern Italy were already made of Balkan copper (Artioli et al. 2020: 80).

The available evidence for the Chalcolithic period in the Po Plain and the pre-Alpine region

has been described in detail mainly by Cornaggia Castiglioni (1971), Bagolini (1981), and Barfield (1971). All these authors noted the occurrence of several distinct Chalcolithic complexes (or cultures) in the territory, which are characterized by cemeteries with different burial rites and distribution patterns (Parkinson et al. 2021: 326). Among these are Remedello, Spilamberto, Civate (Cornaggia Castiglioni 1971), and Riparo Valtenesi below the Rocca di Manerba on Lake Garda (Brescia) mortuary houses (Fig. 6), apart from the presence of sites that yielded Remedello-like metopal wares with characteristic incised, discontinuous, net patterns that recall similar motives known from southeastern France (Cauliez 2011), although also this point is controversial. This picture is difficult to interpret, especially in the absence of good sets of radiocarbon dates and the very scarce evidence for habitation structures and villages.

Moreover, there are a few topics that are important to discuss. The first regards three radiocarbon dates obtained from Tomb 133 of the Riparo Valtenesi at Manerba del Garda, a Chalcolithic mortuary house graveyard excavated along the southwestern shore of the homonymous lake. This tomb yielded potsherds of biconical vessels very similar to those found inside the Remedello-Sotto graves BSIII and BSIV. The three AMS dates are strictly comparable with those recently obtained from the Remedello Tombs 78, 83, and BSI. They span from OxA-17230: 4385 ± 33 BP or 3097–2909 cal BC (95.4%) to OxA-17228: 4359 ± 32 BP or 3031–2901 cal BC (88.2%) (Barfield et al. 2010: 990). Moreover, it is interesting to note that a more recent burying phase is known from the same chamber Tomb 133 on the evidence of the date OxA-4547 (4040 ± 60 BP or 2778–2456 cal BC [85.4%]). Surprisingly, this result is comparable to that obtained from the Remedello-Sotto burial BSII. This site seems to have a depositional sequence chronologically similar to that of Remedello-Sotto.

Discussion

According to the available data, the Remedello culture has not yielded any ceramic vessel,

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Fig. 6 Rocca di Manerba: Chamber 133 (left) and Chamber 135 (right) under excavation. (Photographs by P. Biagi)



polished or knapped stone artifact, comparable with those of the Late Neolithic of the Po Plain, which is represented by the Lagozza culture tradition. This fact is confirmed by the characteristics of the material culture remains, grave goods, and radiocarbon dates. However, the chronology of the Remedello-Sotto cemetery is still poorly defined because of the very low number of reliable radiocarbon dates and the characteristics of the calibration curve available for the study period, which elongates the calendric results.

The data obtained from the 1885 to 1886 excavations, the typology of some of the most characteristic vessels, which include biconical pots with or without metopal decoration (Fig. 3), with paired vertically perforated bosses on the carination, and corresponding paired holes below the rim, and the new radiocarbon dates OxA-29926, OxA-29927, GrM-25081, and also OxA-X-2621 (4557 ± 28 BP or $3485\text{--}3103$ cal BC [95.4%]), show that at least two phases of deposition took place in the Chalcolithic cemetery of Remedello-Sotto, the more recent of which is represented by tomb BSII, and most probably also other graves. This impression is reinforced by the stratigraphic position of the grave itself (Colini 1899: 57), and the radiocarbon result Beta-35224, ETH-6196, which places tomb BSII at the boundary between the end of the

Chalcolithic and the beginning of the Bronze Age. However, this chronology can also be criticized, and it needs to be confirmed by more good-quality radiocarbon dates.

In this respect, the hammer-headed silver pin from grave BSII plays a special role (Fig. 2, right). It shows comparisons with the directly radiocarbon-dated Type 4 bone holed specimens attributed to the Yamnaya and Early Catacomb culture of the South Russian steppe zone, which fall between 4320 ± 60 BP (GrA-39349) and 4110 ± 45 BP (GrA-29135 and GrA-30051) (Shishlina et al. 2011: Fig. 2 and Table 2). Moreover, two specimens of this type of bone hammer-headed pin come from central European Corded-Ware burial sites, as already remarked by L.H. Barfield (1971: 57), one of which latter has been radiocarbon dated to 4270 ± 70 BP (Poz-45359) and 4140 ± 40 BP (Poz-33427). These results reinforce the impression that their spread took place during the second half of the fifth millennium BP (Shishlina et al. 2011).

Characteristic material culture elements, among which are hammer-headed pins made from bone and silver, are known from important cemeteries excavated in the Po Plain in northern Italy (Remedello-Sotto: Colini 1899: 54, Fig. 37; Cornaggia Castiglioni 1971: Tav. X, n. 5) and along the Tyrrhenian coast in central Italy, at

Gaudo, for example. Moreover, the head of one similar silver specimen was found inside one Rinaldone Culture burial excavated in the region of the Latium in Central Italy (Fig. 7). Broadly speaking, all these Italian archaeological cultures,

although they are characterized by very different ritual models and yielded different grave good items, are attributed and radiocarbon-dated to different stages of development of the Chalcolithic period (Valzolgher 2014).



Chalcolithic Remedello Culture of Northern Italy, Fig. 7 Distribution map of the Italian Chalcolithic cemeteries of Remedello-Sotto (n. 1), Spilamberto (n. 2), Rocca

di Manerba (n. 3), Gaudo (n. 4), and Rinaldone (n. 5) reported in the text. (Drawing by P. Biagi)

To sum up: at present, it is impossible to define the origin and disappearance of the so-called Remedello culture according to the available evidence, which is based exclusively on the data provided by a few cemetery sites and a few reliable radiocarbon dates. From a chronological point of view, the Chalcolithic Remedello culture falls into a complex period of the second half of the fifth millennium cal. BP of which we still know very little (Grigoriev 2022). During these centuries, great changes took place in most territories of south and southeast Europe, which involved people movements and great technological innovations, among which is metalwork, whose mechanisms of distribution are far from being clear (Dolfini 2020: 543).

The occurrence of sophisticated copper artifacts, axes, daggers, halberds, and silver ornaments, among which are hammer-headed pins and pectorals, shows that metalwork had already reached a very high technological level of manufacture in this period. Their presence, the suggested Balkan provenance of the copper metal used for their manufacture, the discovery of unique items that clearly recall Caucasian and steppe zone prototypes, and perhaps genetic and linguistic evidence tell us that Remedello falls into this wider picture, which affected northern Italy in many different ways, most of which are still poorly understood. Recently, the problems related with the importance played by metal and non-metal, in most of our cases chert weaponry, in defining the political authority of the individual buried have been remarked (Dolfini 2021). Moreover, the cultural transmission of some elements that characterize the southeast European steppe zone cultures has been suggested to have reached the Italian Peninsula and the islands (Saupe et al. 2021). More data have been recently achieved thanks to the study of the genetic profiles from a few different burial sites of Northeastern and Central Italy, which would confirm a diversity of ancestry components during the Chalcolithic. They may reflect larger changes in population structure, though the chronology of these events is still to be refined. Moreover, the Chalcolithic period in Italy is marked by the great variability of the burying traditions, rock art, and

stelae-statue production in both the Alpine and northwestern Apennine regions, as well as new metal and knapped stone manufacturing techniques.

Cross-References

- ▶ Cemeteries
- ▶ Chalcolithic
- ▶ Cultural Transmission
- ▶ Early Bronze Age
- ▶ Flint Arrowheads
- ▶ Grave Goods
- ▶ Hammer-Headed Pins
- ▶ Italian Peninsula
- ▶ Mortuary Houses
- ▶ Po Plain
- ▶ Radiocarbon Dating
- ▶ Southeast Europe
- ▶ Steppe Zones
- ▶ Technological Innovations

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