Giacomo Gonella

Tenth and Eleventh-Century Coarseware in the Local Economy of the Fortified Site of Broili (Frioul, North-Eastern Italy). A Case Study

MA Thesis in Medieval Studies

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by

Giacomo Gonella

(Italy)

Thesis submitted to the Department of Medieval Studies,

Central European University, Budapest, in partial fulfillment of the requirements

of the Master of Arts degree in Medieval Studies.

Accepted in conformance with the standards of the CEU.

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I, the undersigned, **Giacomo Gonella**, candidate for the MA degree in Medieval Studies, declare herewith that the present thesis is exclusively my own work, based on my research and only such external information as properly credited in notes and bibliography. I declare that no unidentified and illegitimate use was made of the work of others, and no part of the thesis infringes on any person's or institution's copyright. I also declare that no part of the thesis has been submitted in this form to any other institution of higher education for an academic degree.

Budapest, __ May 2013

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Signature

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TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

This study is part of a wider landscape archaeology research project in the Illegio Valley, located in the sub-Alpine zone of Frioul, the north-easternmost region of Italy (the altitude ranges between c. 535 [Broili itself] and 800-1000 metres). The project, directed by Dott. Aurora Cagnana, relies on collaboration among different departments and scholars, so that some scientific analyses (for instance, physical anthropology, archaeobotany) integrate the historical and archaeological approach, which aims at reconstructing the life and evolution of local settlements from Late Antiquity through the Middle Ages.

a b

Map 1. Location of the Illegio Valley (a) and the sites investigated or under investigation (b) (from Google Earth; last access May 2013).

Some of the excavations are still under way and two specific contexts have been focused on, namely, places of worship and fortifications; no evidence of villages has been found so far. Houses were probably scattered over the valley throughout the early and high medieval periods, all the same, the archaeological discoveries shed light on important aspects of the history of this district. In particular, the somewhat troubled process of Christianisation can be followed through three religious buildings, whilst two or three fortified settlements bear witness to official places of power that must have managed the community and the

economy of the valley.

Besides the church of St. Florian, probably built in the tenth century and attesting the consolidation of the parish system during the Ottonian Age, the church of St. Paul and the private chapel of St. Vitus have also been investigated (map 1).[1] According to radiocarbon analysis, the earliest edifice at St. Paolo goes back to the late fourth century and was renovated in the early fifth century; it was then abandoned in terms of religious function by the late sixth century until the medieval church was rebuilt in the same place around the thirteenth century. This must have been a reference point in Late Antiquity for a substantial community living in either nucleated or dispersed settlements. The Illegio Valley can well be considered a fringe zone; however, such a condition may also have been desirable, especially for people seeking a safe place after leaving the nearby town of *Iulium Carnicum* (Zuglio), just a few miles away, which was situated along the main road that linked Aquileia to *Aguntum* (Lienz) and thus exposed to raids during the migration period.

The causes of the early medieval liturgical abandonment of this church could be manifold: weakness in ecclesiastical frameworks, a return to heathenism, and/or a strong presence of new pagan settlers, rather than a dramatic demographic collapse. The fact is that in the valley there was probably no Christian place of worship until the High Middle Ages other than a Carolingian-Age (c. early ninth century) private chapel, which may be considered a typical *Eigenkirche*.[2] This small edifice may be related to a political authority; however, the chronological gap between it and the fortifications investigated does not allow complete understanding of the development of the social context. A tower at Cuel di Tor (somewhat resembling that at Broili) was reused during World War I and the archaeological

[1] *La pieve di San Floriano d'Illegio. Archeologia, storia, arte, tradizione*, ed. Flavia De Vitt (Udine: Forum, 2006); Silvana Gavagnin and Stefano Roascio, "Indagini archeologiche nella chiesa di S. Paolo di Illegio (UD): le fasi tardo-antiche e altomedievali," in *IV Congresso Nazionale di Archeologia Medievale*, ed. Riccardo Francovich (Florence: All'Insegna del Giglio, 2006): 304-310.

[2] These specific buildings were founded by high-ranking people who were usually buried there after they died; this seems to be the case with St. Vitus at Illegio, see Valeria Amoretti et al., "Lo scavo della chiesa di San Vito di Illegio (Tolmezzo, Udine), Una Eigenkirche carolingia nelle Alpi Carniche," In *V Congresso Nazionale di Archeologia Medievale* ed. Giuliano Volpe and Pasquale Favia (Florence: All'Insegna del Giglio, 2009): 487-91.

deposit completely removed, therefore nothing specific can be said. The excavation at Feleteit is under way and, at the moment, only the phases related to the patriarch of Aquileia's *ministeriales* (thirteenth/early fourteenth century) have been ascertained (map 1).

The most interesting fortified site of the valley is then Broili, where the archaeological investigation is almost complete and the ceramic assemblages are the topic of this study.[3] This site shows different phases and structures ranging from the early tenth to the late eleventh century. I will focus on a specific aspect of the material culture, although I will try to integrate it in the archaeological and historical context, starting from the work that has hitherto been carried out by my team.[4]

From an archaeological perspective, the situation is fairly fortunate, since the relatively short chronological context is an important starting point to ascertain the wares in use at that time; this is true especially for coarseware, considering the difficulty of following the evolution of often long-lasting types, which are often not associated with any reference items, such as amphorae or Red Slip ware, from the seventh century, at the latest, onwards. The number of diagnostic shards is not large (120), however, it appears to be quite representative, as a good number of types is attested. The aim of this research is to determine any specific vessels for each phase of Broili and their eventual circulation over Frioul and the regions under the Patriarchate of Aquileia (roughly extending from north-eastern Italy to western Slovenia, and from Istria to southern Austria), which was one of the most important institutions (not only in religious terms) of this area. The main purpose is thus economics-oriented, although social aspects which might emerge from research are of course taken into account.

This study evolves through different stages. The first step is to frame the layers

[3] Aurora Cagnana et al., "Le fortificazioni in località 'Broili' di Illegio," in *Notiziario della Soprintendenza per i Beni Archeologici del Friuli Venezia Giulia* (2007), 2: 190-193.

[4] I have elaborated the relevant data on the basis of preliminary excavation reports developed by the team during the different campaigns (especially by Massimo Ghidotti and Eliana Bertamoni). However, I started from the context sheets, in order to cross-check the conclusions drawn so far.

associated with ceramic evidence within the archaeological sequence, in order to define phases more precisely. Secondly, a macro-analysis of the pottery pastes is carried out, trying to group them, mostly on the base of the characteristics of temper inclusions (composition, frequency, size), and associate them with specific phases of the settlement. The macro analysis of ceramic wares carried out by the archaeologist is crucial, since it prepares the material for a possible further step which includes physical and/or chemical tests (not done yet for this study). Such preparatory work is definitely of consequence, because it is the archaeologist who is expected to select the samples for these analyses in order to address the right questions in laboratory tests, which would otherwise result in useless data and a waste of money. If the archaeological work is carried out properly, important outcomes can be obtained, as shown by some contributions in this field.[5] Along with the paste macro analysis, a morphological study is tackled, which can rely on a wider scenario in terms of contributions; nonetheless, some problems exist in a number of cases, such as no precise dating and the uncertainty of the stratigraphic sequence. However, the main problem in many reports is the absence of systematic quantification of potsherds and types, which is achieved in works promoting a more standardised approach to processing data (good examples come from research in the Italian regions of Liguria and Tuscany).[6] My research follows such a method and then tries to discover which sites may indicate substantial parallels with the ceramics from Broili on the basis of vessel frequencies and relevant characteristics, in order to draw conclusions about any possible circulation and manufacturing system of which the Illegio Valley may have been part in the tenth and eleventh century.

[5] See, for example, Sabine Ladstätter and Roman Sauer, "Ergebnisse petrographischer Untersuchungen von Mörtelproben aus dem frühcristlichen Pilgerheiligtum und der spätantiken Siedlung vom Hemmaberg/Kärnten," in *Arheološki Vestnik* 49 (1998): 315-28; Stefania Spagnol, "Ceramica commune grezza dall'isola di Torcello (VE)," in *La circolazione delle ceramiche nell'Adriatico tra tarda antichitá e altomedioevo*: *III Incontro di Studio CER.AM.IS*, ed. Sauro Gelichi and Claudio Negrelli (Mantua: SAP, 2007): 107-26.

[6] Gloria Olcese, *Le ceramiche comuni di Albintimilium. Indagine archeologica e archeometrica sui materiali dell'area del Carmine* (Florence: All'Insegna del Giglio, 1993); Federico Cantini, "Il materiale ceramico dall'area 1000 del castello di Montarrenti (metá VII-XIII secolo)," in *II Congresso Nazionale di Archeologia Medievale*, ed. Gian Pietro Brogiolo (Florence: All'Insegna del Giglio, 2000): 413-419.

Chapter I

The archaeological context of the site of Broili

The survey has ascertained three main areas, namely, Tower 1 and Edifice 2, located respectively on the western and eastern sides, and a level area between them. They do not have direct stratigraphic connections with one another, but some clues allow a reconstruction of evolution of the settlement as a whole, which appears to have developed through different phases between roughly the early tenth and the end of the eleventh century. Apart from stray finds and sporadic evidence of Roman-Age in-situ layer(s), the earliest large works must have taken place in the eastern part of the site. The latter was there accessed through a building (called Edifice 4), provided with a door, the only extant remains of which are a few mortar-bound layers of stone that formed the south-east corner. In front of this, to the east, a moat was detected, but the shallowness of anthropic deposits, no more than about 0.5 m, prevents regarding it as a real defensive barrier. There is a considerable difference in height between the door's ground level and the core area of the site (about 3.60 m), so that wooden walkways probably led to the upper part of the settlement, since the current terrain map seems to still reflect the medieval one. On the raised part, an array of postholes indicates the presence of what was probably a boat-shaped hut, which may have been associated with Edifice 4, the latter having been, in this case, an enclosure protecting that.

All the same, stratigraphy does not contrast with the possibility that another building, Edifice 2, cutting the hut, was part of the same construction project as Edifice 4, and so the hut could indeed have been an isolated feature before falling into disuse. According to C 14 dating, Edifice 2 was erected around 925-950 CE. It was of high-standard mortar-bound stonework, about 6 by 4.5 m, which certainly had more than one storey, and eventually a wooden roof, since no tiles were found during its excavation. The

walls, on average about 0.80/0.90 m thick, or a little more on the western side, were exposed to view, as is also supported by the plaster accurately laid on the outer surfaces, apart from the eastern side, which might have been built against an earth embankment, if the latter did not belong to the later phase (investigations have hitherto not ascertained this). The entrance was placed on the eastern side, and it opened onto the courtyard; it is marked by two jambs, and an opening, 1.2 m wide, was laid over stone ballast which filled a purposely dug pit. This work likely aimed to ensure stability, whilst more efforts for this matter were required by the rest of the building. The northern wall, in fact, which was erected first, sank westwards, and compelled the masons to lay down a thick packing of clay in order to keep on constructing the edifice on the same level. As the setback occurred quite soon in the construction process, one can infer the firm intention to place the building there, although the reason is not clear on the basis of the available evidence. In addition, whether due to difficulties of this kind or second thoughts, the western wall was constructed with three different layers of stone, which should be ascribed to this phase. Some uncertainty remains about a hole in the interior south-western corner, probably for lodging a timber-frame-bearing post. The situation on the western side is not fully understood. The top blocks of the aforesaid three layers of stone form a level at a height of about 1.20 m; nonetheless, this sort of niche might have been partly hidden by any structure associated with the large round pit that cuts the floor adjacent to the centre of the wall. That was a later rearrangement, but could be related to the hearth in the north-east corner, which was still in use and regarded as a place for cooking (a small posthole discovered; possibly for suspending pots), or heating the room. All in all, the inner space did not undergo major changes, whilst considerable work was carried out on the outside at some points. The external surfaces of at least the southern and northern walls were plastered with a thin layer of clay, in order to be insulated before being covered with three different layers,

characterised by gravel and pebbles, which resulted in a protective mound running along three sides of Edifice 2.[7] In contrast, the western wall was more or less left in its original situation, and kept the function of providing the main access to the building. If Edifice 4 or part of it had somehow been exploited by Edifice 2, the "motte" complex finally obliterated it, and can be assumed to have been the last important phase in the eastern area of the settlement, since the only later evidence of consequence is an extant (about 5 m long) single-layer piece of stonework standing on the southern side of the mound without any specific connection with any other structure.

In front of Edifice 2's entrance, on the level area stretching westwards, no feature can be associated with these buildings, since they are separated by a strip of natural deposit, as is also the case with the boat-shaped hut, which in turn has no neat stratigraphic relationship with the rest of the remains.[8] However, three main phases have been ascertained in the area related to the courtyard of the medieval settlement. The earliest one is shown by two floors (359, 360) that were arranged upon a geological gravelly layer. One is composed of crushed limestone pebbles, while the other is characterised by more accurately set small flat stones that form a sort of cobbled pavement. They seem to have marked the outside and the internal space of one/two building(s) respectively, of which only parts of dry stone walls have survived. These buildings were a round structure (314) that, if complete, must have had a diameter of about 5 m, and an east-west-oriented construction (371) which stood at the centre of the plain, as inferred from its extant north-eastern corner, although it is not sure that it extended as far as the round structure.[9]

[7] The three layers appear to be geological strata, but, since they were piled on the remains of the boat-shaped hut and Edifice 4, they turn out to be an anthropic action.

[8] The only relevant evidence is a sequence of layers, with a good number of potsherds, situated upon the natural layer and close to the north-western corner of the edifice. They may be regarded as dump pit(s), and should be ascribed to either of the main phases of this building. However, not even these contexts stretch far enough westwards beyond the natural layer to be connected with any other feature.

[9] If one follows the existing limit of the external floor, one possibility is that the second construction was joined to the round structure after turning a couple of feet northwards.

A later stage is attested to by an array of features interpreted as storage pits or silos, which, if not strictly coeval with one another, seem to account for the same *conjoncture*, notwithstanding the lack of direct contacts among some of them. The structures were circular or sometimes oval in shape, and roughly similar in size; they were all of dry-stone construction and none of them appears to have been plastered on the inside as protection against soil moisture. About a dozen of them were detected, generally poorly preserved, but there must originally have been more. The situation gives the impression of containers that were frequently restored or rebuilt in a tight and well-planned arrangement that aimed at fully exploiting the available room of the level area. A sequence of silos was found along the northern edge of the level area; at least some of them were presumably originally located inside warehouses, as is indicated by remnants of partition walls following the same line. Similarly, in the central-western area of the courtyard, a group of three circular pits is divided by a T-shaped wall (370) which is ascribed to this phase rather than to the aforesaid round structure (314) that seems to enclose it. Such a conclusion is supported by the evidence of the mortar floor connected with those features (326), since it covers the previous pavements and, moreover, is in no way affected by the round structure, as emerges clearly if one follows the line where the round structure should have stood. The most plausible explanation is that this building had fallen into disuse and been demolished by the time of floor 326.

Another phase is shown by an array of postholes, stretching north-south on the western side of the level area, which refer to a timber-built round hut encircled by a fence. The first feature was about 3 to 4 m wide, and could have been a shed for animals, although its function is not certain as no artefacts were recovered; this is also consistent with the slight inclination of the floor, which would have been a suitable solution to let water flow off and so keep the inner room dry. There is no direct contact between these constructions

and the western Tower 1, due to a strip of natural layer that separates them from each other; nonetheless, the fact that the western half of the hut is missing may bear witness to its having been destroyed during the erection of the tower.

In any case, the hut-and-fence building represented a considerable change in the organisation of the level area, since it obliterated any earlier features. No neat evidence emerges from the northern edge, as the warehouses there were only affected by the later collapse of Tower 1, however, a large pit (309) was dug in the centre of the courtyard, and this too appears to have ultimately brought the phase of silos to an end (one silo located there was undoubtedly demolished).

Such work aimed at razing most of the older structures and levelling the ground in order to rearrange the level area as open space, underpinned by the fact that no further construction seems to have been carried out between Edifice 2 and Tower 1. Finally, it is interesting to note that the cut of the large pit seems to respect the boat-shaped hut, as if some parts of that were still visible (though plausibly only its foundations).[10] When this event occurred is not certain, but it could have been be associated with the hut-and-fence phase or, more convincingly, the building of Tower 1, which marked a real turning point in the settlement management. That was the most considerable undertaking in the last stages of the site, and may go back to the 970/980s, according to the C 14 dating. It took place at the western edge of the plain, where no evidence of previous construction has emerged from the excavation.[11] The edifice was externally about 11 by 7 m, the walls, on average, were almost 1.20 m wide, bound with mortar and plastered on both surfaces; the western wall was built against an embankment, whilst it is uncertain whether the same occurred for the northern wall, since an inner frame can be interpreted as either a window or a sort of niche. At the

[10] Possibly remnants of wooden posts, which may indicate that not enough time had passed for the wood to decompose.

[11] The hypothesis of the accurate removal of older frameworks and materials seems unlikely, taking into account that a possibly in-situ layer with typical Roman-Age jars has indeed been detected just in front of the eastern side (along the line where the medieval scaffolding was probably set up).

ground level, no door has been found, therefore one puts forward that the access was from above, and could be reached by walkways leant against the outside walls of the tower, which must well have had more than one storey.[12]

The inner room shows different phases, nonetheless, only scant material has been recovered from the early phases. The original construction is identified by the walls' offset and an array of postholes (relevant to scaffolding) dug into the natural soil, which was then covered with cobbles in order to lay a mortar floor.[13] Another mortar pavement shows a later context, however, some time must have passed, as implied not only by the necessity of building a new floor, but also by the fact that the latter was placed above layers which bear evidence of dilapidated plaster along the walls. A second layer showing the decay of yellowish and pinkish plaster marks the end of this phase, which appears to have been more dramatic, considering the collapse of a timber roofing or frame as caused by fire.

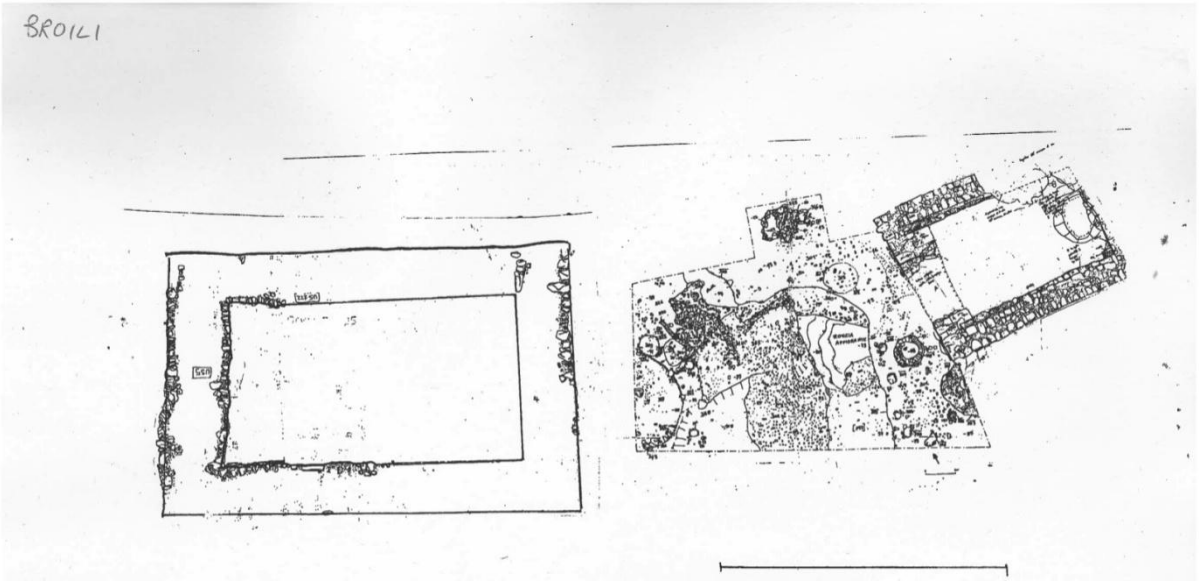
After such an event, the situation that followed was characterised by more substantial elements in terms of features and materials and represents the last occupation of the site. Specifically, a furnace for iron smelting, which underwent some remakes during its use, was installed in the basement and other finds prove diverse activities, probably from the upper floors. Quite a large amount of seeds (legumes), some metal brooches, and gaming pieces (including chess) were recovered. All these materials can probably be assigned to this context, notwithstanding the transition between the two phases being featured by two burnt layers, therefore difficult to distinguish. All the same, the kiln is a stratigraphic guide to solving the matter, since the upper black layer covered parts of that, thus demonstrating a later stage, in connection with the aforesaid structure, which in turn rested on the older burnt deposit.[14]

[12] As also inferred from the large bulk of stones that fell down after the final demolition.
[13] Charcoal samples (remnants of posts) were taken from these postholes for C 14 analysis.
[14] Besides, the upper layer is also characterised by fire-reddened clay, certainly owing to the activity of the furnace. About the latter, it is not sure whether it was for smithing or rather sintering, as only some iron ores

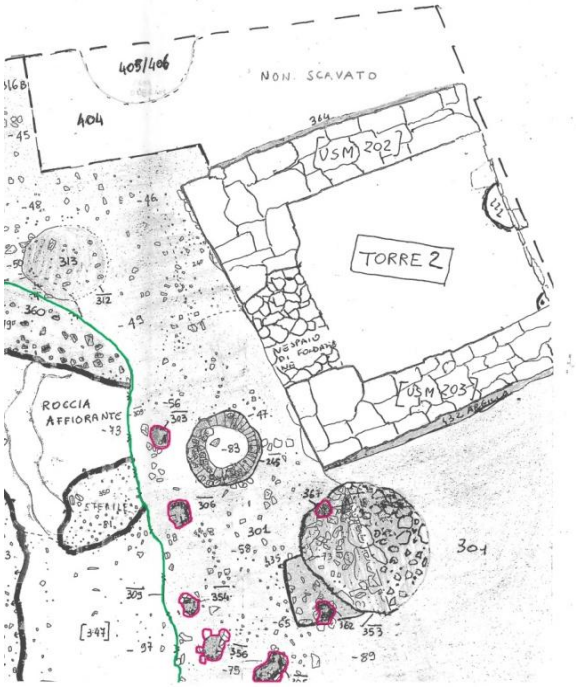
Outside the tower, along the western side at the very edge of the settlement, the presence of potsherds and animal bones can be associated with the last period of the edifice and regarded as garbage thrown out of the building. This was dumped straight onto the natural soil, probably an embankment on the western side, which was about 2.50 m above the tower's internal area.

Finally, the last archaeological evidence shows the utter disrepair of the building caused by fire. Specifically, the inside of the edifice was covered all over by a charcoal layer that sealed the whole previous situation and can be dated to about 1080, according to the peak of probability of the C 14 analysis. It certainly refers to the wooden beams and frames which burned down first, while the complete collapse took more time, as implied by the strata containing mortar, burnt clay, and some artefacts like bone gaming pieces, fragments of bronze brooches/studs, and other items, deposited upon the charcoal layer itself. Above these layers, still within the inner room, the upper floors crumbled in a heap of rubble and a large number of stones fell into the courtyard, thus marking the stratigraphic end of the features located there, if any had still been in use. This dramatic and conclusive event brought about the abandonment of the entire settlement. Evidence of later activities is definitely poor and eventually related to farm work or salvaging stones.

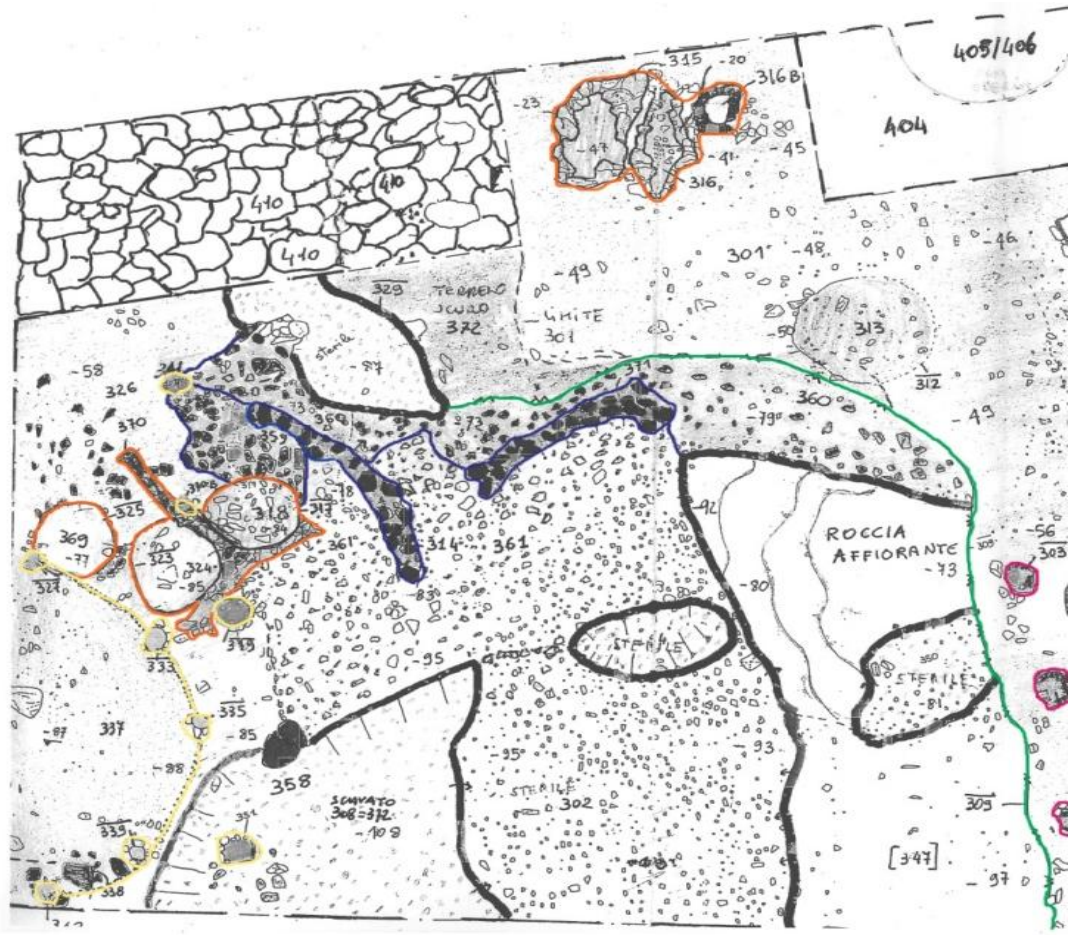
have been found.



Map 2. General map of the site of Broili. Scale: c. 1:200.



Map 2a. Map of the eastern part of the level area/courtyard (with Edifice 2). Same colour indicates same phase. Purple: Boat-shaped hut; green: cut 309 filled by context 310. Scale: c. 1:50.



Map 2b. Map of the central and western part of the level area/courtyard. Same colour indicates same phase. Blue: large round structure; orange: silos phase; yellow: hut-and-fence phase. Scale: c. 1:50.

Archaeological and historical interpretation

The site of Broili is the first evidence of power structure and land organisation in the valley, probably in connection with the establishment of the parish church of St. Florian, the early phase of which probably goes back to the tenth century. For previous times, archaeological surveys have hitherto detected only a Late Antique church, abandoned throughout the early Middle Ages (until it was rebuilt around the thirteenth century), and a ninth-century *Eigenkirche*. Although the lack of other evidence may be a result of the limits of investigation, after the establishment of religious structures as early as the fourth century, even in rural areas (as promoted by the 380 council of Aquileia), a certain incapacity to maintain such a network emerged after the sixth century, as shown by the abandonment, in

terms of liturgical function, of a good number of Frioulan churches located in peripheral zones like the Alpine districts.[15] Such difficulties may have been caused by economic/management problems, perhaps in conjunction with the return of paganism, for either local churches' inability to consolidate or the arrival of new people that were partially or not at all Christianised (Lombards, Slavs).

The situation seems then to reflect what Wickham has put forward about the first centuries of the early Middle Ages, that is a slackening institutional pressure on resources and production, whilst some changes can be seen by the late Lombard and early Carolingian period, which in Frioul are attested by some "standardised" pottery manufactures that developed from the late seventh/early eighth century onwards as a result of a more organised economic system.[16] In the Illegio Valley just a few of these ceramic forms were recovered from the eighth/ninth-century layers at the church of St. Paul, however, the *Eigenkirche* could indicate the presence of some authority in the course of the ninth century. No secular structures can be ascribed to the founder of this aristocratic private chapel, who was buried there following a typical custom of the time. There is a slight possibility of connecting him or his immediate descendants to the site of Broili. The boat-shaped hut alone would not speak of any suitable residence for a high-ranking person, however, it could be either what remains of a larger complex (eventually timber constructions, as would be expected for this period), or an outbuilding related to Edifice 4, if this had really been

[15] Apart from the church of St. Paul in the Illegio Valley, another example is the church of St. Martin at Ovaro, see Aurora Cagnana, *Lo scavo di San Martino di Ovaro (UD) (sec. V – XII). Archeologia della Cristianizzazione rurale nel Territorio di Aquileia* (Mantua: SAP, 2011).

[16] The transfer of lands to monasteries could have had an important part in this process. It is the case with one of the rare extant written sources of the time from northern Frioul, in which *dux* Massellio gives some estates located at Forni (a few dozens of miles north west of Illegio) to the monastery of Sesto al Reghena in 781; Luigi Zanin, *L'evoluzione dei poteri di tipo pubblico nella marca friulana dal periodo carolingio alla nascita della signoria patriarcale* (Venice: Università Ca' Foscari, 2010), 28-29. About the difficult consolidation of aristocratic power over peasants and lands: Chris Wickham. *Framing the Early Middle Ages* (Oxford: University Press, 2005), especially 383-85.

erected and used before Edifice 2.[17] In such event, the early structures detected in the level area, like the round one (314), may be associated with this phase, although the settlement appears to have been established as a strictly-organised centre only with the construction of Edifice 2, to judge, for instance, from the constant use of the level area, as demonstrated by the silos (interpreted as warehouses) set in a delimited room and periodically (re)built over a short chronological span. It is noteworthy that none of them was plastered on the inside walls (for protecting the supplies from humidity), therefore one should think of seasonal storage of in-kind goods being stocked and soon directed elsewhere. This would support the hypothesis of a place for collecting taxes (also in the light of large-size vessels) rather than a permanent seat of any local authority, as would also be underpinned by the lack of substantial evidence of residence from Edifice 2 itself, which could then be seen as related to activities of officials within the organisational network established by King Berengar and/or the Ottonian rulers (included the patriarch).

There is little evidence of such centres in the region, however, one of the few known was at Motta of Savorgnano, located in central-northern Frioul, about 25 miles south of Illegio. This is mentioned in a charter of 922, in which some properties and fortifications are confirmed to a clergyman, therefore demonstrating that they had existed in previous times too, and archaeologists have actually found there a stone-built tower with phases going back to the eighth century, according to C 14 dating.[18]

[17] In that case, there would have been a stonework as early as 9th century, this being quite unusual a situation, but not to exclude (C 14 dating for Edifice 4 should anyway be forthcoming). On the other hand, the hut shows common characteristics of constructions of the kind, which could anyway be relevant to both peasant and high-echelon contexts. Typologies in the light of archaeology and on a European scale are exhaustively dealt with by Vittorio Fronza, among others, "Edilizia in legno nell'Italia altomedievale: appunti per un'agenda della ricerca," in *Indicatori, strumenti e interpretazioni archeologiche per una storia dell'alto medioevo*, ed. Gianpietro Brogiolo (Workshop, Padua, March 25-27, 2010), forthcoming.

[18] Fabio Piuzzi et al. "La sequenza periodizzata delle fasi identificate (anni 1997-99- 2001-02)," in *Progetto Castello della Motta di Savorgnano: ricerche di archeologia medievale nel nord-est italiano*, ed. Fabio Piuzzi (Florence: All'Insegna del Giglio, 2003), 37-70. It could be a case of continuity in terms of a seat of power (the tower left standing), between the late Lombard/Carolingian period and the time when Berengar built up his network of alliances by granting lands to loyal families/groups.

It is difficult to say what the transformation of Edifice 2 into a sort of motte meant from an historical point of view. It may only speak of a suitable moisture-resistant insulation solution aimed at arranging the building as a proper dwelling place, at a time, namely around the mid-tenth century or a little later, when lords actually began to settle quite permanently in (fortified) places that represented the centres of production management and resource control, as also emerged in other geographic areas beyond the Alps, like France, southern Germany, Austria, and eventually Slovenia.[19] All the same, the choice of such a model may also derive from other reasons difficult to ascertain.

Mottes and baileys are a settlement pattern that, in its medieval form, was first developed in Normandy around the turn of the tenth century, nonetheless, some early examples also exist in the southern part of central Europe, as is the case with sites from Slovenia and the Isère region in south-eastern France.[20] The latter is where the well-known archaeological site of Paladru is located, which eventually referred to the political system of one of the mottes situated in the surrounding territory that are interpreted as centres of institutional political power through the first half of the eleventh century (a little later than the one at Broili).[21] For the previous period, however, it is noteworthy that the local ruler, Rudolf of Provence, also held estates in Frioul, although nothing more can be said, since this is just mentioned briefly in a document of 924 without any further details.[22]

[19] Michel Bur, *Le château* (Turnhout: Brepols, 1999), 23.
[20] The Bayeau Tapestry, dated to the late eleventh century, attests to such a building pattern brought in by the Normans. It displays the construction of a motte composed of different artificial strata laid upon one another: this technique matches the mound in Broili (http://en.wikipedia.org/wiki/Bayeux_Tapestry, last access: March 2013). About Slovenia: Katarina Predovnik, "Kosova Gomila v Razvanju in Vrprašanje Obstoja Mot na Slovenskem Ozemlju" [Kosova Gomila and the question of presence of Mottes in the territory of Slovenia] in *Series Historia et Sociologia* 18 (2008).
[21] Michel Colardelle et al., *Les habitats du lac de Paladru (Isère) dans leur environnement: la formation d'un terroire au XIe siècle* (Paris: Èd. de la Maison des sciences de l'Homme, 1993).
[22] Harald Krahwinkler, *Friaul im Frühmittelalter: Geschichte einer Region vom Ende des fünften bis zum Ende des zehnten Jahrhunderts* (Vienna: Böhlau, 1992), 113. A certain movement of rulers (including Church officials) can be emphasised, in terms of land holding; this must have meant transport of surplus production over substantial distances, which in turn started the market mechanism, see: Timothy Reuter, *Germany in the Early Middle Ages, c. 800-1056* (London: Longman, 1991), 229-30. However, from an archaeological perspective, this is less sure; in Frioul, one notices some "standardised" pottery manufactures, although a certain

With regard to the Broili's motte, the original extension of the mound is uncertain, but it plausibly did not stretch farther than 3-4 m from the walls of Edifice 2, also taking into account the edges of the terrain and the necessity of leaving a track for accessing the site (perhaps to the south). What is stratigraphically sure instead is that such artificial work obliterated Edifice 4, whilst Edifice 2's internal space did not undergo considerable changes, as the use of the same floor would imply, which may also mean it was reused relatively close to the previous construction chronologically). Evidence of (more) permanent residence is scant for this phase too, apart from the layers, with a good number of potsherds, found outside the building around the north-eastern corner, which seem to belong to the latest stages of the complex.

All in all, a reorganisation of some consequence can be suggested, especially if the hectic exploitation of the level area through the silo phase was associated with the creation of the motte. As already pointed out, stratigraphy cannot help in this matter; notwithstanding, such a hypothesis may be held, considering that both the level area's structures and Edifice 2/Motte were presumably abandoned before, or because of the erection of Tower 1. Such conclusions are based on the archaeological situation related to the final destruction of the settlement. If that were really caused by a military attack, one might then assume that Tower 1 was the only existing complex at the time, as the fire that marks the end of it has not been detected anywhere else at the site.[23] Besides, the absence of artefacts in the large round structure and silos would mean the end of their function as deliberately planned by the settlement's managers. A good number of potsherds come instead from features which cut or obstruct those above mentioned; namely, the large pit in the centre of the level area, and a layer deposited on floor 326 (without respecting it) on the north-western edge of the level area, both of which should probably be ascribed to the

regionalisation has often stressed concerning circulation, in particular in the eighth-ninth century, whereas the later situation (until the twelfth century) is still not clear owing to the limited number of sites investigated.

[23] An attack appears more convincing, since, in case of an accident, the edifice would perhaps have been rebuilt.

rearrangement carried out during the building of Tower 1. Doubts remain about the interpretation of the hut-and-fence construction, because it is later than the silos but likely earlier than Tower 1, which may bear evidence of a break in tax collecting and/or storage.

The turning point, in terms of site organisation, is represented by Tower 1. This was constructed in the last decades of the tenth century, but little can be said about its early stages other than the fact that, according to its size (inner room 45 sq m), it matches what in literature is regarded as a *palatium*, that is, a permanent residence of the local lord's family.[24] The artefacts yielded by excavation demonstrate this for a later phase. Along with activities showing a certain self-sufficient economy (iron working, food storage), bone waste and ceramic vessels indicate a dwelling place, whereas some materials bear witness of prerogatives of aristocratic ranks (hunting, chess pieces).[25]

It is uncertain what the 976 annexation of Carnia (north-west Frioul) to Carinthia brought about in terms of a political and social scenario, however, it is noteworthy that C 14 dating indicates that the foundation of the tower would go back to this very time.[26] I have not mentioned so far the possibility of any official of the patriarchate of Aquileia being in charge of any of the phases ascertained at the site of Broili. It cannot be excluded, but is not likely. Although most of Frioul was within the scope of Aquileia by the second half of the tenth century,[27] the patriarch took control over the northernmost districts of it allegedly in the course of the twelfth century, as would be the case with the villages of Venzone and Tolmezzo (the latter is 3 miles from the Illegio Valley).[28] Eventually, it is the destruction of

[24] A useful guide to the topic and relevant references by Enrico Zanini. *Palazzo*, in Enciclopedia dell'Arte Medievale (1998), http://www.treccani.it/enciclopedia/palazzo_(Enciclopedia-dell'-Arte-Medievale)/ (last access: March 2013).
[25] Christof Krauskopf. "Just Noble Things? Studies on the Material Culture of 13th and 14th Century Nobility," in *Château Gaillard 22. Études de castellologie médiévale. Château et Peuplement*, ed. Peter Ettel, Anne-Marie Flambard Héricher, and Tom E. McNeill (Caen: Publications du Crahm, 2006), 198-200, 197.
[26] Nothing more can be added, since the historical context of this part of Frioul is quite obscure, with written sources almost entirely absent.
[27] Karl Brunner, *Herzogtümer und Marken: vom Ungarnsturm bis ins 12. Jahrhundert, 907-1156* (Vienna: Ueberreuter, 1994), 69.
[28] Luigi Zanin (2010), 101.

the settlement that might have been consistent with the intervention of the patriarch, who would have brought about a change of leadership in the valley by attacking the existing power centre. C 14 dating's peak of probability says this event occurred around the end of the eleventh century. The site was definitively abandoned. However, settlement patterns were changing, and from that period aristocratic ruling families began to establish their castles at a certain distance from production and inhabited areas within their jurisdictional scope, specifically, at quite isolated and naturally well-protected places, as observed in the Tirol/Upper Adige regions.[29] An example comes from the Illegio Valley too. Archaeological investigations, still under way, have detected a tower situated upon a barely accessible spur called Feleteit. At the moment, only the layers relevant to the abandonment of the place have been ascertained, which may refer to those *domini de Legio* that fled because of a revolt in the third decade of the fourteenth century after having served the patriarch of Aquileia as *ministeriales* for some generations.[30]

[29] Giuseppe Albertoni, "Caseforti e torri nel quadro degli insediamenti fortificati della regione tra Inn e Adige nei secoli centrali del Medioevo. Osservazioni su alcune line di tendenza," in *Motte, Torri e Caseforti nelle Campagne Medievali (secoli XII-XV)*, ed. Rinaldo Comba, Francesco Panero and Giuliano Pinto (Cherasco, Italy: Centro Internazionale di Studi sugli Insediamenti Medievali, 2007), 189.
[30] Stefano Roascio et al., "Tolmezzo (UD): Illegio, seconda campagna di scavo in località Feleteit (2008)," in *Notiziario della Soprintendenza per i Beni Archeologici del Friuli Venezia Giulia* (2008).

Chapter 2

Phases of the Ceramic Assemblages

Pottery is by far the most attested group of materials recovered in the excavation of the site and is almost exclusively coarseware (771 potsherds, 4,529 grams).[31] It was found in a good number of stratigraphic contexts, although not every phase is represented (Table 1).

For the analysis, only the ceramic assemblages which belong with high probability to the same situation have been grouped with one another, whereas, in case of uncertainty, the clusters are dealt with separately. Such a solution, on the one hand, prevents distorted outcomes, on the other hand, it makes it possible to cross-check data, specifically, whether eventual similarities or discrepancies match the stratigraphic and chronological differences that emerge from the archaeological sequence. The division of the settlement in three main areas has been maintained, since the lack of clear direct contacts between the courtyard and the edifices creates problems in linking their features and artefacts together precisely within the same phases.

In the eastern part of the site, three main contexts with pottery have been distinguished. One, Cl. 2, refers to a layer that pre-existed the building of Edifice 2 (421) and another layer (242), which may be associated with the boat-shaped hut (for both, Edifice 2 represents a *terminus ante quem*, and thus their dating falls before about 925-950 CE).

A more substantial cluster, Cl. 3, is composed of stratigraphic units which are related to the construction of the aforesaid edifice. Specifically, the natural soil trampled on by the builders (212), and the laying of a mortar floor (216, 220, 244); all probably go back to the years between c. 925 and 950.

The last group of pottery, Cl**.** 4, comes from contexts that belong to the last use of the

[31] A very few glazed/underglazed potsherds have been recovered, mainly from the topsoil and a pit that seems to refer to a sporadic late medieval activity (436, 300); along with 6 shards of coarseware, 11 gr, the uncertain stratigraphic situation of which, nonetheless, prevent them from being considered in this analysis. In addition, 10 potsherds, 81 gr, could not be available for paste analysis.

complex (204, 206, 247, 168, 248), for they are directly covered by the destruction layers (either outside or inside the building), therefore it can tentatively be ascribed to the Motte phase. The erection of Edifice 2 gives, in this case, a *terminus post quem*, whilst the years around 970/980 can be considered the "limit before which", in accordance with the interpretation that the eastern area of the site fell into disrepair at the latest during the construction of Tower 1 on the western edge of the settlement.

With regard to the courtyard, pottery is present in most of the archaeological sequence's stages, though to different extents. The first cluster, Cl. 3a, consists of layers which refer to the earliest undertaking carried out in the level area, namely, the natural soil rearranged by the workers (444, 302=361, 347), and the features relevant to the large round structure (359, 360, 314). It seems to be a single situation, since there is no evidence of significant occupation before the medieval work other than a sporadic deposit with a few typical Roman-Age jars that was disturbed by the construction of Tower 1 (see below Cl. 1).

The second cluster, Cl. 4a, is connected with the silos phase (322, 325, 412), including context 428. The latter obliterated part of floor 326 (that was used by some of the structures ascribed to this stage), however, it should belong to roughly the same chronological span, for it was cut by the hut-and-fence intervention.

Finally, the third group, Cl. 5, has ceramics coming from layers which mark the end of any organisational activity on the level area, probably associated with the building of Tower 1 and the new form of settlement management. The relevant contexts are 310, 313, and 330; they possibly contained potsherds which belong to the previous phases and were mixed up during the aforesaid works.[32] It is important to note that most of the artefacts were recovered from the lower part of the deposits, quite close to the bottom, therefore they

[32] This fact prevents any exact attribution to a specific earlier situation; that notwithstanding, it allows a further cross-check of data, in particular, comparing the results in terms of pastes and typologies relevant to the level area's phases taken together with those coming from each of these stages (supposing that the large round structure and the silos identify the only substantial events that occurred at the courtyard, apart from the levelling under question).

plausibly come from a context preserved from later contamination. Late medieval and post-medieval actions have indeed been detected, but they were sporadic, namely a couple of pits (406), the materials of which are considered a specific group (Cl. 8), together with those recovered in the topsoil (300).

In addition, 308 consists of a separate cluster, Cl. 4b, since it was not an in-situ layer, and so its stratigraphic relationships cannot be reconstructed exactly (it mostly left sediment to the south of the original features because of the sloping terrain). This group also comprises pottery which was not ascribed to specific contexts, for it was recovered during the cleaning carried out between the excavation of two different layers. All the same, this should refer to the silos- and large-round-structure phases, or to the final levelling action, if not otherwise specified.[33]

The last clusters come from the Tower 1 complex located in the western part of the site. In the level area, 441 and 446 (Cl. 5a) can tentatively be considered as belonging to its construction phase, whereas 436 (Cl. 1) must be a pre-existing deposit which was disturbed by the latter, according to the typical Roman-Age ware found there. Another group, Cl. 6, is formed by 127, which has been interpreted as the second use of the building and for which the years around 970/980 (erection of the tower) represent a *terminus post quem*. Most of the ceramic assemblages assigned to the last cluster come from inside this edifice (2, 100=121, 101=123=129, 105, 125, 140, 142), Cl. 7, the only exceptions being those found just outside the western wall, which probably refer to wastes thrown out of the building during this phase (11, 14, 15, 17). Pottery from the disruption layers is thus included in this group, since it should be relevant to the manufactures in use at the very last stage of the tower and whose chronological "limit before which" is the destruction of the latter, that is roughly the end of the eleventh century.

[33] The situation of 308 appears to be quite similar to that of contexts 310, 313, 330 (supposing that the large majority of the artefacts, if not all, coming from these refer to previous stages), therefore the pottery is not expected to differ much.

Dating	Roman Age	Before c. 925-50 CE	c. 925-50	c. 950-80	c. 970-80	End of 10th-early 11th c.	Early 11th-end of 11th century	Late/post medieval time
Eastern area		**Cl. 2** (242), boat-shaped-hut phase, and **Cl. 2a** (421)	**Cl. 3** (212, 216, 220, 244), Edifice 2 building phase	**Cl. 4** (168, 204, 206, 247, 248), late Edifice 2 and/or Motte phase				
Court-yard			**Cl. 3a** (302, 314, 347, 359, 360, 361, 444), first use of level area (large-round-structure phase), tentatively connected with Edifice 2	**Cl. 4a** (322, 325, 412, 428), second use of level area (silos phase), tentatively connected with Edifice 2 and/or Motte	**Cl. 5** (310, 313, 330), levelling of the area tentatively associated with the erection of Tower 1 (materials probably from earlier stages)			**Cl. 8** (300, 406), sporadic activity
			Cl. 4b (308), materials from both phases					
Western area	**Cl. 1** (436)				**Cl. 5a** (441, 446), tentatively Tower 1 building phase	**Cl. 6** (127), Tower 1 second use	**Cl. 7** (2, 11, 14, 15, 17, 100, 101, 105, 121, 123, 125, 129, 140, 142), Tower 1 last stage	

Table 1. Clusters (Cl.) of pottery-containing stratigraphic contexts associated with the archaeological and chronological sequence.

Technical analysis of pottery clusters

The description of ceramic bodies relies on naked-eye and/or hand-lens analysis only. Three steps are followed for recording data. First, pastes that were initially distinguished within each stratigraphic context are here grouped in macro pastes (on the basis of common characteristics), in order to show the situation of the site in terms of pastes as a whole.

Second, I focus on aspects mainly due to firing and surface treatment solutions. Third, the pottery forms and types coming from each cluster are listed. Each cluster is composed of different stratigraphic units, interpreted as belonging to the same phase (as in Table 1).

Cluster 2 (before c. 925-950 CE)[34]

The relevant contexts are 242 and 421. The total number of shards is 58 (535 gr), of which only 2 (8 gr) come from 242.

Pastes, manufacturing, firing.[35]

The clay is cleaned (most of the impurities removed) and the basic temper is composed of calcite. Pastes are distinguished on the basis of inclusions' size and frequency and the presence of other intentional mineral elements.

Macro Paste 1 (sh. 56: 97%, 527 gr: 98%).[36] The temper is mostly calcite; the grains are frequent and their size ranges from minute up to mm. 2. In addition, the presence of pulverised chamotte (crushed potsherds) and also other tiny grey mineral elements that may be intentional.

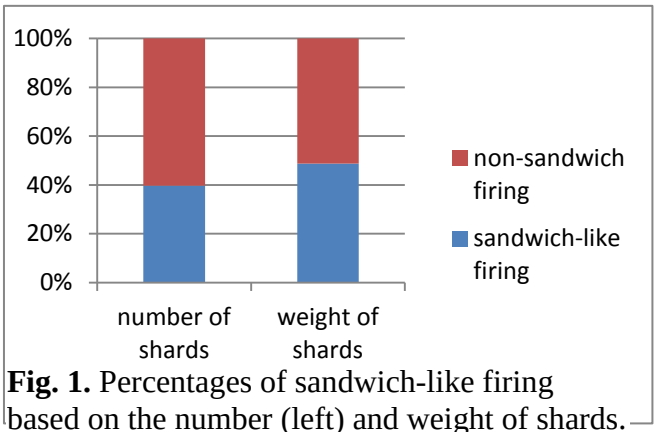


Fig. 1. Percentages of sandwich-like firing based on the number (left) and weight of shards.

Macro Paste 2a (sh. 2: 3%, 8 gr: 2%).[37] Temper consists of frequent calcite grains ranging from minute to 3 mm.

About the technical aspects, all the ceramic bodies are wheel-thrown and hard fired. Colours are generally orange and/or grey (actually with different shading), therefore firing must have been quite oxidised, though not very long, as can be inferred by a good presence

[34] Roman-Age finds not considered for the analysis: 2 amphora shards (159 gr), and 4 shards of fine pottery (12 gr).
[35] Exclusively macro analysis, namely, naked-eye or using a hand lens, has so far been carried out for all ceramic assemblages from the site.
[36] All shards from 421. Percentages are based on the total number of shards by number and weight.
[37] All shards from 242.

of sandwich-like sections (sh. 23, 40%, 261 gr: 49%)[38] (fig. 1). Further evidence for this is that only 1 shard (5 gr) shows voids on its surface (indicating that the calcite did not have enough time to dissolve; whereas the kiln temperature probably did not reach 800° C).[39] Finally, 15 shards (26%, 77 gr: 14%), all from what could be a lid (421), have a whitish/light grey patina, which probably indicates long use in a fire.

In terms of surface treatment, polishing is present on both the inside and/or outside of vessels, thus featuring in all potsherds; the grains of temper are visible on the surface of only one shard (5 gr). Decoration is characterised by deep combing, mostly on the outside (18: 29%, 85 gr: 16%).

Pottery types.

Most of the potsherds (all coming from 421) have been identified and assigned to specific vessels with some uncertainty. 15 fragments (26%, 77 gr: 14%) seem to belong to a lid rather than a jug (Type 10; Table 28, n. 1); apart from 1 rim (2 gr), they include a base (29 gr), suggesting the presence of another container (pot?) of similar manufacture. In addition, 41 shards (69%, 450 gr: 83%) are part of one plate or flat pan (Type 11; Tbl. 29, n. 1-2; one rim differs a little from the other two, but still seems to be from the same vessel).

Cluster 3 (c. 925-950 CE)[40]

The relevant contexts are 212, 216, 220, 244, and the total number of potsherds is 25 (93 gr).

Pastes, manufacturing, firing.

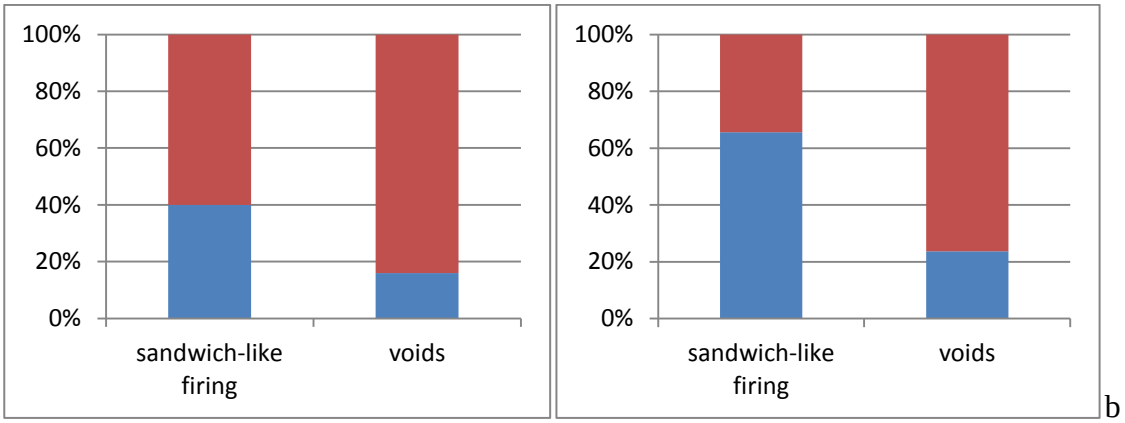
The clay has been cleaned and the basic temper is calcite. Inclusions are moderately frequent. 5 shards (20%, 24 gr: 28%) probably belong to Cluster 1's flat pan 421 (see Macro

[38] About colour and firing, see: Ninina Cuomo di Caprio, *La ceramica in Archeologia, 2: antiche tecniche di lavorazione e moderni metodi di indagine* (Rome: L'Erma di Bretschneider, 2007), 122-23.
[39] It depends on several conditions, but the process generally starts to a significant extent from 800° C, whilst a continuous use for cooking does not seem to cause dissolution of calcite, see: Ninina Cuomo di Caprio 2007, 92, 49, 118-foll., 494.
[40] 2 thick shards, 98 gr are not considered, as they are perhaps Roman-Age ring-shaped pieces relevant to a heating or water-delivery system.

Paste 1), whereas 2 rim shards (9 gr) from 216 are not ascribed to any paste.

Macro Paste 2 (sh. 18: 70%, 60 gr: 66%). Calcite grains range from minute size up to 1 mm and, rarely, 2 mm. The presence of at least one millimetric quartz grain may possibly mean the intentional use of such element as temper.

All the ceramic bodies are wheel-thrown and hard/very hard fired. Colours range from reddish orange to grey, with the exception of 1 shard (6 gr) which is black and almost vitrified (vitrification and burnt paste were detected on the 5 shards assigned to the aforesaid flat pan 421, notwithstanding the absence of similar evidence on the shards from 421). Sandwich-like firing amounts to 10 fragments (40%, 61 gr: 66%) (fig. 2), whilst voids feature on only 4 shards (16%, 22 gr: 23%) (fig. 2), and the patina detected on 13 shards (52%, 40 gr: 43%) is plausibly due to post-depositional conditions, since it also affects the cracked parts.



a b

Fig. 2. Percentages of sandwich-like firing and voids based on the number of shards (a) and weight (b).

In terms of surface treatment, almost all fragments were polished (24, 87 gr), with grains visible on one or both sides (sh. 24, 89 gr). Most of them show deep combing (16: 64%, 54 gr: 58%), which also marks the upper interiors of 2 rims (gr. 9), besides some notch decoration on the lip (fig. 3).

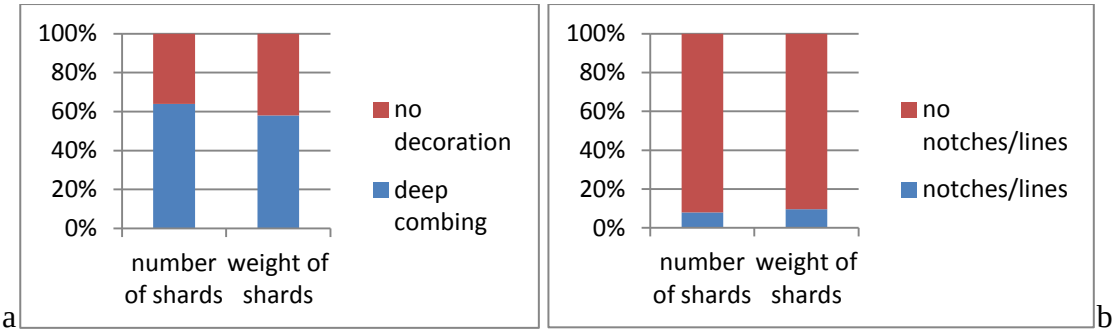


Fig. 3. Percentages of decoration patterns based on the number of shards (a) and weight (b).

Pottery types.

The minimum number of vessels is two, inferred from the two rims, which belong to pots **(**Type 1a and 2; Tbl. 3, n. 2; Tbl. 7, n. 6). It is uncertain whether a group of 17 shards (68%, 53 gr: 57%), all from 220=244, attests to another pot or an oven-lid, since only 2 bases (26 gr: 28%) are diagnostic (Type 17a; Tbl. 38, n. 4).

Cluster 3a (tentatively 925-950 CE)[41]

The relevant contexts are 302, 314, 347, 359, 360, 361, 444 and the total number of shards is 14 (211 gr).

Pastes (fig. 4), manufacturing, firing.[42]

The clay was cleaned and the basic temper is calcite, together with quartz grains of a certain size in 359/361 and 444 (sh. 3: 20%, 18 gr: 9%).[43]

Macro Paste 1 (sh. 7: 50%, 21 gr: 10%). Grain sizes range from minute to 1-2 mm, and from not very frequent to quite frequent. The distinctive element is the presence of grey and, at times, yellowish/orange minerals.

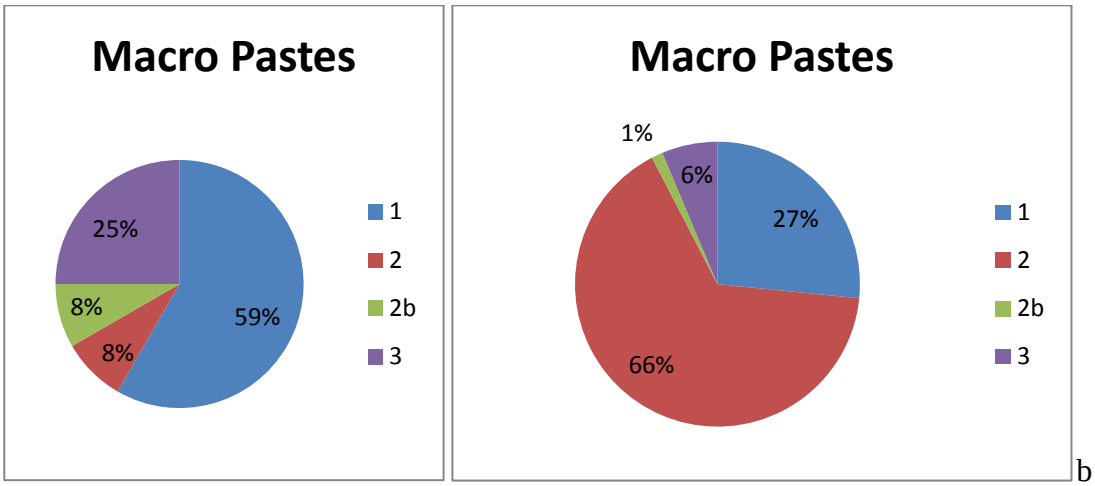
[41] 444 yielded 3 shards (3 gr) from what is probably Roman-Age fine pottery (not included in the analysis, like the shard of Roman amphora from 359/361).
[42] The discrepancies between percentages reported in the text and those of the figures are due to the fact that the first ones also take into account potsherds which could not be assigned to any paste.
[43] Perhaps it is not a case that the fragments from 359/361 Type 1 are vitrified, a fact which may indicate quite high or poorly-controlled firing, so that rock inclusions prevented the ceramic bodies from cracking. The temperature must at least have been below 870° C, since at that point quartz is irreversibly transformed, see: Cuomo di Caprio 2007, 84, 494. The abbreviation T (as after 359/361) stands for types initially distinguished within the same context. The amphora-like shard (Macropaste 4) is not included in fig. 4 as it has rather peculiar a paste and its weight would monopolise the percentage chart.

Macro Paste 2 (sh. 1: 7%, 52 gr: 25%). Grains seem to be quite frequent and range from minute to around 2 mm.[44]

Macro Paste 2b (sh. 1, 1 gr). Grains are not frequent and usually smaller than mm. 1.

Macro Paste 3 (sh. 3: 21%, 5 gr: 2%) (fig. 40). The distinctive element is that minute grains are very rare, being most of them between 1-2 and 3 mm.

Macro Paste 4 (sh. 1, 119 gr: 57%) (fig. 42). Almost inclusion-free, similar to amphora paste.



a b

Fig. 4. Percentages of Macro Pastes without the amphora-like shard (Macro Paste 4), based on the number of shards (a) and weight (b).

Apart from the amphora-like shard, all the fragments are wheel-thrown and hard or even very hard fired. Colours range from grey to reddish orange, with the exception of 1 shard (1 gr) that has one blackish face. Sandwich-like firing is evident on 3 shards (21%, 6 gr: 3%), whilst voids are present on 10 shards (71%, 87 gr: 42%). A greyish patina is present on the bottom of one base (13 gr: 6%), however, this may have resulted from post-depositional conditions, since it is also present on the broken edges. Finally, 2 shards (14%, 5 gr: 2%) show vitrification that may speak of poorly controlled firing, as also indicated by dark reddish hues and the use of intentionally-crushed rock for tempering, in order to prevent cracking from thermal shocks (fig. 5a, b).

[44] The shard (13 gr) from 444 resembles, if it is not, Late Antique pastes like those from the church of St. Paolo.

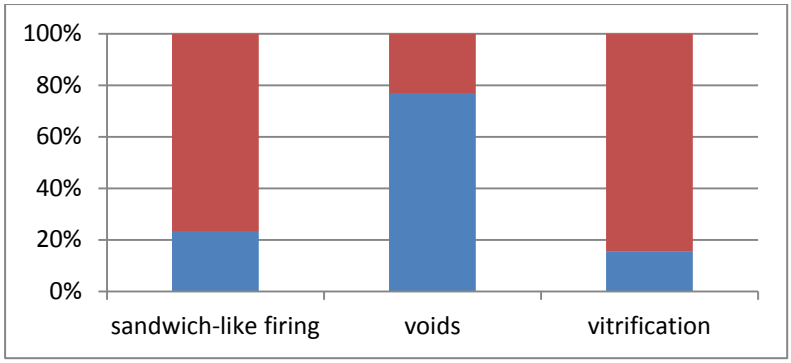


Fig. 5a. Percentages (without amphora-like shard 314) based on shard frequency.

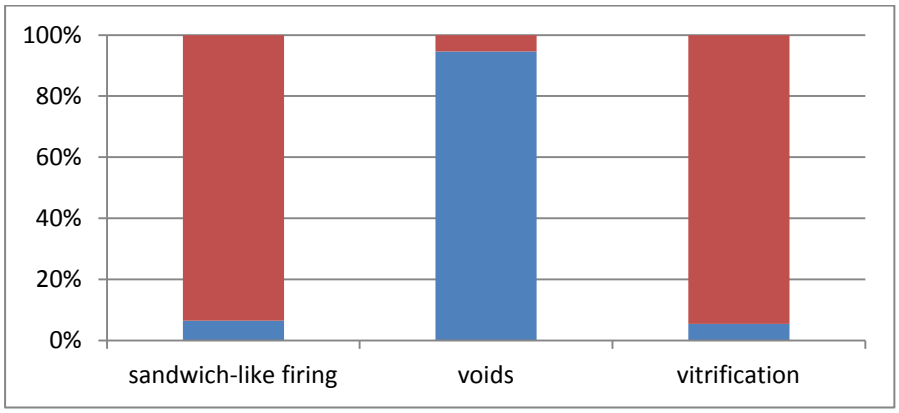


Fig. 5b. Percentages (without amphora-like shard 314) based on shard weight.

The surface treatment of all potsherds is polishing and grains of temper are visible on 3 fragments (21%, 6 gr: 3%). Deep combing is present on only one shard (1 gr), but one should take into account the amphora-like piece and the presence of some bases, which were usually not decorated on the lower part.

Pottery types.

The minimum number of vessels is two, namely a large jar similar to amphorae (sh. 1, 119 gr: 57%, Type 16; Tbl. 36, n. 1), and 2 bases (14%, 65 gr: 31%, both Type 17a, Tbl. 38, n. 7-8).

Cluster 4 (c. 950-980 CE)[45]

The relevant contexts are 168, 204, 206, 247, 248 and the total number of shards is 77

[45] 11 shards (50 gr) are not ascribed to any paste; some pot rims and bases, as is the case with other assemblages, have tentatively been assigned to specific paste groups, since they were not available during the analysis (however, when the situation is too uncertain they are not considered). From this phase one base (9 gr) could be Roman fine pottery or a late medieval lamp.

(507 gr).

Pastes (fig. 6), manufacturing, firing.

The clay was cleaned and the basic temper is calcite, except in a sub-group from 168 that also contains intentional crushed quartz (sh. 6: 8%, 41 gr: 8%). Inclusions are generally quite frequent.

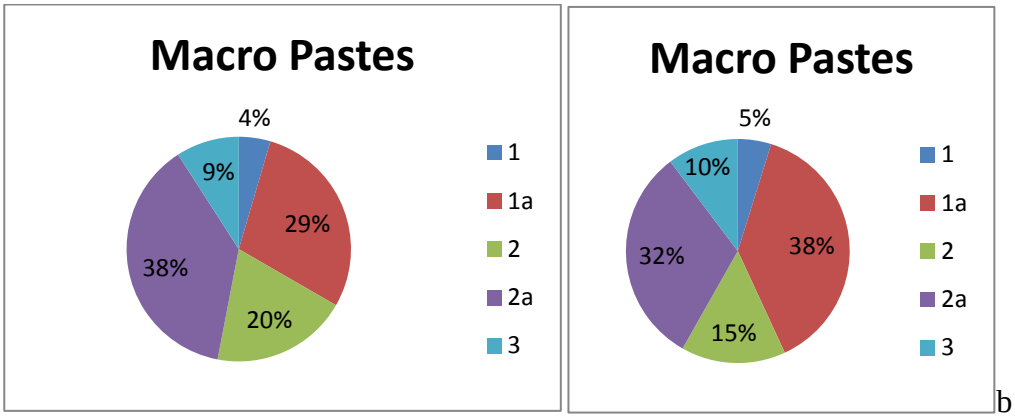
Macro Paste 1 (sh. 3: 4%, 22 gr: 4%). Calcite grains range from minute up to 1 mm or, rarely, 2. A distinctive element is the presence of yellowish or reddish-orange inclusions (chamotte, ferric oxide?).

Macro Paste 1a (sh. 19: 25%, 175 gr: 35%). Calcite grains range from minute to 3-4 mm, but a peculiar element is the presence, although scant, of grey minerals, which may or may not be intentional.

Macro Paste 2 (sh. 13: 15%, 69 gr: 14%). Calcite (and quartz in case of 6 sh.: 7%, 41 gr: 8%) grains range from minute to mm. 2.

Macro Paste 2a (sh. 25: 33%, 144 gr: 29%). Calcite grains range from minute up to 3/4 mm or little more.

Macro Paste 3 (sh. 6: 8%, 47 gr: 9%). Calcite grains range from minute to 4 mm, with larger sizes the most common.

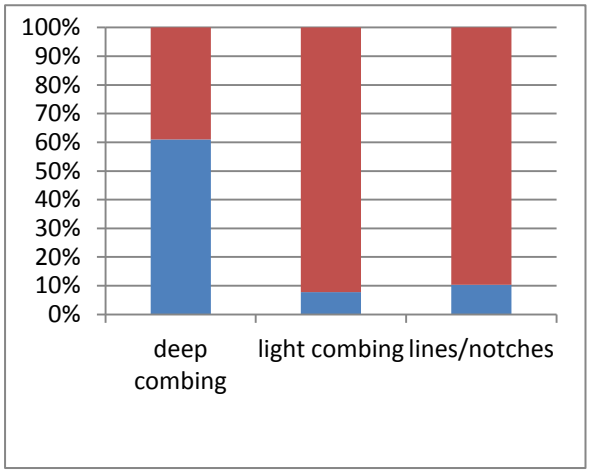


a b

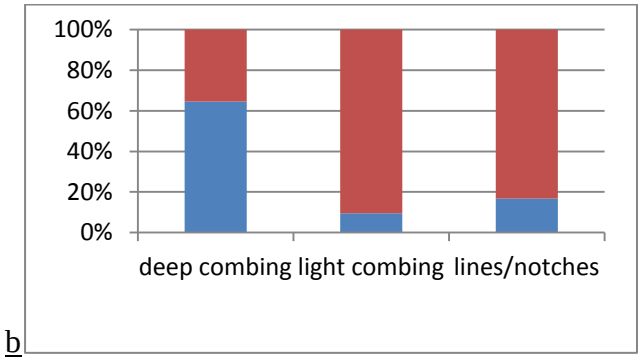
Fig. 6. Percentages of macro pastes based on shard frequencies (a) and weight (b) (only potsherds that could be ascribed to a paste are counted).

Technically, the ceramic bodies are wheel-thrown and generally hard fired (few shards vary, being not very hard or very hard). The colours are grey and orange, with the exception of 12 shards (15%, 77 gr: 15%), which are reddish-brown. Sandwich-like firing is present on all potsherds, while voids are present on 13 fragments (17%, 76 gr: 15%) (fig. 7); some blackish spots were detected on the surface of one shard (16 gr: 3%), which may indicate either poorly controlled firing or use for cooking.

In terms of surface treatment, almost all the shards are polished and grains are visible on 21 surfaces (19%, 190 gr: 38%). Deep combing characterises 47 shards (61%, 327 gr: 65%), whereas 6 surfaces (8%, 48 gr: 10%) show lightly-combed decoration. Lines and/or notches are present on 8 shards (10%, 85 gr: 17%), mainly on rims, and two bases (3%, 98 gr: 20%) have a potter's mark on the outside (fig. 8).



a



b

Fig. 8. Percentages of decoration patterns based on the number of shards (a) and weight (b).

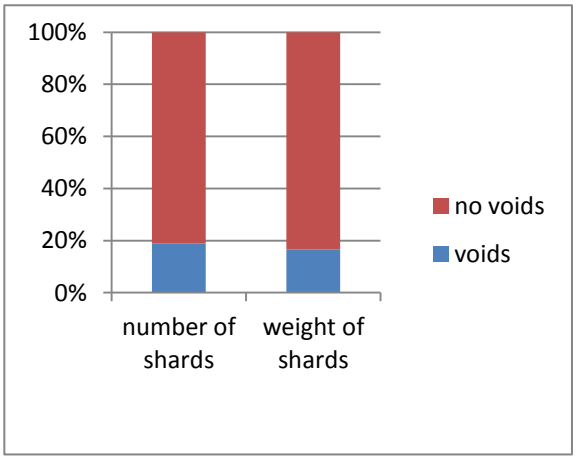


Fig. 7. Percentages of voids (only potsherds ascribed to pastes are considered).

Pottery Types.

The minimum number of vessels is 10, inferred from 10 different rims. A high number of potsherds have so been identified (sh. 59: 77%, 326 gr: 60%), specifically 1 jug (sh. 1, 3 gr, Type 9) (Tbl. 25, n. 2), 1 bowl (1, 4 gr, Type 12a) (Tbl. 31, n. 1), and 8 pots (sh. 57: 74%, 319 gr: 60%). The rims of the pots belong to Types 2 (Tbl. 7, n. 5), 2a (Tbl. 8, n. 3), 3a1 (Tbl. 14, n. 1), 4 (2 vessels) (Tbl. 15, n. 1) and 4/5 (Tbl. 19, n. 1), 5 (Tbl. 17, n. 2), 6 (Tbl. 20, n. 1); the bases are from Types 17a (2) (Tbl. 38, n. 3, 5), 17a1 (Tbl. 39, n. 5) (difficult to associate them to specific pots with certainty), 17a2 (3) (Tbl. 40, n. 1-3), 17b (2) (Tbl. 41, n. 1-2), 17b1 (Tbl. 42, n. 2), 17b2 (Tbl. 43, n. 1).

Cluster 4a (tentatively c. 950-980 CE)[46]

The relevant contexts are 322, 325, 412, 428 and the total number of shards is 95 (541 gr).

Pastes (fig. 9), manufacturing, firing.

The clay has been cleaned and the basic temper is calcite; grains are frequent or even very frequent (other than one shard, 2 gr, from 322, which indeed resembles Late Antique bowls, as the thinness of the potsherd, 3.5 mm, also indicates).

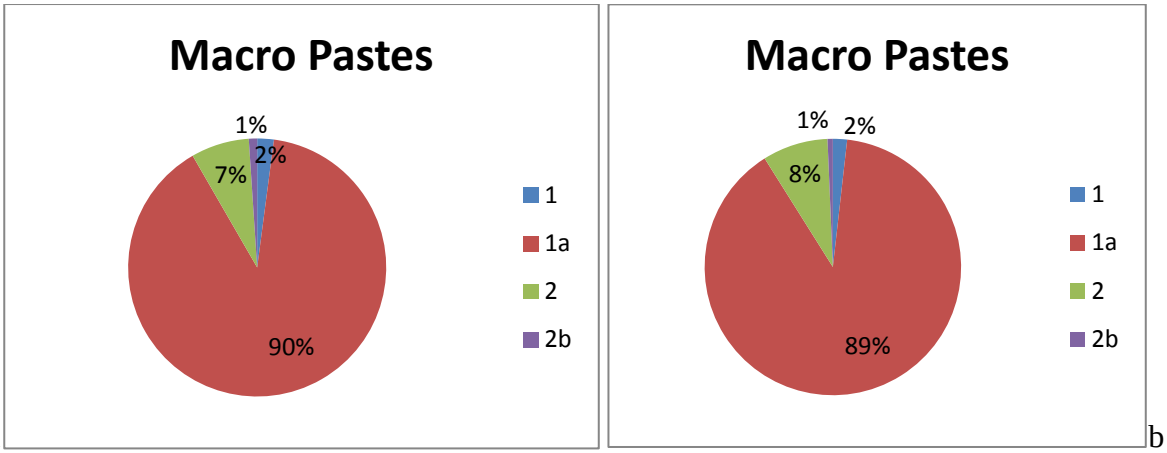
Macro Paste 1 (sh. 2: 2%, 8 gr: 2%) (fig. 32). Calcite grains range from minute to 2 mm, but a distinctive element is the scant presence of yellowish-orange minerals and/or chamotte.

Macro Paste 1a (sh. 86: 90%, 400 gr: 74%). Calcite grains range from minute up to 3-4 mm; the peculiarity is the presence of some other visible inclusions (around 0.5 mm).

Macro Paste 2 (sh. 7: 7%, 37 gr: 7%). Calcite grains range from minute to 2-3 mm.

Macro Paste 2b (sh. 1: 1%, 3 gr: 1%). Temper grains are smaller, hardly up to mm. 1.

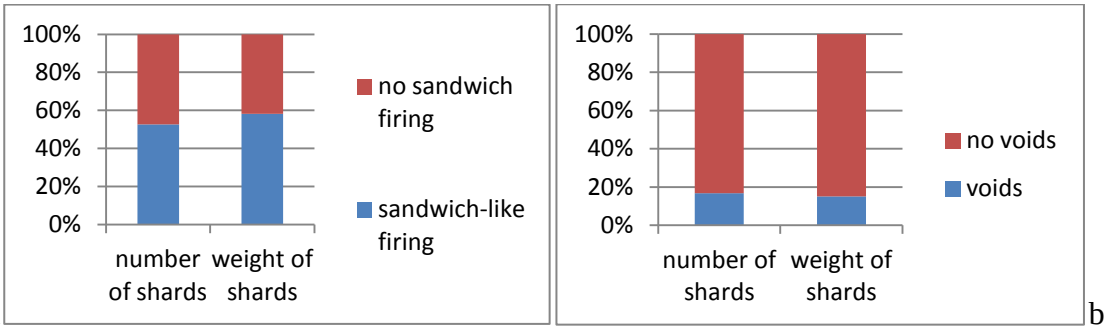
[46] One shard from 412 (17 gr, base?) of fine pottery or an amphora, and one shard with engobe (6 gr) were recovered (but not considered in this analysis).



a b

Fig. 9. Percentages of pastes based on shard frequency (a) and weight (b).

In terms of manufacture, all the potsherds are wheel-thrown and hard fired. Colours range from orange to grey and ochre, while 8 fragments (8%, 35 gr: 7%) show darker grey surfaces, which may imply firing carried out in reduction conditions. It is difficult to say whether the blackish spots found on 9 surfaces (10%, 156 gr: 29%) are the result of firing or later use as cooking vessels, which seems to be indicated by the greyish patina detected on 3 shards (3%, 10 gr: 2%); uncertainty remains about the concretions on 4 fragments (4%, 25 gr: 5%). Sandwich-like firing characterises 50 pieces (53%, 315 gr: 60%) and voids are visible on 16 shards (17%, 82 gr: 16%) (fig. 10).

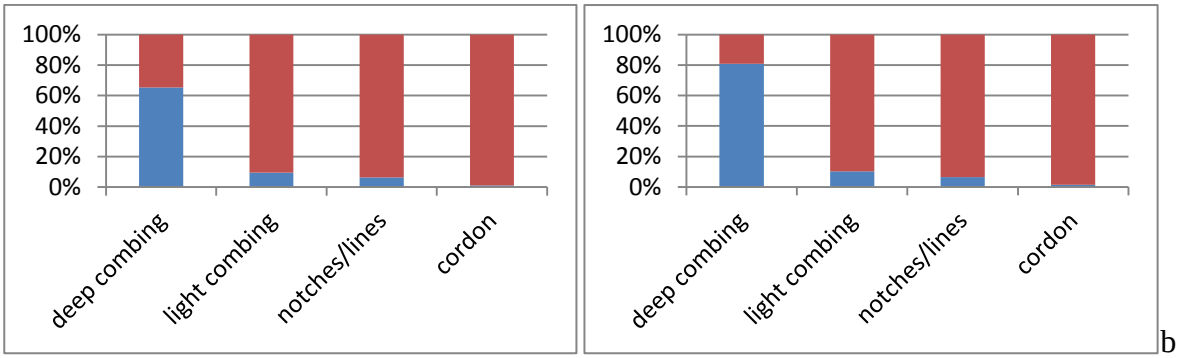


a b

Fig. 10. Percentages of sandwich-like firing (a), and voids (b).

In surface treatment, all the vessels seem to have been polished and grains are visible on most of their surfaces (91: 96%, 521 gr: 96%). Decoration is characterised by deep combing (sh. 62: 65%, 437 gr: 81%), light combing (sh. 9: 9%, 55 gr: 10%, in one case after

repairing?), notches/lines (sh. 6: 6%, 35 gr: 7%), and probably 1 finger-impressed cordon (sh. 1, 8 gr: 2%) (fig. 11). Finally, it is noteworthy that one potsherd has a hole (plausibly relevant to the typical oven-lids of that time).

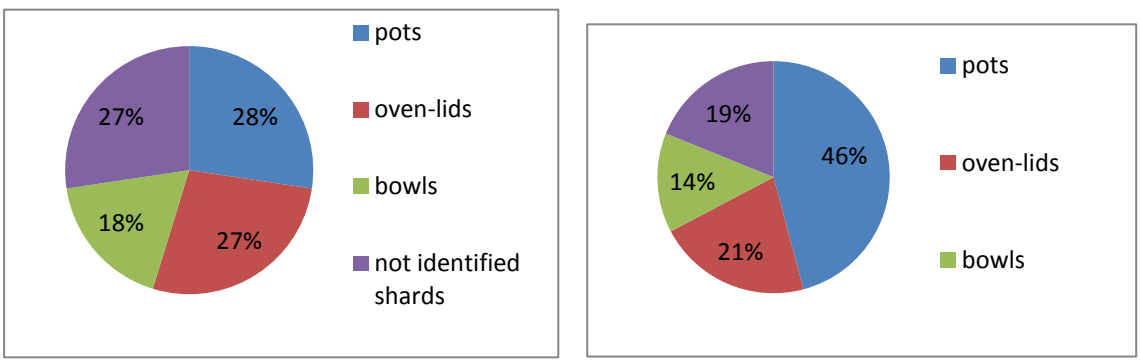


a b

Fig. 11. Percentages of decoration based on the number of shards (a) and weight (b).

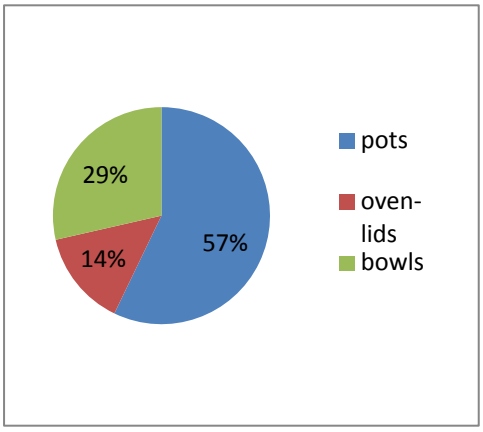
Pottery Types.

The minimum number of vessels is 7 according to the diagnostic shards, from 69 fragments (73%, 439 gr: 81%) identified. Specifically, 1 oven-lid (sh. 26: 27%, 116 gr: 22%, Type 13) (Tbl. 32, n. 2), 2 bowls (sh. 17: 18%, 75 gr: 14%, Type 12) (Tbl. 30, n. 1-2), and 4 pots (sh. 26: 27%, 248 gr: 46%). The last form is characterised by Rim Types 2a (Tbl. 8, n. 5), 2a/3 (2 items) (Tbl. 12, n. 2), 3a (Tbl. 13, n. 1), 3a1 (2 items) (Tbl. 14, n. 3), and Base Types 17a (2 items) (Tbl. 38, n. 6-9, 17a1 (2 items) (Tbl. 39, n. 3-4), and 17b (Tbl. 41, n. 7). Another base, Type 17a1, comes from 412 (Tbl. 39, n. 2), whereas all of the other vessels were recovered from 428 (fig. 12).



a b

Fig. 12. Percentages of forms and types based on the number of identified shards (a) and weight (b); the presence of vessel forms based on the number of vessels (c).



c

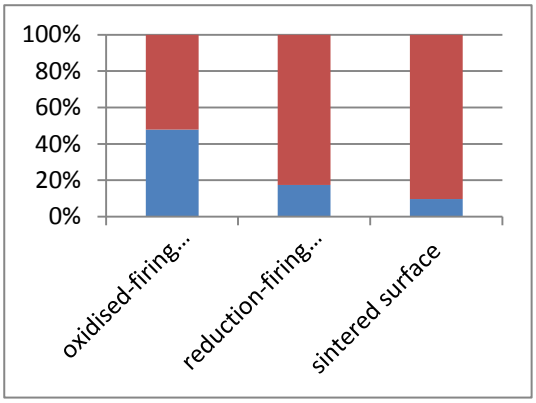
Cluster 4b (tentatively c. 925-980 CE)

The relevant context is 308 and the total number of shards is 39 (92 gr).

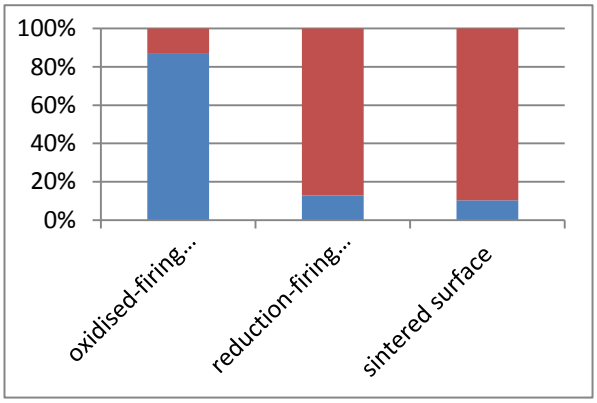
Pastes, manufacturing, firing.

All the potsherds appear to belong to the same paste, namely Macro Paste 2. The clay has been cleaned and calcite is the basic temper; grains seem to be frequent and range from minute to 1/2 mm (difficult to say because the potsherds display frequent voids).

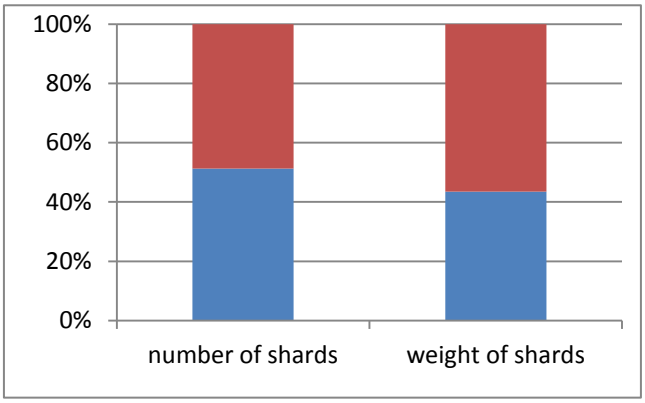
In terms of manufacture, all the fragments are wheel-thrown and hard fired. Most of the potsherds are characterised by grey, orange, and/or ochre colours (sh. 34: 88%, 44 gr: 48%), however, there is some evidence of reducing atmospheres or poorly-controlled firing, as shown by dark reddish (sh. 5: 13%, 16 gr: 18%), and reddish sintered surfaces (sh. 4: 10%, 9 gr: 10%), in addition, also blackish spots as detected on 2 shards (4%, 4 gr: 4%). Firing at a higher temperature than usual may be indicated by frequent sandwich-like sections (s. 20: 51%, 40 gr: 43%), and by the fact that all the ceramic bodies have many voids (fig. 13).



a



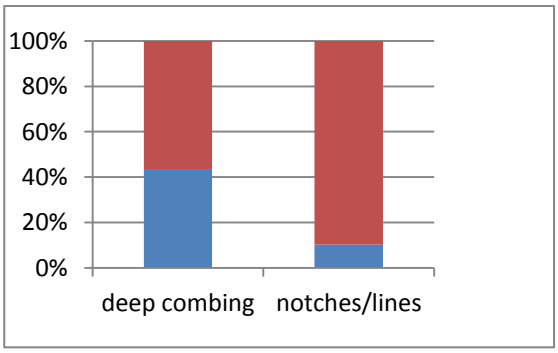
b



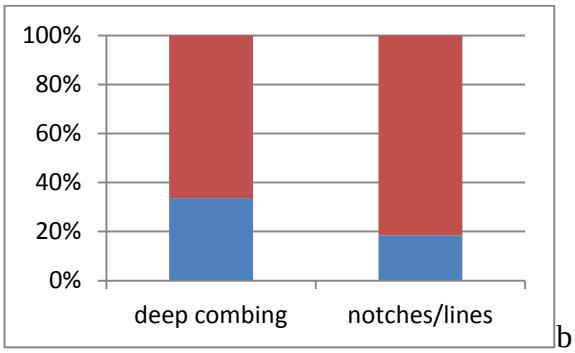
c

Fig. 13. Percentages of colours indicating specific firing on the basis of the frequency of shards (b) and weight (a); percentages of sandwich-like firing (c).

Surface treatment displays the usual polishing (sh. 34: 88%, 79 gr: 86%), while grains of temper were perhaps visible on all vessels. Decoration is characterised by deep combing in 17 shards (43%, 31 gr: 33%), and by lines/notches in 4 fragments (10%, 17 gr: 18%); these often occurred on rims (fig. 14).



a



b

Fig. 14. Percentages of decoration patterns based on the number of shards (a) and weight (b).

Pottery Types.

The minimum number of vessels is 7, according to the rims, namely, 6 pots (sh. 7: 7%, 32 gr: 34%), and 1 jug (sh. 1: 1%, 4 gr: 4%). The latter has been classified as Type 9 (Tbl. 25, n. 3), while the pots have rims from Types 1a (2 items) (Tbl. 3, n. 7, 10), 2a2 (Tbl. 10, n. 1), 4 (Tbl. 15, n. 2), 7 (Tbl. 21, n. 1), 7a (Tbl. 22, n. 1) and a base from Type 17b2 (Tbl. 43, n. 4).

Cluster 5 (tentatively c. 970-980s CE)

The relevant contexts are 310, 313, 330 and the total number of shards is 267 (781 gr).[47]

Pastes (fig. 15), manufacturing, firing.

The clay was cleaned and the pastes have consistent characteristics, calcite is almost the only temper used, characterised by frequent or even very frequent grains.

Macro Paste 1a (sh. 77: 29%, 239 gr: 31%). Calcite grains range from minute to 3-4 mm and a peculiar element could be the presence of orange spots (chamotte?) or grey minerals.

Macro Paste 1b (sh. 3: 1%, 24 gr: 3%) (fig. 34). Similar to the paste above, notwithstanding grey minerals up to 4 mm.

Macro Paste 2 (sh. 24: 9%, 73 gr: 9%) (fig. 36). Calcite grains range from minute to 2 mm.

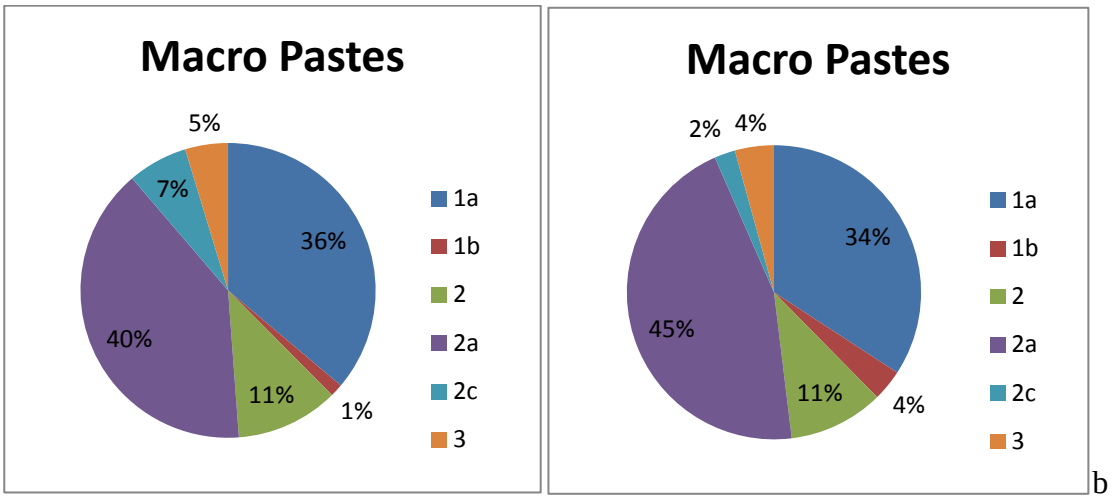
Macro Paste 2a (sh. 85: 32%, 317 gr: 41%) (fig. 37). Similar to macro paste 2, but calcite grains reach 3-4 mm.

Macro Paste 2c (sh. 14: 5%, 16 gr: 2%) (fig. 39). Similar to macro paste 2, but grains are very frequent.

Macro Paste 3 (sh. 10: 4%, 30 gr: 4%). Calcite grains range from minute to 2-3 mm,

[47] 48 additional shards (40 gr) are not considered for this analysis because they are too small (one is probably brick).

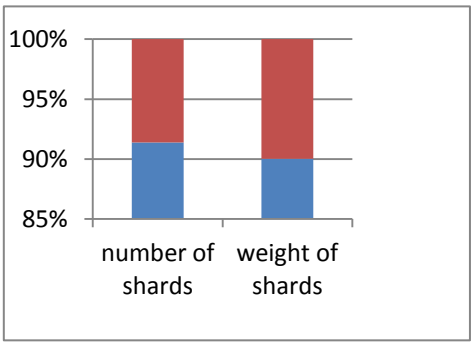
but those of larger size are the majority.



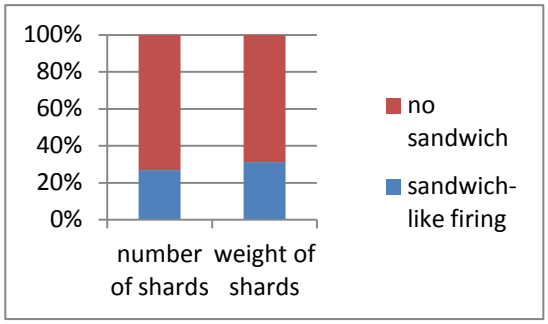
a b

Fig. 15. Percentages of pastes based on shard frequency (a) and weight (b).

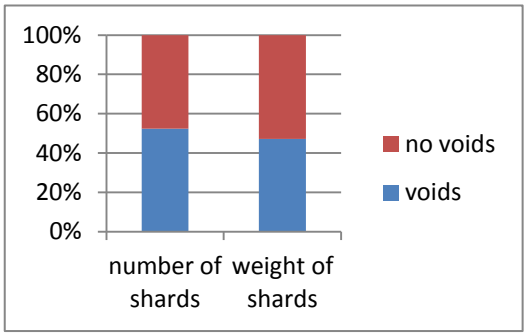
In terms of manufacturing techniques, all the potsherds are wheel-thrown and generally hard fired (except 9 shards, 8 gr from macro paste 2c). Most of them are orange, grey, and/or ochre in colours, although dark grey, brown-reddish, and/or blackish surfaces characterise 23 shards (9%, 78 gr: 10%). Sandwich-like firing appears on 72 fragments (27%, 244 gr: 31%), and only 5 shards (2%, 29 gr: 4%) display blackish stains. Extensive voids affect 140 potsherds (53%, 368 gr: 47%), whilst a greyish patina, probably due to the use of the vessel for cooking, covers only 2 pieces (1%, 5 gr: 1%) (fig. 16).



a



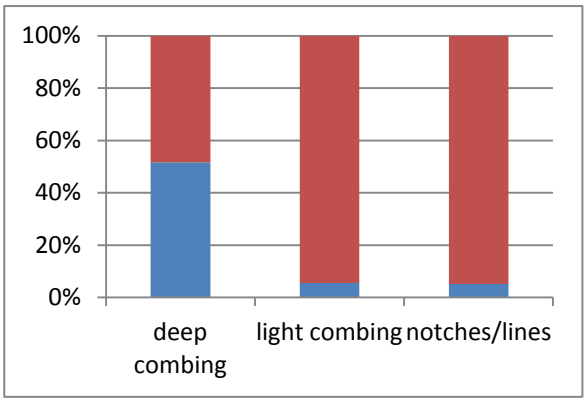
b



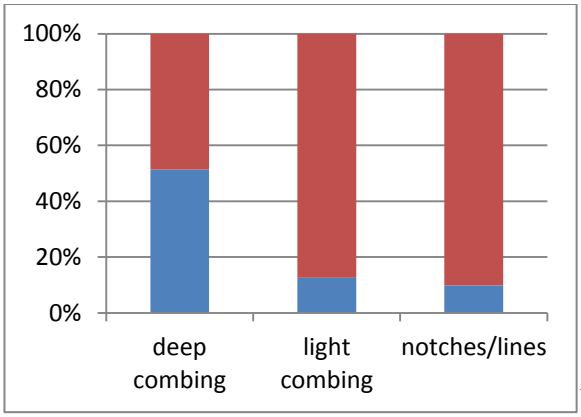
c

Fig. 16. Percentages of oxidising- vs reducing-atmosphere colours (a); figures relevant to sandwich-like sections (b), and percentages of voids (c).

In surface treatment, polishing was usual on 195 fragments (73%, 707 gr: 91%), and grains are visible on 171 shards (64%, 506 gr: 65%). Decoration is deep combing (sh. 138: 52%, 401 gr: 52%), light combing (sh. 15: 14%, 98 gr: 13%), and notches/lines (sh. 14: 13%, 77 gr: 10%) (fig. 17).



a



b

Fig. 17. Percentages of decoration patterns based on shard frequency (a) and weight (b).

Pottery Types.

A large number of fragments have been identified (around 80%). On the basis of rims,

three forms are represented and the minimum number of vessels is 25. Specifically, 20/21 pots, to which 155 shards are assigned (58%, 548 gr: 70%), 4 jugs (sh. 47: 18%, 115 gr: 15%), and 1 lid (sh. 4: 1%, 4 gr: 1%) (fig. 18). The lid is classified as Type 14 (Tbl. 33, n. 1), the jugs are from Types 1a (Tbl. 3, n. 8; not sure if jug), 8 (Tbl. 23, n. 1) (associated with Base Type 17a), 8a (Tbl. 24, n. 1), and 9 (Tbl. 25, n. 1). Pot rims are from Types 1 (5 vessels) (Tbl. 2, n. 1-5), 1a (2 vessels) (Tbl. 3, n. 1, 9), 1b (Tbl. 5, n. 1), 2 (2 vessels) (Tbl. 7, n. 4, 8), 2a (2 vessels) (Tbl. 8, n. 1, 2), 2a1 (Tbl. 9, n. 1), 2a/3 (Tbl. 12, n. 1), 2/4 (Tbl. 16, n. 1), 3a (Tbl. 13, n. 2), 3a1/2/5 (3 vessels) (Tbl. 18, n. 1-3), 5 (2 vessels) (Tbl. 17, n. 1, 3). Bases are from Types 17a (2 vessels) (Tbl. 38, n. 1-2), 17a1 (Tbl. 39, n. 1), 17b (4 vessels, one of which associated with either Type 1 or 2) (Tbl. 41, n. 4-6, 8), and 17b1 (Tbl. 42, n. 1).

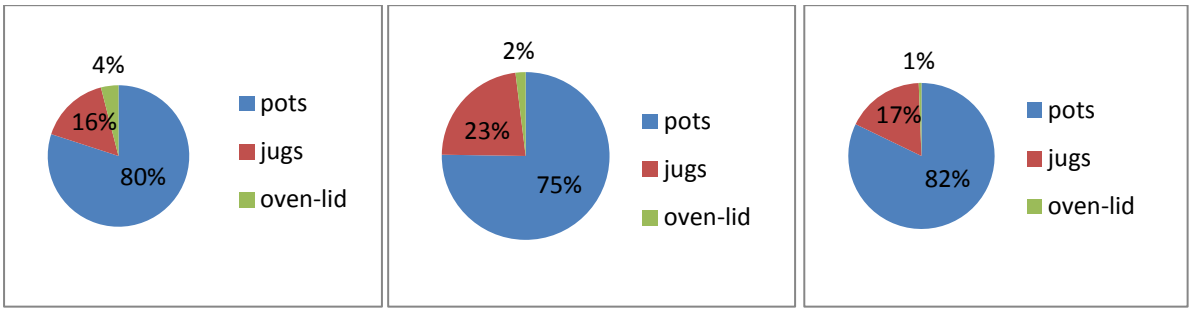


Fig. 18. Percentages of forms based on the number of vessels (left side), and on the number of shards identified (centre) and weight (right side).

Cluster 5a (tentatively c. 970-980s CE)

The relevant contexts are 441, 446, however just one coarseware shard was recovered, besides 3 fragments of fine pottery (7 gr), and one brick shard (3-4 gr) which are probably late Roman and come from a layer disturbed during the construction of Tower 1.[48]

Macro Paste 3a (sh. 1, 4 gr) (fig. 41). The clay was cleaned. It is quite peculiar, with the temper being frequent calcite and quartz grains ranging from minute to 1 mm (especially the quartz), and also some red spots which could be chamotte. The shard is wheel-thrown and

[48] This is attested to by some 10 shards (184 gr), the majority of which belonging to two typical Roman-Age jars (Auerberg Type, which were recovered from 436, located in the same area: 2 shards, 18 gr); see: Gino Bandelli and Federica Fontana, *Iulium Carnicum. Centro Alpino tra Italia e Norico dalla Preistoria all'Età Imperiale* (Rome: Quasar, 2001), 381.

hard fired with a sandwich-like cross-section; the colour is grey; the body was polished and grains are visible on the surface. No typological classification is possible.

Cluster 6 (c. end of tenth/early eleventh century)

The only relevant context is 127, for which no paste analysis is available so far. Only one shard (6 gr) was recovered from this layer; it is polished and light combed. It is a rim and has been classified as Type 3a1 (pot) (Tbl. 14, n. 2).

Cluster 7 (eleventh century)[49]

The relevant contexts are 2, 10, 11, 14, 15, 17, 100/107, 101, 102, 105, 121, 123, 125, 129, 140, 142 and the total of potsherds amounts to 185 (1765 gr).

Pastes (fig. 19), manufacturing, firing.[50]

The clay was cleaned in all ceramic bodies.

Macro Paste 1 (sh. 4: 2%, 27 gr: 2%). The basic temper is calcite and grains are not frequent and ranging from minute to around 1 mm. There is scant presence of orange spots (chamotte?).

Macro Paste 1a (sh. 45: 25%, 422 gr: 24%) (fig. 33). Calcite is the basic temper; grains are frequent and range from minute to 3-4 mm. A distinctive element is the presence of quartz, chamotte, and grey minerals (mica?) which appear to be intentional, since they at times reach 2-3 mm in size.

Macro Paste 1c (sh. 2: 1%, 10 gr: 1%) (fig. 35). The calcite temper is characterised by small frequent grains ranging from minute to 2 mm (though generally less than 1 mm). Probably some mica inclusions.

Macro Paste 2 (47: 25%, 222 gr: 13%). Calcite grains range from minute to 1-2 mm (exceptional 3 mm, whereas in 4 shards, 13 gr, it is unclear whether the quartz is also used as

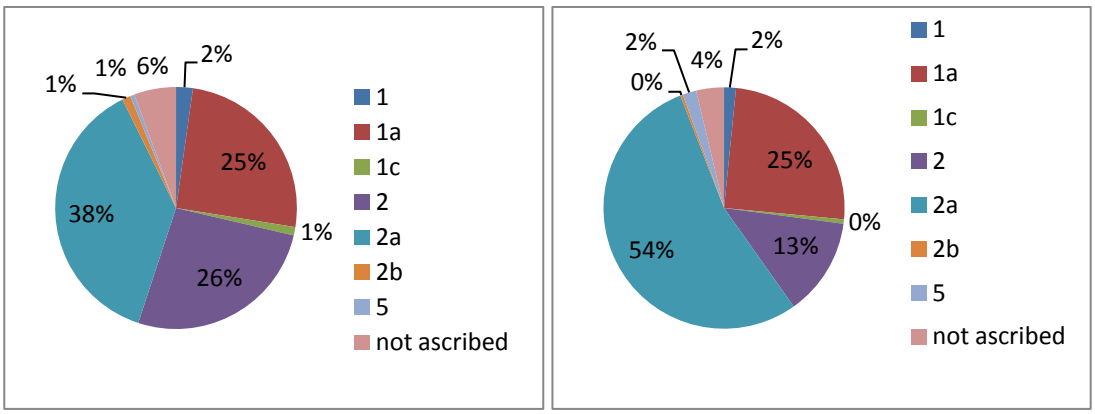
[49] Odd pieces (not considered): 1 shard, 4 gr of Roman fine pottery, perhaps brick scraps (a few grams), and 1 fragment, 21 gr of painted (engobe?) ware.
[50] Paste description not available for contexts 10, 14, 17, 101, 129, so that 10 shards, 63 gr, cannot be ascribed to any group. These are not considered in the percentages that follow (unlike the relevant chart in fig. 19).

temper).

Macro Paste 2a (sh. 67: 36%, 913 gr: 51%). Calcite is the basic temper and grains are not very frequent to very frequent, ranging from minute up to 3-4 mm.

Macro Paste 2b (sh. 2: 1%, 6 gr: 1%) (fig. 38). The temper is calcite, with not very frequent grains from minute up to less than 1 mm.

Macro Paste 5 (sh. 1: 1%, 31 gr: 2%) (fig. 43). Almost inclusion-free (a peculiar paste, considering that it belongs to an oven-lid). Calcite is almost absent and only some reddish spots may represent intentional temper (chamotte?).



a b

Fig. 19. Percentages of macro pastes based on shard frequency (a) and weight (b).

In terms of manufacture, all the potsherds are wheel-thrown and hard fired (but 1, 31 gr). Grey, (reddish) orange, and ochre colours characterise a good number of them, while 38 fragments (20%, 897 gr: 51%) show dark grey, reddish/brownish, and/or blackish surfaces, which may indicate reducing conditions at the firing (whether a kiln or in the open). However, uncontrolled firing probably occurred to a limited extent, since 10 shards (5%, 135 gr: 8%) display black spots on the body, whereas the concretions visible on 2 fragments (1%, 46 gr: 3%) could be due to the use of vessels in fire for cooking purposes (the greyish patina of 1 piece: 1%, 15 gr: 1%, however, seems to be due to post-depositional conditions, since it also affects the broken cross-section). Interestingly, sandwich-like fired shards amount to 118

(64%, 1184 gr: 66%), which, together with the absence of voids on the vessels, could speak of firing temperatures that probably did not reach 800°C (fig. 20).

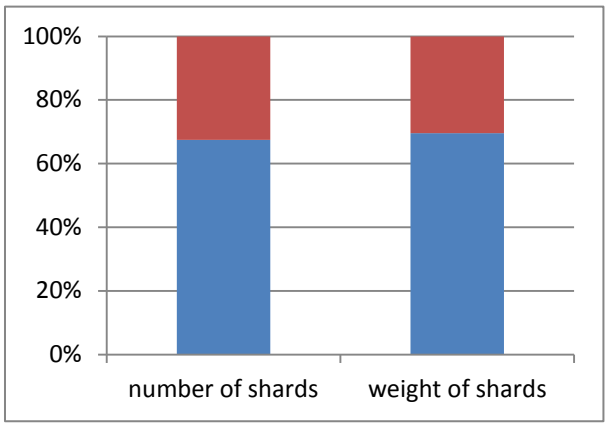
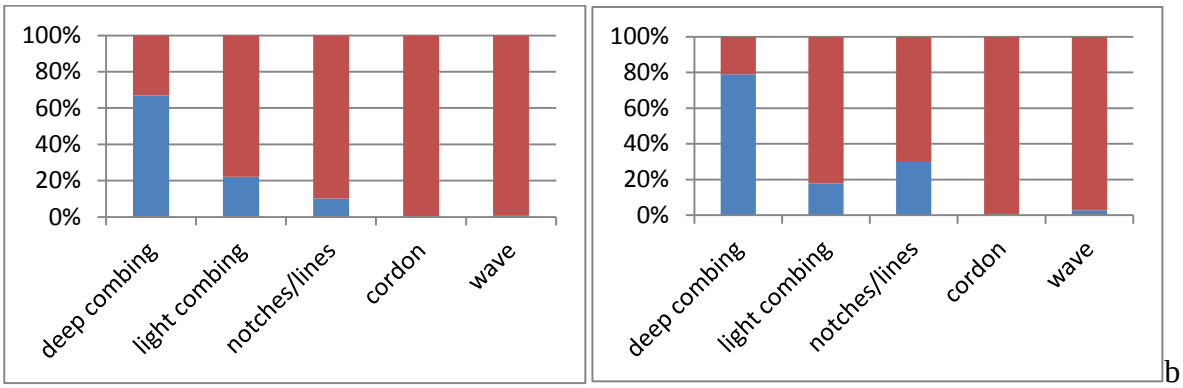


Fig. 20. Percentages of sandwich-like firing patterns.

About surface treatment, most of the potsherds were polished (173: 93%, 1438 gr: 82%), and grains are visible on 117 pieces (64%, c. 1423 81%). Decoration is characterised by deep combing (sh. 124: 67%, 1393 gr: 79%), light combing (41: 22%, 316 gr: 18%), notches/lines (mainly on the rims; sh. 19: 10%, 526 gr: 30%), 1 cordon (1%, 7 gr: 1%), and even a wave (sh. 2: 1%, 50 gr: 3%) (fig. 21).



a b

Fig. 21. Percentages of decoration patterns based on the number of shards (a) and weight (b).

Pottery Types.

A large number of shards has probably been identified (113: 62%, 1431 gr: 81%), however, it is remarkable that the forms represented do not change compared to the other contexts, namely, 4/5 oven-lids (sh. 14: 8%, 207 gr: 12%), 3 jugs (sh. 3: 2%, 19 gr: 1%), and 16 pots (sh. 97: 53%, 1213 gr: 71%) (fig. 22). The jugs are classified as Type 9a (Tbl. 26, n.

1) and 9a1 (2 items) (Tbl. 27, n. 1-2); the oven-lids are from Types 13 (Tbl. 32, n. 1), 14a (2 items + 2, since these are tops/bases) (Tbl. 34, n. 1-4), 15 (Tbl. 35, n. 1); pot rims belong to Types 1a (4 vessels, one of which associated with a base from Type 17b2) (Tbl. 3, n. 3-6 and Tbl. 43, n. 7), 1a1 (Tbl. 3, n. 4), 1b1 (Tbl. 6, n. 1), 2 (4 vessels) (Tbl. 7, n. 1-3, 7), 2a (Tbl. 8, n. 4), 3 (2 vessels) (Tbl. 11, n. 1-2), 7 (Tbl. 21, n. 2), and 3a1/2/5 (2 vessels, one of which is associated with base Type 17b2) (Tbl. 18, n. 4-5 and Tbl. 43, n. 3). Two more bases are from Type 17b2 (Tbl. 43, n. 2, 5) (the first perhaps associated with either rim 3a1/2/5 or 1b1), and 3 bases belong to Type 17 (Tbl. 37, n. 1), and one to Type 17a1 (Tbl. 39, n. 6).

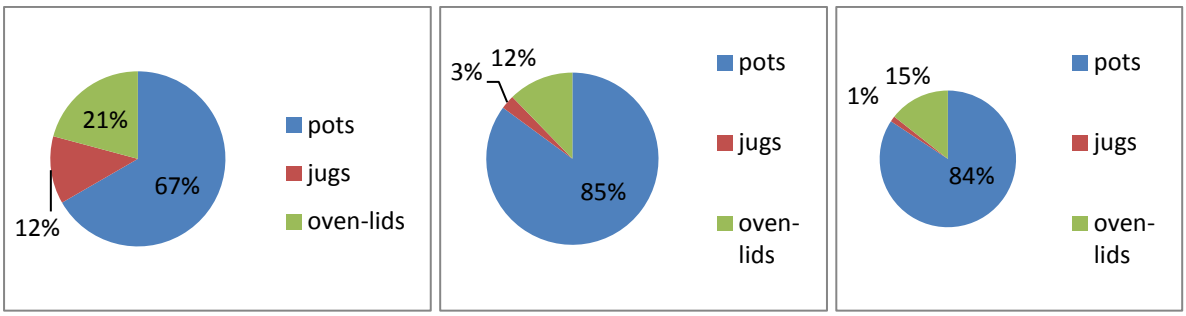


Fig. 22. Percentages of forms based on number of vessels (left hand), and of identified shards (centre) and weight (right hand).

Final remarks

Most of the ceramic assemblages show common basic characteristics, as expected from coarse wares, which were often subject to little change especially within a relative short chronological span, as is the case with Broili. Nevertheless, some different trends seem to emerge, although one should be aware of the scant number of potsherds from some phases, in particular Edifice 2 and courtyard structures associated with Edifice 2, which may affect the reliability of some data.

All the same, it is interesting to remark that the pastes of the pottery coming from Edifice 2 and the level-area features tentatively linked to it (c. 925-950 CE), have relatively small-size inclusions (1-2 mm). Unlike Edifice 2 materials, the temper does not consist almost exclusively of calcite in the ceramic bodies of the courtyard's vessels (as occurs in all

the other clusters). In addition, large-size inclusions (up to 3 mm) begin to appear to a certain extent (c. 20%) in the pottery from the level area, whilst the use of even larger-size temper grains (up to 3-4 mm) seems to have become almost the rule from the Motte phase onwards (percentages from 55% to 90%; generally around 60%-75%).[51] Last, one can observe the presence of intentionally-crushed quartz in the temper of the pottery assemblages from Tower 1. These were probably in use well into the eleventh century, thus supporting the idea of different techniques or workshops to a quite significant extent (c. 25%) in the later phases of the settlement (at least for household, although aristocratic, wares).

In terms of firing technique, sandwich-like cross-sections occur in most of the pottery (generally not less than 50-60%), whereas the lower percentage from Cluster 5 (around 30%) may speak of longer and more accurate firing for making somewhat standardised and purpose-oriented vessels (probably used for storing in-kind taxes). This may also be indicated by the frequent presence of voids on the surface of wares, which rises to about 50% amongst the materials from Cluster 5 only, while firing, if not only longer, may have achieved higher temperatures (in contrast, it is noteworthy that the ceramics from the residential context of Tower 1 have no voids at all).[52]

In indirect evidence on this point comes from the church of St. Paolo (located in the same valley of Broili), where sandwich-like firing and absence of or a limited number of voids began to characterise pottery from the early medieval phases, definitely in contrast to the higher-level manufactures of Late Antiquity. In addition, most of the fourth to sixth/seventh-century wares from there have dark grey or blackish surfaces, thus showing an

[51] Note that discrepancies between Edifice 2 and courtyard-structures' ceramics may also be due to later contaminations which might have occurred to a great extent in the level area. Cluster 4b, context 308, is a little surprising, since its pottery is all characterised by temper grains of 1-2 mm, therefore such a layer is possibly closer to the first phase and was not really disturbed by the following situation (perhaps a little in contrast with the impression given by the stratigraphic sequence).

[52] Context 308 (Cluster 4b) still represents a peculiar situation as voids are present on all ceramic bodies, whilst the percentage of sandwich-like cross-sections (40-50%) shows figures which appear halfway between those from Cluster 5 and those of the other groups. This could be due to its intermediate stratigraphic position rather than a significant difference in chronology.

intentionality which was probably missing at Broili according to the low figures.[53]

A final remark concerns decoration, in particular deep combing, which is dominant and, if one takes into account that some parts of the vessels were left plain, the impression is that it characterised most of the wares. This decorative pattern may be considered as a sort of "type fossil," especially when one tries to reconstruct the relevant workshop and production network of the region. However, the percentages of deep combing vary from cluster to cluster to some extent and, in context 308, are a little below average.[54] This fact may be explained once again by the stratigraphic position of that layer, close to the first phase of the courtyard, which in turn represents the only real discrepancy in terms of decoration, since deep combing is poorly attested. Such evidence is not surprising, considering that it is not present significantly in the ceramic assemblages from the church of St. Paolo until probably the ninth century, while, generally in Frioul, surface treatments of this kind began to spread to a certain extent, although not systematically, by the seventh/eighth century, becoming almost the rule during the very period of the Broili settlement.[55]

[53] Colours often represent a moot question, see: Ninina Cuomo di Caprio (2007), 122-123. Prof. Judith Rasson (Central European University, Budapest) has turned my attention to the fact that grey colours may derive from firing cloud (specifically when fuel falls against the side of the vessel and restricts oxygen). This is probably the best explanation for outcomes which did not appear systematically and were probably not planned.

[54] Also some diverse patterns can be noticed, but I am not able to distinguish them according to specific chronologies or eventual production system at this stage.

[55] See: Silvia Lusuardi Siena et al., "La ceramica altomedievale tra Lombardia e Friuli. Bilancio delle conoscenze e prospettive di ricerca (VIII-IX e X-XI secolo)," in *La ceramica altomedievale in Italia*, ed. Stella Patitucci Uggeri (Florence: All'Insegna del Giglio, 2004, Fig. 8-14.

Chapter 3

Pottery Types from Broili

In this chapter, only diagnostic shards are considered, in order to rely on more precise typological quantification (the previous attempt at assigning wall shards to specific vessels is helpful, but uncertain). Therefore the following percentages are based on the number and weight of rims and bases, although the establishment of typological clusters is definitely subjective (whilst the boundary between some groups is anything but sure).[56] The rather small sample size also makes it difficult to form precise types, especially for some phases. The total number of diagnostic shards is 120, 1,971 gr; rims are 83, 1,415 gr, and bases are 37, 556 gr.

Pots

Rim Type 1 (rim shards 5: 6%, 40 gr: 3%) (Table 2, n. 1-5), found in the courtyard/level area only.[57]

This type is quite representative at Broili and it features pots of small-medium to large size (4 mouth diameters reconstructed: from 0.13 to 0.31 m). The slant of the rim seems suitable for securing a lid (plausibly of perishable material, since no relevant items were found), therefore one can put forward use as transport vessels; it is significant that they were all found in the area with structures interpreted as warehouses.

Such a function is suggested by pots with similar rims which were quite common at Luni (Liguria) and would thus show the presence of these typologies at least from the fourth-fifth century.[58] Notwithstanding, in the Frioulan region, the fourth- to seventh-century (and even later) phases of Invillino, located a dozen of miles away from the Illegio Valley, have little evidence of this type (just a few examples belonging to Type IIId), although the latter is

[56] It can be useful to take into account the ratio between the number and weight of shards especially in some peculiar situations as when, for instance, a limited number of heavy shards monopolises the weight chart.
[57] Percentages based on the total of rim shards only.
[58] *Ad Mensam. Manufatti d'uso da contesti archeologici fra tarda antichità e medioevo*, ed. Silvia Lusuardi Siena (Udine: Del Bianco Editore, 1994), 37, n. 12-14.

attested over the Noricum lands during the Late Antique and early medieval periods.[59] It is from the seventh/eighth century indeed that these pots appeared to a certain extent in Frioul, as, for instance, at St. Martino di Rive d'Arcano, and became quite widespread among different sites dated between the eighth and the eleventh/twelfth century.[60] No limited chronological spans can be calculated, nonetheless, the examples from Osoppo and Motta di Savorgnano (eighth-ninth century), Solimbergo (tenth-thirteenth century), and St. Daniele (tenth/eleventh-twelfth century) show a similar context in terms of manufacture, as is also the case, to a lesser extent, with some fortified settlements in the northern Veneto region, like Rocca d'Asolo (near Treviso; eighth/ninth-eleventh century).[61] Across the Alps, good ceramic matches of c. ninth-eleventh century come from the Vipava Valley in Slovenia, and the site of Krottenturm in Austria, although, at Krottenturm, the differences in surface treatment suggest a common tradition but indicate different manufacturing systems.[62] This probably applies to the area of Torček too, in north-eastern Croatia, where this type (with diverse variants) is quite widespread, especially from around the ninth-tenth century, as may also be supported by radiocarbon dating.[63]

Rim Type 1a (rim shards 11: 13%, 54 gr: 4%) (Tbl. 3, n. 1-10), found in all contexts. These rims are less bent than Type 1.

[59] Volker Bierbrauer, *Ibligo-Invillino in Friaul. Die römische Siedlung und das spätantik-frühmittelalterliche Castrum* (Munich: Beck, 1987), for instance, Taf. 99, n. 16, and Taf. 94, n. 14. It is interesting that at Late Antique Stari trg, similar decoration (deep combing) is also present, which is generally peculiar to medieval Frioulan ware, see: Mira Strmčnik-Gulič, "Najnovejši podatki iz Starega Trga pri Slovenj Gradcu [Recent Data from Stari trg near Slovenj Gradec]," in *Arheološki Vestnik* 35 (1984), Taf. 2, n. 12, 28. Other examples show the presence of such a typology in the background of early Slavic and Avar territories, as emerges from burials at Szebény; Huw Evans, *The Early Mediaeval Archaeology of Croatia. A.D. 600-900* (Oxford: BAR, 1989), 132, n. 7.

[60] About St. Martino, see: Alessandra Negri, "La ceramica grezza," in *S. Martino di Rive d'Arcano. Archeologia e storia di una pieve friulana*, ed. Silvia Lusuardi Siena (Udine: Campanotto, 1997), 79, n. 1.

[61] Silvia Lusuardi Siena et al., 89, n. 6-8; 94, n. 1; 77, n. 1; Marianna Mazzei, "Nuovi dati sulla ceramica grezza in Friuli fra IX e XII secolo," in *L'incastellamento nel nord-est italiano (IX-XII secolo: storia della ricerca e prospettive d'indagine*, ed. Fabio Piuzzi (Udine: Gremese, 2000), 76, n. 11.

[62] Drago Svoljšak and Timotej Knific, *Vipaska Dolina. Zgodnjesrednjeveška Najdišča* [Early medieval sites in the Vipava Valley] (Ljubljana: Narodni Muzej, 1976), 109, T. 7, n. 2; Erik Szameit, "Der Krottenturm. Eine mittelalterliche Burganlage bei Zwentendorf, BH Tulln, Niederösterreich," in *Archaeologia Austriaca* 73 (1989), Taf. IV, A 48.

[63] Tajana Sekelj Ivančan, *Podravina u Ranom Srednjem Vijeku* [The Podravina in the Early Middle Ages] (Zagreb: Institut Za Arheologiju, 2010), T. 27, n. 165, 168; T. 30, n. 193 (seventh century).

This group is well attested at the site and is very similar to Type 1; some variants appear a little different, but, taken as a whole, they show common basic characteristics. Mouth diameters are generally medium to large, other than one (Tbl. 3, n. 1) which is very similar to Type 1 and reaches 0.37 m, whereas small sizes could refer to jugs that also represent the most distant variants in terms of morphology. For these a striking match comes from Savorgnano, also mentioned for Type 1 and, actually, most of the matches found for the latter are valid for Type 1a too.[64] In particular, the area of Torček is interesting, since, unlike other regions of Croatia, even nearer to Frioul, it shows good parallels for the jug and/or pot forms throughout the early Middle Ages.[65] This district is located along the Drava River, which plausibly represented a main communication route, thus keeping sites of different areas close to one other to some extent, albeit the different decoration patterns would speak of different manufacturing workshops.

Rim Type 1a1 (rim shard 1: 1%, 6 gr: 1%) (Tbl. 4, n. 1); found in Tower 1-related dump pit; mouth diameter: 0.12 m. This rim is markedly shaped.

It is uncertain whether this is a pot or a jug. This typology reflects the Late Antique background (from Luni to Zwentendorf, although the decoration is different), but it is not present in the Illegio Valley until the medieval period.[66] At Broili it appears to be an "extreme version" of type 1a, while some matches of similar chronology come from Savorgnano and even Torček (although with different decoration).[67]

Rim Type 1b (rim shard 1: 1%, 4 gr: 1%) (Tbl. 5, n. 1), found in the level area; mouth diameter: 0.16 m. Almost vertical and thickened rim.

No striking matches have been found. Items from Solimbergo can be mentioned

[64] Silvia Lusuardi Siena (2004), 89, n. 8
[65] Tajana Sekelj Ivančan (2010), T. 1, n. 1; T. 30, n. 191; 112, III shows this pot rim as a quite common type.
[66] Silvia Lusuardi Siena (1994), 37, n. 12, 14-15; Stefan Groh and Helga Sedlmayer, *Forschungen zum Kastell und Vicus von Zwentendorf am norischen Donaulimes* (Vienna: Österreichisches Archäologisches Institut, 2010), 91.
[67] Fabio Piuzzi et al. (2003), 51, n. 2-4; Tajana Sekelj Ivančan (2010), T. 18, n. 112; T. 37, n. 233.

(eleventh-thirteenth century, comparable with pots from seventh-ninth-century Oderzo and high-medieval Castelciés and Bozen), and also from the castle of Schaffenberg (c. ninth-twelfth century).[68]

Rim Type 1b1 (rim shard 1: 1%, 9 gr: 1%) (Tbl. 6, n. 1), found in Tower 1; mouth diameter: 0.15 m. This rim is more tilted than Type 1b.

This type goes back at least to the La Téne time and was quite widespread in Late Antiquity, while pots with almost vertical rim and short necks spread especially in Slavic and Avar areas during the early medieval period.[69] In contrast, examples contemporary with those from Broili come from some sites located in north-eastern Italy, like Rocca d'Asolo and Concordia upon Secchia, which also have similar decoration, although this type does not appear to have been very common in these regions at that time.[70]

Rim Type 2 (rim shards 8: 10%, 406 gr: 29%) (Tbl. 7, n. 1-8), found in all contexts. Flared tipped rims.

This type is well-attested at Broili and, in terms of mouth size, these pots are generally around 0.14 or 0.20/22 m, with the exception of one item coming from stratigraphic unit 168 (Motte phase) that reaches 0.40 m, whilst only one vessel's mouth diameter could not be reconstructed.

This type derived from Late Antique patterns as, for instance, Type IIId1 and 2 at Invillino or as seen in some examples from Hemmaberg, although with different decoration.[71] It went through the early medieval period over wide areas of north-eastern Italy and the

[68] Marianna Mazzei (2000), 76, n. 11 and 77, n. 1.
[69] Jana Horvat, "Prazgodovinske Naselbinske Najbe Pri Farni Cerkvi V Kranju [Prehistoric Settlement Findings at the Parish Church of Kranj]," in *Arheološki Vestnik* 34 (1983), Taf. 14, n. 20-21; at Invillino, a few roughly similar items were recovered from Late Antique but also seventh/eighth-century phases: Volker Bierbrauer (1987), Taf. 86, n. 11; 109, n. 16; see also beakers at Taf. 124, n. 4, 5, 7-9); further examples are, among others, at eighth/ninth-century Tinje, Podgorica near Černuče, see: Florin Curta, "The Early Slavs in the Northern and Eastern Adriatic Region. A critical View," in *Archeologia Medievale* 37 (2010), 315, fig. 9; 321, fig. 17; and also in Austria, as, for instance, at Unterrohrbach: Ernst Lauermann, "Ein frühslawischer Ofen aus Unterrohrbach, VB Korneuburg, Niederösterreich," in *Archaeologia Austriaca* 77 (1993), 116, n. 2.
[70] Silvia Lusuardi Siena (2004), 74, n. 5; 77, n. 1-2.
[71] Volker Bierbrauer (1987), Taf. 75; Florin Curta (2010), 314, fig. 7.

former Noricum province, as inferred from matches coming from a good number of sites, like Nova Tabla near Murska Sobota (Slovenia) and Muggia Vecchia, the materials of which are said to be parallel with Istria and other Slovenian sites dating back to the seventh-ninth century.[72] However, for Broili's vessels, the most striking connections are with pots found in Frioul, the only ones that generally display similar or the same decorations. The chronology of these sites mainly ranges from the seventh/eighth century (St. Martino di Rive d'Arcano, Verzegnis) to the eighth/ninth century (Osoppo, Savorgnano), and even later at Attimis (tenth-thirteenth century, although with wavy decoration) and Sacuidic, which would confirm the horizontally-everted rim (and vertical lip) of such types as common by the twelfth century.[73] In particular, the matches from Savorgnano once again support the great similarities of that fortified place with the site of Broili.

Rim Type 2a (rim shards 5: 6%, 55 gr: 4%) (Tbl. 8, n. 1-5); recovered from the level area and Motte-related dump layer; mouth diameters from 0.15 to 0.26 m. The top of the rims is convex.

This type is quite close to Type 2, therefore the parallels found for the latter can be taken into account. It is attested with diverse variants at Ragogna and St. Daniele at roughly the same time, either with similar or somewhat different decoration patterns that mark differences from more distant sites, like those located in the Torček region that display a certain spread of such forms throughout the Early Middle Ages.[74] The closest parallels for both morphology and surface treatment mostly come from Frioul; the sixth/seventh and seventh/eighth-century examples of Cittanova and Eraclea, near the Venetian lagoon provide

[72] Ibid., fig. 14; Pietro Riavez, "Ceramica da fuoco medievale proveniente da Muggia Vecchia e da alcuni siti del suo territorio," in *Atti e Memorie della Società Istriana di Archeologia e Storia Patria* 98 (1998): 42, n. 2.
[73] Silvia Lusuardi Siena (2004), 89, n. 2; 86, n. 1-2, 4; for Verzegnis see Fabio Piuzzi, "I Ruderi di Colle Mazeit (Verzegnis-UD). Scoperta di un antico baluardo delle Alpi Orientali," in *Archeologia Medievale* 23 (1996): 216, n. 8-9; Marianna Mazzei (2000), 77, n. 4; Margherita Ferri et al., "Vita Quotidiana a Sacuidic," in *Sacuidic presso Forni Superiore: Ricerche Archeologiche in un Castello della Carnia*, ed. Sauro Gelichi et al. (Florence: All'Insegna del Giglio, 2008), 67, n. 30; 65, n. 22.
[74] Silvia Lusuardi Siena (2004), 93, n. 11; 94, n. 6-7; Tajana Sekelj Ivančan (2010), for instance, T. 11, n. 59; T. 34, n. 214; T. 39, n. 243; T. 67, n. 429.

a general comparison (mostly for Tbl. 8, n. 5).[75] Specifically, pots found at St. Martino (seventh/eighth century), and, above all, Savorgnano (eighth-ninth century) show similarities that might indicate manufactures within the same production system of Broili (notwithstanding the earlier dating).[76]

Rim Type 2a1 (rim shard 1: 1%, 4 gr: 1%) (Tbl. 9, n. 1); recovered from level area; mouth diameter: 0.15 m. The slant is less marked.

This rim is distinguished from Type 2a because it is much less flared, this characteristic arousing some doubts about the possible original function. The most striking matches come from Savorgnano (eighth-ninth century), however, such a form is also documented for the Torček region, thus showing its presence at sites along the Drava River.[77] The last settlements represent a domestic context and so a function within household activities can be put forward for this type. Unlike Type-2a pots, however, the small inclination of the rim appears not very suitable for suspending it, whereas the pointed tip could have pierced any covering made of perishable material.

Rim Type 2a2 (rim shard 1: 1%, 4 gr: 1%) (Tbl. 10, n. 1); found in the level area; mouth diameter: 0.15 m.

This seems to be a long-lasting type, since it is present in several areas from Frioul to Austria and Slovenia from prehistoric times.[78] All the same, its popularity may have varied to a great extent and it is significant that no matches come from the Torček region, where the findings cover the whole early medieval period. In contrast, in Frioul it seems to have been quite common from the later phases of the early Middle Ages, as can been inferred from the

[75] Silvia Lusuardi Siena (2004), 78, n. 4; for Cittanova, see: Gian Pietro Brogiolo and Sauro Gelichi, "La ceramica comune in Italia settentrionale tra VI e VII secolo," in *Ceramica in Italia: VI-VII secolo*, ed. Lucia Saguì (Florence: All'Insegna del Giglio, 1998), 221, n. 3.

[76] Silvia Lusuardi Siena (2004), 89, n. 1 and 12 [same dating?]; Fabio Piuzzi et al. (2003), 69, n. 1; also 43, n. 4 (with no decoration).

[77] Ibid., 69, n. 2-3; Tajana Sekelj Ivančan (2010), T. 34, n. 215.

[78] See, for example, Wolfgang Artner, "Der Frauenberg bei Leibnitz, Steiermark, in der Spätlatènezeit und in der vorclaudischen Kaiserzeit. Ausgrabungen des Landesmuseums Joanneum 1979-1985," in *Archaeologia Austriaca* 82-83 (1998-1999): 230, n. 197-198; Mira Strmčnik-Gulič (1984), Taf. 6, n. 5 (about Late Antique Stari trg).

examples of St. Daniele (tenth/eleventh-twelfth century), and the later evidence from Sacuidic (twelfth and thirteenth century) and Savorgnano (thirteenth-fourteenth century).[79]

Rim Type 3 (rim shards 2: 2%, 128 gr: 9%) (Tbl. 11, n. 1-2); found in Tower 1 only; mouth diameters: 0.18 and 0.19 m.

Although present in the Late Antique Frioulan region, it is significant that at Invillino the only convincing matches are the later ones (Form IIIi), namely from the seventh/eighth century, which are contemporary with examples from St. Martino di Rive d'Arcano and Verzegnis.[80] However, the presence of this type probably consolidated in this geographical area later, as is implied by good comparanda from Osoppo (eighth-ninth century), Solimbergo (radiocarbon-dated to late tenth-early twelfth century), but also Asolo (eighth/ninth-eleventh century), and Muggia Vecchia (generally early medieval period; this with no decoration, however).[81] Interestingly, scant evidence for this type emerges from areas beyond Frioul; only a couple of similar pots from Torček can be mentioned.[82] This supports the idea of more reliance on local manufactures and it is perhaps not a case that the two vessels from Broili come from a household, high-ranking though, context.

Rim Type 2a/3 (rim shards 3: 4%, 59 gr: 4%) (Tbl. 12, n. 1-2); found in the level area only; mouth diameters: 0.12 and 0.20 m. The rims are less flared than Type 3.

This type resembles some characteristics of Types 2a and 3, but it does not appear to have been amongst the most common morphologies. Two very good matches come from the mid-sixth- to mid-seventh-century phases of Ovaro, located roughly twenty miles from Illegio, but it is significant that no comparanda have been found either at the church of St.

[79] Silvia Lusuardi Siena (2004), 94, n. 4-8; Margherita Ferri et al. (2008), 63, 12-16; 65, n. 21; Fabio Piuzzi et al. (2003), 69, n. 9.

[80] See, for instance, Castions di Strada (fourth-fifth century): Maurizio Buora, "Ceramica grezza dalle necropoli dell'Italia nordorientale: alcuni casi," in *Ceramica in Italia: VI-VII secolo*, ed. Lucia Saguì (Florence: All'Insegna del Giglio, 1998), 604, 1; Volker Bierbrauer (1987), Taf. 109, n. 15; Silvia Lusuardi Siena (1994), 73, n. 7; Fabio Piuzzi 1996, 216, n. 10.

[81] Silvia Lusuardi Siena (2004), 89, n. 11, 15; 77, n. 2 (for Asolo); Marianna Mazzei (2000), 76, n. 4; Pietro Riavez (1998), 42, n. 9.

[82] Tajana Sekelj Ivančan (2010), T. 1, n. 1; T. 17, n. 103.

Paolo or Invillino, which have contexts of the same time.[83] Outside Frioul, scant evidence emerges for it, as is also shown by the well-documented settlements in the Torček region (just a couple of similar examples dating to the seventh century), whilst the match from the fortified site of Krottenturm in Austria provides a chronological parallel for Broili, although its presence is scant.[84] In Veneto and Frioul, if Eraclea and Osoppo have very similar pots for the seventh/eighth-ninth century, this type is better attested to during the later period, as at St. Daniele (tenth/eleventh-twelfth century), Sacuidic (twelfth century), and also the fortified site of Castelciés in the northern Veneto region (eleventh-fourteenth century).[85]

Rim Type 3a (rim shards 2: 2%, 14 gr: 1%) (Tbl. 13, n. 1-2); recovered from the level area only; mouth diameter: 0.23 and 0.38 m.

This type is not very different from Type 3, although documented over a larger area. However, the impression is of diverse variants which would speak of a common background and influence without being specific to a particular region or time. This can be underpinned by forms that only resemble the Broili type, whilst close matches (although usually not in terms of decoration) at times appear to be quite "random" within their own context, too.[86]

Rim Type 3a1 (rim shards 4: 5%, 29 gr: 2%) (Tbl. 14, n. 1-3); from level area and Tower 1;

[83] Giacomo Gonella, "La ceramica grezza da alcuni siti della Carnia (Friuli). Approcci metodologici e qualche osservazione generale," in *Atti del V Congresso Nazionale di Archeologia Medievale*, ed. Giuliano Volpe (Florence: All'Insegna del Giglio, 2009), Tav. III, n. 12, 14; the study on the relevant materials from the church of St. Paolo is under way.

[84] Tajana Sekelj Ivančan (2010), T. 30, 193; Erik Szameit 1989, Taf. III, 29;

[85] Silvia Lusuardi Siena (2004), 78, n. 5-6; 89, n. 16; 93, n. 11; 94, n. 1-2; Margherita Ferri et al. (2008), 63, n. 9; Anna Nicoletta Rigoni, "Indagini archeologiche nell'area della fortificazione medioevale di Castelciés (Cavaso del Tomba," in *Quaderni di Archeologia del Veneto* 8 (1992): 62, n. 12 and "Castelciés (Cavaso del Tomba). Lo scavo di una fortificazione medievale," in *Quaderni di Archeologia del Veneto* 9 (1993): 57, n. 10.

[86] Volker Bierbrauer (1987), Taf. 102, n. 5 (Late Antique/early medieval); Helgard Rodriguez, "Bemerkungen zur relativkronologischen Gliederung der südostalpinen spätromisch-spätantiken Gebrauchskeramik." In *Il territorio tra tardoantico e altomedioevo. Metodi di indagine e risultati*, ed. Gianpietro Brogiolo and Lanfredo Castelletti (Florence: All'Insegna del Giglio, 1992), 175, n. 2 (for early medieval St. Alban, Matrei); Silvia Lusuardi Siena (1994), 73, n. 8 (for fifth-seventh-century St. Martino); Silvia Lusuardi Siena et al. (2004), 89, n. 6-8 (for seventh/eighth-ninth-century Osoppo and seventh-eighth-century Savorgnano); Fabio Piuzzi (2003), 51, n. 2, 4 (also for Savorgnano); Janko Belosević, *Materijalna Kultura Hrvata od VII do IX Stoljeća* [Material Culture of Croatians from the seventh to the ninth century] (Zagreb: SNL, 1980), Taf. LVII, n. 6 (for Kašič); Taf. LIX, n. 9 (for Nin-Ždrijac); Tajana Sekelj Ivančan (2010), T. 17, n. 103; T. 18, n. 112; T. 37, n. 231 (for the Torček region); Mira Strmčnik-Gulič (1984), Taf. 2, n. 29; Renate Jernej, "Zum Fundmaterial aus der Versuchsgrabung am Georgiberg im Jauntal im Jahre 1964," in *Carinthia* 183 (1993): 111, n. 2-3 (for St. Kanzian).

mouth diameter: 0.15, 0.17, and 0.37 m. These rims are perhaps more shaped than Type 3a.

The considerations made for Type 3a may apply to this morphology too, to be regarded as a variant of a larger group that would also include Type 3a1/2/5 (see below). A few more examples, together with some mentioned for Type 3a, show its presence in the cultural background from western Hungary (Szebény) to Slovenia (Stari trg), and Frioul (Invillino), during Late Antiquity and the early medieval period.[87]

Rim Type 4 (rim shards 2: 2%, 6 gr: 1%) (Tbl. 15, n. 1-2); found in level area and Motte-related context; mouth diameters: 0.24 and 0.25 m. Almost vertical rims.

This type is present in the background of the regions under question at least since the La Téne era, as emerges from well-attested examples from Carinthia (though with diverse variants);[88] however, it does not seem to have been widespread during Late Antiquity and later until the last phases of the early Middle Ages (a seventh-century example from Kašic can be mentioned, which is a cremation urn).[89] Some sporadic items roughly resembling those from Broili come from outside Frioul (for instance, Zelenci in Slovakia, specifically, a village dated to the end of the eleventh-early twelfth century), but the best match still comes from Savorgnano in terms of both form and decoration (seventh/eighth-ninth century).[90]

Rim Type 2/4 (rim shard 1: 1%, 5 gr: 1%) (Tbl. 16, n. 1); found in the level area; mouth diameter: 0.40 m.

The morphology seems to be between Types 2 and 4, but it is probably a specific type itself, as it is well documented over a vast area from eastern Croatia to Austria and Frioul, mostly from the late Roman epoch and through the Middle Ages (despite the poor evidence

[87] Huw Evans (1989), 132, Pl. XIV, n. 7:3; Mira Strmčnik-Gulič (1984), Taf. 15, n. 19; Volker Bierbrauer (1987), Taf. 102, n. 1, 5; Stefan Groh and Helga Sedlmayer (2010), 91, Tulln Type.
[88] Bertram Samonig, "Zur Wallanlage auf dem Förker Laas-Riegel in Kärnten," in *Archaeologia Austriaca* 81 (1997): 127, n. 7.
[89] Florin Curta (2010), 318, fig. 10.
[90] Milan Hanuliak et al., "Vrcholnostredoveká Dedina zo Slovenskej Novej Vsi a Zelenča [A High Medieval Village in Slovenská Nová Ves Zelenci]," in *Slovenská Archeológia* 56, 1 (2008): F1, n. 47; Fabio Piuzzi et al. (2003), 69, n. 2.

from Broili).[91] Late-Antique Kirchbichl in Carinthia has a good example, but at Invillino parallels are with Type IIId2 and IIIi that mostly come from seventh/eighth-century phases.[92] These are roughly contemporary with similar items (with longer necks however) from Slavic areas (Kašič, Nin Ždrijac, Nova Tabla near Murska Sobota), however, differences in decoration and the fact that some vessels are handmade would actually prevent them from being considered as made at the same manufacturing centres.[93] This also applies to some matches coming from Austria and north-western Slovenia, which are indeed dated to roughly the same time as the settlement at Broili (Krottenturm, Zelenči).[94] In contrast, if not from the same workshops, a good number of vessels from Frioul could be identified with common manufacturing systems or networks (St. Daniele, both during the seventh/eighth-ninth and tenth/eleventh-twelfth century), whilst other pots from the same region are just comparanda in terms of morphology (like Muggia Vecchia in south-eastern Frioul).[95]

Rim Type 5 (rim shards 3: 4%, 48 gr: 3%) (Tbl. 17, n. 1-3); recovered from level area and Edifice 2; mouth diameter: 0.16, 0.21, 0.25 m.

This type seems to have appeared in the later Early Middle Ages and mainly characterised the Austrian areas, especially if one considers the form with elongated rims.[96] In Frioul, good comparanda have been found at Osoppo, Savorgnano, and St. Daniele, spanning from the seventh-eighth to the tenth/eleventh-twelfth century, but mostly in the pots with a shorter lip.[97] The elongated version seems to be attested mainly, if not almost

[91] Tajana Sekelj Ivančan (2010), T. 3, n. 9 (Torček); Stefan Groh and Helga Sedlmayer (2010), 73, n. 3071/3 (Zwentendorf).
[92] Volker Bierbrauer (1987), 212, n. 13; Volker Bierbrauer, "La ceramica grezza di Invillino-Ibligo, Friuli e i suoi paralleli nell'arco alpino centrale e orientale (Secc. 4.-7. d. C.)," in *Archeologia Medievale* 17 (1990): 63, n. 13; 70, n. 3.
[93] Janko Belosević (1980), Taf. LVII, n. 6; LVIII, n. 5; Florin Curta (2010), 321, fig. 14.
[94] Erik Szameit (1989), Taf. IV, A 54; Milan Hanuliak et al. (2008), F 47
[95] Silvia Lusuardi Siena et al. (2004), 89, n. 12-13; 94, n. 6; Pietro Riavez (1998), 42, n. 11.
[96] A Late Antique example comes from Stari trg, but it significantly resembles the rim with shorter lip only; Mira Strmčnik-Gulič (1984), Taf. 15, n. 15; besides, a match from the seventh-eighth century is from a burial at Pottenbrunn; Herwig Friesinger, "Frühmittelalterliche Körpergräber aus Pottenbrunn, Stadtgemeinde St. Pölten, NÖ," in *Archaeologia Austriaca* 51 (1972): 188, 189.
[97] Silvia Lusuardi Siena et al. (2004), 89, n. 6-8, 13; 94, n. 6.

exclusively, across the Alps, although the Broili type appears only a variant of the hook-shaped rims that are documented at high-medieval Austrian sites like Gaiselberg, Poppendorf, and St. Kanzian, which in turn do not match the decoration pattern of the pots here.[98]

Rim Type 2/3a1/5 (rim shards 5: 6%, 49 gr: 4%) (Tbl. 18, n. 1-5); recovered from Tower 1 and level area; mouth diameter from 0.15 to 0.21 m. The top of these rims is convex.

This type is well attested in several areas of Frioul, Austria, Slovenia, and even Croatia during Late Antiquity and medieval times; it seems to have been a long-lasting form and the different variants that emerged from various sites just indicate a sound presence in the cultural background of these regions.[99] Also at Broili, if the dating is roughly correct, it features in different phases (not to mention similarities with Types 2, 3a1, and 5), although the pots from Tower 1 are very close to each other and only a little distinct from the others. The impression is therefore of manufactures not really connected with specific production networks and, if decoration patterns and chronology might at times represent interesting parallels, some of the best matches come from Late Antique contexts, which presumably belonged to different social and economic situations.

Rim Type 4/5 (rim shard 1: 1%, 4 gr: 1%) (Tbl. 19, n. 1); probably relevant to Edifice 2 or Motte; mouth diameter: 0.18 m. Double-tipped lip.

It resembles something of Type 5, but it seems closer to Type 4, to which I refer in terms of parallels.

Rim Type 6 (rim shard 1: 1%, 17 gr: 1%) (Tbl. 20, n. 1); recovered from Motte-related context; mouth diameter: 0.29 m. The swollen part is less tilted.

[98]Sabine Felgenhauer-Schmiedt, "Das Fundmaterial des Hausbergs zu Gaiselberg, NÖ," in *Archaeologia Austriaca* 61-62 (1977): 288, n. 4, 7; Kurt Hetzer, "Der "Türkenkogl" von Poppendorf bei Markersdorf, p. B. St. Pölten, NÖ, Abb. 11, n. 1, 4; Renate Jernej (1993), 111, n. 4.

[99]Amongst several examples, see for instance: Volker Bierbrauer (1990), 63, n. 14-15 (for Invillino; fourth/seventh century and later); Volker Bierbrauer (1987), Abb. 30, n. 13; Taf. 72, n. 10; Taf. 99, n. 14 (for Kirchbichl too, c. fifth century); also some matches for Type 5 (Osoppo, Savorgnano, St. Daniele; from eighth to twelfth century), besides St. Martino (seventh/eighth century): Silvia Lusuardi Siena et al. (2004), 89, n. 1-2, 6-8; 94, n. 6; from some sites in Dalmatia (seventh to ninth century): Janko Belosevic (1980), Taf. LX, n. 2; LXI, n. 5; Florin Curta (2010), 321, fig. 14 (Nova Tabla near Murska, seventh century)).

This was not amongst the most common pot types during the early Middle Ages, as is also shown by the phases at the church of St. Paolo; this is the only example of Broili; in the Frioulan and Veneto regions it plausibly developed from Roman-Age forms.[100] It is well attested at St. Daniele during the tenth/eleventh-twelfth century and, interestingly, also at some fortified sites of the northern Veneto districts at roughly the same time, which even provide some comparanda in terms of surface treatment.[101]

Rim Type 7 (rim shards 2: 2%, 105 gr: 7%) (Tbl. 21, n. 1-2); found in level area and Tower 1-related dump layer; mouth diameter: 0.16 and 0.26 m.

This is probably one of the long-lasting types. There is good evidence in Austria for morphological parallels at roughly the same time; however, this fact should perhaps be regarded as a deep-rooted presence in the manufacturing tradition of these regions, since for north-eastern Italy most of the matches come from Late Antique sites or phases, as is the case with the church of St. Paolo in the Illegio Valley itself.[102]

Rim Type 7a (rim shard 1: 1%, 4 gr: 1%) (Tbl. 22, n. 1); found in the level area; mouth diameter: 0.18 m. Shorter rim and narrower neck.

This is actually close to Type 7, but it has a shorter and narrower neck. It seems to be another long-lasting type and its non-systematic presence in different places and times speaks of scattered influence rather than specific production networks.[103]

Jugs

[100] Lidia Rupel, "Aspetti della ceramica comune romana in Friuli: materiali da Vidulis e Coseano," in *Aquileia Nostra* 59 (1988): 157, n. 53; for an example from outside Frioul see Stefan Groh and Helga Sedlmayer (2010), 93 (Saaz).

[101] Silvia Lusuardi Siena et al. (2004), 94, n. 2; 77, n. 5; Anna Nicoletta Rigoni (1992), 62, n. 12; and 1993, 57, n.10.

[102] Volker Bierbrauer (1990), 79, n. 6 (Säben/Sabiona); Angela Borzacconi, "I reperti ceramici rinvenuti nel sito di Muggia Vecchia: considerazioni archeologiche e archeometriche," in *Antichità Alto Adriatiche* 56 (2004): 59, n. 3 (for ninth-tenth-century Muggia Vecchia); Branko Marušič, "Altslawische und einige frühmittelalterliche Funde in Istrien," *Arheoloski Vestnik* 6 (1955): 130, n. 1 (early medieval Istria); Erik Szameit (1989), Taf. VIII, A 116 (Krottenturm); Sabine Felgenhauer-Schmiedt (1977), 288, n. 2; see also for Torček, Tajana Sekelj Ivančan (2010), T. 31, n. 196; T. 59, n. 368; T. 64, n. 410 (most of them from around the eleventh century).

[103] It is significant that no close matches have been detected within the Frioulan region; see Late Antique/early medieval examples from Säben: Volker Bierbrauer (1990), 79, n. 8; and Villa Clelia/Imola (Bologna district), see: Renata Curina et al., "Contesti tardo-antichi e altomedievali dal sito di Villa Clelia (Imola, Bologna)," *Archeologia Medievale* 17 (1990): 173, n. 6.

Rim Type 8 (rim shard 1: 1%, 8 gr: 1%) (Tbl. 23, n. 1); found in the level area; mouth diameter: 0.12 m.

This resembles types which were known over different geographic areas from Roman Age and even La Téne times.[104] In Frioul it was not among the most common vessels (no comparanda from Invillino), but good evidence for this probable jug emerges especially from the Slavic regions, where the early medieval form plausibly derived from Late Antique types and, in some areas, possibly through Lombard patterns.[105]

Rim Type 8a (rim shard 1: 1%, 12 gr: 1%) (Tbl. 24, n. 1); found in the level area; mouth diameter: 0.15 m.

Although one might think of typical jugs found at Fiesole (Tuscany) and dated to the tenth century, this does not exclude that this vessel at Broili is a later contamination. At the church of St. Paolo in the Illegio Valley, one item resembles such a form, however, it is uncertain whether it belongs to early medieval materials, since the layer was probably disturbed by the building of the thirteenth-century church. The only evidence in terms of parallels, although scanty, comes from later periods either in Frioul or nearby regions, such as the items from Sacuidic (c. twelfth century) and Tulln (c. thirteenth century).[106]

Rim Type 9 (rim shards 3: 4%, 10 gr: 1%) (Tbl. 25, n. 1-3); recovered from the level area and Motte phase; mouth diameter: 0.08, 0.09, and 0.10 m.

The simplicity of this rim makes it a long-lasting form, so comparanda come from different regions and times;[107] notwithstanding, at Broili these items are quite standardised in terms of shape and size. Some early medieval and high medieval examples are attested in

[104] Wolfgang Artner (1998-1999), 285, n. 93 (Leibnitz); Mira Strmčnik-Gulič (1984), Taf. 12, n. 9 (Stari trg).
[105] Volker Bierbrauer (1990), 75, n. 1 (Ajdna); 76, n. 2-3 (Vranje); Massimo De Piero, "La ceramica grezza tardoantica e altomedievale con marchi a rilievo sul fondo," in *Bollettino del Gruppo Archeologico Aquileiese* 7 (1997): 17, n. 9 (Nin-Ždrijac); Tajana Sekelj Ivančan (2010), T. 70, n. 448; for a typical Lombard-age jug: Gian Pietro Brogiolo and Sauro Gelichi (1998), 218, n. 7.
[106] Silvia Lusuardi Siena (1994), 41, n. 6; Margherita Ferri et al. (2008), 63, n. 8; Brigitte Cech, "Mittelalterliche und frühneuzeitliche Keramik aus Tulln, Niederösterreich," in *Archaeologia Austriaca* 73 (1989): 202, C9; studies on St. Paolo's Church are in progress.
[107] Jana Horvat (1983), Taf. 14, n. 13 (Kranj; La Téne epoch).

Frioul and other regions, as is the case with Oderzo (seventh-ninth century), Castelciés, and Slovenian, Slovakian, and Croatian sites where the medieval morphology possibly developed from late Antique and through Slavic-Avar patterns (Zelenči, Torček).[108] All the same, the best matches come from Late Antique/early medieval Invillino, specifically those referring to beakers, which could also be identified among the Broili finds (one similar item was recovered from the sixth-seventh-century phases of St. Paolo's Church).[109]

Rim Type 9a (rim shard 1: 1%, 11 gr: 1%) (Tbl. 26, n. 1); recovered from Tower 1-related dump layer; mouth diameter: 0.16 m. The arch of the rim is more rounded.

This is another simple rim attesting to a long-lasting form documented from at least the La Téne era.[110] However, if one considers the whole possible shape of this jug (rather than pot), some clear similarities emerge from vessels which were quite common in Slavic or Slavic-influenced contexts during the early medieval period (generally featured by an elongated neck), as can be inferred from some sixth/seventh- to eighth-century Frioulan, Slovenian, and Austrian sites like Ovaro, Podgorica near Črnuče, and Brunn am Gebirge.[111]

Some matches have also been found for later epochs, as is the case with Attimis Castle (dated to tenth/thirteenth century, on the basis of parallels), and the fortified site of Castelciés (eleventh/fourteenth century), which could demonstrate the presence of this vessel type that was probably used for water or other liquids.[112]

Rim Type 9a1 (rim shards 2: 2%, 11 gr: 1%) (Tbl. 27, n. 1-2); found in Tower 1-related dump layer; mouth diameter: 0.14 m.

[108] Silvia Lusuardi Siena et al. (2004), 81, n. 3; Anna Nicoletta Rigoni 1992, 63, n. 2; Hajnalka Herold, "Die Keramik der awarischen Siedlungsreste von Brunn am Gebirge, Flur Wolfholz, Bezirk Mödling, Niederösterreich," in *Archaeologia Austriaca* 86 (2002), 175, n. 3; Milan Hanuliak et al. 2008, 122, A1, n. 2; Florin Curta 2010, 321, fig. Podgorica near Črnuče; significantly handmade); Tajana Sekelj Ivančan 2010, T. 4, n. 13; T. 12, n. 67; T. 13, n. 75; T. 52, n. 324.

[109] Volker Bierbrauer (1987), Taf. 79, n. 15; 81, n. 4; 88, n. 3; Giacomo Gonella (2009), Tav. III, n. 3.

[110] Jana Horvat 1983, Taf. 14, n. 6 (Kranj).

[111] Giacomo Gonella 2009, Tav. III, 19; Florin Curta (2010), 321, fig. 17; Hajnalka Herold 2002, 175, n. 3. Some evidence perhaps comes from the Late Antique phases of St. Paolo's Church at Illegio too. See also seventh- to eleventh-century finds from the Torček region: Tajana Sekelj Ivančan (2010), T. 25, n. 152; T. 28, n. 172; T. 35, n. 219; T. 71, n. 450.

[112] Marianna Mazzei (2000), 77, n. 4; Anna Nicoletta Rigoni 1992, 64, n. 10.

These vessels definitely seem to be jugs either for water or different liquids. They are not distant from Type 9a, therefore some of the remarks above can also apply to this form. The above-mentioned item from Ovaro is still a good match, while, at Invillino, the closest type is probably IIIi, which, significantly, comes from seventh/eighth-century phases only.[113] At that time, such forms were quite widespread in Slavic contexts, as emerges with different variants from Slovenian and Croatian contexts (Kašič, Biljane Donje-Begovača, Torček), although early medieval finds from Pistoia (Tuscany) show that this jug type must have been in use to some extent over wide areas (notwithstanding the scanty evidence from Frioul).[114]

Lids

Rim Type 10 (rim shard 1: 1%, 2 gr: 1%) (Tbl. 28, n. 1); recovered from pre-Edifice 2 phase; mouth size not reconstructed.

This is an uncertain form; I initially drew it as a jug, but it is more likely a lid and, thus, either side could be the inner one. Some ceramic covers were found among the medieval phases of St. Paolo's Church at Illegio (c. thirteenth century or even a little later), however, their rims have a square shape. The concave position is more convincing and it resembles known late Roman-Age examples, as, for instance, that found at Ovaro;[115] besides, the stratigraphic evidence does not rule out the possibility of a Late Antique item, since the only certainty is that its context is before Edifice 2.

Flat pans

Rim Type 11 (rim shards 3: 4%, 96 gr: 7%) (Tbl. 29, n. 1-2); found in pre-Edifice 2 context; width: 0.25 m.

One rim differs from the other two, this does not exclude that they all belong to the same vessel. They/it could refer to a flat pan rather than a plate (the latter usually thinner), as

[113] See footnote 71; Volker Bierbrauer (1987), Taf. 123, n. 1, 3;
[114] Florin Curta (2010), 318, fig. 10; Janko Belosevic (1980), Taf. LVIII, n. 3, 5; Tajana Sekelj Ivančan (2010), T. 10, n. 56; T. 3, n. 9; T. 4, n. 14; T. 15, n. 85; T. 25, n. 155 (with a hole in the neck; for suspending it?); T. 34, n. 216; Silvia Lusuardi Siena (1994), 40, n. 8.
[115] Giacomo Gonella (2009), Tav. I, 4.

the burnt paste would indicate a prolonged use on fire.[116] One thinks of items for baking that were quite widespread especially in the Liguria Region from the eleventh century onwards, but also attested during Late Antiquity and early medieval times (as at Luni).[117]

Basins

Rim Type 12 (rim shards 2: 2%, 11 gr: 1%) (Tbl. 30, n. 1-2); recovered from the level area; mouth diameter: 0.36 and 0.37 m.

Bowls with inwardly-turned rim were widespread from prehistoric times. Some Late Antique Light/Red-Slip-Ware forms might have been a pattern for later development, as, for instance, emerges from an early medieval piece at Verzegnis.[118] This type, however, can more significantly be associated with vessels used as either bowls/basins or oven-lids (probably for baking bread), which spread, especially in the north-eastern areas of Italy, from the Early Middle Ages. Items from St. Kanzian dating to roughly the same time as Broili show similar shapes, although the oven-lid form does not seem to have been popular in the Austrian or Slavic regions.[119] The closest parallels are from eastern Lombardy and Veneto, which often match the Broili types, surface treatment, and possibly pastes, attesting to a common vessel that was widely used during the tenth-eleventh century. Certainly, they were items mostly relevant to household activities, therefore any morphological comparison would plausibly speak of cultural influence on local products rather than real exchange.[120]

Bowls

Rim Type 12a (rim shard 1: 1%, 4 gr: 1%) (Tbl. 31, n. 1); related to Motte phase; mouth

[116] See examples of what could be medieval dishes from St. Kanzian (called Deckel [lid], whereas those of small size could be lamps); Renate Jernej (1993), 116, n. 4-5.
[117] Silvia Lusuardi Siena (1994), 49, n. 11.
[118] Silvia Lusuardi Siena (1994), 46, 48, Tav. 9, n. 4-5; Volker Bierbrauer (1987), Abb. 38, n. 12-13 (Invillino); Lidia Rupel (1988), 151, n. 26 (Vidulis); Fabio Piuzzi (1996), 215, n. 6.
[119] Renate Jernej (1993), 116, n. 7-8. These could be bowls or dishes, notwithstanding, the author calls them lids, as is also the case with those from the Krottenturm; Erik Szameit (1989), Taf. IX, B6, B9.
[120] Silvia Lusuardi Siena et al. (2004), 73, n. 2-3 (St. Benedetto Po, MN); 74, n. 6-9 (Concordia upon Secchia, MO, Pieve di Coriano, MN, and Casaloldo, BS; the latter being interesting since the presence of holes through the body distinguishes basins from oven-lids). See also Ovaro for seventh-eighth-century oven-lids roughly matching the Broili form; Giacomo Gonella (2009), Tav. IV, 1-2.

diameter: 0.14 m. The top lip is more rounded than Type 12.

This must be a bowl, since the small size would prevent from considering it an oven-lid, although the rim roughly resembles those of seventh-eighth-century vessels from Ovaro. This form is not very different from Type 12a and some comparanda found for the latter may apply to this type too.[121] It is interesting to note that bowls of this kind, even matching the one from Broili quite closely, were present in Late Antique sites, as is the case with an example from fifth/sixth-century Castelraimondo (of same size), therefore this form seems to be another long-lasting type that characterised the Frioulan context and beyond in different epochs.[122]

Oven-lids (basin-like vessels used as covers for baking)

Rim Type 13 (rim shards 2: 2%, 11 gr: 1%) (Tbl. 32, n. 1-2); found in Tower 1 and level area; mouth diameter: 0.35 and c. 0.42 m.

This form is usually regarded as an oven-lid, although the decoration on the top of the rim could also indicate another function, such as a basin. As pointed out above, such vessels were probably used in household contexts only, which may have kept them out of exchange networks. Parallels, coming almost exclusively from north-eastern Italy, would thus underpin only cultural influences, which did not feature in the regions across the Alps to any significant extent.[123]

Rim Type 14 (rim shard 1: 1%, 1 gr: 1%) (Tbl. 33, n. 1); found in the level area; mouth diameter: 0.17 m.

Despite a rim shape matching oven-lids from Bovolone and St. Paolo's Church, the

[121] Giacomo Gonella (2009), Tav. IV, especially n. 1.

[122] Claudia Covizzi. "La ceramica grezza: la morfologia," *in Castelraimondo – Scavi 1988-1990*, 2, ed. Sara Santoro Bianchi (Rome: L'Erma di Bretschneider, 1992), 73, C2122.

[123] A similar early medieval example comes from St. Paolo Church, probably of roughly the same time as a vessel from Ovaro; Giacomo Gonella (2009), Tav. III, n. 31 (although the smaller size of both marks an important difference). A good match comes from Osoppo (seventh/eighth-ninth century); Silvia Lusuardi Siena et al. (2004), 90, n. 7; see also the site of Bovolone (near Verona), which attests to a sound presence of such forms at a castle in the Po Valley between c. the ninth and thirteenth century); Fabio Saggioro et al., "Insediamento ed evoluzione di un castello della Pianura Padana. Bovolone VR (1995-2002), località Crosare e Via Pascoli," in *Archeologia Medievale* 31 (2004): 1-2, 4-5; 182, n. 9.

limited width suggests a bowl like those documented at different Late Antique and early medieval sites (for instance, Coseano, Invillino, and Ovaro), or perhaps a lid, as is the case with the early medieval item from Verzegnis (in Frioul).[124]

Rim Type 14a (rim shards 2: 2%, 57 gr: 4% + top shards 2, 47 gr, one with hole) (Tbl. 34, n. 1-4); found in Tower 1-related dump layer; mouth diameter not reconstructed. The rim is more squared than Type 14.

These two fragments of oven-lids are quite similar and may even belong to the same vessel. An item from sixth-seventh-century Ovaro matches them in terms of shape and decoration, but its size is not reconstructed either.[125] An example from Rosà shows a hole close to the top, which was a typical and functional characteristic of such specimens, which began to be used in the north-easternmost parts of Italy by the sixth-seventh century.[126] At the same place, later evidence attests to this form in the ninth-eleventh century, as also occurs at a number of sites, like, for instance, Solimbergo (tenth-thirteenth century), Bovolone (ninth-tenth century), and even Krottenturm in Austria (tenth-eleventh century).[127]

Rim Type 15 (rim shard 1: 1%, 12 gr: 1%) (Tbl. 35, n. 1); found in Tower 1-related dump layer; mouth diameter: c. 0.32 m. Vertical wall.

This may be a basin, nonetheless, it may also have been used as an oven-lid, the feature distinguishing the two forms being holes (when present). Large basins were recovered from Invillino in layers dating back to Late Antiquity or the early Middle Ages (with similar decoration, too), as is also the case with examples from Torcello (Venice Lagoon; which are said to match Frioulan vessels).[128] However, their body generally has (slightly) inclined walls, therefore the best comparanda are probably those from the early medieval phases of

[124] Fabio Saggioro et al. (2004), 181, 2; 182, 7, 9; Lidia Rupel (1988), 165, 92-95; Volker Bierbrauer (1987), Taf. 71, 2; Giacomo Gonella (2009), Tav. III, 11; Fabio Piuzzi (1996), 215, 1 (ø m. 0.012).
[125] Giacomo Gonella (2009), Tav. III, 33.
[126] Elena Pettenò, *Nelle campagne della Rosa: dieci anni di ricerche archeologiche a Rosà* (Bassano del Grappa: Editrice Artistica Bassano, 2004), 163, n. 7
[127] Silvia Lusuardi Siena et al. (2004), 90, n. 3; Fabio Saggioro et al. (2004), 181, n. 7-8; Erik Szameit (1989), Taf. X, C11.
[128] Volker Bierbrauer (1987), Taf. 84, n. 17; 86, n. n. 16; 99 n. 22; Stefania Spagnol (2007), 122, n. 35.

Verzegnis (although smaller), and ninth-tenth-century Bovolone.[129]

Jars

Rim Type 16 (rim shard 1: 1%, 119 gr: 8%) (Tbl. 36, n. 1); from level area (314); mouth diameter: 0.13 m.

It is uncertain whether this jar can be associated with vessels featuring a narrow neck and swollen belly recovered from some high medieval fortified sites of the northern Veneto Region (Asolo, Castelciés, Onigo).[130] I have hitherto found no matches in Frioul for this form, which, even according to its almost fine paste, could be considered a medieval amphora, perhaps still waiting for a type definition. This type is well represented in Austria at the fortified site of Krottenturm (mostly eleventh century); it is regarded as a storage vessel (*Vorratsgefaß*) in assemblages which are characterised by graphite-clay pottery (*Graphittonkeramik*) that was quite typical of Carinthia from the ninth century onwards.[131]

Bases of vessels

Bases are tentatively divided into different clusters according to features that may mark specific manufacturing techniques, which are difficult to ascertain even within a limited chronological and geographic context.[132]

Base Type 17 (base shard 1: 3%, 18 gr: 3%) (Tbl. 37, n. 1); found in Tower 1 (123); bottom diameter: 0.13 m. The main feature is that the base is thicker than the vessel walls.

Base Type 17a (base shards 10: 27%, 216 gr: 38%) (Tbl. 38, n. 1-9); recovered from Edifice 2- (220=244) and Motte-related contexts (206, 168), and the level area (444, 360, 310, 428); bottom diameter: m. 0.09 to 0.15 (except one 0.20 m). The profile of most of them is

[129] Fabio Piuzzi (1996), 215, n. 1-2, eventually 5 too; Fabio Saggioro et al. (2004), 181, n. 7, 10; 182, n. 8.
[130] Anna Nicoletta Rigoni (1992), 33, n. 5; 37, n. 7-12; 62, n. 6-8, 10; Anna Nicoletta Rigoni, "Onigo: scavi nel castello in località "Mura di Bastia"," in *Quaderni di Archeologia del Veneto* 11 (1995): 42, n. 10.
[131] Erik Szameit (1989), Taf. XI, and 147.
[132] When I approach pots' bases, I always keep in mind the drawing I made of a complete vessel's base from St. Paolo's Church, which showed two fairly different profiles (understandable indeed based on pre-industrial manufacture; the remarks I make are thus to be read critically, also because the work on St. Paolo's materials is still in progress). In terms of this analytical study, I mainly consider evidence from the Illegio Valley (the church of St. Paolo), and medieval sites which could date to roughly the same time as Broili, since, if one could ever ascertain some trends, it would be by narrowing the comparative basis as much as possible.

somewhat irregular (perhaps the result of throwing on a slow wheel), whereas a certain weakness of the joins between the walls and bases can be inferred from the fact that most of them have cracked just above that point (although they mainly come from the courtyard which was trampled on much more than other contexts).

Base Type 17a1 (base shards 6: 16%, 53 gr: 10%) (Tbl. 39, n. 1-6); from level area (412, 428), Tower 1 (100/107), and also Motte phase (?) (248); base diameter: 0.11 to 0.13 m (one could be 0.09).

Joins and wall profiles are smoother and less angular, thus giving the impression of more self-confidence or a faster wheel.

Base Type 17a2 (base shards 3: 8%, 14 gr: 3%) (Tbl. 40, n. 1-3); recovered from Motte-related layer only (168); base diameter: 0.11, 0.13 m, and 0.14. Irregular profiles.

Base Type 17b (base shards 8: 22%, 65 gr: 12%) (Tbl. 41, n. 1-8); recovered from the level area (310, 330, 428), and also Motte-related layer (168); base diameter: 0.10 to 0.15 m (most of them 0.13); two uncertain (c. 0.08 m). The main feature is the generally convex external wall profile.

Rim Type 17b1 (base shards 2: 5%, 10 gr: 2%) (Tbl. 42, n. 1-2); recovered from Motte phase (204) and level area (310); base diameter: m. 0.09 (the other uncertain, perhaps of similar size). Thick joints and slight heel.

Rim Type 17b2 (base shards 7: 19%, 180 gr: 33%) (Tbl. 43, n. 1-7); recovered from all contexts (421, 204, 308, 17, 107, 125); base diameter: 0.09 to 0.13 m (the one from pre-Edifice 2 phase 0.17 m). Heeled bases, although differently shaped.

It is difficult to ascertain whether a given technique refers to a specific workshop/production system or general know-how present in the material culture practices of the regions concerned, also in the light of the few bases published from medieval Frioulan sites. Type 17 has only one specimen, whereas it is well represented in the Late Antique

phases of St. Paolo's Church; it also seems to have been very common in some Austrian areas during the early Slavic and Avar epochs (Unterrohrbach, Zwölfaxing).[133] Other types, however, characterise the ceramic assemblages of the aforesaid church from the early medieval period (or even later) and there are some parallels amongst the Broili groups, at least to a certain extent (the [slight] heel and/or concave base instead of a flat external bottom being two examples, although they are not the rule at Broili either).[134]

An interesting remark is the usually small diameter of pot bases at Broili compared to the mouth widths, this diverging from the vessels recovered from St. Paolo. This is particularly evident among pots coming from the level area, which were often of large size. Some types were recovered from only this context (17a, 17a2, 17b, including the dump layer 168 that is probably relevant to the Motte phase), and, in particular, a certain standardisation that emerges from Type 17b in terms of manufacture may speak of vessels systematically made and used for a specific purpose (they were found where the structures interpreted as warehouses were situated).[135]

Potter's marks

Two pot bases from contexts 204 and 168 have potmarks on the exterior under the base. These signs are usually crosses, sometimes enclosed in a circle, over most of the regions here concerned during the ninth-eleventh century.[136] Diverse variants are documented at Broili and elsewhere. My impression about the marks from the Late Antique phases of St.

[133]Ernst Lauermann (1993): 117, n. 6-7; Uwe Fiedler et al., "Beiträge zur Formenentwicklung der awarenzeitlichen Grabkeramik," in *Archaeologia Austriaca* 77 (1993): generally Abb. 41.

[134] Heeled pots mostly come from Tower 1 which is a residential context, whereas it is perhaps significant that this feature is missing from the Austrian fortified site of Krottenturm that dates to roughly the same time; Erik Szameit (1989), 137-166.

[135] Nonetheless, at first sight, the type-17b bases do not appear to be of better quality than other more "household" items, therefore standardisation would not mean a higher standard in this case.

[136] The question is dealt with for Frioul by Alessandra Negri (1994), 82-foll.; Tav. 2, 12, 13; and Silvia Lusuardi Siena (1994), 98-foll.; Tav. 1, 3, 4, 5, 7. Simple cross and wheel patterns, at times besides other variants, are common at several medieval sites of roughly the same time as Broili; Tajana Sekelj Ivančan (2010), T. 64, n. 411, 412; T. 46, n. 287 (Torček); Milan Hanuliak et al. (2008), 124 (Zelenči); there is evidence in Austria too; Herbert Mitscha-Märheim, "Das karolingische Gräberfeld von Sieghartskirchen, N.-Ö, und seine Bedeutung für die mittelalterliche Siedlungsgeschichte," in *Archaeologia Austriaca* 13 (1953): 23, n. 11b; 29, Abb. 13. However, note the absence of any potter's marks at Krottenturm; Erik Szameit (1989), 137-166.

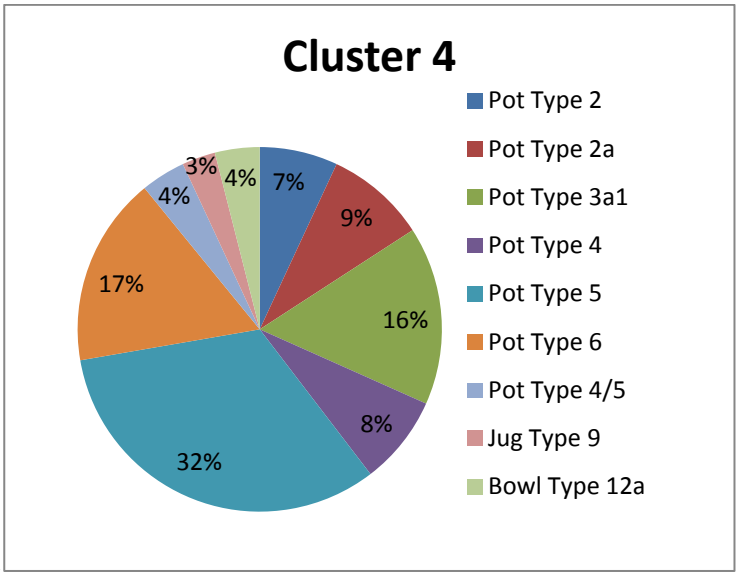
Paolo's Church is that they may have referred to some accountancy purpose within ecclesiastical structures managed by the patriarchate of Aquileia. However, for the following medieval periods, evidence of potter's marks from the Illegio Valley is scanty, therefore such a possible function may have changed or been lost. Alternatively, according to the limited number of them at Broili, one might think of a small amount of taxes (much less than a tithe) to be directed to some empowered institution (either secular or ecclesiastical). This is hypothetical and even the fact that marked pots were stored in a specific place for some time before delivery (since at Broili they both come from Motte-related layers) is too uncertain at this stage, especially given the small sample.

Chapter 4

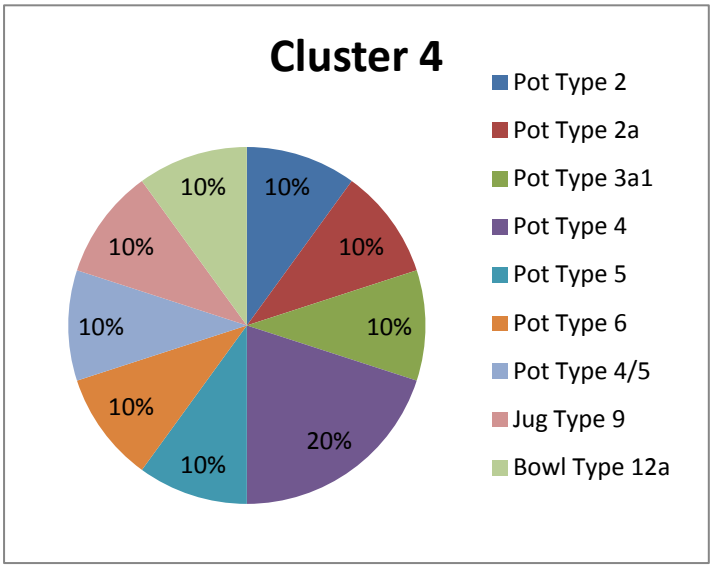
The archaeological context of Broili in the light of pottery evidence.

The charts below (fig. 23-31) summarise the frequency of pottery types, exclusively based on diagnostic shards, since the attempt in Chapter 2 to reconstruct the number of wares by assigning most of the fragments to specific vessels may not be exact. In particular, rims and bases are considered for displaying the frequency of ceramic forms and types in each of the phases identified (see Chapter 2, Table 1); they are kept separate, as any association may be erroneous. These diagnostic potsherds are not many, 120 (1,971 gr), namely, 83 rims (1,415 gr) and 37 bases (556 gr), however, the sample is not insignificant. Nonetheless, in several cases, frequency relies on a single or a few shards, therefore one should be cautious about any interpretation.[137] Another point to take into account is the subjective and at times conventional division in typological groups which actually may or may not reflect real differences in terms of manufactures and/or workshops. Doubts might arise especially about items which are fairly close to one another, whilst the difficulty in distinguishing some of them emerges from clusters which are named after two or three of the existing groups. All the same some observations are noteworthy.

a

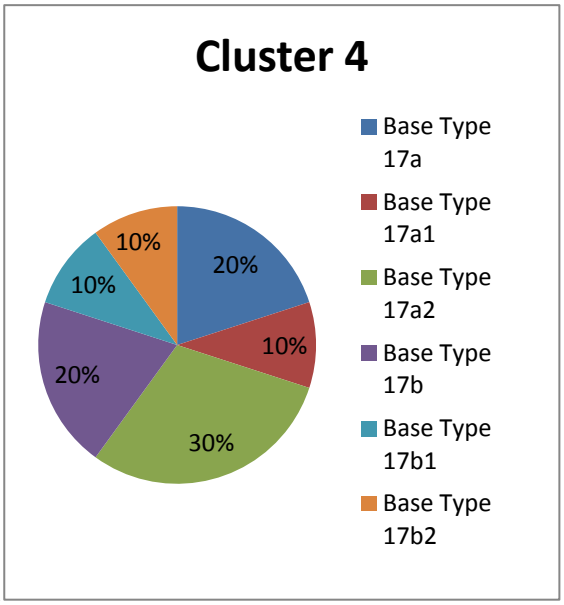


[137] Charts have not been done for clusters in which the presence of one or two forms and/or types makes visual support useless.

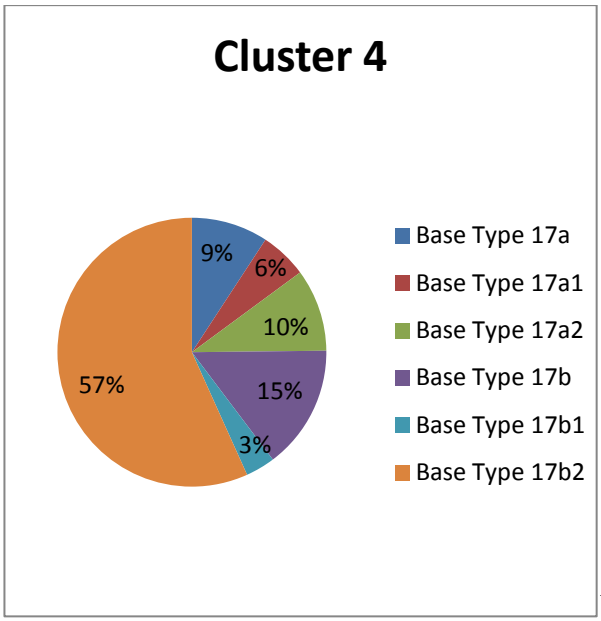


b

Fig. 23. Cluster 4 (Motte phase; c. 950-980 CE). Percentages of forms and types based of the weight (a) and number (b) of rims.

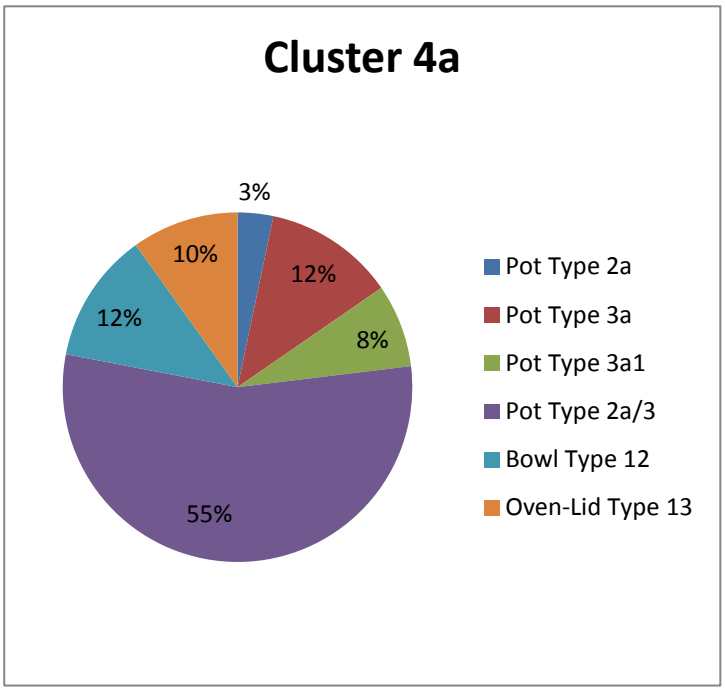


a

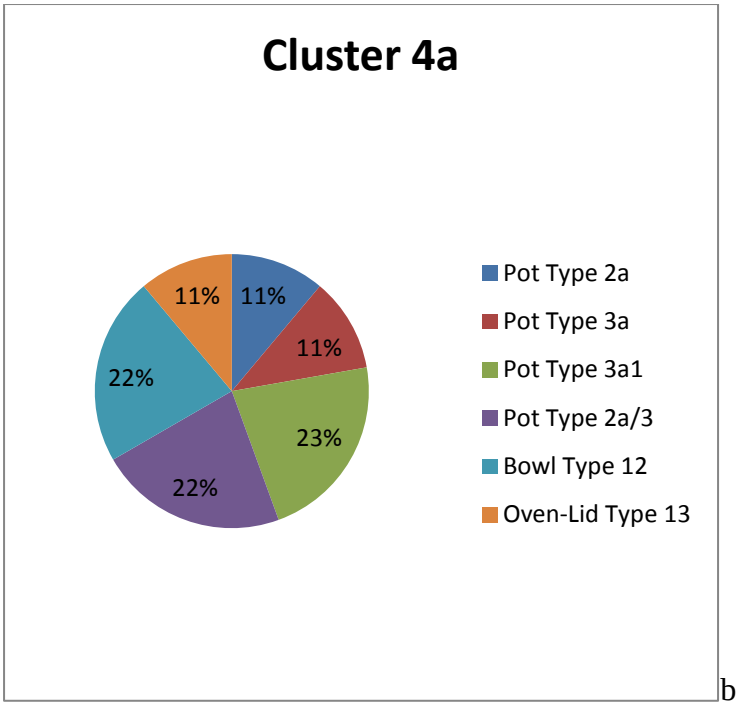


b

Fig. 24. Cluster 4 (Motte phase; c. 950-980). Percentages of base types based on shard frequency (a) and weight (b).

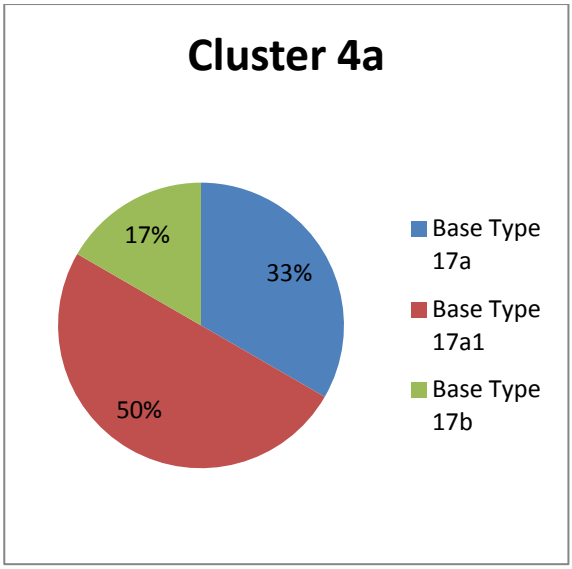


a

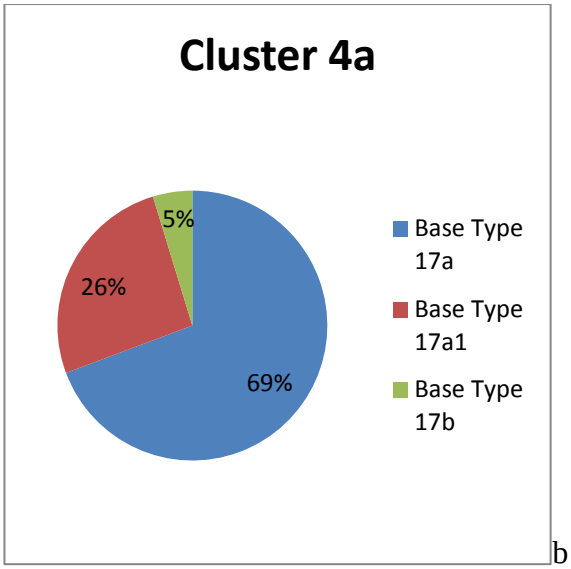


b

Fig. 25. Cluster 4a (courtyard; tentatively c. 950-980). Percentages of forms and types based on the weight (a) and number (b) of rims.

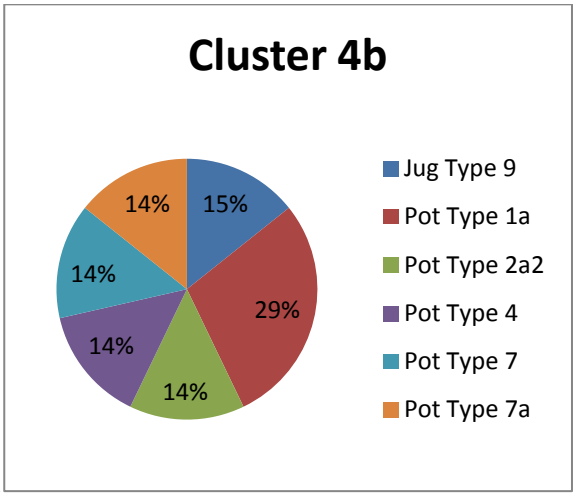


a

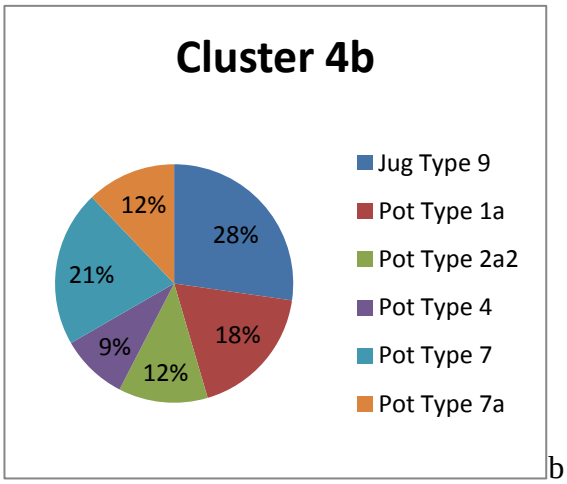


b

Fig. 26. Cluster 4a (courtyard; tentatively c. 950-980). Percentages of base types based on shard frequency (a) and weight (b).

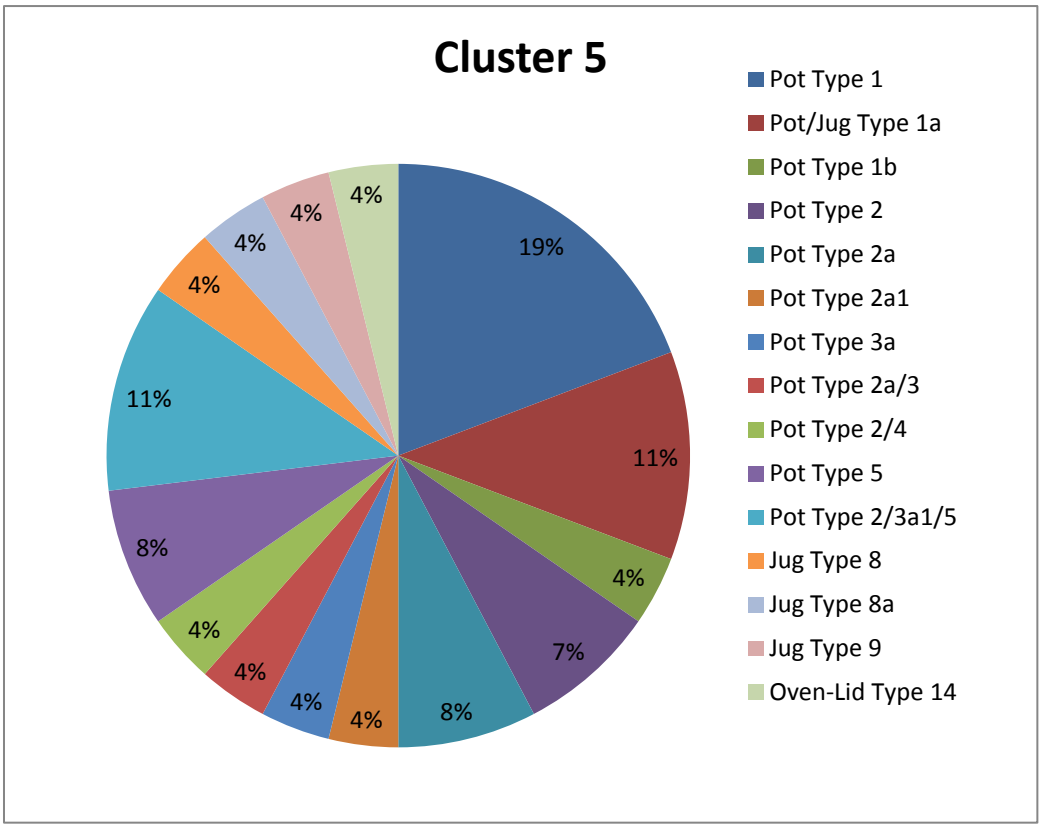


a

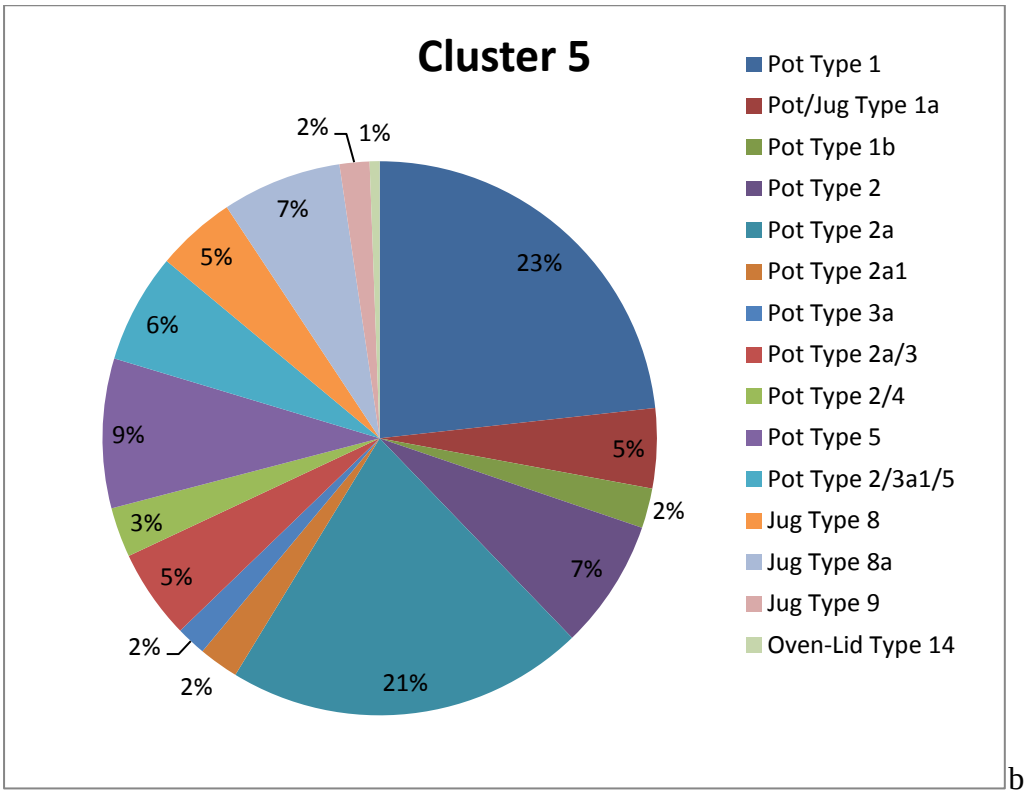


b

Fig. 27. Cluster 4b (courtyard; tentatively c. 925-980). Percentages of forms and types based on rim frequency (a) and weight (b).

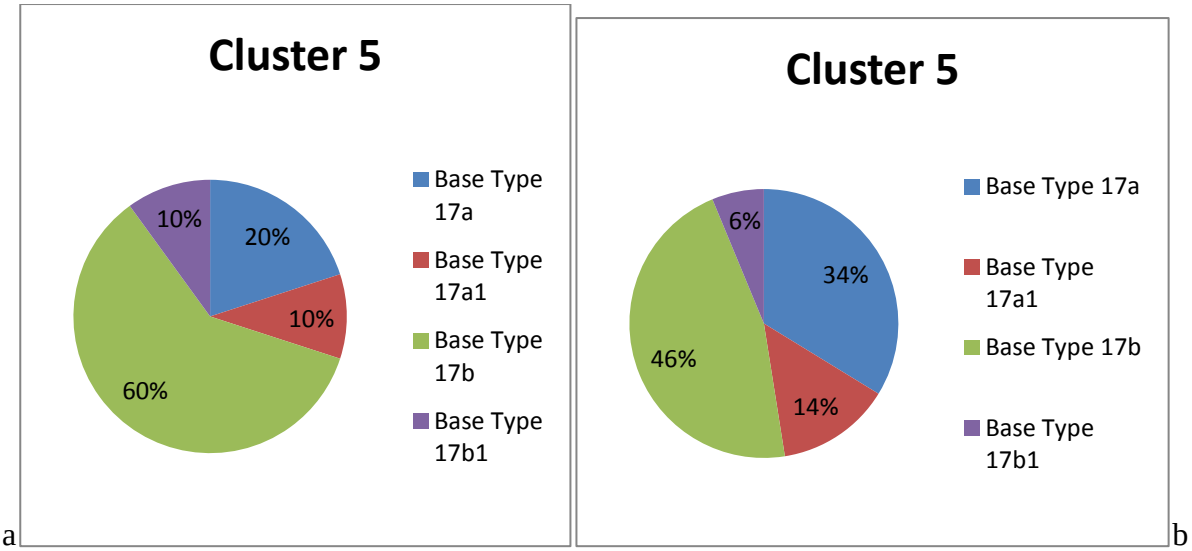


a



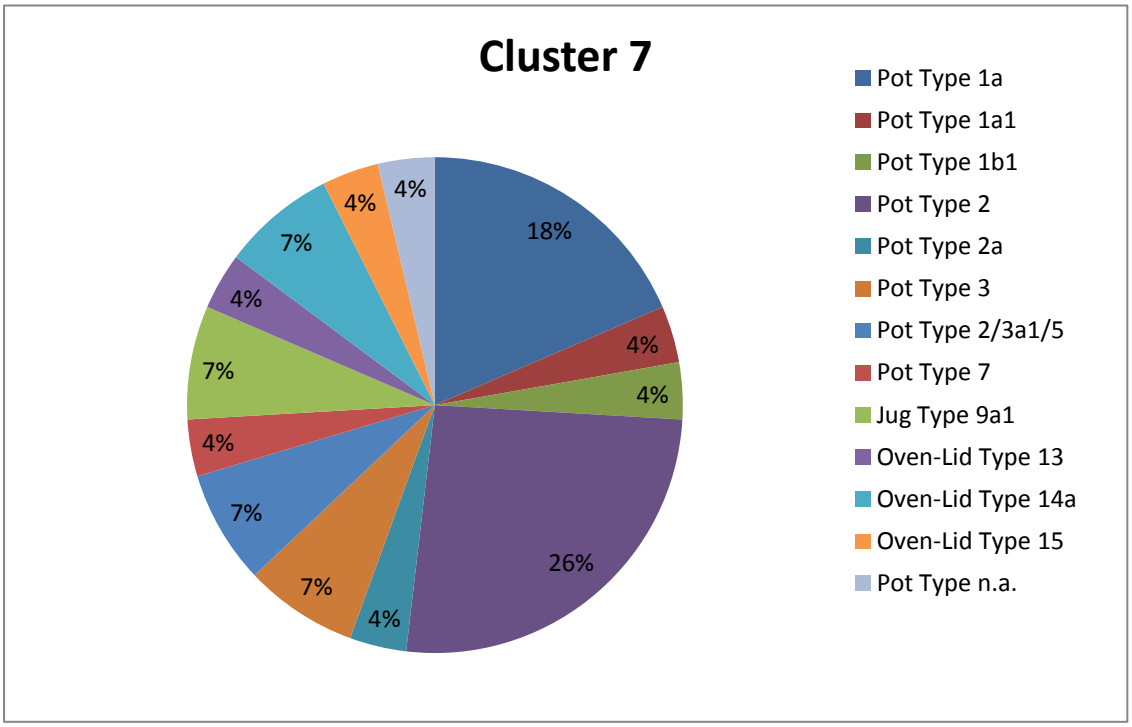
b

Fig. 28. Cluster 5 (courtyard; tentatively c. 970-980, but most of the materials probably belong to the previous phases, c. 925-980). Percentages of forms and types based on rim frequency (a) and weight (b).

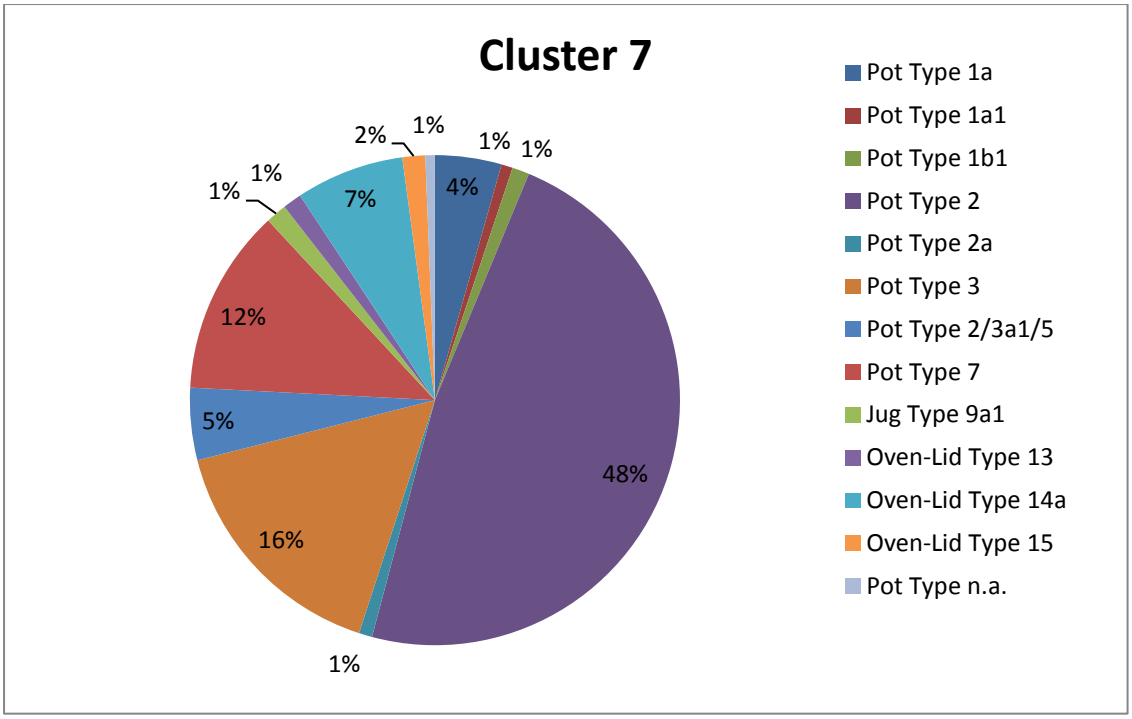


a b

Fig. 29. Cluster 5 (courtyard; tentatively c. 970-980, but most of the materials probably come from previous phases, c. 925-980). Percentages of base types based on shard frequency (a) and weight (b).

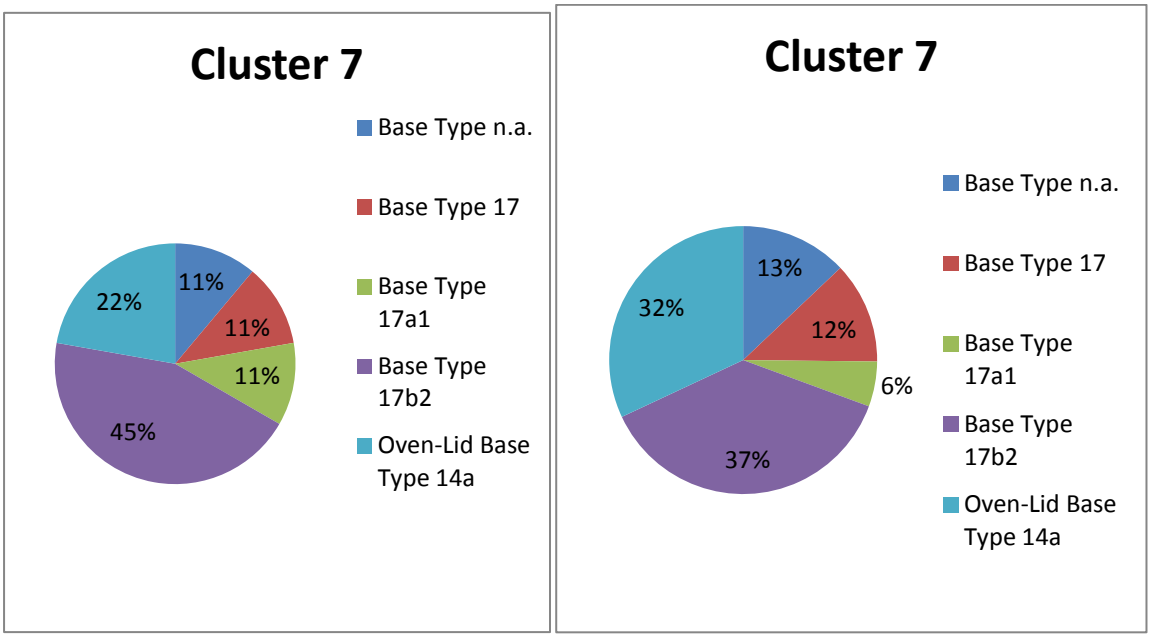


a



b

Fig. 30. Cluster 7 (Tower 1, eleventh century). Percentages of forms and types based on rim frequency (a) and weight.



a b

Fig. 31. Cluster 7 (Tower 1; eleventh century). Percentages of base types based on shard frequency (a) and weight (b).

Oven-lids, probably used for baking, characterised (not only) north-eastern Italy from the early medieval period onwards; at the site of St. Paolo at Illegio, they represent the only form, along with pots, in the phases of c. eighth-ninth century. At Broili, they were mostly recovered from Tower 1 (Cluster 7, fig. 30-31), which seems to have been a dwelling place, as also indicated by other evidence, namely, chess and gaming pieces, and, above all, animal bones that were generally found in dump layers situated just outside the building. These vessels also come from context 428 (Cluster 4a, fig. 25-26), located in the courtyard (level area), thus supporting the impression formed during the excavation that this was remains of daily-life activities. Stratigraphically, this was cut by the hut-and-fence phase, but the fact that it obliterated the floor connected with either the large round structure and/or the silos may indicate a living space perhaps in use at the same time as Tower 1 (hints at a late stage may be the horizontal-combing decoration pattern, see Conclusion, footnote 183). The presence of bowls would also back such a hypothesis, together with pots of normal size (for cooking and/or having meal?), the types of which do not speak of specific manufactures other than a common tradition and know-how with other assemblages from the site (Type 3a1, for instance, comes from context 127 (Cluster 6), too, which is one of the earliest stage of Tower 1). The pottery retrieved from Tower 1 itself (Cluster 7, fig. 30-31) shows a similar situation, often characterised by wares which may at times be regarded as long-lasting types (rooted in the background of the regions concerned; i.e., 7, 7a), and the rims of which, in addition, do not display any particular "specialisation" other than a certain suitability for hanging the pot over the fire (especially Types 2 and 2a; albeit spots on the surface of the vessels have not been systematically recorded).

A further remark concerns type-1a wares, which were also found in Tower 1; this rim morphology does resemble Type 1, however, it is not the same, therefore, its presence amongst material from the later stages of the settlement (in the residential palace) may just

indicate a manufacturing tradition, possibly without having any real functional specialisation. This perhaps also applies to the vessel from the earliest phase of Edifice 2, whereas no pots of either Type 1 or 1a have been recovered from the Motte context. The small sample size of shards from the relevant clusters (3 and 4) must be stressed, however.

The materials associated with the Motte (Cluster 4, fig. 23-24) raise some questions, since the building does not give the impression of a dwelling place, at least to a conclusive extent (the find of a single bowl is not really a counter-proof), nonetheless, the ceramic types are not particularly close to those from the level area (Clusters 4a, 4b, 5, fig. 25-29). If not owing to chronological discrepancies, this may be explained by a difference in function between the edifice and the courtyard, although they probably interacted within the same situation. Such an interaction may be indicated by the large size of some containers recovered from context 168 (dump layer around the northwestern corner of Edifice 2 probably belonging to the Motte phase, Cluster 4, fig. 23-24), which is a striking peculiarity of the wares coming from the level area.

The excavation of the open space between the two main buildings of the settlement (Tower 1 and Edifice 2/Motte) discovered the presence of a good number of large vessels with mouth diameters up to 0.40 m (as much as twice or three times a normal-size pot) (in particular Cluster 5, fig. 28-29), evidence that has been interpreted as due to the use of this area for storing commodities (perhaps in-kind taxes). Such a function would have required a systematic supply of containers presumably made in quite a standardised production and manufacturing network; clues for this seem to emerge to some extent from these assemblages. Apart from what are probably jugs (to hold water or other liquid necessary for these activities besides drinking?), no forms other than pots come from Clusters 4b and 5, since the rim classified as an oven-lid (Type 14) is rather a lid according to its limited size. On the other hand, these pot types vary to a lesser extent compared with other clusters and

this is a significant piece of information, especially if one takes into account the much larger number of potsherds (about thirty rims) recovered from these contexts. The most represented type is 1, which, as put forward in the Chapter 2 description, appears to be suitable for sealing the top and carrying the vessel (however, it also appears in small/medium-size wares); moreover, some type-1a rims from these assemblages are very close to Type 1, thus the figure of such possibly "standardised" and/or purpose-oriented containers may well be over 20%.

Another well-attested group is that composed of Types 2 and 2a (also 2/3a1/5 is quite similar), which may indicate a specific use, although that is difficult to ascertain as the relevant pots only seem suitable for hanging; conversely, other types (for instance 4 and 7), characterising large vessels, plausibly served as storage ware. All the same, the percentages of Types 1/1a and 2/2a (and also 2/3a1/5) added together total up to 50-60% and this may speak of a certain specialisation of the contexts concerned. Besides, about the bases (fig. 29), the one classified as 17b is quite frequent and may thus have belonged to one of these manufactures.[138] It is hard to identify any standardised paste, however, especially at this stage of research (no physical/chemical analysis was possible); moreover, apart from some peculiarities emerging from some contexts (as the significant frequency of intentional quartz in some Tower-1 ware), there are trends which are common to most of the assemblages, like the widespread use of large but selected temper inclusions at least from the Motte phase onwards.

A final remark is about the possible "evolution" of some morphologies, specifically that of Type 2 and 2a (Tables 7-8), which resembles typical vessels of the eleventh/twelfth century, from Frioul and beyond, although all these pots from Broili show a (slightly) bent rim that was probably turned vertically only at a later stage, as can be inferred from the

[138] It must be remembered that most of the potsherds found in the level area come from features which cut the previous structures and mixed up the older materials; therefore ceramics mainly represent both the phases interpreted as the first two activities that took place in the courtyard. Some discrepancies and/or intermediate values which at times emerge, for example from 308 (Cluster 3b), either in terms of types or pastes, may then be explained in this light (if the two stages were ever characterised by different manufactures).

pottery evidence from the nearby church of St. Paolo. The transitional period must have occurred at the turn of the twelfth century and this may be further evidence for supporting the idea of the Broili settlement being abandoned no later than the end of the eleventh century. From this perspective, some chronological spans like those proposed for St. Daniele (tenth/eleventh-twelfth century) may be checked or even reduced (at least for such manufactures), unless this type really developed earlier in some places (at Solimbergo, for instance, the thermoluminescence dating to 1039 CE ± 70 would indicate its presence of it in the course of the eleventh century).[139] A late-eleventh-century chronology may hold for these pots at the Austrian site of Krottenburg, too, which certainly shows some common influence with Broili in terms of pottery, but also striking discrepancies about some types. In particular, the hook-shaped rim (Type 5, Table 17) which characterised most, if not all, of the high-medieval Austrian settlements (with a frequency up to 80%) is the dominant one at Krottenturm, therefore an early chronology cannot be the explanation for the poor evidence at Broili (in contrast, the few hook-shaped rims found do not come from the later phases).[140]

Framing the historical context of Broili

The last remark raises the question about the meaning of similar wares which only show a common background rather than being products of the same manufacturing system. Tradition and the suitability of a form for a certain use actually had a considerable role in the success of some ceramic types through the ages, especially in contexts with less standardised structures (in contrast, for example, with the Roman period); besides, important communication routes might have favoured contacts of different kinds longer and over a wide area (as inferred from the pottery evidence coming from sites quite far from Frioul but located along the Drava and Sava rivers, like those in the Torček region). However, such a

[139] Silvia Lusuardi Siena, et al. (2004), 88, 93 (note that the relevant context from St. Daniele was initially dated to the late eleventh/early twelfth century). Along with Illegio, at Ovaro this type seems to have appeared from the eleventh-twelfth century, see: Giacomo Gonella 2009, Tav. V, n. 1.

[140] One can well think of different production systems and this applies to the whole Frioul, since relatively scant finds refer to the typical Austrian type.

common background has no or poor significance for reconstructing the economy of a specific chronological and/or geographic context when it is evident that the manufacturing workshops were different. Such a fact seems to emerge quite clearly if one compares the Broili materials with those from the areas situated beyond the Alps (and, to some extent, in southern Frioul), which are generally not characterised by deep-combed wares.[141] Most, if not all, of the vessels from Broili show such a decorative pattern, which likely indicates a distinctive element of specific workshops, and thus represents a starting point to detect the range of the production network.

According to the current state of research, there is no evidence of pottery types that may have circulated only amongst specific sites, therefore the early medieval wares from the church of St. Paolo may represent a comparative basis for those coming from Broili, which was definitely a very different settlement type. My impression is that St. Paolo was not occupied to any great extent during the tenth and eleventh century. Deep-combing decoration there is rare amongst the assemblages recovered from the phases roughly dated to the eighth and ninth century.[142] A change must have occurred afterwards at least in the Illegio Valley and such a decorative pattern began to be used more often in other areas of Frioul from the seventh/eighth-ninth century, coming into systematic use probably by the tenth century.[143]

These eighth/ninth-century manufactures were associated with a renovation in Frioul in terms of production and management, which featured more standardised pastes that were generally characterised by temper consisting of poorly selected calcite and/or quartz inclusions (as also pointed out about Osoppo), becoming more standardised in the following period.[144] In addition, such a renovation was marked by the introduction of new forms and types by the eighth century, as occurred at Osoppo with pots characterised by a folded lip,

[141] See, for instance, Muggia Vecchia in southern Frioul: Pietro Riavez (1998), 42.
[142] It is around 6-7% (however, work in progress).
[143] See examples in: Silvia Lusuardi Siena et al. (2004), Fig. 8-14.
[144] Silvia Lusuardi Siena et al. (2004), 84, 91.

whereas the horizontally-flared rim took place in the later period, as mentioned above about the transitional wares between the eleventh and twelfth century.[145] These new vessels, found elsewhere besides Osoppo, usually have cordons and finger-impressed decoration, while the presence of older (long-lasting) types is also attested, with containers generally displaying deep combing on their surface. At St. Paolo's Church, only one rim was recovered from the eighth/ninth-century phases which matches the folded-rim pattern; in addition, the several wall shards resemble the eighth/ninth-century types found at Osoppo and elsewhere in terms of decoration. In contrast, such shapes are missing at Broili, which in turn would attest to a later evolution. Nevertheless, the situation with the pastes appears the other way round, since most of the eighth/ninth-century ceramic bodies from St. Paolo are characterised by very frequent and minute temper inclusions that show a larger size (although still somewhat selected) in the Broili pastes. All the same, the common point between the Illegio Valley and the rest of Frioul is the transition from roughly the ninth to the tenth century as marking a change in terms of pottery manufacture.

The aforesaid eighth-century production reorganisation in Frioul may be associated with the Carolingian rule (from 774-776 CE) and even with some social and economic tendencies in the late Lombard Age, specifically the phenomenon of transferring either private or fiscal properties to ecclesiastical institutions, in particular monasteries, Sesto al Reghena (St. Mary *in Sylvis*) being the most important example.[146] The location of the places mentioned in the 762 donation charter to this monastery is at times uncertain, but some of them were in the geographic area of the Illegio Valley, that is, the Carnia region, as is also the case with the properties given by *Dux* Massellio in 778.[147] The latter document specifies the

[145] Ibid., 83, 88 (also for the later types, good examples come, for instance, from Solimbergo).
[146] Although the role of monasteries in the economic recovery of the eighth century, if not put back into perspective, has been revised, especially for towns, see: Gian Pietro Brogiolo and Sauro Gelichi, *La città nell'alto Medioevo italiano: archeologia e storia* (Rome: Laterza, 1998), 160.
[147] About the sites possibly situated in Carnia, the charter of 762 mentions Carnia (in general), *Graciolaco* (not sure), Ampezzo, *Ramaceto* (not sure), *Vincaretum* (perhaps Incarojo, upon the Canal del Ferro [Iron Canal!]),

possession of iron and copper mines and so activities of this kind can be inferred about either the monastery or the previous owner(s);[148] furthermore, these sites, as far as I know, are the northernmost Frioulan places which appear in Lombard Age sources that in turn do not mention any relevant territorial over-arching institution.[149]

Duke Massellio and the three aristocratic Lombard brothers of the other charter are then the only secular figures who can be associated with any land management in this part of Frioul at that time, whereas an organisational and defensive system is indicated south of it by the well-known *castra* listed by Paul the Deacon (when telling of the Avar raid that occurred in 610), situated along the Tagliamento River and the Roman-Age road "Iulia Augusta."[150] One of these castles, Ibligo, is probably still unidentified, but there is hitherto no evidence of such a network north of Gemona, since the Lombard presence at St. Pietro near Zuglio (a few miles from Illegio) did not rely on any fortification at the time.[151] However, some of these *castra* (Osoppo, Gemona, Nimis, and Ragogna) are mentioned in eleventh/twelfth-century sources as castles, but no continuity with the Lombard Age can be assumed, as archaeology, where implemented, has detected no substantial evidence in terms of institutional structures at these sites.[152] In addition, one of the few castles investigated in Frioul with phases dating from the seventh/eighth century, Motta di Savorgnano, seems not to have been linked to any important road, although placed at the junction of two water courses and probably in quite a

and *Daunino* (not sure); Harald Krahwinkler, *Friaul im Frühmittelalter: Geschichte einer Region vom Ende des fünften bis zum Ende des zehnten Jahrhunderts* (Vienna: Böhlau, 1992), 92. Luigi Zanin places *Daunino* just south of Carnia: Luigi Zanin (2010), 65. The charter of 778 in particular mentions the *curtis regia/villa qui dicitur Forno* (to be identified with Forni di Sopra): Harald Krahwinkler (1992), 107.

[148] Luigi Zanin (2010), 67.

[149] Ibid., 28-29.

[150] Ibid., 19.

[151] The hypothesis that Ibligo was at Invillino is not convincing, see: Volker Bierbrauer (1987). Luigi Zanin (2010), 157, mentions the presence of the Lombards at St. Pietro of Zuglio. All the same, some defensive structures must have existed in the northeastern area of Frioul, since the Avars, unlike the Magyars, penetrated the region through the route along the Fella Stream (the main water course east of Illegio), see: ibid., 159.

[152] Fabio Piuzzi, "Contributo per lo studio dell'incastellamento nel nord-est italiano. Le strutture protofeudali alla luce di recenti dati archeologici (IX-XII secolo)," in *II Congresso Nazionale di Archeologia Medievale*, ed. Gian Pietro Brogiolo (Florence: All'Insegna del Giglio, 2000), 132; see also: Fabio Piuzzi, "Ricerche sui castelli del Friuli," in *Le fortificazioni del Garda e I sistemi di difesa dell'Italia settentrionale tra tardo antico e alto medioevo: 2nd Convegno archeologico del Garda*, ed. Gianpietro Brogiolo (Mantua: SAP, 1999).

populated district (a situation that resembles that of Broili).[153]

In the Illegio Valley, according to the current state of research, the only possible institutional presence for that time is the person buried at the *Eigenkirche* of St. Vito; the radiocarbon dating indicates a range between the end of the eighth and the very early tenth century, therefore he can hardly be connected with the site of Broili (unless Edifice 4 was a specific building before Edifice 2). Rather, he likely attests to a common custom of the Carolingian epoch, that is, the foundation of private churches (even for serving the local community) which has interesting parallels in Carinthia, especially in the span between the late eighth century and c. 828, where the dedication to St. Vitus also matches the example from Illegio.[154]

After 827/828, the march of Frioul was reorganised and some Carolingian officials might have been appointed to this area (that may be the case with the presumed founder of Illegio's *Eigenkirche*); that notwithstanding, no evidence of substantial political and social frameworks comes from the valley, thus no real economic pressure seems to have exerted on this territory at that time.[155] The Frankish central power tried to prevent the rise of any strong local lordship, either to have better control over land that was strategically important (even after the collapse of the Avar kingdom, taking into account Frioul's neighbours, namely, Slavs, Byzantines, and even Bulgars) and/or to limit the leeway for the former Lombard ruling class (still well-established land-owners).[156] Nevertheless, the poor role of the Carolingian counts has been stressed in terms of land management, although Eberhard (ruling period: c. 828/830-866) was the first of them to live in Frioul almost permanently, whereas a

[153] Fabio Piuzzi (2000), 142.
[154] Stefan Eichert, *Frümittelalterliche Strukturen im Ostalpenraum: Studien zu Geschichte und Archäologie Karantaniens* (Klagenfurt am Wörthersee: Geschichtsverein für Kärnten, 2012), 44, 74-75; for St. Vito's Church at Illegio, see: Valeria Amoretti et al., "Lo scavo della chiesa di S. Vito di Illegio (Tolmezzo, UD). Una "Eigenkirche" carolingia nelle Alpi Carniche," in *V Congresso Nazionale di Archeologia Medievale*, ed. Giuliano La Volpe and Pasquale Favia (Florence: All'Insegna del Giglio, 2009), 487-491. There is no reason to think that St. Vito was not the original name.
[155] Timothy Reuter, *Germany in the early Middle Ages, c. 800-1056* (London: Longman, 1991), 79.
[156] Luigi Zanin (2010), 28, 55. All the same, the presence of *missi dominici* (although more concerned with jurisdictional matters) is sporadic in the documents until the tenth century, see: ibid., 124-125.

turning point in social and economic organisation can be associated with his son, King Berengar.[157]

The latter (d. 924), officially subject (or rather, related) to the Carolingian (and Saxon) central rule, established an alliance network in Frioul by granting rights to loyal people and so favouring the rise of local land-based powers (certainly in connection and/or compromising with the other strong institution of the region, the patriarchate of Aquileia, which had been considered a reference point for Frioul by the Frankish authorities since the time of Charlemagne; to this point, it is perhaps significant to note that most of these Berengar's "faithful liegemen" were ecclesiastical).[158] In the period soon after 919 (the end of the truce with the Magyars, also used as an excuse rather than a triggering event), several documents issued by Berengar allowed or confirmed the building of castles; the right to fortify probably consolidated a certain institutional presence in terms of land management.[159] A good example comes from the site of Savorgnano in central Frioul, where a priest, Peter, was granted the privilege of fortifying the properties he already owned in 922, and archaeology has detected the existence of a tower well before that time (specifically, by the eighth century).[160] This situation seems to match the one at Broili, also considering that most of these new centres were generally constructed *ex novo* or, in any event, not in the place of Late Antique *castra*.[161]

It is currently not possible to identify the manager(s) of the Broili structures, nor to determine whether the two warehouse phases of the courtyard (tentatively dated to the tenth century and associated with either Edifice 2 or the Motte) mark a political and/or economic change or represent just a development of the production organisation, with the later context (silos) reflecting a more strictly planned and managed activity. My impression is that they

[157] Ibid., 44.
[158] Ibid., 28, 147-148.
[159] Ibid., 149.
[160] Fabio Piuzzi (2000), 134.
[161] Ibid., 142.

were more connected with the patriarch than Berengar's network for two reasons (if the two positions were ever distinct to any significant extent). First, Edifice 2, in both the early and the Motte phase, does not seem to have been a (permanent) dwelling place, judging by the poor evidence of cooking-ware and small finds generally; this suggests the "occasional" presence of an official instead of a local lord who was expected to live on the lands he held (at least in the situation of Frioul by the early tenth century). Secondly, the concession charters issued by Berengar (even several at once) usually follow a common fixed pattern and give the impression of not really caring about the place granted, as if they were intended as a reward rather than a planned policy (either for a defensive strategy [against the Magyars] or some other reason).[162] In the latter case only, there would eventually have been a fiscal demand of some consequence to justify a collection of (in-kind) taxes like those probably levied at Broili; in contrast, ecclesiastical institutions somehow connected to the patriarchate (for instance, monasteries) plausibly relied on more sound frameworks (often established as early as Late Antiquity, although at times with considerable breaks), which may have required, and interacted in, a supply network on a certain scale.[163]

The vessels from Broili suggest that large quantities of commodities were collected, likely, also meant to be carried elsewhere; while only petrographic analyses can shed light on the question, the parallels in terms of pottery may underpin a circulation of wares between Broili and a good number of Frioulan places (for instance, Savorgnano, Osoppo, St. Daniele). Nevertheless, apart from Savorgnano, some "strategic" sites have not been (properly) investigated or published so far, specifically the five castles in central-northern Frioul which, according to a document of 983, were granted/confirmed by Otto II to the patriarch

[162] Ibid., 147-148.

[163] Circulation of stocks between the monastery of Sesto's properties can be inferred, for example, from the donation charter of 762, see: Harald Krahwinkler (1992), 108. An increasing number of public rights were granted to the patriarch from the time of Berengar onwards that meant the right for the bishops to exact taxes (what they probably started to do quite systematically), see: Luigi Zanin (2010), 128. A similar situation has been observed on a more general scale in the Germanic area beyond the Alps, see: Karl Brunner, *Herzogtümer und Marken: vom Ungarnsturm bis ins 12. Jahrhundert, 907-1156* (Vienna: Ueberreuter, 1994), 38, 42.

(Brazzacco, Buia, Fagagna, Gruagno/Croang [?], and Udine).[164] They are all south of Illegio, although Forni, connected with a water course (Tagliamento) that also flows eastwards to the river junction near the Illegio Valley, seems to have been granted by Otto I to the patriarch himself in 967.[165] The area of Broili may thus have been part of a system which would indicate the increasing power of the patriarchate of Aquileia over wide regions of Frioul.[166]

The situation may have changed to some extent during the late tenth century, not only in the light of the annexation of the march of Frioul to Bavaria in 952 and then to Carinthia in 976, but also considering the Ottos' policy in these decades. They were trying to keep fiscal areas and reorganise the vassalage network, aiming at controlling and limiting local powers, stem-dukes, as well as Otto II's cousin, Duke Henry the Quarrelsome of Bavaria.[167] These events may be reflected in the evolution of the Broili settlement, specifically in Tower 1 (constructed by the end of the tenth century), whilst the structural transition from Edifice 2 to the Motte phase (apparently not traumatic) cannot really be associated with the introduction of any pattern that was typical of any Germanic area beyond the Alps.

The main characteristic of Tower 1 (which still does not represent a traumatic transition, according to archaeology) was the aristocratic (permanent) residence, which probably ceased to use the courtyard for the same purposes as in the previous period (warehouses for storing commodities). Some stocks may have been kept within the building, but the pottery only suggests the presence of cooking and eating (table-ware), with large-size vessels almost missing. No evidence of real economic pressure on the land nearby therefore emerges and, to some extent, the situation may match what it has been remarked about

[164] Fabio Piuzzi (2000), 132; Luigi Zanin (2010), 173 (Savorgnano was also held by the patriarch by the end of the tenth century).
[165] Fabio Piuzzi (2000), 133. If it is the same Forni of *Massellio*'s charter, it was probably not a fortified site and still belonged to the monastery of Sesto upon Reghena at that time.
[166] Luigi Zanin (2010), 128.
[167] Ibid., 124. In particular, it has been remarked that the Ottonian emperors did give/confirm some castles to the patriarch (as in the case with the 983 charter mentioned above), however, they seem to have been somewhat reluctant compared with the large donations of the previous period; the increased frequency of *missi dominici* in *placitis* between 976 and 995 may indicate a stronger presence of the central imperial authority, see: ibid., 125.

Frioulan castles of that time. In particular, they were not centres of any feudal organisation forming a specific territorial *districtus*.[168] In addition, according to the "household" context, it is not possible to put forward any real circulation of ceramic containers for economic purposes, regardless of the strong similarities in terms of wares with, for instance, the castle of Solimbergo, the first phase of which covered the same period as Tower 1, namely, 1039 CE ±70, as indicated by radiocarbon dating (all the same, they plausibly referred to the same manufacturing system for purchasing the necessary vessels).[169] It is difficult to follow any evolution of Tower 1, which may have seen three or four generations of dwellers; it is uncertain whether the breaks detected by archaeology speak of abandonment phases, political-social changes, or just refurbishment of the abode.[170] Any attempt at framing the site within the historical context of that time is even harder.

The patriarch of Aquileia represented an increasing institutional power as, together with the *missi dominici*, he began to appear in the *placitis* quite systematically by the end of the tenth century, while, for example, the public rights he was granted in 1016 over the whole central woodland of Frioul probably allowed him to exert a certain economic pressure on wide areas (either through bishops or other structures).[171] That notwithstanding, along with the Ottonian "reorganisation," new counts appeared in the region by the late tenth and early eleventh century, besides a stronger presence of Germanic bishops, as a possible result of the annexation of Frioul to Carinthia.[172] New figures may thus have taken charge of either Broili, Savorgnano (the fortified tower was perhaps enlarged as early as eleventh century), or Solimbergo, where a button-shaped buckle typical of the Köttlach Culture (ninth-eleventh century) may suggest, if not the identity of the dweller(s), then contacts with eastern (Slavic)

[168] Fabio Piuzzi (2000), 132, who quotes Paolo Cammarosano.
[169] For the dating of Savorgnano, see: ibid., 140.
[170] The dilapidation of plaster, for example, may have occurred in a few years or even more; however, at the moment, no conclusions can be drawn since almost all the frames and small finds are related to the last phase of the building.
[171] Luigi Zanin (2010), 123, 128.
[172] Ibid., 8, 124.

areas.[173]

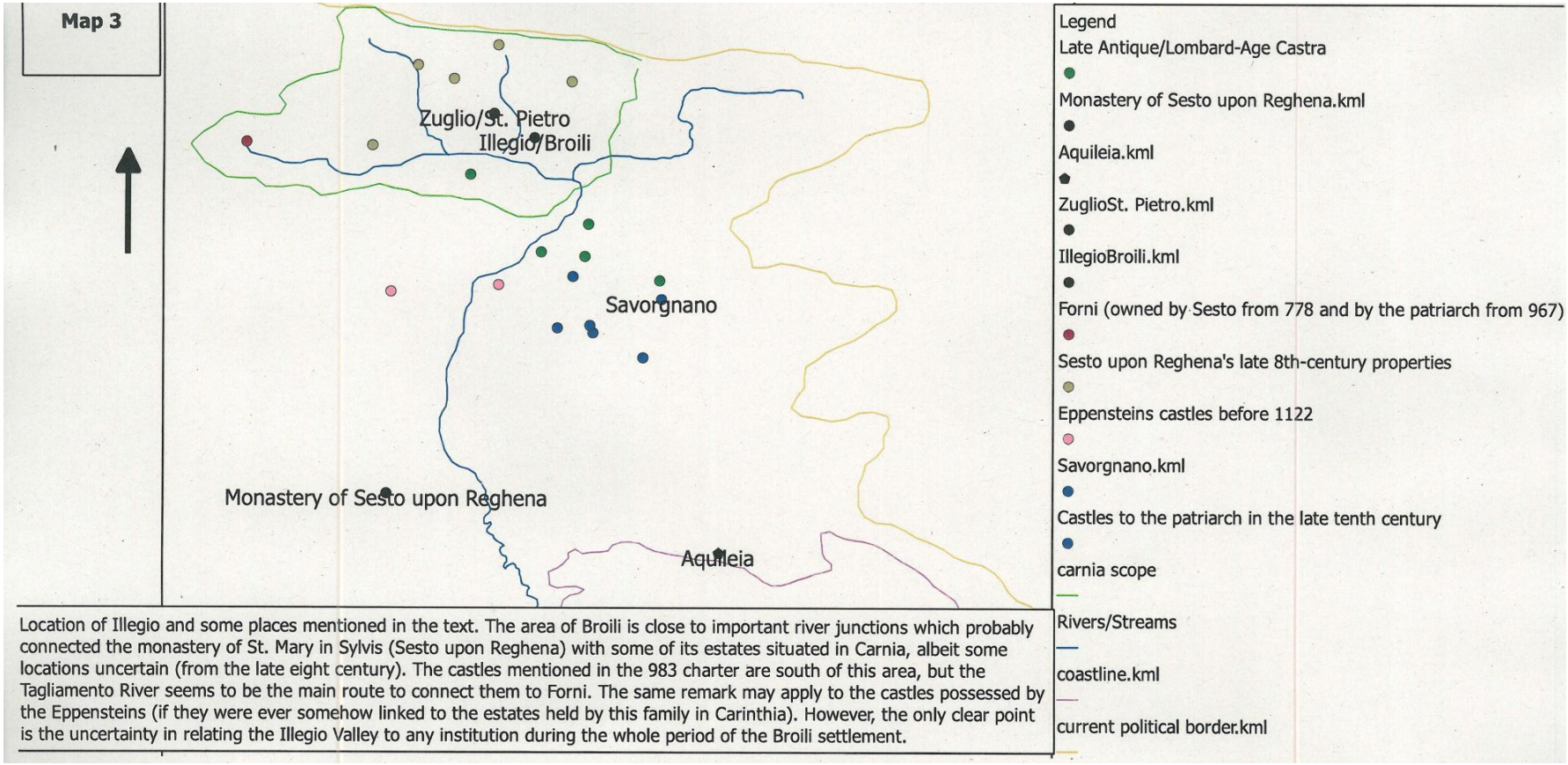
Important families like that of Count Warient or thanes like the Eppensteins, linked to the imperial entourage and with large holdings in Carinthia, were also well-established in Frioul by the early eleventh century.[174] The ceramic evidence does not support the idea of significant contacts between their estates across the Alps, however, other activities may have been at the centre of a circulation network. I specifically refer to the kiln for iron working found in Tower 1, which can be seen in the light of the already-mentioned exploitation of iron and copper mines and the so-called iron route that, along the Fella Stream, reached the river junction close to the Illegio Valley (on the other hand, the patriarch seems to have managed such traffic, in particular through the abbey of Moggio and the possession of the lock gates just north of Venzone, by the early twelfth century).[175] The Eppensteins consolidated themselves in Frioul by the mid-eleventh century, but they should not necessarily be considered the patriarch's adversaries, taking into account that their power was favoured by Patriarch Poppo (1019-1042) himself; moreover, the *advocatia vescovili* (office on behalf of the bishop) may have represented an interesting career prospect and a striking example is Marquard III Eppenstein, who was the patriarch's "advocate" in the mid-eleventh century (1029-1076).[176]

All the same, such an appearance of new counts from the late tenth and early eleventh century was a consequence of a certain phenomenon of privatisation and some tendencies toward independence may certainly have developed.[177] As the patriarch was granted the public rights to the whole Frioul in 1077, he may have begun to extend his power over the (northern) region to a more conclusive extent and any such autonomous holdings were

[173] Fabio Piuzzi (2000), 134, 140.
[174] Luigi Zanin (2010), 178, 216.
[175] Ibid., 159.
[176] Ibid., 9, 216. From this perspective one can see the possession of the castles of Ragogna and Solimbergo, which result to have been held by the Eppensteins before 1122, see: Fabio Piuzzi (2000), 133.
[177] Luigi Zanin (2010), 8.

probably no longer tolerated.[178] It is perhaps significant that this year matches the radiocarbon dating's peak of probability about the abandonment (destruction) of the site of Broili.

[178] Fabio Piuzzi (2000), 138.



Location of Illegio and some places mentioned in the text. The area of Broili is close to important river junctions which probably connected the monastery of St. Mary in Sylvis (Sesto upon Reghena) with some of its estates situated in Carnia, albeit some locations uncertain (from the late eight century). The castles mentioned in the 983 charter are south of this area, but the Tagliamento River seems to be the main route to connect them to Forni. The same remark may apply to the castles possessed by the Eppensteins (if they were ever somehow linked to the estates held by this family in Carinthia). However, the only clear point is the uncertainty in relating the Illegio Valley to any institution during the whole period of the Broili settlement.

Conclusion

The main point that emerges indirectly from this study is the importance of an accurate stratigraphic sequence to rely on in order to achieve a fairly precise working base for framing structures and small finds. Such a requirement certainly applies to a particular category of artefacts, namely, coarseware, which at times underwent little change through the ages, especially in epochs with less standardised production frameworks and according to the suitability of a certain form or type for a specific function that may have brought about its success over a longer period. In the case of Broili, a quite exact archaeological situation has provided a reliable relative chronology, which, together with some scientific dating outcomes, has made it possible to contextualise the settlement to a certain extent.

Without radiocarbon dating, I would probably have framed the pottery from Broili within the eighth/ninth century, especially according to the parallels with manufactures coming from other sites of Frioul (for example, Osoppo, Ragogna, and even Savorgnano). In addition, I would probably have pushed back the dating of St. Paolo's Church's early medieval phases in order to justify the discrepancies with Broili in terms of pottery and pastes (which cannot be ruled out, however, since these phases are based only on relative chronology, being the radiocarbon limit after which the late sixth century).

Apart from interpretations that may be incorrect, the lack of stratigraphic contacts between the main buildings (Tower 1, Edifice 2/Motte) and the courtyard (level area) has not allowed linking them together precisely, and some layers (Cluster 5) can only indicate a *terminus ante quem* (a chronological "limit before which") for the items recovered, since they represent reorganisation work that mixed up the materials of the previous contexts. About pottery and the methodological approach, clustering of pastes and percentages/quantification of shards have turned out to be of some consequence, especially in the light of a thorough

study of the site that is expected to be carried out by my team in the next future.[179] In particular, the selection of pastes/shards for chemical and/or physical analyses, which are planned to be the next step, can be done with a certain confidence (for instance, shards from Type 1 would be the first candidates, considering that they may have been transport vessels, at least the larger-size ones).

All the same, some preliminary conclusions have been drawn at this stage, too; the data elaborated in the first part of Chapter 2 represents a good working basis.[180] Specifically, some seemingly minor aspects would not have been observed, such as the concentration of Base Type 17b in Cluster 5, a fact that has made it possible to put forward the association of it with "standardised" manufactures, possibly Type 1 (regardless the exactness of such an interpretation). In addition, the good frequency of intentionally-crushed quartz in the assemblages from Tower 1 (c. 25%) may suggest distinct (local?) workshops, since they differ from the more purpose-oriented vessels found in the courtyard, where storage structures were presumably situated (unless the discrepancy is due to a chronological difference, one may think of wares from systematic production networks).

The pottery supports the interpretation of the courtyard being used for storing commodities and, to a lesser extent, for a more intensive activity of this kind in the second phase; however, one point has been highlighted by the ceramic evidence that was noticed neither during the excavation nor in the analysis of the stratigraphic data. Specifically, the fact that no supplies were stored on a large scale within Tower 1-related comtexts (since no large-size vessels were found there), therefore, any hypothesis about tax-collection in that phase may be put back into perspective (the recovery of a pound of legumes not being

[179] After the conclusion of field investigations and, in particular, when some still missing radiocarbon analyses will be available, which might shed some light on the relationship between Edifice 2 and Edifice 4 specifically (this being a possible pre-existing building that, in such an event, could be connected with the person buried in the *Eigenkirche* of St. Vito).

[180] The second part (checking parallels) is rather a working tool, which can be quite useful in helping figure out any long-lasting types and general manufacturing know-how and background. However, the presence of long-lasting types does not rule out the possibility of their use within standardised structures, therefore it is crucial to contextualise them within a given situation.

significant proof).[181] Alternatively, other containers, perhaps of perishable material, may have been used, but it does underpin a certain change in management, albeit not to a conclusive extent (a change that is also stressed by the building of Tower 1 itself, which actually represents a different settlement structure). Some uncertainty remains about Edifice 2 and the Motte phase, which have been associated with the exploitation of the level area, as the wares may at times be somewhat divergent from those found in the courtyard (one explanation may be the different uses of the two sectors, but the limited sample prevents a reliable conclusion).[182]

About exchange of wares and/or manufacturing systems common to a wider area, I have assumed that the typical deep-combing decoration is a marker of specific workshops, although I have not distinguished yet the diverse patterns which may indicate different chronology and/or production situations.[183] If this idea is correct, one can expect a relatively limited geographic range of circulation of such wares, perhaps not even in the whole Frioul. Striking parallels can be drawn, for instance, with the castle of Savorgnano and the fortified site of Solimbergo, albeit it may be due to the fact that these are amongst the few places that have been (properly) investigated. One may certainly think of similar situations (only Tower 1 can be compared with Solimbergo), however, it is difficult to connect the context of Broili

[181] One remark could be that they were at some point removed for cleaning purposes, although no evidence of them comes from the relevant dump layer detected either. However, the main objection to such a remark is perhaps the sudden event (either natural fire or military attack) that would not have allowed many planned activities.

[182] It must be stressed that stratigraphy would not contrast with the hypothesis of Edifice 2/Motte being occupied during the Tower 1 phase. The only evidence supporting a previous abandonment, in fact, is that no traces of (violent) destruction have been detected in the first building, unlike what occurred at Tower 1.

[183] It was not possible to focus on it at this stage, but the matter might result in interesting outcomes. I briefly summarise the points. Some vessels, a small number indeed, have a horizontal deep combing which well matches, for instance, tenth/eleventh-twelfth-century items from St. Daniele and tenth/eleventh-century wares from Solimbergo, whilst a slanting deep combing seems to characterise previous periods (seventh/eighth-ninth century, as, for example, at St. Martino, Osoppo, Savorgnano, perhaps St. Daniele itself), although this is not the rule, see: Silvia Lusuardi Siena et al. (2004), fig. 8-14). This fact may suggest not only an evolution, but also a persistence of the oblique deep-combing pattern amongst household or anyway less-standardised manufactures after the introduction (on a certain scale) of the horizontal pattern, since the slanting decoration is dominant in the materials from Tower 1. On the other hand, one should determine what such a presumed persistence of previous tradition means for the Illegio Valley as the eighth/ninth-century contexts of St. Paolo's Church yielded just a small percentage of deep-combed shards.

to specific powers; moreover, the transition from Edifice 2 to the Motte phase and, above all, the breaks in the stratigraphic sequence of Tower 1 that archaeology detected may represent political and social changes that cannot be comprehended at this stage.

What seems to emerge clearly is a discrepancy between some information achieved through the literary sources and archaeology. The possession of estates in fairly distant lands by the same lord or family, as well as the movement of rulers and high-ranking people to regions far away from their original place to take and hold an office, must have implied transport of surplus produce on a certain scale and over considerable distances.[184] Unless sacks or perishable materials were used for transport, archaeology would put this into perspective, rather supporting Epstein's theory according to which the economy of feudal systems was highly competitive within the locally-based market managed and/or supervised by the lord concerned, this being at the same time a strong and weak point for the system itself.[185]

[184] Timothy Reuter (1991), 229-230. One thinks, for instance, of the Eppensteins, who held large properties in Carinthia apart from Frioul; it is also interesting that Otto II gave the bishop of Freising some mountains in 974, located somewhere between the Cadore region and Carinthia, possibly not far from the north-western part of Carnia, see: Luigi Zanin (2010), 216, 57.

[185] Stephan R. Epstein, *The late medieval crisis as an "integration crisis"* (Routledge, 2000), computer file, 34. Even the presumed integration between Veneto and Frioul as a consequence of the annexation to Carinthia by the mid/late century [Luigi Zanin (2010), 44] does not really emerge in economic terms from the pottery comparative scenario.

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List of Pottery Drawings (Scale: 1/2, if not specified otherwise; n. a. = size not available)

Table 2. Pot Type 1 (n.1-5) (all Phase/Cluster 5)

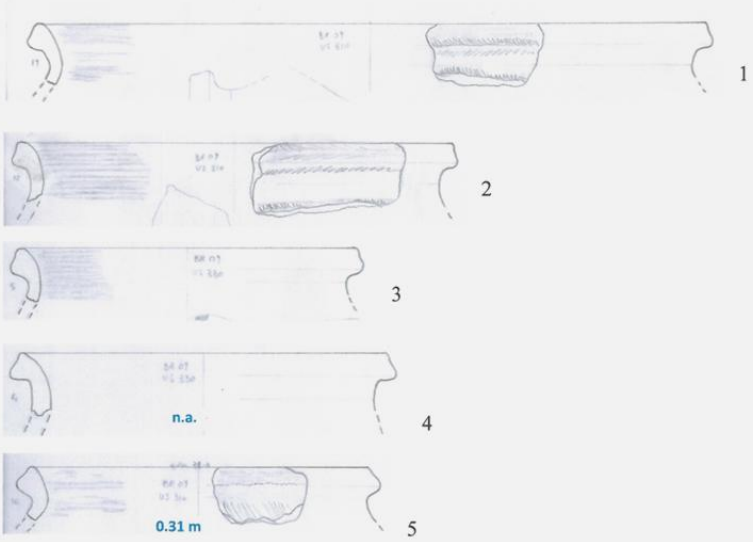
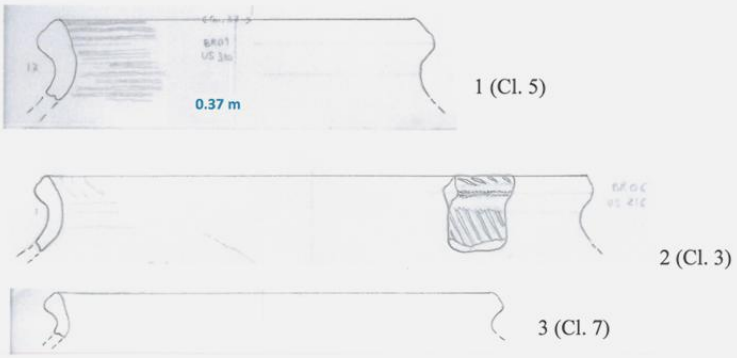


Table 3. Pot Type 1a (n. 1-10)



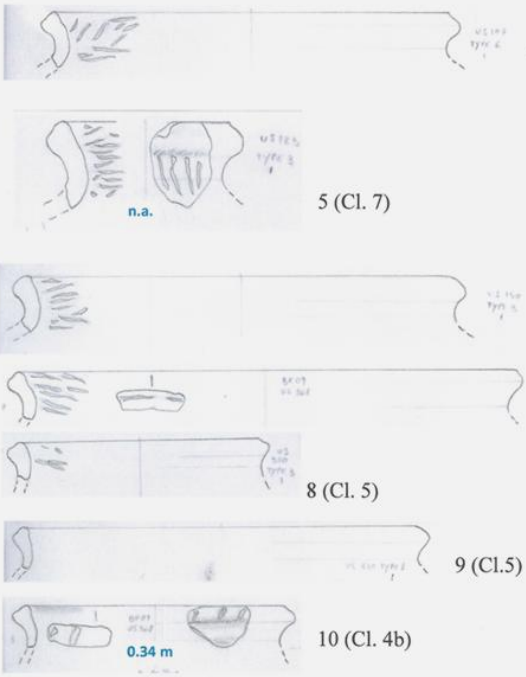


Table 4. Pot Type 1a1 (n. 1)

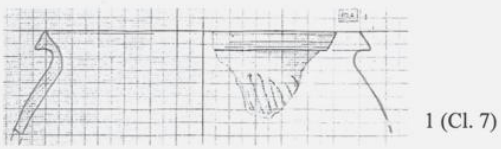
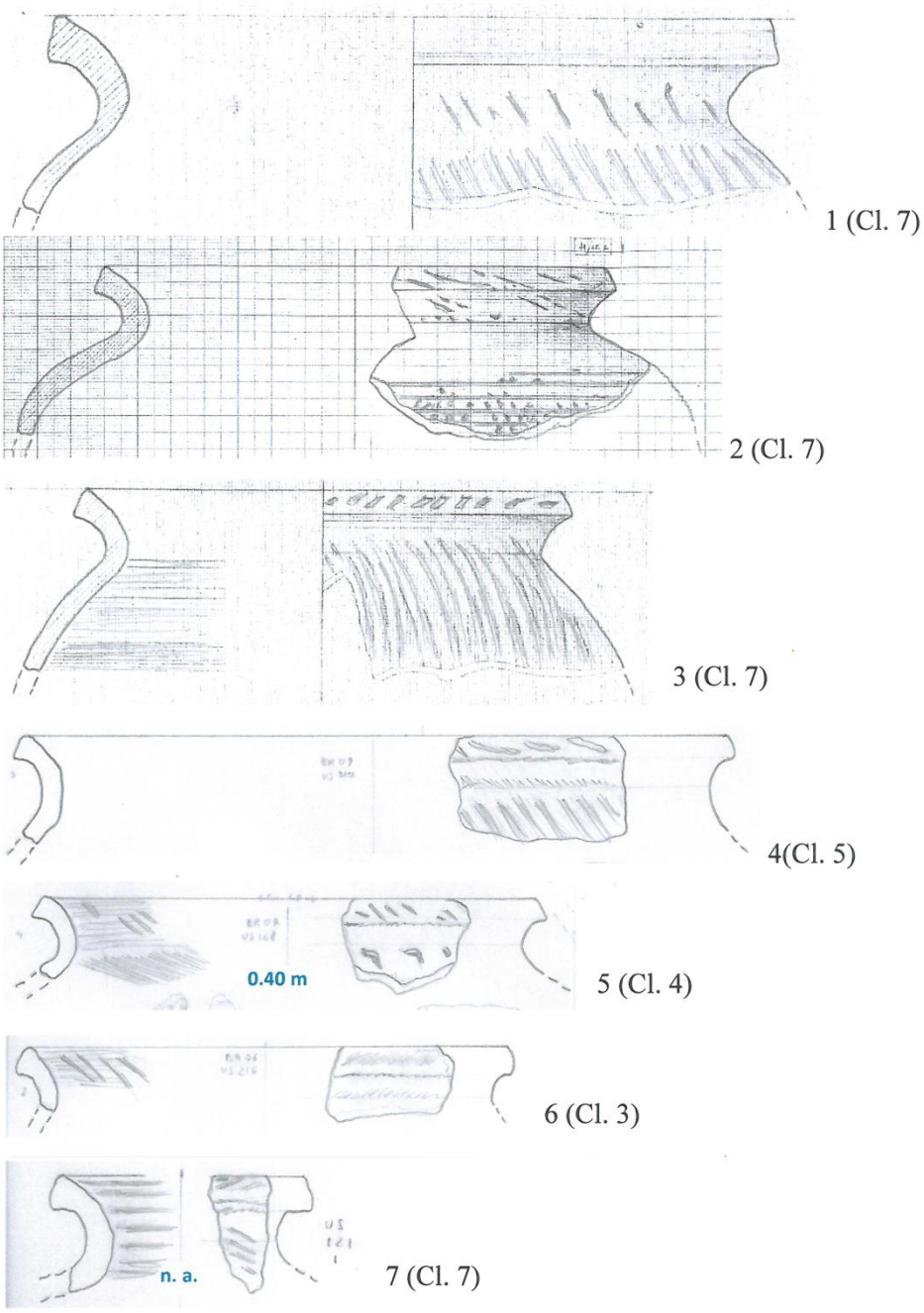
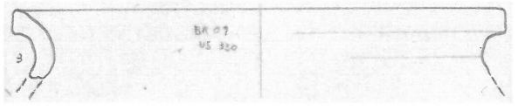


Table 5. Pot Type 1b (n. 1)

Table 6. Pot Type 1b1 (n. 1)

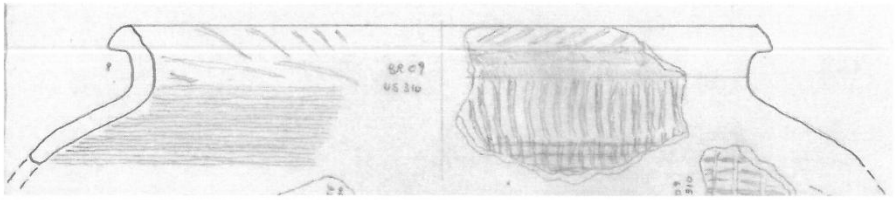
Table 7. Pot Type 2 (n. 1-8)



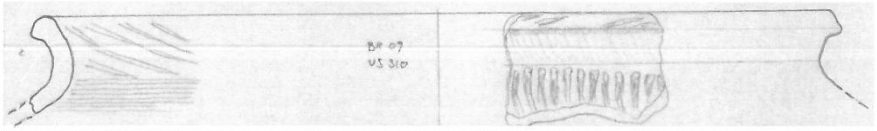


8 (Cl. 5)

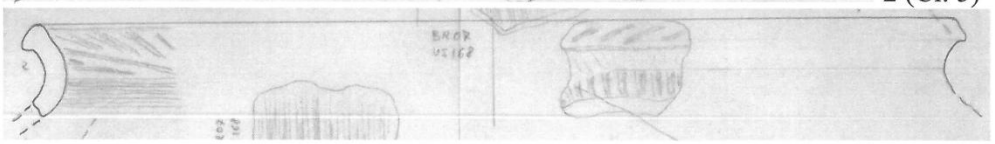
Table 8. Pot Types 2a (n. 1-5)



1 (Cl. 5)

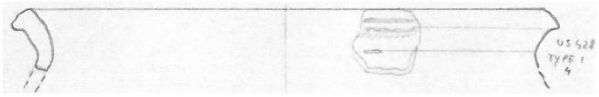


2 (Cl. 5)



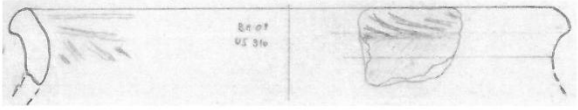
3 (Cl. 4)

4 (Cl. 7)



5 (Cl. 4a)

Table 9. Pot Type 2a1 (n. 1)

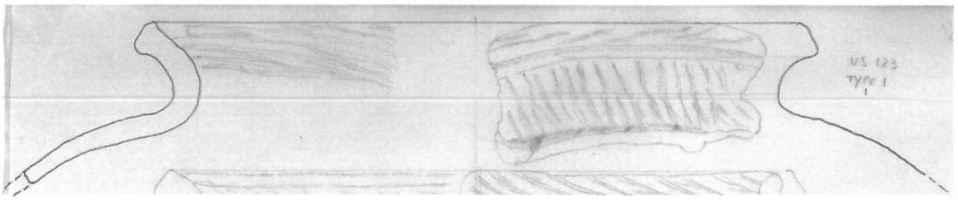


1 (Cl. 5)

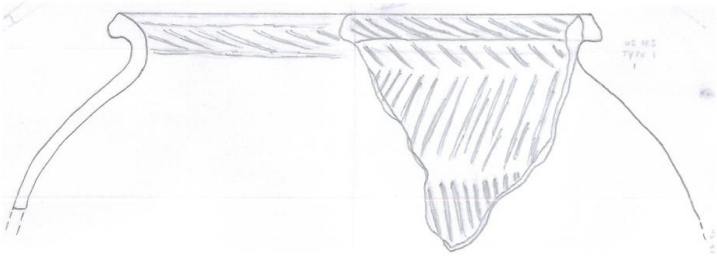
Table 10. Pot Type 2a2 (n. 1)

1 (Cl. 4b)

Table 11. Pot Type 3 (n. 1-2)

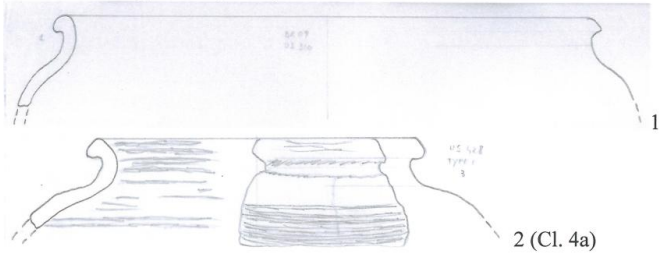


1 (Cl. 7)



2 (Cl. 7)

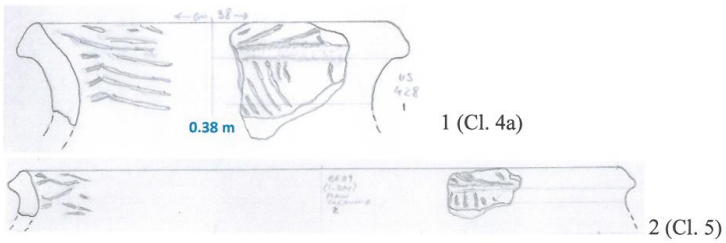
Table 12. Pot Type 2a/3 (n. 1-2)



1 (Cl. 5)

2 (Cl. 4a)

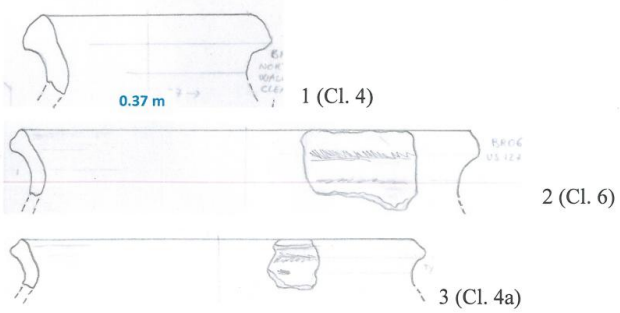
Table 13. Pot Type 3a (n. 1-2)



1 (Cl. 4a)

2 (Cl. 5)

Table 14. Pot Type 3a1 (n. 1-3)

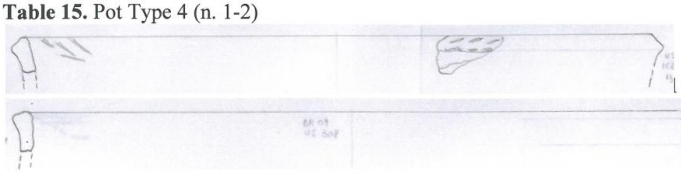


1 (Cl. 4)

2 (Cl. 6)

3 (Cl. 4a)

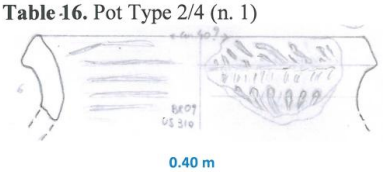
Table 15. Pot Type 4 (n. 1-2)



1 (Cl. 4)

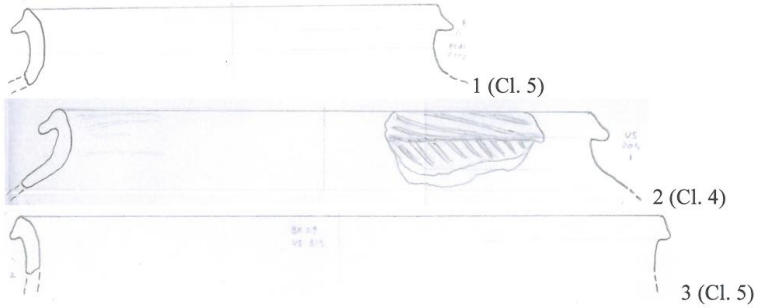
2 (Cl. 4b)

Table 16. Pot Type 2/4 (n. 1)



1 (Cl. 5)

Table 17. Pot Type 5 (n. 1-3)

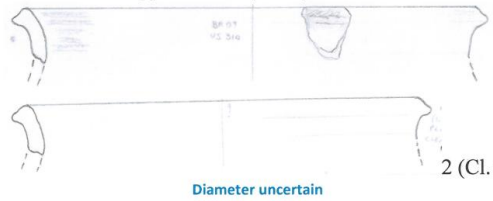


1 (Cl. 5)

2 (Cl. 4)

3 (Cl. 5)

Table 18. Pot Type 2/3a1/5 (n. 1-5)



1 (Cl. 5)

2 (Cl. 5)

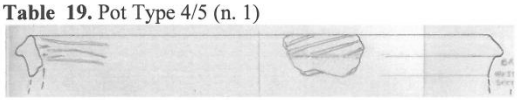
Diameter uncertain

3 (Cl. 5)

4 (Cl. 7)

5 (Cl. 7)

Table 19. Pot Type 4/5 (n. 1)

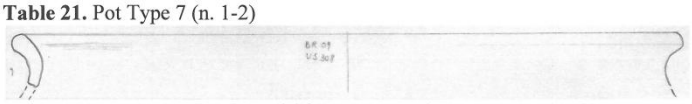


1 (Cl. 4)

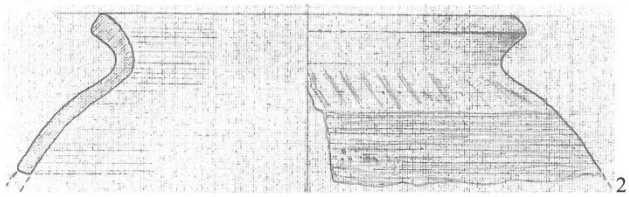
Table 20. Pot Type 6 (n. 1)

1 (Cl. 4)

Table 21. Pot Type 7 (n. 1-2)

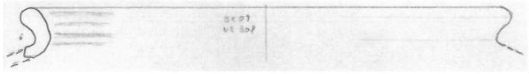


1 (Cl. 4b)



2 (Cl. 7)

Table 22. Pot Type 7a (n. 1)

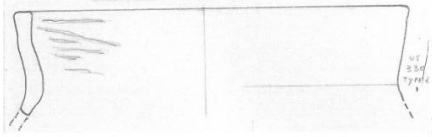


1 (Cl. 4b)

Table 23. Jug Type 8 (n. 1)

1 (Cl. 5)

Table 24. Jug Type 8a (n. 1)

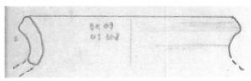


1 (Cl. 5)

Table 25. Jug Type 9 (n. 1-3)

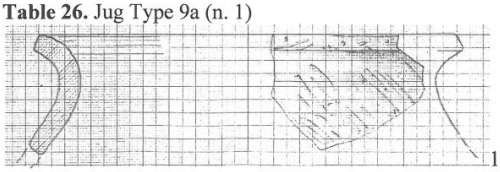
1 (Cl. 5)

2 (Cl. 4)



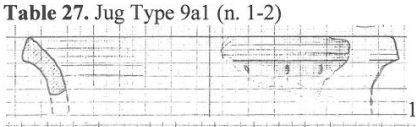
3 (Cl. 4b)

Table 26. Jug Type 9a (n. 1)

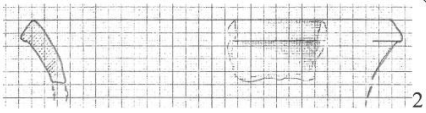


1 (Cl. 7)

Table 27. Jug Type 9a1 (n. 1-2)

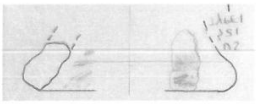


1 (Cl. 7)



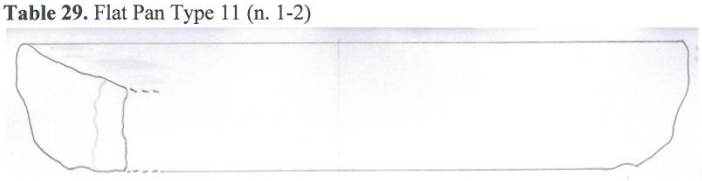
2 (Cl. 7)

Table 28. Lid Type 10 (n. 1)

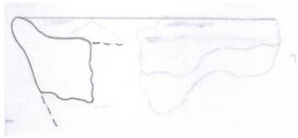


1 (Cl. 2) (probably more sloping)

Table 29. Flat Pan Type 11 (n. 1-2)

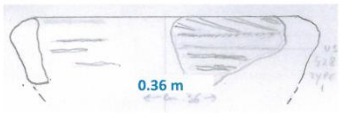


1 (Cl. 2)

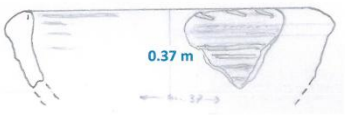


2 (Cl. 2)

Table 30. Basin Type 12 (n. 1-2) (both Cl. 4a)



1

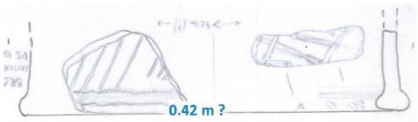


2

Table 31. Bowl Type 12a (n. 1)

1 (Cl. 4)

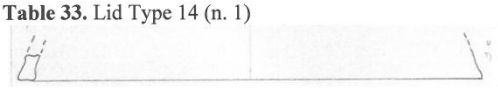
Table 32. Oven-Lid Type 13 (n. 1-2)



1 (Cl. 7)

2 (Cl. 4a)

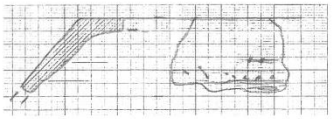
Table 33. Lid Type 14 (n. 1)



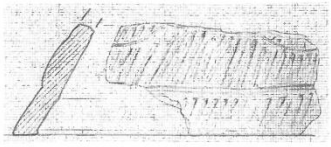
1 (Cl. 5)

Table 34. Oven-Lid Type 14a (n. 1-4) (all Cl. 7)

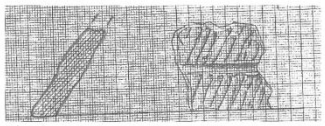
1



2



3

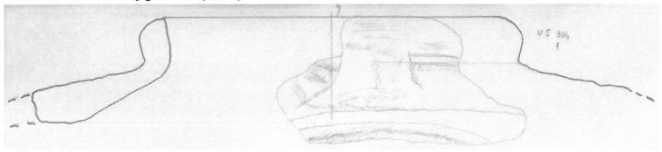


4

Table 35. Oven-Lid Type 15 (n. 1)

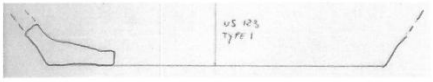
1 (Cl. 7)

Table 36. Jar Type 16 (n. 1)



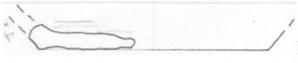
1 (Cl. 3a)

Table 37. Base Type 17 (n. 1)



1 (Cl. 7)

Table 38. Base Type 17a (n. 1-9)



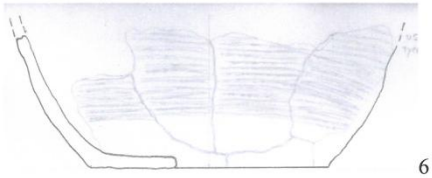
1 (Cl. 5)

2 (Cl. 5)

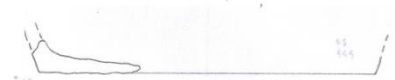
3 (Cl. 4)

4 (Cl. 3)

5 (Cl. 4)



6 (Cl. 4a)



7 (Cl. 3a)

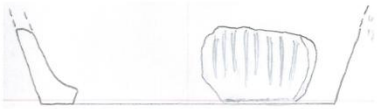
8 (Cl. 3a)

9 (Cl. 4a)

Table 39. Base Type 17a1 (n. 1-6)

1 (Cl. 5)

2 (Cl. 4a)



3 (Cl. 4a)

4 (Cl. 4a)

5 (Cl. 4)

6 (Cl. 7)

Table 40. Base Type 17a2 (n. 1-3) (all Cl. 4)

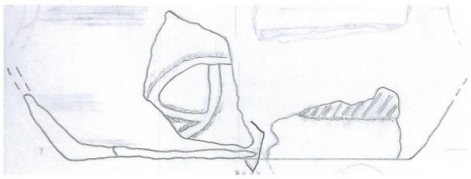
1

2

3

Table 41. Base Type 17b (n. 1-8)

1 (Cl. 4)

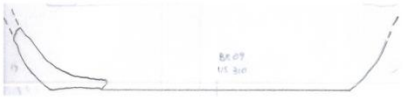


2 (Cl. 4)

3 (Cl. 5)

4 (Cl. 5)

5 (Cl. 5)



6 (Cl. 5)

7 (Cl. 4a)

8 (Cl. 5)

Table 42. Base Type 17b1 (n. 1-2)

1 (Cl. 5)

2 (Cl. 4)

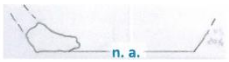
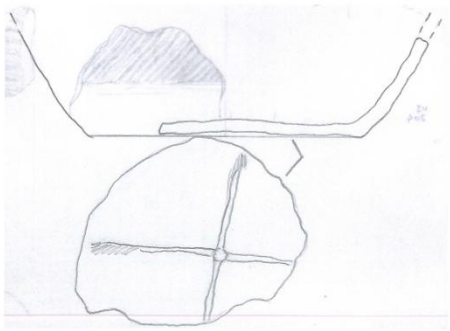
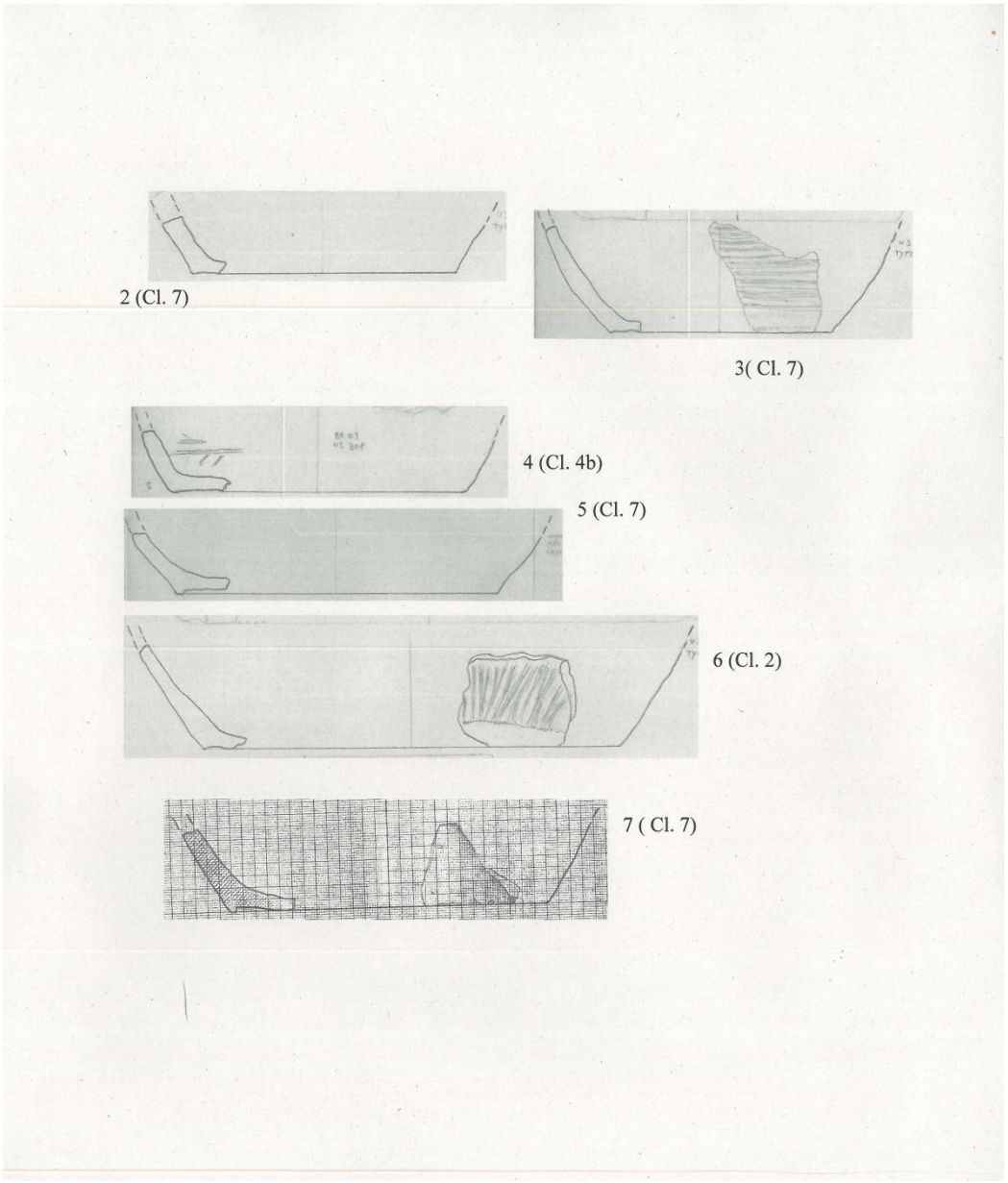


Table 43. Base Type 17b2 (n. 1-7)



1 (Cl. 4)



2 (Cl. 7)

3(Cl. 7)

4 (Cl. 4b)

5 (Cl. 7)

6 (Cl. 2)

7 (Cl. 7)

Paste Samples

Fig. 32. Macro Paste 1 (C. 428; Cl. 4a)

Fig. 33. Macro Paste 1a (C. 107; Cl. 7)

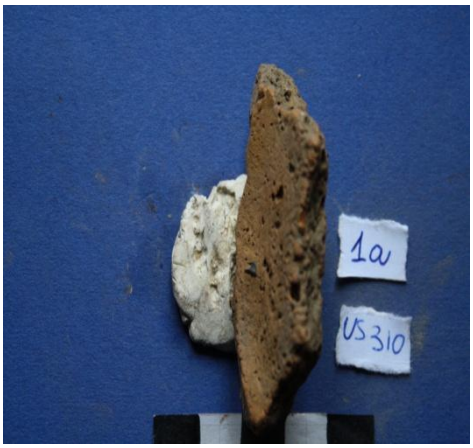


Fig. 34. Macro Paste 1b (C. 310; Cl. 5)

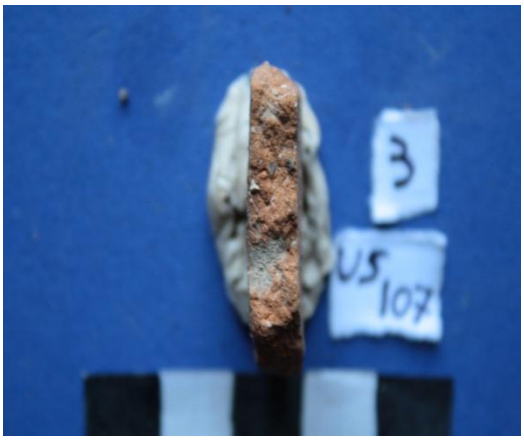


Fig. 35. Macro Paste 1c (C. 107; Cl. 7)

Fig. 36. Macro Paste 2 (C. 330; Cl. 5)

Fig. 37. Macro Paste 2a (C.310; Cl. 5)

Fig. 38. Macro Paste 2b (C. 2; Cl. 7)

Fig. 39. Macro Paste 2c (C. 330; Cl. 5)

Fig. 40. Macro Paste 3 (C. 347; Cl. 3a)

Fig. 41. Macro Paste 3a (C. 441; Cl. 5a)

Fig. 42. Macro Paste 4 (C. 314; Cl. 3a)

Fig. 43. Macro Paste 5 (C. 105; Cl. 7)