

## The Palermitan ceramic production from the ninth to the eleventh century

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### Abstract

This paper aims to show a general panorama of the Palermitan ceramic products circulating from the end of the ninth to the eleventh century. During this period Palermo was the capital of Islamic Sicily and covered an important role in the Mediterranean from a political, economic and cultural point of view. This has also impacted on pottery production. A new morphologic, technologic and decorative panorama is present during this phase, to face the new needs of a crescent population. Palermo developed a proper pottery language which is the result in part of the previous traditions and in part of the new contributions from the Islamic lands. The volume of Palermitan ceramic production increased considerably, not only to meet the metropolitan demand but also for the growing extra-urban (insular and extra-insular) requests.

إنتاج سيراميك باليرميّتان (Palermitan) من القرن التاسع إلى القرن الحادي عشر  
فيفا ساكو

تهدف هذه الورقة إلى إظهار صورة بانورامية عامة لمنتجات سيراميك باليرميّتان المتداولة من نهاية القرن التاسع إلى القرن الحادي عشر. خلال هذه الفترة كانت باليرمو عاصمة صقلية الإسلامية و قد لعبت دوراً هاماً في البحر المتوسط من الناحية السياسية والاقتصادية والثقافية. مما كان له الأثر على إنتاج الفخار أيضاً. حيث وجدت خلال هذه المرحلة بانوراما شكلية وتكنولوجية وزخرفية جديدة لتلبية الاحتياجات الجديدة لسكان الهلال. و قد طورت باليرمو لغة فخار مناسبة، جزء منها نتيجة لتقاليد سابقة وجزء منها من المساهمات الجديدة من الأراضي الإسلامية. زادت كمية سيراميك باليرميّتان بشكل كبير، ليس فقط لتلبية طلب العاصمة ولكن أيضاً نتيجة للطلبات المتزايدة من خارج المدد (من الجزيرة و خارجها).

### Introduction

In the last decade, the Islamic period Palermo phases have been the focus of many projects, which have demonstrated the importance of the city in Sicily and as a hub in the central Mediterranean. The goals of these new studies were the identification of the type of products circulating from the ninth to the eleventh century, their distinction from the Norman period ceramics, the recognition of the evolution over time of the different classes and, more in general, the identification of the chronological

indicators. The increased number of systematic analyses of pottery assemblages coming from stratigraphic excavations rather than by selections based on aesthetic characteristics is providing an increasingly reliable relative sequence for Palermo's ceramics. The analysis of ceramics associations allows also to build absolute chronological references. However, it is still difficult to establish definitive and precise absolute chronologies for the individual types identified, with a few exceptions. The assemblages analysed so far are ascribable to the end of the ninth until the first half of the eleventh century; however, ceramics from the first part of the ninth century and the second half of the eleventh century are not well understood. It means that we cannot observe the process of the Islamization of material culture, which is already accomplished at the end of the ninth and the beginning of the tenth century. The dynamics of pottery exchange and production is difficult to reconstruct for the eleventh century, in particular the second half of the century, when Sicily underwent a political change from Islamic to Norman rulers.

Palermitan pottery was investigated to reconstruct socio-economic dynamics. In particular the topic of Islamization of material culture has been discussed thanks to the analysis of assemblages dated to the end of the ninth and the first half of the tenth century (Nef and Ardizzone 2014). Furthermore, the distribution of Palermitan ceramics and the importation of pottery in the Sicilian capital provide some new information useful to contribute to the reconstruction of the economic dynamics in the Mediterranean (Ardizzone *et al.* 2016; Sacco 2018b).

In this paper, we aim to present an overview of Palermo pottery production from the end of the ninth to the eleventh century. The great part of the chrono-typology here exposed comes from the study of the assemblages of the Gancia Church and Bonagia palace excavations (Ardizzone *et al.* 2014, 2018a; Pezzini and Sacco 2018; Sacco 2016, 2017, 2018b). Both sites (Fig. 1) are situated along the Via Alloro, in a quartier that included the palatine city Khalisa (founded in 937–38, according to Ibn al-Athīr) and the *ḥārat al-ḡadīda* ('new quartier' perhaps developed in connection with the Khalisa, cf. Nef (in press)) (Pezzini 1998; Pezzini *et al.* 2018).

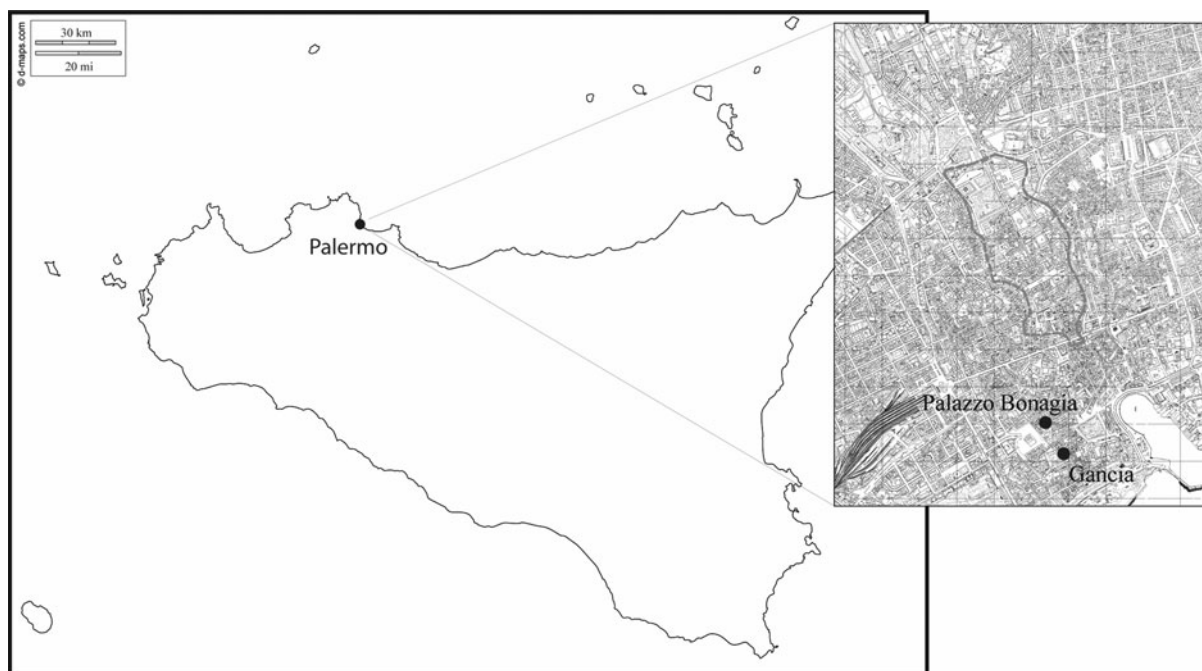


Figure 1. Sicily and the localization of Gancia and Bonagia palace in Palermo.

In both cases, traces of several settlement phases, datable from the end of the ninth to the eleventh century, have been documented. An Islamic necropolis has been identified before the settlement in Gancia Church (Ardizzone *et al.* 2014). The information coming from the systematic analysis of the assemblages of these two sites was integrated by published data (for example Aleo Nero 2017; Aleo Nero and Vassallo 2014; Arcifa 1996; Arcifa and Bagnera 2014, 2018b; Arcifa and Lesnes 1997).

### Palermitan pottery production: generalities

During the Islamic period, Palermo was a self-sufficient city, producing the whole range of ceramics needed in the city: cooking pots, serving dishes, tableware, ceramics for hygienic use, architectural, illumination, polyfunctional and irrigation ceramics, storage and transport jars (Arcifa and Bagnera 2018a; Sacco 2016). The imported pottery products are very few: amphorae, tableware (both luxury and common wares) and cooking ware. The provenance of the cooking ware is unknown for the majority of the cases, while most of the imported amphorae and tableware (glazed or not) come from the Tunisian and Sicilian area (Ardizzone *et al.* 2016; Sacco 2017, 2018b). Few Egyptian, al-Andalus and Chinese glazed tablewares were found in assemblages dated to the end of the tenth and the first half of the eleventh century (Sacco 2017).

The existence of pottery made in Palermo is testified by petrographic analysis carried out on

entire assemblages (Testolini 2018, 176–202). In particular, the Ficarazzi clay, coming from pits located between ‘Acqua dei Corsari’ and the mouths of the rivers Eleuterio and Oreto, has been employed (Giarrusso and Mulone 2014, 192; Orecchioni and Capelli 2018, 261). Even though traces of ceramic workshops are few and dated to a later period (Arcifa 1996; Arcifa and Bagnera 2018a; D’Angelo 2005; Spatafora *et al.* 2014), macroscopic observations of fabrics and surface treatments, as well as the traces left by the use of spacers in the kiln and the type of firing, allowed us to formulate hypotheses about the general organization of the ceramic production. First, two main fabric groups can be recognized macroscopically. The first one (fabric group 1) is red with abundant little and medium white pierced inclusions and few little matt transparent inclusions, and it is observable in tableware and lamps, glazed or not. In the second group (fabric group 2) different functional categories have been recognized: transport, storage/tableware amphorae and small amphorae, handled jars, basins, *norja* pots, and occasional open-shaped bowls and lamps. It is similar to the fabric group 1 but the white inclusions are generally macroscopically not pierced. This different appearance is the result of a single firing, while the fabric group 1 is double fired. Palermo also produced cooking pots (Testolini 2018, 177–79), but the fabrics are less homogeneous and harder to systematize macroscopically. In particular, for the *ollae* products (a closed, globular-shaped

cooking pot) two main fabrics have been recognized (Pezzini and Sacco 2018, 348). They are both associated with the same morphologic panorama and with the same surface treatment: the first one is a fine fabric, while the second one is quite similar to the amphorae fabric (fabric group 2) and is characterized by more inclusions. This last fabric, with different surface treatments (plain or with a white surface), is observed also in some baking dishes, lids and ‘braziers’ (Sacco 2016). These forms are also documented with a third fabric, also similar to the amphorae fabric but probably coarser and fired at lower temperatures (Pezzini and Sacco 2018, 349, 352). For other cooking pots products identified in Palermo assemblages, it is still not clear if they were produced locally or imported (Pezzini and Sacco 2018).

### Fabric group 1: tablewares and illumination

Among the Palermitan pottery, tablewares and illumination pots – above all, the glazed ones – have been the objects of different publications due to their aesthetic value since the 1930s (for example Bonanno 1979; D’Angelo 1972; Ragona 1966; Russo Perez 1932). These products, generally characterized by a white salt surface (Sacco *et al. in press*), exist in glazed or unglazed versions with no particular morphological differences between the two. A greater tendency to open forms can just be noticed for glazed tableware, while unglazed tableware tends to have closed shapes (Ardizzone *et al. 2014*, 208). Instead, the plain tablewares without the white salt surface are rarer (for example Arcifa and Bagnera 2014, 169; Sacco 2016). The evidence suggests that both tablewares and illumination pottery have been fired in side bars kilns (Sacco 2016, 450).

From a morphologic point of view, one of the biggest changes in pottery production in respect of the past is the increased presence of open vessels. For all the Islamic period the carinated bowl is the most widespread, but pseudo-conical and hemispheric bowls are also diffused. The table set also consists of closed forms such as small bottles, jugs with filter, cups and small pots. This panorama seems to be maintained throughout the Islamic age and it is quite conservative over time. These morphological variants are not exclusive to specific techniques nor to particular decoration motifs. So far, the available data allow us to observe evolution details only in some specific forms. For the carinated bowls, from around the mid tenth century, a slight concavity appears just below the carina (Fig. 2.6) and enlarged rims are documented (Fig. 2.6). From the end of the tenth century it is worth noting the

presence of bifid rims in the carinated bowls (Fig. 2.14), and the appearance of a specific variant of a carinated bowl (Fig. 2.10) and the flat plate (Fig. 2.11). For the filter jugs, in the first period the filter holes are simple, then becoming increasingly elaborate (Fig. 2.7). During the eleventh century, the progressive replacement of the carinated bowl with the hemispheric one has been documented (Arcifa 1996; Sacco *et al. in press*).

Palermo workshops were the first in Sicily to produce glazed pottery with the technique of double firing. Recent studies demonstrate that this started at the end of the ninth century (Arcifa and Bagnera 2014, 2018b; Ardizzone *et al. 2014*, 2018a), while other centres in Sicily seem to have begun this production about a century later (Fiorilla 2009, 197–99; Mazara, Molinari and Valente 1995; Paternò, Messina *et al. 2018*; Piazza Armerina, Alfano 2019; Syracuse, Amara *et al. 2009*). The transmission of some aspects of the new glazing technology from Ifrīqiya has been proved (for example, for the *giallo di Palermo*, cf. *infra*), while the arrival of other aspects of glazing technology from other areas cannot be excluded (Capelli *et al. in press*).

Five horizons for the glazed wares have been proposed thanks to the systematic analysis of trusted stratigraphic sequences from the Gancia excavations (Sacco 2017). Each horizon has been identified through a combination of information: associations with other functional categories, position in the stratigraphic sequence, introduction or evolution of some specific elements such as decoration motifs, forms and wares.

Palermitan glazed pottery is quite conservative over time from a technological point of view. It seems that no particular technique is linked to a specific shape or decoration style. Consequently, different types of glaze and decorative motifs can characterize the same shapes. The sole exception is probably the mid-eleventh-century pottery known as ‘boli gialli’ (yellow dots), which is characterized by a specific combination of form/technique/decoration (cf. *infra*) (Capelli *et al. in press*).

From a macroscopic point of view, glazed pottery can be divided into two main families: transparent glazes and matt glazes. The most widespread is the transparent lead-glazed ware group, which is divided in two main classes: the polychrome wares (POLY.GW) and the monochrome wares (MON.GW).

The POLY.GW are characterized by a green, brown and/or yellow decoration under a transparent glaze, mostly clear, but also yellow or green. Such glazed pottery groups have been found since the end of the ninth century and during the entire Islamic

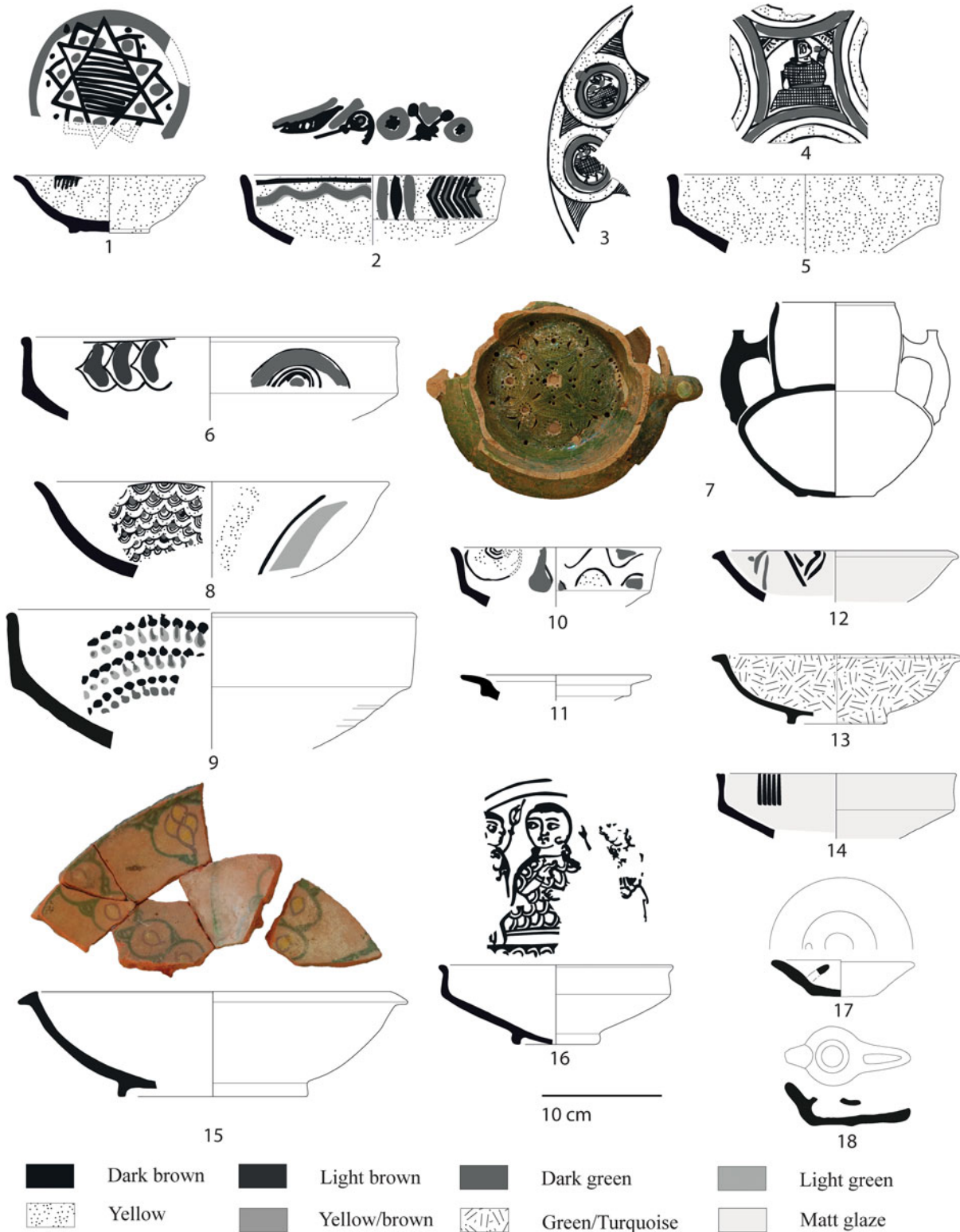


Figure 2. Palermitan fabric group 1.

period. Transparent glazes are characterized by a varied panorama of geometric, pseudo-epigraphic, phytomorphic, zoomorphic and anthropomorphic painted decorative motifs matched in a different way to each other. The combination of technological

characteristics (macroscopically analysed) and of the form and decoration style allow us to identify three specific and distinct wares named *giallo di Palermo* (Palermo yellow), ‘graticcio ware’ and a pottery with a splashed decoration.



*Giallo di Palermo* (Fig. 2.1–2) is a Palermitan yellow lead-glazed ware (Capelli *et al.* in press; Testolini 2018) characterized by its own decorative painted style in green and brown underglaze. Dated from the end of the ninth to the beginning of the tenth century, this production recalls the contemporary *jaune de Raqqāda* (Raqqāda yellow). Based on the current state of knowledge, we can suppose that the *giallo di Palermo* was made by artisans probably originating from Ifrīqiya (Ardizzone *et al.* 2014; Sacco 2017, 343).

‘Graticcio ware’ (Fig. 2.3–4) is a Palermitan lead-glazed ware (Capelli *et al.* in press), also known as ‘tipo pavoncella’ (peacock type) (Molinari 2010), which stands out for the presence of zoomorphic and anthropomorphic motifs filled by a grid (graticcio in Italian). The beginning of this ware is in the middle of the tenth century, and it continued to be produced until the first half of the eleventh century (Sacco 2017, 346–48).

The pottery characterized by a splash decoration appears at the end of the tenth to the beginning of the eleventh century, and can be distinguished in two main decorative variants: with a streak or a pois (Fig. 2.9) decoration (Sacco 2017, 352; 2018a).

The rest of the POLY.GW is more difficult to characterize and group. It is worth noting that the ware with a brown decoration under a green glaze is documented from the end of the tenth to the beginning of the eleventh century. Other than that, the POLY.GW share a similar technique as well as a general style of decoration and vessel shape, but at the same time with a unique combination of decorative variants, which makes it difficult to attribute precise chronologies, and to better connote the production and to identify further modes. However, some decorative motifs occur in specific contexts in our relative stratigraphic sequence, which allows us to suggest chronologies. For example, the chained hearts motif (Fig. 2.6) appears during the first half of the tenth century, after the contexts with the *giallo di Palermo*, and continues until at least the first half of the eleventh century. The anthropomorphic (Fig. 2.4 and 16) and the scale (Fig. 2.8) decorations appear starting from the end of the tenth to the beginning of the eleventh century and they do not continue much further the mid eleventh century. During the second half of the eleventh century the decorative motifs of POLY.GW underwent a process of simplification (Sacco 2017, 362; Sacco *et al.* in press).

The MON.GW are less numerous. The green version is documented in assemblages starting from the first Islamic period at the end of the ninth

century (Arcifa and Bagnera 2014, Fig. 1.13; Ardizzone *et al.* 2018a, Fig. 18.1.1). On the other hand, the yellow (Fig. 2.5) and brown monochrome glazed wares are documented starting from the first half of the tenth century (Sacco 2017, 344–46). The morphologic panorama associated with the MON.GW is the same as the POLY.GW.

The same technological characteristics are documented for the lamps. In particular, the white salt surface version, the POLY.GW and MON.GW have been identified. Palermitan workshops produced two main types of lamp: the circular lamps (Fig. 2.17) and the ‘becco canale’ lamps (Fig. 2.18) with a handle and a long spout. From a chronological point of view, during the end of the ninth to the first half of the tenth century the circular lamps are more widespread, while there are fewer examples of the ‘becco canale’ type. During the second half of the tenth century, the trend reversed, with the progressive decrease of the circular lamps in favour of the ‘becco canale’. The ‘becco canale’ continue to circulate during the eleventh century and the circular lamps are absent (Aleo Nero 2018; Alfano and Sacco 2018). The ‘becco canale’ lamps are replaced by the open shape lamps probably during the second half of the eleventh century (Arcifa 1996; Arcifa and Lesnes 1997).

The second family is the matt glazed wares (MATT.GW), which are also characterized by an under- or overglaze painted decoration. During the end of the ninth to the beginning of the tenth century the MATT.GW are rare and not specific to a form or a decorative style, which are shared with the POLY.GW. They are always characterized by the white salt surface and by a painted decoration under the glaze (Capelli *et al.* in press). The first analysis revealed a diversified technological panorama, which includes a combination of undissolved quartz and gas bubbles (Capelli *et al.* in press; Testolini 2018, 191) and/or the presence of tin (Capelli *et al.* in press). From the end of the tenth to the eleventh century, three new distinct wares can be recognized. The first one is the so-called ‘tipo D’Angelo’ (D’Angelo type), which is characterized by an alternated geometric green and brown motif realized with the same thickness under a matt glaze known as ‘tratti in verde e bruno di uguale spessore’ (Fig. 2.12 and 14) The morphological variants include some closed forms and the carinated bowl exclusively associated with the bifid rim. The SEM-EDS analysis revealed different technologies (Capelli *et al.* in press; Capelli and D’Angelo 1997). Another type of product from the mid eleventh century is a tin-overglazed ware known as

‘boli gialli’ (yellow dots). This ware is characterized by a specific style and morphologic panorama (Fig. 2.15). The analysis showed that the decoration is above the overall glaze, and the yellow dots are made with antimony (Sacco *et al.* in press; Testolini 2018, 192–94). Finally, a monochrome green/turquoise matt ware has been identified starting from the end of the tenth century. It is generally associated with hemispheric bowls (Sacco 2017, 350).

The picture of Palermitan tableware and lamps is increasingly clear and shows that the city was a well-established production centre, popular throughout Sicily. Most of the information comes from glazed wares, whose characteristics offer the possibility to propose reflexions about different topics such as technology and the evolution of decorative styles. Both themes show that Palermo workshops develop their language which is perfectly integrated in the Islamic Mediterranean context. Particularly interesting is the comparison with Ifrīqiya, whose tableware and lamps have many characteristics in common with the Palermitan ones. The evolution of this pottery is in many ways similar (Gragueb Chatti *et al.* 2019). From a chronological point of view, we have seen that the first Palermitan glazed products date back to the end of the ninth to the beginning of the tenth century, when the production of *giallo di Palermo* has been identified; however the *giallo di Palermo* does not seem to be the first type of glazed ware produced in Palermo. The morphological panorama documented in this first phase will continue to be produced throughout the Islamic period. During the first half of the tenth century the Palermitan decorative language, widespread in the second half of the tenth century, is developed. During this period one of the most successful wares is the ‘graticcio ware’, which has been recognized as starting in the mid tenth century. Major changes have been identified during the end of the tenth to the beginning of the eleventh century with the introduction of new morphologic (bifid rim, new carinated bowl variant, hemispheric bowls, flat plate) and decorative variants (anthropomorphic, splashed), as well as new wares (brown decoration under green glaze, ‘tipo D’Angelo’, monochrome green/turquoise matt glaze). Furthermore, imports coming from new regions have been identified in this period (Sacco 2017, 357–58). These changes have been linked with the reconfiguration of the Mediterranean commerce after the transfer of the Fatimid capital in Egypt in 973 AD (Sacco 2017, 350–57; on the reconfiguration of the markets, cf. Picard 2015, 324–29).

Another turning point is the eleventh century. Palermo starts to lose its centrality in Sicily and the Mediterranean (Goldberg 2012, 322–28) and, from a production point of view, a polycentric scenario is testified: the morphologic panorama of both Palermitan tableware and lamps changes, the decorative motifs become simpler and the introduction of the overglaze ware is documented.

### Fabric group 2: table/storage/transport wares and others

The second group of Palermitan products was specialized in different functional types of pottery, including table, storage, transport and polyfunctional wares. These ceramics are usually plain, with grey or white salt surfaces.

Palermo amphorae products are known thanks to a group of pottery employed for lightening the vaults of some Norman (twelfth-century) buildings in Palermo (Ardizzone 1999, 2012; D’Angelo 1976). Just a few types have been attributed to the Islamic period (Arcifa and Lesnes 1997; Ardizzone *et al.* 2012). Recent studies have finally recognized the Islamic period amphorae and now we begin to understand their typology and evolution over time (Sacco 2018b). Such studies led to anticipating the tenth century as the beginning of Palermitan amphorae export to the rest of Sicily and the central Mediterranean. This phenomenon was previously thought to date to the eleventh and twelfth century.

Palermo amphorae production has well-defined characteristics such as the *cannelures* (ribs), concave bases (flat in the smallest tableware versions) and grooved or simple handles. Almost all types of amphorae are also red-painted, and the different patterns are not specific to a particular morphologic type (Sacco 2018b). The evolution of the decorative motifs provides chronological indications. In the firsts assemblages (end of the ninth to the beginning of the tenth century) two main decorations have been documented: (1) loops (Fig. 3.4) and (2) vertical lines alternated with sinusoidal ones (Fig. 3.1). The loops motif found comparisons with eastern Sicily and southern Italy products (Arcifa and Ardizzone 2009; Raimondo 2002, 519, Fig. 7.4) and runs out during the first half of the tenth century. Instead, the second motif undergoes an evolution: the sinusoidal line becomes more cursive (Fig. 3.2) during the first half of the tenth century, until around the mid-century it turns into a series of oblique lines alternated with large vertical lines (Fig. 3.3) (Arcifa and Lesnes 1997, 407–408; Ardizzone 2012, 122–24; Sacco 2018b, 178–79).

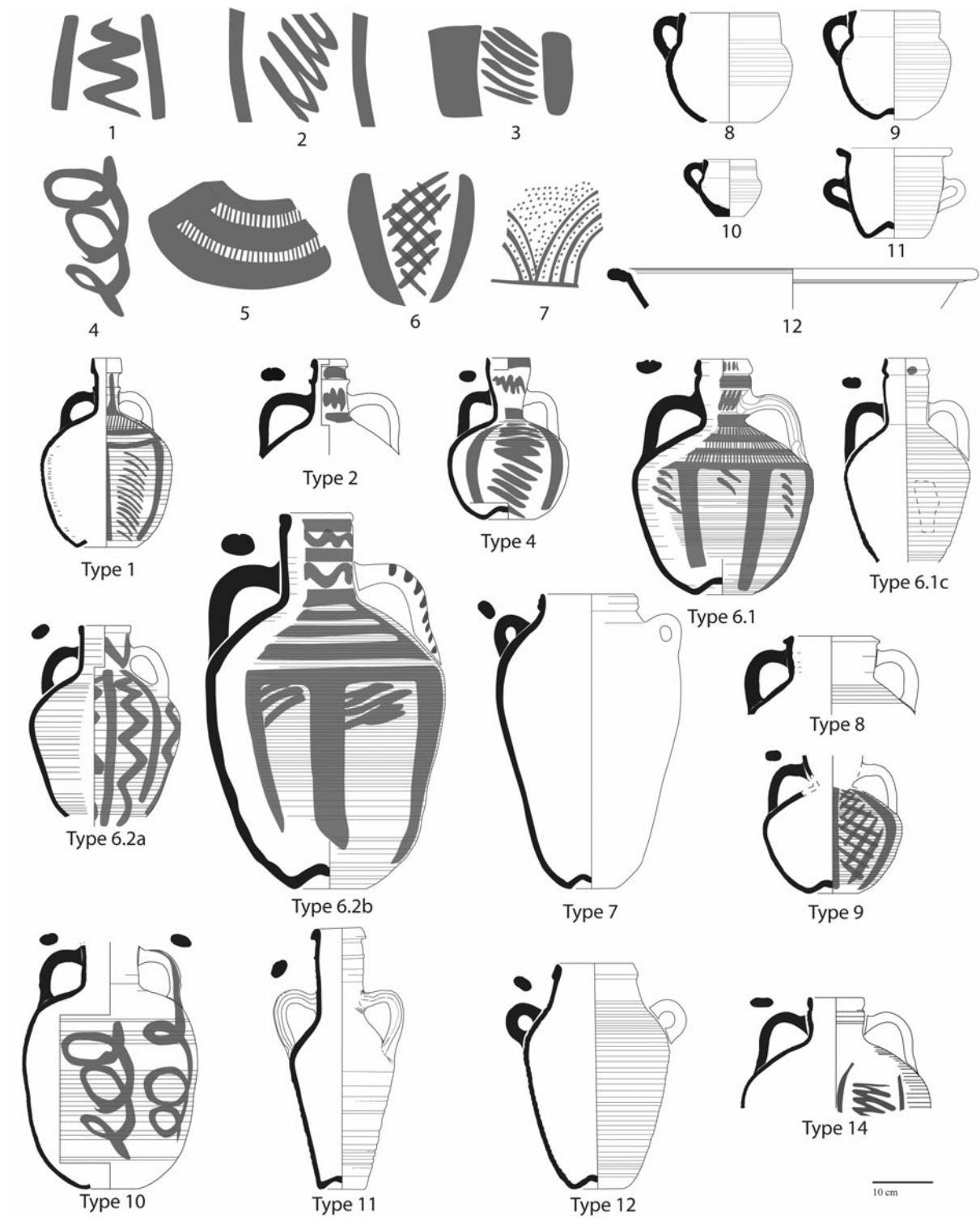


Figure 3. Palermitan fabric group 2.

This last motif is the most typical of the Palermitan amphorae production and is documented until the eleventh century. Another common and typical motif from the mid-tenth to the mid eleventh century is located on the shoulder of some types (for example types 1 and 6, Fig. 3): horizontal large stripes separated by several short and thin vertical lines

(Fig. 3.5). The other decorations are less common and it is still difficult to establish their duration over time. For example, the dots alternated with arched lines (Fig. 3.7) are documented in the first half of the tenth century, while the grid motif (Fig. 3.8) seems rather from the second half of the tenth century.

From a morphological point of view, 12 main types have been produced in Palermo during the Islamic period. They display several morphological and size varieties and, from a functional point of view, they could have been employed for transport, storage or for table sets. In assemblages from the ninth to the first half of the tenth century, six main types have been recognized (Fig. 3 types 4, 6.2a, 7, 8, 10 and 14). Two of those (Fig. 3 types 8 and 14) disappear during the first half of the tenth century. As far as the others are concerned, we are not sure about types 6.2a and 10 (Fig. 3), while types 4 and 7 (Fig. 3) are widely documented up to the eleventh century. Starting from the mid tenth century, new typologies have been introduced (Fig. 3 types 1, 2, 6.1, 9, 11). The most diffused is type 6.1 (Fig. 3), an amphora shape testified for over a century whose body and neck tend to elongate during the eleventh century, while the concavity of the internal part of the rim is deeper (Fig. 3 type 6.1c). Type 11 (Fig. 3) is the sole Palermitan amphora not painted and is infrequent in Palermo assemblages. This amphora was, instead, employed as a container to export victuals, probably wine (Bramoullé *et al.* 2017; Pisciotta and Garnier 2018; Sacco 2019). Type 11 amphora is the main cargo of three Sicilian shipwrecks (Ardizzone *et al.* 2018b; Faccenna 2006; Ferroni and Meucci 1996; Sacco 2019). The first examples of type 12 (Fig. 3) have been discovered at the end of the tenth century, but are more diffused during the eleventh century. The other amphorae (Fig. 3 types 1, 9 and 6.2b) are represented by few examples, and it is difficult to estimate their exact duration. Finally, it is worth noting that variants of types 7 and 12 are documented in twelfth-century assemblages, while it has been suggested that types 6.2b and 2 discovered in the Norman building vaults could be residuals (Sacco 2018b).

Another very common container in Palermitan assemblages is the handled jar (Fig. 3.8–9), maybe for the storage of food. This jar is very similar to amphorae products showing concave bases and *cannelures*, but it is never painted. It has usually a grey/greenish fabric and surface, certainly due to the type of firing, and its handles are never grooved. With some exceptions, we observe that usually the oldest handled jars (end of the ninth to the first half of the tenth century) have simple rims (Fig. 3.8); later the rims become progressively thicker and/or with a groove (Fig. 3.9), perhaps to host a lid.

Some other vessels are probably tableware. Few carinated bowls and cups (Fig. 3.10) have been identified. These have similar shapes to the handled jars,

but they are smaller and painted. The decorative motifs are the same as the amphorae. Some small amphorae and jugs with filter known as ‘sovradipinta in bianco’ are, instead, characterized by a brown or red slip and white decoration (Arcifa 1996, 468–70; Arcifa and Bagnera 2018a, 22; Arcifa and Lesnes 1997, 408; Sacco 2017, 356). These small amphorae, probably part of the table set, are the only Palermitan products to be characterized by a slip, and are documented starting from the end of the tenth to the beginning of the eleventh century.

This second Palermitan fabric group is completed by a series of other pottery which has the same surface characteristics compared to those discussed so far, but with different functions. During the Islamic period polyfunctional basins (Fig. 3.12), with a conic body, two handles and several variants of everted rims, have been documented, as well as some other vessels, interpreted as chamber pots (Fig. 3.11). During the tenth century, a few circular lamps were also produced within this second fabric group. The *alfabeguer* (pots for the cultivation of basil) and the conic and pierced *formae* for sugar production are rarest and come from the end of the tenth to the first half of the eleventh century assemblages. Finally, *noria* pots, which mark the introduction of new irrigation systems, have been found since the end of the ninth century up to the eleventh century assemblages. Their morphology remain unchanged, while this same shape found in particular contexts could sometimes have a different function (Sacco 2019).

### Cooking pots

The informative potentialities of Palermitan cooking pots have only recently sparked the interest of scholars. This delay in cooking wares studies is the reason why it is still difficult to fully understand the entire production of this functional category. The most widespread form is the *olla* (a closed, globular cooking pot usually with a rounded base but sometimes with a flat base) characterized by thin ribbed walls, with surfaces often covered by a thin dark clay film. From a macroscopic point of view, as we already have seen, two main Palermitan fabrics have been recognized, associated with the same morphologic panorama (cf. *supra*). The evolution of Palermitan *ollae* over time concerns mostly the rims and the appearance of handles. In the earliest Islamic phases (end of the ninth to the beginning of the tenth century) the rim is everted, developed and simple (Fig. 4.1). In lesser quantity, the *ollae* with a shorter everted simple rim are documented (Fig. 4.2). During the first half of the tenth century, a



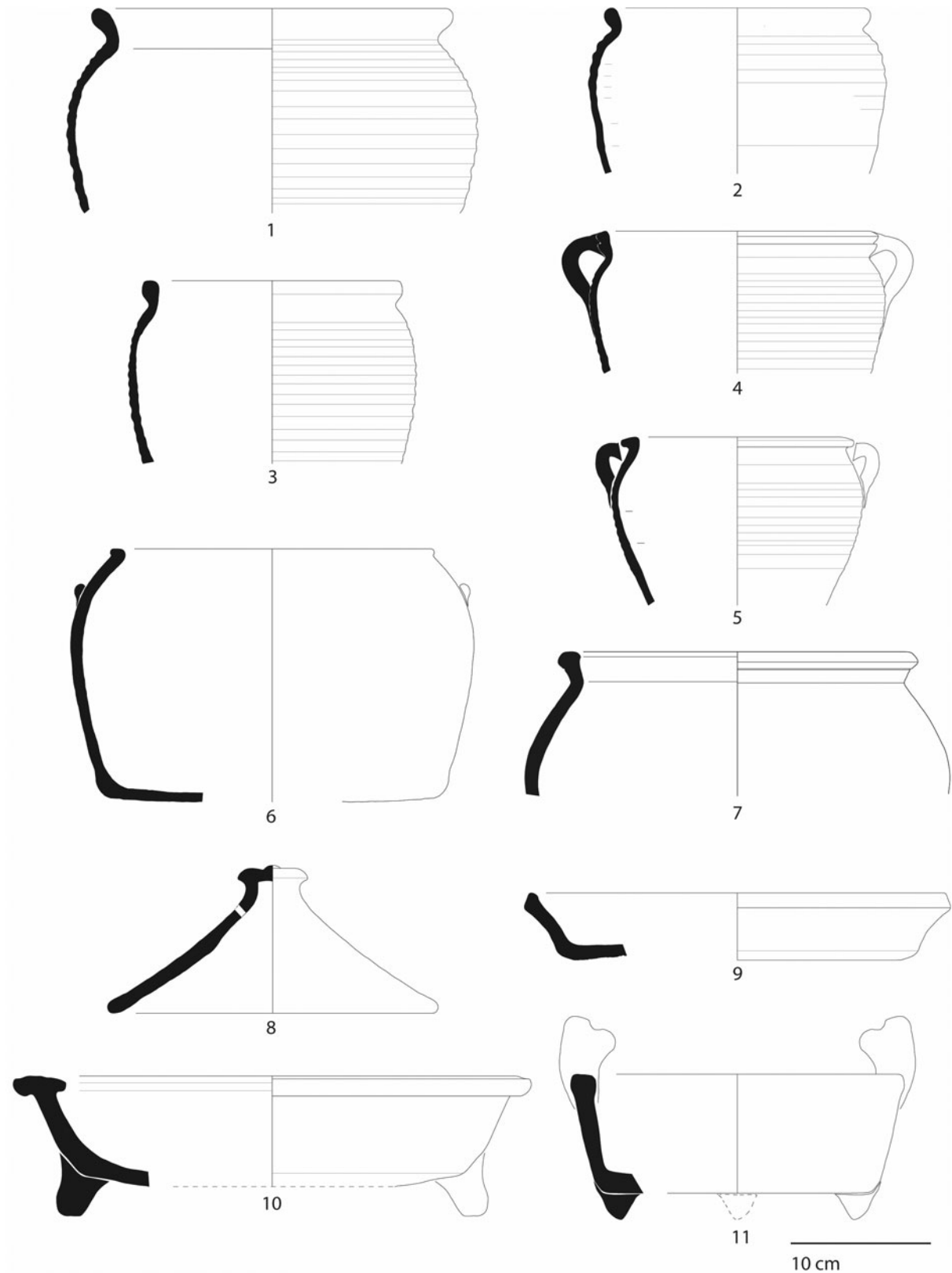


Figure 4. Palermitan cooking pots.

turnaround between the two variants is observed with a progressive drastic decrease of the first type. In later contexts (second half of the tenth century) a first element to assess is the appearance of handles,

which therefore indicate a change in the prehension system and so probably some aspects of the cooking techniques. When the handles changed also the rims evolved, with the presence, in the second half of

the tenth century, of quadrangular section rims (Fig. 4.3). During this period, the *olla* with a rim characterized by an incision outside (Fig. 4.4), and sometimes by a plastic decoration, appears, even if it has the greatest diffusion between the end of the tenth and the beginning of the eleventh century. Finally, in the first half of the eleventh century, the *olla* with triangular section rim (Fig. 4.5), which is flat on the top, is documented (Pezzini and Sacco 2018). After the mid eleventh century, we do not know exactly what happens to Palermitan *ollae* production, beyond assuming a progressive decrease of production. We start to see the arrival already during the eleventh century of the first glazed cooking pots coming from north-east Sicily, which achieve success during the twelfth century.

It is worth mentioning two other cooking pot types, even if we are not sure they were produced in the Palermo area. The first one is the cylindrical pot with an inturned rim and flat base, probably made with the coil technique, finished on the slow wheel and characterized by a Numidic Flysch clay (Fig. 4.6). This type of pottery is constantly documented from the late ninth to the eleventh century, and it is not subjected to morphological changes. Other similar pots, but with different fabrics, have been documented in Sicily, which suggests that the cooking pots with this shape documented in Palermo could be a local production. The second cooking pot group is the so-called ‘macrogruppo A’ (macro group A), fired in a half-reducing atmosphere with a fabric characterized by a grey core that changes into orange/pink towards the surface. It is typical of *ollae* with smooth surfaces and vertical or everted rims (Fig. 4.7). Such *ollae* are not attested beyond the beginning of the tenth century (Ardizzone *et al.* 2014, 211–12). This early chronology, as well as the morphologic comparisons with products from eastern Sicily (which remains in Byzantine hands for a longer period during the tenth century), allows us to suppose a technological continuity with a Byzantine tradition (Ardizzone *et al.* 2014, 215; Pezzini and Sacco 2018, 349–52).

The set of Palermitan kitchenware is also composed of baking pans (Fig. 4.9) and lids (conic with holes and dome-shaped) (Fig. 4.8). The fabric of these vessels is similar to that of the Palermitan amphorae but in many cases is coarser and fired differently (cf. *supra*). From a morphological point of view, baking pans and lids are quite conservative, but at the same time it is worth mentioning the high variability of some details (most of all rims). Both elements make it difficult to formulate hypotheses on their evolution through the ninth to eleventh centuries.

Finally, we must mention the so-called ‘braziers’, whose function has recently been called into question. The use of these braziers to support cooking pots with convex bases has been suggested, instead of the classic interpretation of embers holders (Pezzini and Sacco 2018). In this case, both fabric and surface treatments are often similar to the amphorae ones, and an incised decoration on the internal base surface is present. Furthermore, the examples of the end of the ninth to the first half of the tenth century do not have the vertical handles (Fig. 4.10) which, instead, characterize the later variants (second half of the tenth to the eleventh century) (Fig. 4.11).

## Conclusion

The Islamic conquest of Palermo and the new role played as the capital of Sicily have major consequences, including on pottery production. New techniques, shapes and decorations appeared in the ceramics sets, which are the sign of a change in the population habits. The percentage ratio between local and imported products (Sacco 2017, 2018b) shows that during the Islamic period Palermo was a self-sufficient city. In fact, the arrival of imports, although constant, were very few. Vice versa, the volume of pottery produced in Palermo workshops testifies that, in addition to satisfying the capital’s demand, it also met the island’s needs, at least during the tenth century. The general panorama of pottery production observed during the end of the ninth and the beginning of the tenth century assemblages does not seem to change significantly until the first half of the eleventh century. At the same time, the evolution of a series of morphological details, decorative motifs and the introduction of new amphorae variants have allowed us to establish the chronotypology of the Palermitan products.

Overall, the set of forms, fabrics and decorations make Islamic Palermitan products easily recognizable. In particular, the amphorae characteristics could be considered a sort of brand, which makes Palermo products immediately recognizable outside the city and the island. It will be important in the future to multiply systematic studies on Palermitan assemblages to clarify chrono-typological aspects, and to better understand the reasons and the dynamics that brought changes in Palermitan pottery over time.

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## References

- Aleo Nero, C. 2017. Palermo. Ceramica da contesti urbani di età medievale, circolazione e consumo. Lo scavo nel convento di Sant'Antonino (2013). *Atti del XLVIII Convegno Internazionale della Ceramica, Albisola 2015*: 83–98.
- Aleo Nero, C. 2018. Lucerne medievali a Palermo e nel territorio, nuove scoperte e vecchi dati a confronto. *Atti del XLIX Convegno Internazionale della Ceramica 2016/2017*: 319–36.
- Aleo Nero, C. and Vassallo, S. 2014. La Palermo di età islamica attraverso la documentazione della ceramica invetriata. *Ceramica e Architettura, XLVI Convegno Internazionale della Ceramica*: 313–24.
- Alfano, A. 2019. La ceramica medievale. In P. Pensabene and P. Barresi (eds), *Piazza Armerina, Villa del Casale: scavi e studi nel decennio 2004–2014*. L'Erma di Bretschneider, Roma: 599–628.
- Alfano, A. and Sacco, V. 2018. Ceramica e vetro per illuminazione in Sicilia (VIII-XIII secolo). *Sicilia Archeologica*: 166–81.
- Amara, A.B., Schoerer, M., Salvina, F., Platamone, E. C., Thierrin-Michael, G. and Delerue, S. 2009. Est-il possible de déterminer la provenance de céramiques glaçurées à décor vert et brun (Xe-XIe siècles) mises au jour en Sicile? *Actas del VIII Congreso Internacional de Cerámica Medieval*, Tomo I, Ciudad Real: 207–14.
- Arcifa, L. 1996. Palermo: scarti di fornace dell'ex monastero dei Benedettini Bianchi. Primi dati su alcune produzioni ceramiche palermitane della prima età normanna. *Mélanges de l'École Française de Rome - Moyen Age* 108(2): 451–77.
- Arcifa, L. and Ardizzone, F. 2009. La ceramica dipinta in rosso in Sicilia. In E. De Minicis (ed.), *La ceramica dipinta in rosso. I contesti laziali a confronto con altre realtà italiane. Atti del VI Convegno di Studi* (Segni, 6-7 maggio 2004): 170–86.
- Arcifa, L. and Bagnera, A. 2014. Islamizzazione e cultura materiale a Palermo: una riconsiderazione dei contesti ceramici di Castello-San Pietro. In F. Ardizzone and A. Nef (eds.), *Les dynamiques de l'Islamisation en Méditerranée centrale et en Sicile: nouvelles propositions et découvertes récentes*. École française de Rome and Edipuglia, Roma-Bari: 165–90.
- Arcifa, L. and Bagnera, A. 2018a. Ceramica islamica a Palermo. La formazione di un orizzonte produttivo. *Quaderni Digitali Di Archeologia Postclassica*: 7–60.
- Arcifa, L. and Bagnera, A. 2018b. Palermo in the ninth and early tenth century: Ceramics as archaeological markers of cultural dynamics. In G. Anderson, C. Fenwick, and M. Rosser-Owen (eds), *The Aghlabids and their Neighbours*, Vol. 122. Brill, Leiden-Boston: 382–404.
- Arcifa, L., and Lesnes, E. 1997. Primi dati sulle produzioni ceramiche palermitane dal X al XV secolo. In G. Démians D'Archimbaud (ed.), *La céramique médiévale en Méditerranée, Actes du VIe Congrès de l'AIECM2 (Aix-en-Provence, 13-18 novembre 1995)*: 405–18.
- Ardizzone, F. 1999. Le anfore recuperate sopra le volte del palazzo della Zisa e la produzione di ceramica comune a Palermo tra la fine dell'XI ed il XII secolo. *Mélanges de l'École Française de Rome - Moyen Age* 111(1): 7–50.
- Ardizzone, F. 2012. *Anfore in Sicilia (VIII-XII sec. d.C.)*. Torri del Vento edizioni, Palermo.
- Ardizzone, F., D'Angelo, F., Pezzini, E., and Sacco, V. (2012). Ceramiche di età islamica provenienti da castello della pietra (trapani). In S. Gelichi (ed.), *Atti del IX Congresso Internazionale sulla Ceramica Medievale nel Mediterraneo, Venezia, 23-27 November 2009*: 167–72.
- Ardizzone, F., Pezzini, E. and Sacco, V. 2014. Lo scavo della chiesa di Santa Maria degli Angeli alla Gancia: indicatori archeologici della prima età islamica a Palermo. In: F. Ardizzone and A. Nef (eds.), *Les dynamiques de l'Islamisation en Méditerranée centrale et en Sicile: nouvelles propositions et découvertes récentes*. École française de Rome and Edipuglia, Roma-Bari: 197–223.
- Ardizzone, F., Pezzini, E. and Sacco, V. 2016. The Role of Palermo in the Central Mediterranean: The Evolution of the Harbour and the Circulation of Ceramics (10th–11th centuries). *Journal of Islamic Archaeology* 2(2): 229–57.
- Ardizzone, F., Pezzini, E. and Sacco, V. 2018a. Aghlabid Palermo: Written Sources and Archaeological Evidence. In G.D. Anderson, C. Fenwick, and M. Rosser-Owen (eds), *The Aghlabids and their Neighbors*. Brill, Leiden-Boston: 362–81.
- Ardizzone, F., Pisciotto, F. and Sacco, V. 2018b. I relitti A e B di Marsala: lo studio della ceramica. In: F. Yenişehirlioğlu (ed.), *11th Congress AIECM3 on Medieval and Modern Period Mediterranean Ceramics*: 49–53.
- Bonanno, M. 1979. Tipi e varietà di lucerne arabo-normanne rinvenute a Palermo. *Archeologia Medievale* VI: 353–58.
- Bramoullé, D., Richarté-Manfredi, C., Sacco, V. and Garnier, N. 2017. Le mobilier céramique dans la Méditerranée des Xe-XIIe siècles. *Annales Islamologiques* 51: 191–221.

- Capelli, C., Arcifa, L., Bagnera, A., Cabella, R., Sacco, V., Testolini, V., Waksman, Y. In press. La produzione di ceramica invetriata a Palermo: analisi archeometriche e approccio archeologico. Primi dati per una discussione. *Archeologia Medievale*.
- Capelli, C. and D'Angelo, F. 1997. Analisi archeometriche e problemi riguardanti alcune ceramiche islamiche con rivestimento opaco. *Material Culture in Medieval Europe, Papers of the 'Medieval Europe Brugge 1997' Conference 7*. Instituut voor het Archeologisch Patrimonium, Zellik: 287–92.
- D'Angelo, F. 1972. Recenti ritrovamenti di ceramiche a Palermo. *Faenza* LVIII: 27–35.
- D'Angelo, F. 1976. Ceramica d'uso domestico della Sicilia medievale proveniente dalla Zisa (Palermo XII secolo). *Atti del IX Convegno internazionale della Ceramica, Albisola*: 53–61.
- D'Angelo, F. 2005. Lo scarico di fornaci di ceramiche della fine dell'XI secolo-inizi del XII nel Palazzo Lungarini di Palermo. *Archeologia Medievale* XXXII: 389–400.
- Faccenna, F. 2006. *Il relitto di San Vito lo Capo*. Edipuglia, S. Spirito (BA).
- Ferroni, M.A. and Meucci, C. 1996. I due relitti arabo-normanni di Marsala. *Bollettino Di Archeologia Subacquea* II–III(1–2): 283–349.
- Fiorilla, S. 2009. Sofiana medievale: un abitato siciliano sull'itinerario antonino Catania-Agrigento. Nuove acquisizioni dallo studio dei ritrovamenti ceramici. In G. Volpe and P. Favia (eds.), *V congresso Nazionale di Archeologia Medievale*: 336–40.
- Giarrusso, R. and Mulone, A. 2014. Caratterizzazione mineralogico-petrografica di campioni ceramici provenienti da Castello San Pietro, dalla chiesa della Gancia (Palermo) e da Castello della Pietra (Castelvetrano). In Ardizzone, F. and Nef, A. (eds), *Les dynamiques de l'Islamisation en Méditerranée centrale et en Sicile: nouvelles propositions et découvertes récentes*. École française de Rome and Edipuglia, Roma-Bari: 191–95.
- Goldberg, J.L. 2012. *Trade and institutions in the medieval mediterranean: The Geniza merchants and their business*. Cambridge University Press, Cambridge, New York. doi:10.1017/CBO9780511794209
- Gragueb Chatti, S., Sacco, V. and Touihri, C. 2019. Le mobilier céramique en Ifriqiya et en Sicile de la fin du IXe jusqu'au XIe siècle: essai de comparaison. In M.R. Hamrouni and A. El Bahi (eds), *Villes et archéologie urbaine au Maghreb et en Méditerranée*. Actes du septième colloque international (Monastir 10, 11 et 12 avril 2018): 281–310.
- Messina, M., Arcifa, L., Barone, G., Finocchiaro, C. and Mazzoleni, P. 2018. Islamic pottery production in eastern Sicily (10th–11th centuries): Preliminary archaeometric data on local and imported products from paternò (Sicily). *Mediterranean Archaeology and Archaeometry* 18(5): 207–23.
- Molinari, A. 2010. La ceramica siciliana di età islamica tra interpretazione etnica e socio-economica. In: Pensabene, P. (ed.), *Piazza Armerina. Villa del casale e la Sicilia tra tardoantico e medioevo*. L'Erma di Bretschneider, Roma: 197–228.
- Molinari, A. and Valente, I. 1995. La ceramica medievale proveniente dall'area di casale nuovo (Mazara del vallo) (seconda metà X/XI secolo). In R. El Hraiki and E. Erbatì (eds.), *Actes du 5e`me colloque sur la céramique Médiévale (Rabat 11-17 novembre 1991)*: 416–20.
- Nef, A. In press. Croissance urbaine et modalités d'habitat dans la Palerme islamique: retour sur les acteurs et les facteurs. In L. Arcifa and M.R. Sgarlata (eds.), *From Polis to Madina*.
- Nef, A. and Ardizzone, F. 2014. *Les dynamiques de l'Islamisation en Méditerranée centrale et en Sicile: nouvelles propositions et découvertes récentes*. École française de Rome and Edipuglia, Roma-Bari.
- Orecchioni, P. and Capelli, C. 2018. Considerazioni di sintesi sulle analisi petrografiche di alcuni contenitori anforici di VIII–XII secolo. *Archeologia Medievale* 45: 251–68.
- Pezzini, E. 1998. Un tratto della cinta muraria della città di Palermo. *Mélanges de l'École Française de Rome - Moyen Age* 110(2): 719–71.
- Pezzini, E. and Sacco, V. 2018. Le produzioni da fuoco a Palermo (IX–XI secolo). In F. Yenişehirlioğlu (ed.), *11th Congress AIECM3 on Medieval and Modern Period Mediterranean Ceramics*: 347–56.
- Pezzini, E., Sacco, V. and Spatafora, F. 2018. Palermo, al-Khāliṣa e ḥārat al-ḡadīda: nuovi dati dal confronto tra fonti scritte e dato ceramologico. In F. Sogliani, B. Gargiulo, E. Annunziata, and V. Vitale (eds), *VIII Congresso Nazionale di Archeologia Medievale*: 268–73.
- Picard, C. 2015. *La mer des califes. Une histoire de la Méditerranée musulmane*. Editions du Seuil, Paris.
- Pisciotta, F. and Garnier, N. 2018. Nuovi dati sulle anfore di XI secolo del relitto 'A' di Lido Signorino alla luce delle ultime revisioni cronotipologiche delle anfore medievali. *Quaderni Di Archeologia Postclassica* 10: 169–86.
- Ragona, A. 1966. La ceramica della Sicilia arabo-normanna. *Rassegna Dell'istruzione Artistica* 2: 11–26.
- Raimondo, C. 2002. Nuovi dati sulle produzioni ceramiche nella Calabria altomedievale: Il caso del castrum bizantino di Santa Maria del Mare. *Archeologia Medievale* 29: 511–41.
- Russo Perez, G. 1932. Il periodo delle origini della ceramica siciliana. *Faenza* 3–4: 84–103.



- Sacco, V. 2016. *Une fenêtre sur Palerme entre le IXe et la première moitié du XIIe siècle*. Étude du matériel céramique provenant de deux fouilles archéologiques menées dans le quartier de la Kalsa, Université Paris-Sorbonne and Università de Messina.
- Sacco, V. 2017. Le ceramiche invetriate di età islamica a Palermo: nuovi dati dalle sequenze del quartiere della Kalsa 1. *Archeologia Medievale* XLIV: 337–66.
- Sacco, V. 2018a. Ceramica con decorazione a splash da Palermo (fine X – prima metà XI secolo). In F. Yenişehirlioglu (ed.), *11th Congress AIECM3 on Medieval and Modern Period Mediterranean Ceramics*: 433–37.
- Sacco, V. 2018b. Produzione e circolazione delle anfore palermitane tra la fine del IX e il XII secolo. *Archeologia Medievale* XLV: 175–91.
- Sacco, V. 2019. I reperti di età islamica restituiti dalle acque di Mondello (Palermo). *Notiziario Archeologico Della Soprintendenza Di Palermo* 49: 1–12.
- Sacco, V., Testolini, V., Civantos, J.M. and Day, P.M. In press. Islamic ceramics and rural economy in the Trapani Mountains during the 11th century. *Journal of Islamic Archaeology*.
- Spatafora, F., Canzonieri, E., and Di Leonardo, L. (2014). Ceramica da mensa nella Palermo di XI secolo: dalla fornace al butto. In M. Milanese, V. Caminneci, M.C. Parello and M.S. Rizzo (eds.), *Dal butto alla storia. Indagini archeologiche tra Medioevo e Postmedioevo, Atti del Convegno di studi* (Sciaccia-Burgio-Ribera 28-29 marzo 2011). *Archeologia Postmedievale* 16 (2012): 23–34.
- Testolini, V. 2018. *Ceramic Technology and Cultural Change in Sicily from the 6th to the 11th centuries AD*. Retrieved from <http://etheses.whiterose.ac.uk/23470/>