

# Lustreware production in Renaissance Italy and influences from the Mediterranean area<sup>1</sup>

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## Summary

This paper will analyse the major production centres of lustre-ware in Renaissance Italy. Focus will be on central Italy (Deruta and Cafaggiolo), considering both the development of the production technique and whether it can be proved that potters moved from one productive centre to the other carrying with them the knowledge needed for *terzo fuoco*. The attempts made in Montelupo and Faenza will be analysed as well. Primary sources, such as *Li Tre Libri dell'Arte del Vasaio* by Piccolpasso, describe in detail all the processes of lustre-ware making; these 'recipes' are known from other potters' books written in the same period. What is not said, however, is how Renaissance potters came

to understand the technique of applying metallic oxides to tin-glazed artefacts in order to obtain golden or silver reflexes. The contacts with Moresque Spain have been constant in the previous centuries and it might be possible that somehow Italian potters learned this technique from Spanish potters. While Italo-Moresque maiolica is the result of imitated models, lustre-ware production requires technological knowledge that could not have been acquired by chance.

The influence of models circulating within the Mediterranean area will be considered as well, trying to understand how, together with their products, people circulated as well.

Firstly, the meaning of the word *majolica* in contemporary record will be discussed, in order to have a better understanding of what written sources meant when this term is used and if there is any difference in use according to distance in time or space. Then, the economic background of the 15–16th centuries will be analysed, trying to reconstruct the accessibility of these products on the market in connection with their costs. In doing so, the trading within the Mediterranean area and potters' status, will both be considered.

The production centres will then be presented one by one, distinguishing those which can be regarded as major ones (i.e. Deruta and Cafaggiolo) from the ones where only attempts were carried out, but where the production did not last (i.e. Faenza and Montelupo). In some cases a local production has not yet been identified for sure, because either written sources or in archaeological records are lacking; nevertheless a few historically relevant sites will be taken into account (i.e. Southern Tuscany). Focus will be on Central Italy; when presenting the production centres taken into account – whatever their nature – the development of the production technique will be analysed, discussing if it can be proved that potters moved from one kiln to the next, carrying with them the knowledge needed for *terzo fuoco*<sup>2</sup> (Fig. 1). Primary sources and archaeological records will both be considered. Concerning the first ones, written sources such as potters' recipes books (Piccolpasso ed. 1976, Marmi ed. 2003) will be considered together with archives documents, but it is worth mentioning that, even though collection of recipes have proved to be right concerning ingredients and their proportions, they were written decades after



**Figure 1**  
Lustreware production centres in Northern and Central Europe.

they were successfully used for first time in Italian manufactures<sup>3</sup>.

## What 'majolica' means

Before discussing in details the sites of lustreware production in Italy it is worth mentioning that while tin glazed pottery such as Italo-Moresque maiolica is

the result of imitated models, lustreware production requires technical knowledge that neither could have been acquired by chance, nor by the meaning of imitating imported artefacts (Watson 1985, 24)<sup>4</sup>. It has been pointed out that technical evolution is a long-term process and should be learned by the mean of direct transfer of skills (Mannoni 1975, 184). While decorative patterns can be imitated a technique should be learned; in fact, 'direct acquaintance' (i.e. without direct transfer of skills) is rare and requires extremely long time (Mannoni 1987, 560; *Idem* 1995, 12; *Idem* 1999, 10). Because of that it is important to understand how and when Italian potters came into contact with imported lustreware production and how these objects were named in contemporary sources.

Even if the technique originated in the Middle-East<sup>5</sup> According to Mannoni, technical evolution is a long-term process (Mannoni 1975, 184) and it is learned by the mean of direct transfer of skills. In fact, decorative patterns can be imitated, whereas the technique should be learned; 'direct acquaintance' (i.e. without direct transfer of skills) is rare and requires extremely long time (Mannoni 1987, 560; *Idem*, 1995, 12; *Idem*, 1999, 10) and archaeological records indicate the presence of some early imports from Egypt<sup>6</sup>, the majority of lustred objects which reached Western Europe were manufactured in Spain (Fig. 2). Spanish lustreware travelled all around the Mediterranean area (Berardi 1984, 85)<sup>7</sup> and was imported to Pisa<sup>8</sup> and Genoa<sup>9</sup>, too. Several Islamic sources refers to productive centres in the Kingdom of Granada as already famous by the beginning of the 14th century. One of the first mention of Málaga in this respect is in the description of the Reign of Granada by the vizier Aben Al-jatib (1313–1374), who states that Malagan lustred pottery was requested everywhere (De Osma 1096, 33); in the mid of the same

century the Moroccan traveller Aben Batuta went to Málaga and described the town not only as famous for his 'golden' vessels, but for the fact that the artefacts were traded to distant countries as well (Gabrieli 1988, Charles-Dominique 2001, De Osma 1906, 34)<sup>10</sup>.

It has commonly been assumed that, as a consequence of the *reconquista* (1212–1609),<sup>11</sup> the technical skill was transmitted to potters working in the Valencian area only in the late 14th century,<sup>12</sup> but more recent research carried out in the Archivos de Protocolos de Valencia, has shown – and the archaeological records confirm so – not only that lustreware was manufactured in Paterna and Manises since the beginning of the century, but also the existence of some commercial agreements between artisans and merchants from the two centres and merchants from Valencia or elsewhere. (Lopez Elum 1986; Blake *et alii* 1992, 215–16). Spanish documents of the early 14th century refer to some artefacts made in Manises as *obra de malequa* or *melica* or also *de Malyk*<sup>13</sup>, and keep in doing so even later on, at a time when Valencian manufactures had already turned into one of the most important production zones (Fig. 1–2). Valencian documents from the 1320s states: *operas terre pictae consimilis operi Maleche* or *operis terre pictae Manizes consimilis operi Maleche*<sup>14</sup> (Lopez Elum 1986, 166). The key document explaining the relationship between the pottery made in 'the way of Málaga' and lustreware is a notary one dating 1332, showing that the town was regarded as the place with an older tradition in making lustred vessels.

So far Spanish documents, but if we turn to analyse the Italian ones from the 14–15th centuries, we realize that the way Italian merchants wrote *obra de malequa* in, suggests that they were meaning the island of Majorca, named *Maiolicha* in 15th century Italian (Wilson 1996, 36, 35–43). It has been pointed out that 'confusion' might have arisen by the assumption that the technique was 'invented' in Majorca, being the Balearic Island one of the most important shipping place in the Mediterranean. Despite this misunderstanding, it has been proved since the beginning of the last century (Van de Put 1904, 39–48) that, the term *majolica*, whatever was the place it referred to, was employed in Italy to indicate lustred ceramic. If in documents up to the 15th century (Spallanzani 1978), the word *majolica* or *maiolica*<sup>15</sup> indicated lustred artefacts imported from Spain; a change occurred from the late 1500 onwards, when it started to mean all tin-glazed pottery.<sup>16</sup> The first evidence dates 1480s: at that time the word *maiolica* – already used to indicate the Spanish production – started to refer to tin-glazed pottery made in Tuscany as well (Spallanzani 1986, 164; Wilson 1987b; *Idem* 1996). Despite that, in 1552 Cipriano Piccolpasso, when giving account of how lustre was made, still referred to the technique as *maiolica* (Piccolpasso ed. 1976, §165, 156–7; §166, 158; §167, 159; §173, 164).

It is worth noting that in inventories, being pottery nor a luxury product, nor considered as a major traded



**Figure 2**  
Lustreware production centres in Spain and trading points.

item, it is mentioned among imported goods only when expensive objects were presents, this means mainly when *maiolica* was listed. Lustred pottery had high costs compared to ordinary products, which were regarded as objects for everyday use; generally talking, pottery was not thought to be as a 'piece of art', nevertheless some objects could be used as display ones (Wilson 1996, 35).

## Lustreware production costs and economic background

Lastly, the economic background of the 15–16th centuries should be analysed from a general point of view as well as referring to costs for lustre production. Merchants usually kept imported goods in their houses and among those there was ceramic as well (Goldthwaite 1993, 386). As shown by some inventories and pointed out by Wilson, it seems like imported lustreware was regarded as more valuable than the Italian products (Wilson 1996, 37). Being more expensive does not imply inaccessibility as a consequence; the significant quantities of Spanish *maiolica* found in archaeological excavations all around Tuscany (Franco-vich and Gelichi 1984) and the further evidence recently come to light in Florence<sup>17</sup> show that it was widespread. For the amount of approximately 1/5–1/4 of an average day salary it was possible to buy a bowl or a dish of Hispano-Moresque pottery (Spallanzani 2001, 372).

Taking Florence as an example, these imports came to a maximum during the second half of the 15th century, coming to a decline in the beginning of the following one. Spallanzani stresses that if on the one hand, pottery trade was not the major one if compared to the overall of the exchanges within the Mediterranean area (Ashtor 1975; Cavaciocchi 1997), on the other hand, the importance of these goods was extraordinary, because they were firstly studied, and then imitated by local workshops (Cavaciocchi 1997, 376).

Spanish *maiolica* was more expensive than ordinary products, but still accessible. What, however, can be said about the local lustre production? According to documents, lustred maiolica could cost from six up to ten times the price of the ordinary one (Biganti 1987, 218). Wilson rises a debate on this topic, suggesting that twice the price can be considered a more 'reasonably' standard, assuming that it is not likely that such a great difference could exist between well painted *istoriato* and lustreware items, which were not actually so much 'refined'. This consideration should be taken into account, but a possible explanation of the high cost of lustre – if we assume that the proportion of six times the price of tin-glazed objects for everyday use is correct – might be linked to the high percentage of kiln waste. The study of the archaeological records at Cafaggiolo shows that lustre represented the 10% of the whole dump of the kiln waste. If the account by Piccalpasso is to be trusted, then less than 6% of the pottery which

entered the kiln for the third time could reach the market as a 'first choice' product.<sup>18</sup>

This data might be a bit excessive, but if we consider the case of Cafaggiolo, only an extremely limited amount of items which might had been made by the Medicean kiln has been found in central Florence as far as now (Plate 8). Only little evidence is available from rescue excavations, but the layers investigated date to the late 16th–17th centuries rather than to the beginning of the Renaissance (Marini 1998). According to that, it might be suggested that lustred dishes were not so well painted because of the low number of them which could 'survive' the third firing.

## Archaeological evidence and written documents

### a critical perspective on production centres

Knowing what *maiolica* meant in document dating to the late Middle Ages and early modern time, allowed us to reach a better understanding of contemporary written sources, which will now be discussed and compared with the evidence deriving from archaeological records. In doing so new data will be presented together with previous studies; giving an account on the latter does not represent an homage to 'tradition', but it is useful to draw a picture of the research's status on different production centres. The production centres identified as far as now will be presented dividing them into three groups: those where lustreware can be considered as a relevant part of the total amount of manufactured objects and can be regarded as 'major ones'; then the kilns for which there are only evidence of trials will be presented. Lastly, the sites which as far as now have not given enough evidence to be able to state for sure if it is possible to talk either about a local production or about imported goods. Focus will be on reconstructing the connections which had existed between different manufacturing areas (Biganti 1987, 209–225; Wilson 1996, 35–43), trying to explain how the technical skills needed for *terzo fuoco* were passed on, and if the interpretation of archaeological records and written sources can give the same results or not.

### Major production centres

#### Deruta–Gubbio–Perugia

As far as now only a few sites can be regarded as major manufacturing area for lustreware in Renaissance Italy. Deruta is probably the most famous, but even if very important – was not the only one; the connection with other kilns, such as those operating in Gubbio and Perugia will be discussed as well. As Cipriano Piccolpasso wrote on the production in Gubbio, and Bartolomeo Marmi's family hold a kiln in Montelupo for at least four generations, their works will be compared in order to understand which were the links – if there is any –

between production centres in Umbria and Montelupo. As far as now studies have focused mainly on the workshop of a famous potter: Maestro Giorgio Andreoli, but only recently a complete study on the documents from the National Archives in Deruta, Gubbio and Perugia has been carried out (Biganti 2002). The links between the three town has been highlighted proving where lustreware started to be successfully manufactured.

The first document concerning Deruta dates to the last decades of the 15th century: statements of tax paying prove that there was a family of potter (the Masci) living in town since 1489. They were one of the most prominent families of Deruta, having three workshops, one kiln and other properties for wood and clay storage in the town centre (Biganti 1987, 214). The first documents clearly referring to the production of *maiolica* in Deruta dates a few years later (1496) and refers to them.<sup>19</sup> The first written evidence regarding Gubbio dates to 1495 and 1501.<sup>20</sup> It has been suggested that not only that Giorgio, but another potter (Salimbene) could have worked in manufacture lustreware with a technique known in Gubbio since 1480. Nevertheless, scholars agree in saying that lustre was first made in Deruta (1489), then in Gubbio (1495) (Fiocco and Gherardi 1998, 61); but, as it will be discussed below, the earliest evidence for lustre-making in Deruta might date back to 1465 (Busti and Cocchi 1999, 34–35). Perugia became famous for its artefacts only in the very in the last years of the 15th century, after some members of the Masci family moved there from Deruta: they split in three different branches in 1498 and all of them asked to move in Perugia. In order to gain the new citizenship, they had to prove to be able to handle a work; luckily the documents in which the highlight how good they were in maiolica making survived (Biganti 1987).

So far archive sources have shown that potters moved around probably more frequently than what commonly might have assumed, but it is important to mention that despite it has been suggested that Maestro Giorgio was learned in the *terzo fuoco* technique before coming to Gubbio, having already worked on lustre in Northern Italy (Matteri and Cecchetti 1995, 47) there are no evidence to confirm this hypothesis. What is known is that the workshop of Giacomo di Paoluccio, with whom the potter and his brother started a society for *maiolica*, was a place where several apprentices learned the art of glazing pottery (Biganti 2002, 13, 23, 24 note 21). As there is no evidence to prove continuous contacts of artisans from Deruta and Gubbio, it has been argued that the potters proceeded independently (Biganti 1987, 219), but as discussed above lustreware making required an expertise that could not be acquired by chance. Nevertheless, some connections can be proved: three potters from Deruta stayed in Gubbio in 1524 because of the pillages going on in Perugia and its surroundings (Biganti 1987, 119). Moreover, Maestro Giorgio attracted to his workshop artisans not only from

Deruta, but also from the nearby Casteldurante and Urbino (Biganti 1987, 120; Biganti 2002).

Archaeological evidence could help clarifying the relationship existing between the two centre, but unfortunately a systematic research is still lacking both in Deruta and Gubbio, but the production of the first centre is better known thanks to a vast number of casual finds occurred during rescue excavation, whereas almost any has been collected in Gubbio so far. Because of that, even if the lack of archaeological research has been lamented (Busti and Cocchi 1987, 14–20), published works involve mainly dated and marked pieces, artefacts carrying arms, or *istoriato* ones. Some of these objects can be regarded either as pieces of art, or as 'unique'. Even though they are masterpieces for studying decorative patterns, not knowing for sure where they do come from and nor being able to date them by the means of stratification make this artefacts less important in an archaeological perspective. Nevertheless it can be said that nearly all the objects known as far as now as manufactured in these sites are open forms, the majority of which are dishes. The base is usually concave and the body rounded with a turned brim; the vessels is usually very thin. The decorative patterns are those famous as 'Deruta style', consisting in geometric and vegetal decoration sometimes combined with a central figure representing an animal or a human figure.

#### Cafaggiolo

Turning to analyse the kiln at the Medicean villa in Cafaggiolo, it is worth mentioning that the key documents have been already published (Guasti 1902, Cora 1973, Cora-Fanfani 1992) and it is well known that the potters Stefano and Piero di Dimitri Schiavon moved from Montelupo to Cafaggiolo in 1498, the same year in which the Masci moved from Deruta to Perugia. The problems concerning the first activities of the workshop in Cafaggiolo have been recently discussed, pointing out that before their arrival another artisan, Nanni di Tura, was already working in the Medici's Villa (Vannini and Carascio 2004). Despite Nanni's presence in Cafaggiolo is known from fiscal sources since 1485, archaeological evidence show that it is more likely that he was manufacturing bricks and probably earthenware rather than maiolica (Carascio 2005, Carascio 2003). The study of the pottery that came into light from the excavation is still in progress, but some preliminary results will be discussed below. If for Deruta and Gubbio most of the finds analysed come either from rescue excavations or from private donations, at Cafaggiolo a systematic excavation was carried out, but the deposit was a secondary one. The state of archaeological research on Renaissance sites in Italy makes it difficult to make comparisons with other stratified assemblages, it is still necessary to take into account pieces dated or carrying coats-of-arms. Lustreware pottery marked as made by the workshop



**Plate 1**  
Lustreware trials in Cafaggiolo: trial of red lustre on a bowl.



**Plate 2**  
Lustreware trials in Cafaggiolo: trial of yellow lustre on a bowl.



**Plate 3**  
Cafaggiolo: *alla porcellana* decoration and reddish lustre.



**Plate 4**  
Cafaggiolo: lustreware dish in 'Deruta style'.

in Cafaggiolo was already known from pieces displayed in some of the most important European collections (Poole 1995; Wilson 1987a; Norman 1976; Giacomotti 1974; Rackham 1940).

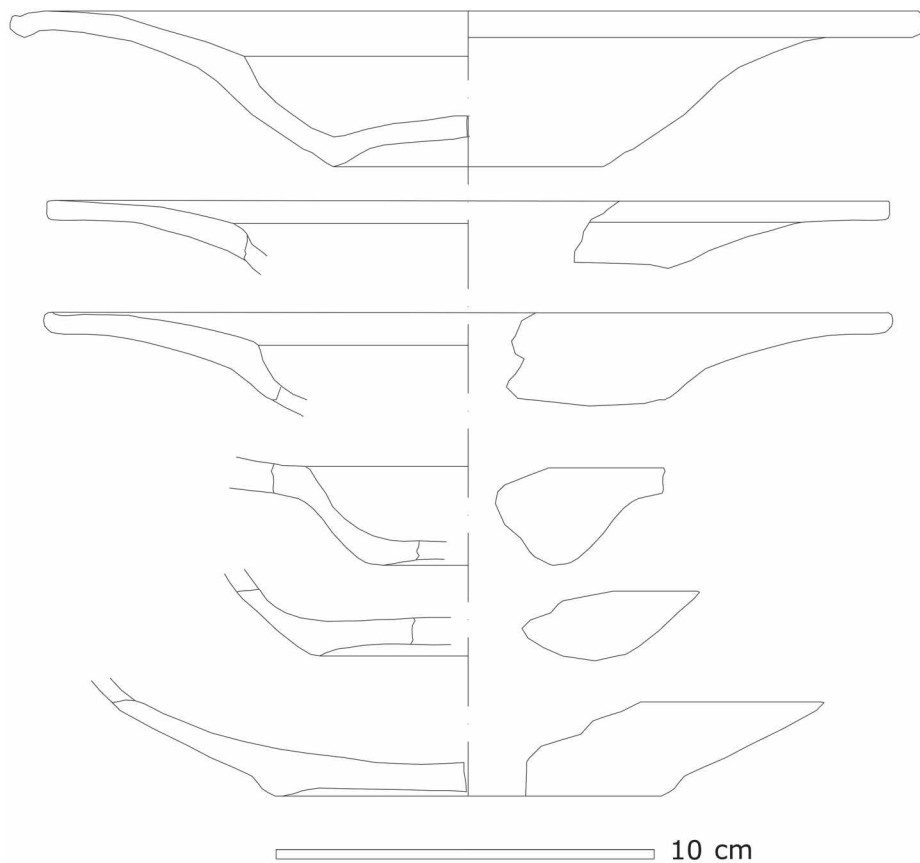
Nevertheless, the new data confirm what known from archives sources and encouraged new analytical studies of Renaissance tin-glazed pottery. It is noteworthy that no remains of the kiln were found, but only dumps of the kiln waste.<sup>21</sup> Even though the deposit was not a primary one, it had been possible, on the base of stratification, to prove that the dumps were made not at once but at several times. Moreover, focusing on forms rather than on decorative patterns, it was possible to draw some hypotheses on the production phases as well (Vannini and Caroscio 2004). The activity of the Medicen kiln can be divided in three phases, the first one starting with the potters' arrival from Montelupo in 1498 and lasting to the firsts decades of the following century. The second phase refers to the central decades of the 16th century, while the last one end up at the end of the 1580s. By the means of associating forms with decorative patterns, it is possible to state that lustre was produced during the first two phases. In the first one attempts were made mainly on small bowl in white-glazed or with Italo-Moresque decorations (Plates 1–2).

At the same time some dishes show the association of yellow and reddish lustre with the decoration *alla porcellana* (Plate 3). The mature production (1520s–1560s) shows the influence of Deruta workshops: not only the decorative patterns are in the 'Deruta style', but the forms are the same ones (Fig. 3, Plate 4).

In Cafaggiolo the dumps showing signs of metal reflexes or decorations properly made represent the 10% of the whole deposit, and finished pieces – some of which marked – are known from several collections. As it will be discussed when talking about Montelupo, even if Stefano and Piero used to work there before moving to Cafaggiolo and were listed among the 23 potters who signed a contract with Francesco Antinori – known as Antinori trust— by the mean of which they promised to sell him their whole production between 1490 and 1493<sup>22</sup> both the archaeological evidence and the written sources show that in Montelupo some attempts for lustre-making were done, but there was not a lasting production.

#### **Trials without a lasting production**

After presenting the centres where lustreware was successfully manufactured for several or a few decades,



**Figure 3**

The mature production in Cafaggiolo (1520s–1560s) and the influence of the Deruta workshop on lustreware.

sites were archaeological evidence show the presence of some attempts without a lasting production will now be presented.

### Montelupo

Concerning Montelupo, the recent edition of Marmi handbook shows that recipes for lustre making were known in the pottery town. Despite in a pre-industrial society treaties were not written by artisans, but by intellectual interested in the production process (Mannoni 1987, 560), the one by Dionigi di Francesco Marmi was composed by the potter himself between 1636 and 1674, including more ancient recipes, amongst which there were the ones for lustreware making (Marmi ed 2003, 15).

Considering the amount of artefact produced there, and the number of kilns, Montelupo can be regarded as an 'industrial area' linked to Florence. As already pointed out, the potters working in Cafaggiolo had previously held a workshop in Montelupo, but while the dumps at the Medicean Villa showed a relevant production, in Montelupo only a few fragments were found. The majority of the sherds are unfinished objects that can be interpreted as trials not linked to a lasting production. It is noteworthy that this difference

is not the only one existing between the two production centres. Several explanations have been given, but the most likely seems to be the most convincingly one refers the economic background of the second half of the 16th century (Bojani 1992, 32, 34). In this period, because of the general crisis, the difference in status between the lower and the upper classes became more remarkable; as a consequence, the market started to privilege whether low or high quality products. As a successful production required not only technical expertise, but also the economic circumstances to make a profit out of it, it is understandable why different centres specialized in different ways (Wilson 1996, 38).

Nevertheless, it might be possible that Stefano and Piero experienced the technique of *terzo fuoco* before moving to Cafaggiolo, but the objects do not show any similarity neither in the decorative pattern, nor in shape. It would be very important to come to a closer datation of the artefacts fired in Montelupo in order to understand if they were made in the late 15th century, before the kiln in Cafaggiolo was active, or if the 'experiments' took place in both sites at the same time. The case of Montelupo, probably being the most important Italian manufacturing area for exported maiolica during the 15–16th, and considering that the artefacts shipped in Pisa reached not only to the whole



Mediterranean area, but also Northern Europe, suggest a further question still to be answered: is it possible that some Spanish potters might have come to work there?<sup>23</sup> Unfortunately, no historic sources related to the local area refers to this fact and so far links between Spanish and Italian potters can be proved only for Sicily and Naples, mainly after 1442, when the connections of Naples with the kingdoms of Spain became more frequent because of dynastic matters (Ravanelli Guidotti 1992, 12).

Even if the production of *maiolica* was not successful in Montelupo, a considerable amount of open forms – mainly dishes – showing decorative patterns painted in yellow and imitating those commonly employed on lustreware, demonstrate that three times fired maiolica, even if not produced, was widely imitated in Montelupo (Plates 5–6). Moreover, the decorations usually associated with this group of artefacts, tend to reproduce the shapes and characteristic of metal vessels, which they try to resemble. The base is usually flat and thick, like the rest of the body is, and the diameter of the rim is usually between 25 and 30 cm wide; these features suggest that this group of dishes might have been used for displaying food at the centre of the table rather than for personal use.

The economic background should be regarded as one of the possible causes for the lack of lustre-making in this site; but at the same time, according to the archaeological evidence, potters do not seem to be experts in applying metal oxides on glaze in order to obtain golden, silver or red reflexes. In addition it can be suggested that, as lustreware was regarded as a luxury class of objects, it might have not been widely produced in Montelupo, whose workshops were more interested in being linked to a broader market and had to face the exports abroad. Despite that, it cannot be assumed that in Montelupo the production was less accurate, while in Cafaggiolo masterpieces only were fired. The archaeological evidence has proved that artefacts of different qualities coexisted in the same centre in order to sell well products on a market that, even if facing a crisis, was quite flexible and could satisfy different requests. This last point might seem in contrast to the evidence of the recipes collected in Marmi's handbook; in fact, it is not. The code was written between 1636 and 1674, one century after the period we are dealing with; moreover, not all of them should be regarded as known in the workshop in the beginning of the 16th century (Marmi ed. 2003).

### Faenza

Talking about lustre trials and imitation of lustreware, the case of Faenza should be analysed as well. No systematic archaeological research has been undertaken in the central area of the town; despite that, some fragments of three times fired maiolica have been found. Some of them are finished products, others are trials made on waste maiolica. Moreover, there are some



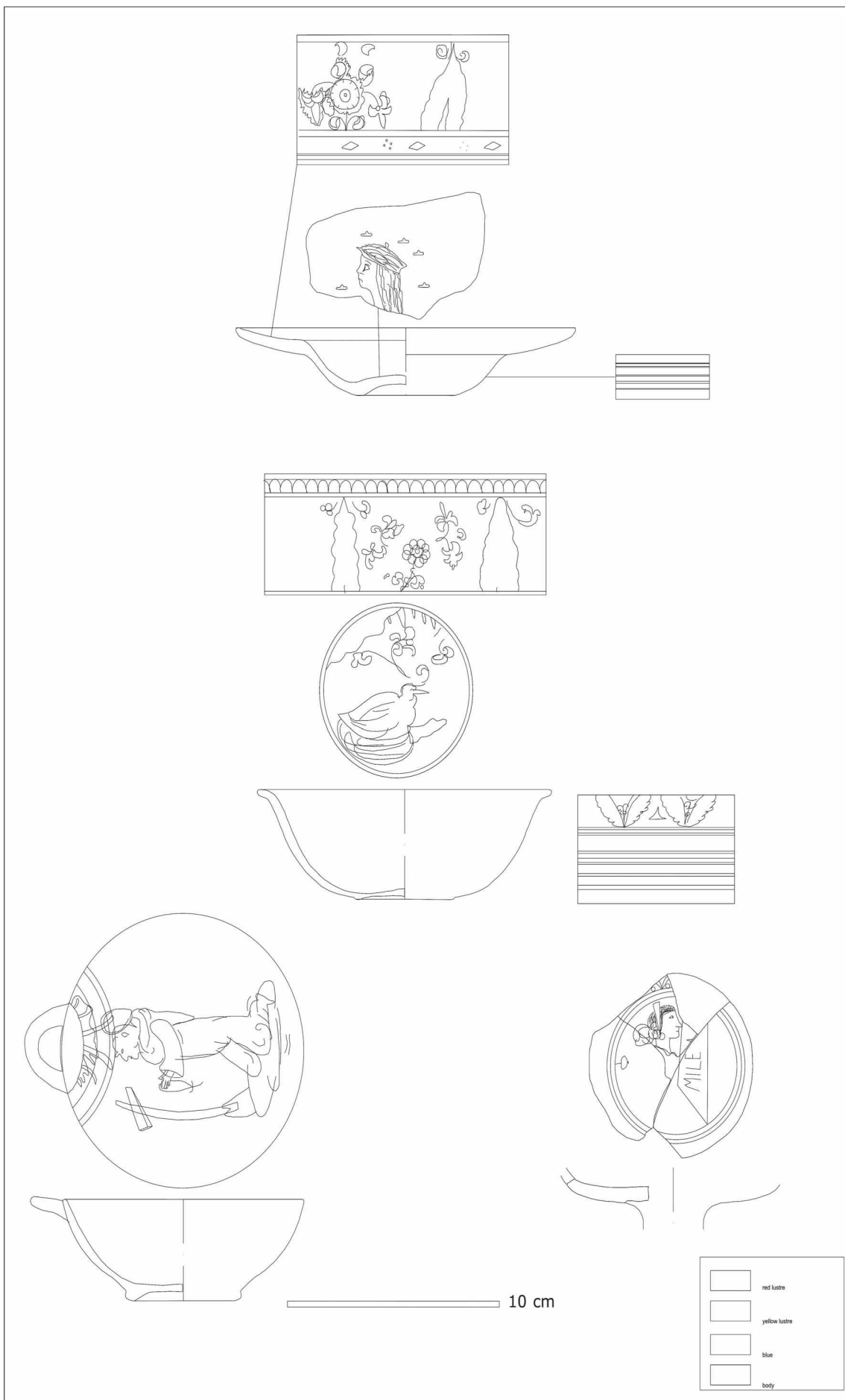
**Plate 5**  
Montelupo: decoration imitating lustre.



**Plate 6**  
Montelupo: decoration imitating lustre.

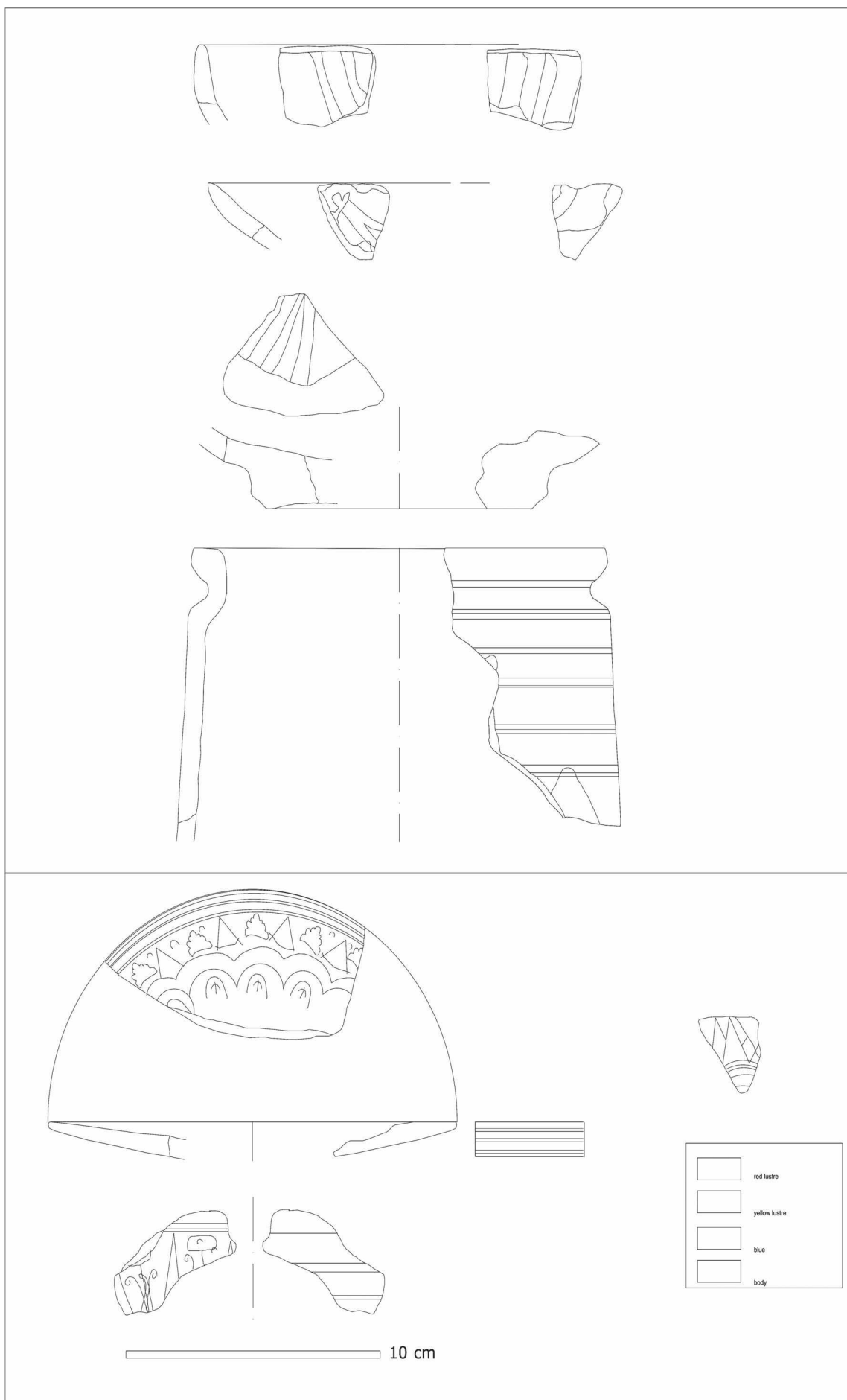
imitations of metal reflexes painted in light and deep yellow (Fig. 4–5). The lustre trials as well as the finished products show a clear resemblance with those made in Cafaggiolo (Fig 5.1, Plate 1) and of course with those manufactured in Deruta, as the first ones are in the 'Deruta style'. There are shallow bowls with traces of lustre, dishes decorated *alla porcellana* with lustred elements and one with a woman's profile in the centre, which show trials for third firing. Not only are there any significant similarities with the decorative patterns of fragments found during the excavation at Cafaggiolo, but the forms are similar as well, despite these common features the difference between the two sites is relevant: in Faenza the production seems to have died out quite quickly.

Some trials have been found on some sherds of relief-blue maiolica as well, dating to the late 14th century (Ravanelli Guidotti, 1991a, 1995). This



**Figure 4**  
Faenza: lustreware.





**Figure 5**  
Faenza: lustre trials and lustreware decorated in 'Deruta style'.

evidence requires further study as it could result into two rather different interpretations. It could prove that attempts of lustre-making were already done at this early stage and if this is the case they were probably due to a different group of potters than those working in the 16th century, but it could be possible that this attempts were made later on using artefacts regarded as 'old' and not fashionable any longer. The last hypothesis explain as well the chronological gap existing between the two attempts, but it could be explained as well as two different episodes not linked together but not able to result into a lasting production.

### Local manufacture or imports?

The archaeological records came to light during the excavations in some sites has shown the presence of product traded from Italian manufacturing centres, but as far as now there are no evidence to assume that there is a local production or even if there are some signs for it further research is still needed.

#### Florence and its economic background

The study of potters' activity in Florence is focused mainly on the 14th–15th centuries (Cora 1973), but documents have been published as well concerning the 16th century (Cora-Fanfani 1986b). Fiscal sources are lacking for the beginning of the 16th century and the study of potters' activities in Renaissance Florence is still in progress, but up to now there is no evidence for lustre making, moreover tin glazed production was overtaking by the manufactures in the nearby Montelupo,<sup>24</sup> concerning which the relevant documents have been published up to the 18th century.<sup>25</sup> The recent excavations carried out in central Florence has shown the presence of a fragment of lustreware; the dimensions of the sherds make it difficult its attribution but the decorative patterns seems to be in the 'Deruta style', a preliminary analysis of the body, made with a binocular microscope has shown characteristic similar to the fabric used in Cafaggiolo.

As far as now the archaeological assemblages has not shown any sign lustre-ware waster or that a manufacturing activity of these objects has been carried out in town.

#### Siena

Referring to Siena, the latest archaeological records are so far the most interesting point to be considered, but specific studies concerning lustre production are lacking. Douglas', Guasti's and other scholars' quotation of the *Historiarum Senensium* by Sigismundo Tizio should be regarded as the best known evidence in this field (Douglas 1930, 451–52; Guasti 1902, 324; Van de Put 1904, 43–4). Even though the story of Galgano's journey to Spain can be considered somewhat 'novelized', it should be regarded as a genuine proof that in

the beginning of the 16th century it was not impossible for Italian potters to travel to Spain in order to gain technical skills.<sup>26</sup> The document, published for the first time by Douglas, contain the *supplica* addressed by Fedele to the *Signoria* for obtaining the permission of being the single potter allowed for a length of three years time to *dorare et argentare a fuoco* raised some debate. Even though Liverani stresses the difference between lustre and metal reflexes,<sup>27</sup> I believe that it cannot be assumed for sure that this document is not referring to lustre-making (Liverani 1940, 92). Douglas might have misinterpreted it and this statement might refer to glazed pottery with metal reflexes rather than to lusterware (Berardi 1984, 219–220).

The archaeological record has shown the existence of lusted artefacts that might have been produced by a local kiln, as the fabric seems to resemble those of the local artefacts dating to the same period. Yet, I think that further investigation is needed, as the most reliable evidence for lustreware production in Siena continue to be the account by Sigismundo Tizio in his *Historiae Senenses*. In this perspective it would be interesting to reconsider the attribution of artefacts to different production sites, as some of those which up to now were thought to be made in Deruta might have been locally manufactured or imported from other centres.

#### Grosseto

Turning to analyse southern Tuscany, the archaeological records of the Medicean fortress in Grosseto, together with the recent excavations carried out in town, will be taken into account. The rescue excavations carried out in Grosseto during the last decade show some evidence of finished lusted pottery which was probably made in Deruta (Plate 7).<sup>28</sup> The links existing between Siena and the pottery market in southern Tuscany have already been discussed (Francovich 1982), but lustre-ware artefacts can throw new light on this topic, reconsidering both goods exchange within Tuscany and connections with nearby Regions such as Umbria. The importance of revisiting attributions made on the mere basis of stylistic considerations, has already been stressed (Ravanelli Guidotti and Gherardi 1983, 90–92); it would be of great importance reconsidering it on the base of the latest archaeological evidence.

#### Pesaro and other centres

So far some sites have not been taken into account as there are no archaeological evidence. Nevertheless, Pesaro is worth mentioning as it has been suggested that lustre-ware might have been produced in there as well (Bettini 1992). According to the scholar, the ban dating 1st April 1486 and forbidding any imports of *Maiorca* definitely should be regarded as confirming the production of lusted pottery in town. This hypothesis might be correct but the lack of further evidence suggest not to regard it as a proof. The similarities between

**Plate 7**

Grosseto: lustreware probably produced in Deruta.

Deruta artefacts and some objects attributed to the kilns present in Pesaro (Bettini 1992) suggest that the best approach would be a close examination of the bodies. The idea that the knowledge for using *terzo fuoco* has been acquainted in Orvieto is a hypothesis as well (Satolli 1992), nevertheless archaeological evidence is still lacking in both sites. It is important to point out that, even when lustre production is proved, the ability of knowing how to employ the technique successfully is something different than mastering it and being able to produce high-quality artefacts in the amount needed for starting a business and making money out of it.

## Conclusion

If we consider both documents and archaeological evidence, it seems that the first attempts for lustre-making in Italy are those carried out in Faenza, where some fragments of a painted in relief-blue jar were used as trials. Despite that, up to now the records show that the production died out quite quickly; moreover different interpretation of this fact are possible as well. It is worth mentioning that considerable similarities with Faenza can be found in Cafaggiolo early production. As discussed above, proving potters' movements can be quite difficult because documents such as statements of tax-paying – when preserved – refer only to those families based in a certain town or area for a certain length of time.

Even though it is difficult to prove in which way potters moved around in order to learn or teach the lustre technique, it can be said that in that age people travelled around more than we might have assumed.<sup>29</sup> What can be stated as a matter of evidence is that attempts for lustre-making were made in Montelupo as well, but even if they seems to have been successful, the production was not carried out further on; moreover both the forms and the decorative patterns seems

**Plate 8**

Florence: lustreware probably made in Cafaggiolo.

to refer to a different tradition than the one of the products in the 'Deruta style'. We do not know if Jacopo and Piero started their first trials in Montelupo, where the recipes for lustre-ware making were known as shown by Marmi's handbook, but it should be taken in account that this collection was written nearly one century after the first 'experiments' took place.

This paper has focused mainly on Tuscany and Faenza on behalf that new archaeological records needed to be taken into account. Nevertheless, centres such as Deruta and Gubbio still prove to be, according to historic sources and to the amount and quality of finished products displayed in museums and collections, some of the most important ones. Potters' technical expertise made a durable production possible in there. The key documents concerning Umbria, showing how potters moved from Deruta to Gubbio and then to Perugia in a period which includes the last decades of the 15th and the first ones of the 16th century has been published as well (Biganti 1987). It has been pointed out that in Deruta there was a ban of bringing into town walls brushwood and broom (Ottaviani 1982, §116, 265–266). If the interpretation given to it is correct, then it refers to potters burning brooms in the kilns for lustre. As this document dates to 1465, then the first evidence for lustre-making are to be dated back to the mid 15th century, at the same time of the archaeological record in Faenza (Busti and Cocchi 1999, 34–35).

Comparisons can be made concerning possible links between Montelupo, Cafaggiolo and Deruta. Despite that if we consider the trial on the blue-relief jar made in Faenza as done at the same time when the vessel was manufactured, then the first attempts of the production in Italy date back to the late 14th – mid 15th century (Ravanelli Guidotti 1995).<sup>30</sup> Moreover, it is worth noting that even though both in Cafaggiolo and Faenza decorative patterns in the Deruta style were used – showing the characteristic 'wolf-teeth' in yellow and

reddish – the circulation of models suggests that finished products moved around rather than people (Plate 4, Fig. 4.5–7). As discussed above, a decoration can be easily imitated, whereas a technique must be learned; further studies on the circulation of people should be carried out.

On this topic and concerning how Italian potters learned the secrets of the *terzo fuoco* technique, there are not new elements to be taken into account; the suggestion made by Liverani that during the *re-conquista* (1212–1609) could have been possible for Italian potters to attract specialised artisans in their workshops is likely to be correct, even if not proved. Indeed, travels of Italian potters towards the Valencian area might have been possible too, as it is shown by the story of Galgano from Siena. The study of the archaeological assemblages prove that there are strict connections between lustre production in Cafaggiolo and Faenza; at the same time the archive sources highlight that potters were travelling from Deruta to Gubbio, then to Perugia, opening there a new workshop once they got the citizenship. It has been pointed out that a certain number of catalogues still refer to some *istoriato* dishes as made in Casteldurante, Urbino or Faenza and lustred in Gubbio (Fiocco and Gherardi 1998, 66),<sup>31</sup> on the base that pottery rather than potters travelled around. As discussed above, there is evidence not only for Maestro Giorgio staying first in Deruta and then moving to Gubbio, but also for the Masci family moving to Perugia. It has convincingly been proved how it is unlikely that unfinished vessels have been moved around in order to get lustred; documents proving that Giorgio employed in his workshop painters for making *istoriato* seem to confirm this hypothesis. Moreover, his son Vincenzo opened a kiln in Urbino, where it is likely that he used *terzo fuoco* (Wilson 2002, 68). Concerning Maestro Giorgio there are some dishes dated and painted in blue, carrying the date of the following year in lustre as well; among these some are ‘marked’ by the potter, but as suggested by Wilson (2002, 116–7) the potter’s monogram in this case should be regarded as an *imprimatur* rather than as a mark.

Turning to analyse technical device, Piccolpasso states to have seen lustre only in the final phase of painting, just before being fired for the last time, in Gubbio. Despite that, there are no arguments to assume that somewhere else, like in Deruta or in Cafaggiolo, it could have been made differently.<sup>32</sup> Concerning the technique it can be concluded that, by the end of the 16th century lustre-ware making was not a secret any longer. Even though Piccolpasso wrote his account in the years 1557–59, his statement about potters ‘guard-ing’ their kilns in order to prevent other people to grasp their secrets seems to refer to a 15th century background.<sup>33</sup> As in Marmi’s handbook, the recipes – written in the second half of the 17th century – should be considered as ‘older’. Nevertheless, the documents

involving contracts sometimes mention the monopoly on certain kinds of production or the fines to be paid in case these agreements were not respected (Biganti 1987, 216). Thinking how high the technical skills needed for *terzo fuoco* were, it is not surprising that in an early stage it was regarded as a ‘secret’.<sup>34</sup>

Coming to a conclusion some hypothesis can be made concerning the spreading of the technique. It could be suggested that, at the end of the 15th – beginning of the 16th century, some artisans might have travelled around and applied the oxides to already twice-fired products rather than have taught the technique. If this is the case, once again it seems that people moved around, not pottery, but so far no documents have been found proving that there were potters travelling between different workshops. The only evidence about this aspect is a published document regarding some members of the Masci family, who are supposed to have travelled not only in the nearby, but also all over the country (Biganti 2002). Even though this statement should be interpreted and not taken literally,<sup>35</sup> it is worth noting that it refers to ‘travel’ rather than to members of the family settling down somewhere else. As the majority of documents useful for reconstructing people’s movement are statements of tax-paying, it is important to bear in mind that they had to be presented in the town the potters were citizens of. As a consequence, it is quite unlikely to find a record of temporary moving related to a stay of a few months, which can be compared to merchant travelling.<sup>36</sup>

What presented as evidence or suggested as a hypothesis in this paper is based on the analysis of both archive documents and archaeological sources. On this base it has been possible to draw a synthesis not only about when and where the production of lustre might have started, but also to have a better understanding of which sites were major production centres of lustre-ware, in order to distinguish them from the kilns where attempts only were made. What can be assumed is that the knowledge needed for employing *terzo fuoco* successfully was more wide-spread than once thought.

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## Endnotes

- 1 This paper was presented at the 11th EAA Annual Meeting in Cork (September 2005) in the Round Table 'The creation of a database of medieval and post-medieval pottery production centres in Europe' held by Hall, D.; Vagner, Z. and Mellor, M.
- 2 Third-firing. Lustrated pottery needs to be fired three times. The object is fired the first time once the clay was dried out, then it is glazed (usually in white) and sometime decorated as well with different oxides; afterwards it is fired for the second time. At this point it is possible to lustre it and proceed to the last firing (i.e. the third one).
- 3 Piccolpasso wrote his account in 1557–59, while Marmi between 1639 and 1674.
- 4 The author assumes that 'the technical complexity of lustre-making proves that no medieval potter could have independently discovered the "secrets" of lustre-ware making [...] if that knowledge had been lost, it could not have been regained.' He explains the rise of different production centres in the Middle East by the means of potters moving around rather than as a consequence of imitation.
- 5 According to Mannoni, technical evolution is a long-term process (Mannoni 1975, 184) and it is learned by the means of direct transfer skills. In fact, decorative patterns can be imitated, whereas the technique should be learned; 'direct acquaintance' (i.e. without transfer of skills) is rare and requires an extremely long time (Mannoni 1987, 560; *Idem*, 1995, 12; *Idem*, 1999, 10).  
Some recent studies concern the origin of lustre in Samarra (Iraq) (Rose-Albrecht 2002), others stresses the relationship between lustre and gold on glasses and lustrated pottery, underlining how the technique of 'gilding' with fire on glass was already well known in 15th century Venice. According to that, further knowledge was needed in order to apply it on pottery (Berardi 1984, 219).
- 6 Before the trade with the Valencian area had started (Berti G. and Tongiorgi 1985; Berti G. 1997; Blake 1972; Francovich and Gelichi 1984, Marini 1998) lustrated pottery was imported to Pisa from Egypt 10th–11th centuries, as proved by the basins inserted on the facades of several Pisan churches.
- 7 Concerning Moresque lustre of Andalucía, the scholar points out that: 'the origins of the new lustre industry are more likely to be found in Fatimid Egypt, where tin-glaze and lustre were used over natural clays, and there are remarkable similarities between some details of Fatimid painted designs and those of Málaga.'
- 8 Spanish lustreware appears only from the beginning of the 12th century onwards (Berti G. 2002, 222) and the fabric of the earliest imports show characteristic of they clay from Maurcia (Picon and Navarro Palazon 1986, Berti G. 1987: 12, Blake et alii 1992: 222 n. 63).

- 9 Recent studies has shown that during the second half of the 15th century a significant increase of imported pottery from Spain occurred in Liguria as well: Valencian artefacts were the majority, replacing the ones from the Reign of Granada which were widely circulating in the previous century (García Porras 2001, 148). The trade slowly died out during the 16th (Mannoni 1975, 121; García Porras 2001).
- 10 Aben Al-jatib stated 'Y lo dorado de su vacilla hace que todos los países se la disputen, hasta la ciudad de Tebriz'. It happens that its golden vessels are contended by every country. Aben Batuta remarked that by saying 'Y en Málaga se fabrica la vajilla dorada admirable, y se exporta desde allí á'la más remotos países. In Málaga wonderful golden vessels are manufactured and from there they are exported to far-distant lands.
- 11 Conquest of Moorish Spain by Christian Kingdoms.
- 12 Concerning this point it is worth mentioning that the analyses carried out on the fabric of the so called 'Pula-ware' has been identified as manufactured in the Valencian area; probably the sherds from the archaeological assemblage in Pula (Sardinia) are amongst the first exports (Blake et al 1992, 202-224).
- 13 Made in Málaga; *operas terre pictae consimilis operi Maleche* or *operis terre pictae Manizes consimilis operi Maleche*.
- 14 Painted works similar to those from Málaga or painted works from Manises similar to the ones made in Malaga.
- 15 From now onwards when written in italics it will mean lustred objects (i.e. maiolica); when not, tin-glazed pottery (i.e. maiolica).
- 16 In 1480 the word *maiolica* – already used to indicate the Spanish production – started to refer to tin-glazed pottery made in Tuscany as well (Spallanzani 1986, 164). The topic of the early use of *maiolica* to name tin-glazed pottery, is discussed as well by Wilson (Wilson 1987b; Wilson 1996).
- 17 The research is still in progress and it is part of a project on Florence by the Dipartimento di Archeologia e Storia delle Arti, University of Siena (prof. Riccardo Francovich). For some data on Spanish pottery in Florence (Francovich-Gelichi 1984, Marini 1998).
- 18 'Gli è da sapere che queste [fornaci] si fanno piccole, como sarebbe a dire 3 piedi per ogni verso o 4; e questo perch'è gli è arte fallace, che spesse volte, di 100 pezzi di lavori, a ffatiga ve ne sono 6 buoni.' (Piccolpasso ed. 1978, §172, 156). Meaning that 6% were coming out really nicely and considered of 'first choice', but it is likely that those regarded as 'saleable' were considerably more.'
- 19 ASP, *Notarile, Protocolli*, 441, 85r-86v, in Biganti 1987, 215.
- 20 ASG, *Notarile*, 157, c.102; 162, cc. 65v-66r, in Biganti 1987, 211.
- 21 i.e. products thrown away because broken once fired or not saleable.
- 22 ASE, *Notarile*, Ser Piero di Brando Gherardini, 158, 92-93 (Cora 1973, 108).
- 23 Even though it can be said that there is a lack of Spanish names in the Italian documents this does not prove that they were not present, in fact, as Galgano was disguising himself in Valenza, there are all sort of reasons why they might not show up in notarial documents or in other ones.
- 24 The nature of Cora and Fanfani work (Cora-Fanfani 1983a, 1983b, 1984a, 1984b, 1984c, 1985, 1986a, 1986b) consist in analysing fiscal sources in order to draw a picture of the artisans' prosperity and of their movements.
- 25 The archaeological records concerning Florence will not be considered in this paper. The study of the maiolica fragments came to light during the recent excavation in piazza del Grano the (Uffizi 2000-2004) and under the Biblioteca Magliabechiana (2004-2005) is still in progress. A preliminary study of the data suggests that most of the objects dating to the 16th century were imported from Montelupo.'
- 26 'Galganus de Belforte Senensis figulus olim a Hyronimo/ Scintilla scolastico Hispano Valentiam perductus, atque ibidem/ a Baptista Bulgarino mercatore senensi adiutus vili habitu/ delitescens, et veluti minister opificio figulino ibidem intendens/ auratorum vasorum colorem furtim percipiens, et animadvertens/ penibus Senam mense hoc martio reversus est.' (*Sigismundi Titii Historiarum Senensium Liber VII*, Biblioteca Comunale di Siena, Mss., B.III.12, 484 r, c). 'Galgano di Belforte, a potter from Siena, once was taken to Valencia by Hieronymus Scintilla, a Spanish scholastic. Once there, aided by Babtista Bulgarino, a merchant from Siena, disguised himself and secretly learned how to lustre pottery in a pottery workshop. Once learned that, he travelled back to Siena in March'.
- 27 Metal reflexes are obtained by painting the surface of the objects with oxides, exactly as with the other colours, but without requiring the third firing. The final result is different, as the part interested is not shining as the lustred artefacts do.
- 28 Both the data on Siena and Grosseto are still unpublished but are part of research and field projects carried out by the University of Siena.
- 29 Potters movements in Tuscany are proved since Cora's studies. The scholar shows how potters travelled from Florence to Bacchereto, from there to Montelupo and from Montelupo to Cafaggiolo. The excavation carried out at Cafaggiolo shows that slipware as well as maiolica was produced there. Considering that the workshops in Borgo San Lorenzo were active in the same ages and that the two sites are less than 10 km far away, it could be suggest that potters, already expertise in slipware making, travelled from Borgo to the nearby Medicean Villa.
- 30 An account on lustre trials on a painted in relief-blue jar had been already presented by her (Eadem 1990;

- 1991a) and then re-discussed (Eadem 1991b, 53, pictures 6, 7).
- 31 Wilson (2002), in agreement with the two scholars, states that in the 1520s it was easier to move potters rather than pots, but he suggested that the situation might have been already changed only a decade afterwards, for example with two lustred pieces of the Pucci service (1532–3).
- 32 ‘Non intendo anco passare più oltre fin tanto che non vi ragioni della maiolica per quello che io ne ho sentito dagli altri, non che io ne abbia mai fatto, né men veduto fare. So bene ch’ella si dipinge sopra gli lavori forniti. Questo ho veduto in Ugubio in casa di un maestro Cencio di detto luogo, e tengano tal muodo in dipingerla’ (Piccolpasso, ed. 1978, §165, 156). I am not going to change topic until I will not have talked about maiolica, referring to what I have heard from other people, as I have never made, nor have seen making it. I know for sure that maiolica is painted once the artefacts are finished. I have seen that in Gubbio, in the house of an artisan called Cencio, who is from Gubbio, where maiolica is painted like that.
- 33 It is worth noting what Wilson (1996, 43) suggests on Galgano’s journey to Spain. The scholar observes

that he might have gone to Valencia instead of travelling to Deruta, because the potters working in the latter in the beginning of the 16th century were not wishing to teach their ‘secret’ around.

- 34 Concerning secrecy Goldthwaite (1989, 3–4) observes that ‘Piccolpasso, not being a potter by profession, felt compelled to address the problem of secrecy right off, in the prologue of his book [...]. On the one hand, he feared being charged with revealing trade secrets; on the other hand, he in fact suspected he might have not learned everything about his subject, since [...] he might not have been told everything by his informants.’
- 35 The statement ‘*vanno non che in quista ciptà e suo territorio, ma in molta parte della Ytalia, si che rendono grande honore a la ciptà*’ (Biganti 1987, 216) is included in the potter’s apply for citizenship. It can be assumed that he is trying to put himself in a good light. ‘They do not go only in this town and in the surroundings, but in several places in Italy, so they tribute great honour to their town’.
- 36 The research should be carried on, considering primary sources such as contract between different potters.

## Résumé

Cet article analyse les centres majeurs de production de poterie lustrée de l’Italie de la Renaissance. Il se concentrera sur l’Italie du centre (Deruta et Cafaggiolo) et considèrera à la fois le développement de la technique d’production et s’il est possible de prouver que les potiers voyageaient d’ucentre de production à l’autre emportant avec eux la connaissance nécessaire pour terzo fuoco. Les expérimentations faites à Montelupo et Faenza seronaussi examinées. Les sources originales comme par exemple *Li tre librdell’arte del vasaio* de Piccolpasso décrivent en détail tous les mécanismes de la fabrication de la poterie lustrée; ces recettes sont aussi connues dans d’autres livres de potiers de la même époque. Ce qui n’est pas précisé, en revanche, c’est comment les potiers de la Renaissance en sont arrivés à comprendre qu’appliquer des oxydes métalliques à des objets étamés donnerait des reflets or ou argent. Le contact avec l’Espagne mauresque était constant pendant les siècles précédents, il se peut que les potiers italiens aient appris cette technique des potiers espagnols. Alors que la maiolica italo-mauresque résulte d’une simple imitation, la production de poterie lustrée demande une connaissance technologique qui n’a pas pu être apprise par hasard. L’influence que les exemples circulant dans le bassin méditerranéen ont pu avoir sera aussi considérée, essayant de comprendre comment les personnes et leurs produits voyageaient.

## Zusammenfassung

Diese Studie analysiert die wesentlichen Produktionszentren von Lüster- oder auch Glanzware im Italien der Renaissance. Der Schwerpunkt liegt auf Zentralitalien (Deruta und Cafaggiolo) und beleuchtet beides die Entwicklung der Produktionstechnik und ob nachgewiesen werden kann, daß Töpfer von einem Herstellungszentrum zum andern zogen und hierbei die Kenntnis für den terzo fuoco mit sich brachten. Die Versuche in Monte Lupo und Faenza werden ebenfalls analysiert.

Primärquellen wie Piccolpassos *Li tre libri dell’arte del vasaio*, beschreiben im Detail alle Vorgänge der Lüsterwaren-Herstellung; diese Rezepte sind auch aus andern Töpferbüchern jener Zeit bekannt. Was jedoch nicht beschrieben wird ist, wie der Renaissancetöpfer die Anwendung von Metalloxyden auf zinn-glasierten Untergründen erlernte, um goldene und silberne Reflexe zu erhalten. Es gab während der vorhergehenden Jahrhunderte fortwährende Kontakte mit dem maurischen Spanien und es mag möglich sein, daß italienische Töpfer irgendwie diese Technik von spanischen Töpfern erlernten. Während italo-maurische Maiolica das Ergebnis von Nachahmung sein mag, bedarf die Herstellung von Lüsterware technologischer Kenntnis, die nicht durch Zufall erworben werden kann.

Der Einfluß, den die im Mittelmeerraum zirkulierenden Formen hatten, wird in Zusammenhang mit der Tatsache in Betracht gezogen, daß ja auch die Menschen herumzogen.