9 – CERAMIC PRODUCTION AND DISTRIBUTION: THE LOCAL LEVEL

9.1 Introduction
Traditionally, archaeology has approached pottery as its main tool for dating and as an art-historical – or aesthetic – subject in its own right. More recently, awareness has grown that it is also worthwhile to explore the technological, socio-economic and cultural aspects of pottery as a way to answer questions about the past. Here I will set out to follow this line of approach, and will try to use the Boeotian ceramics themselves as a source of information to shed some light on the historical problems of the production and distribution of pottery in Medieval and Post-Medieval Central Greece.

The aim of this chapter is to sketch the possibilities in which the manufacture and distribution of locally produced glazed and unglazed ceramics in Medieval and Post-Medieval Boeotia took place. This will be done on the basis of archaeological evidence, but also on the basis of textual sources as well as ethnographic and ethnoarchaeological information concerning traditional pottery production in Early Modern Greece and Early Modern Cyprus.

In this chapter I will, however, limit the discussion to red-bodied unglazed and lead glazed wares in Boeotia and will not discuss the manufacture of the white-bodied tin-glazed wares, which were imported from Italy (Maiolica) and from Turkey (Iznik Ware and Kütahya Ware). This chapter deals with the local perspective, and in the next chapter I will discuss the wider socio-economic, macro-regional perspective.

After a discussion of the various sources of information, attention will be given in this chapter to the potter’s selection of the raw materials, the construction of the vessel and its finishing treatment, the firing of the ceramic object, the organisation and location of the potter’s workshop, as well as to the distribution of the finished product. Finally, I will discuss David Peacock’s model of ceramic production and distribution in the Mediterranean, which ranges from simple household production to much more complex production systems, and I will try to assess its relevance to the Boeotian situation (Peacock 1982).

9.2 The sources

9.2.1 Archaeological evidence
In Boeotia there is evidence of Medieval and Post-Medieval pottery production on several sites. In particular, on the large site near the Modern village of Askra, which has been labelled with the codename ‘VM4’, a piece of kiln furniture has been found together with many tile wasters (see chapter 5). It is, however, at the moment not possible to say if the kiln fragment is from a rectangular or rounded kiln. The glassy residues or vitrified clay (from pottery or from tiles?) on top of this (yet undatable) kiln fragment suggest pottery and/or tile production in Boeotia (P. Spoerry, pers. comm.; see fig. 9.1). This does not imply that VM4 is the only production site in Boeotia, but the find of these industrial artefacts is the most convincing evidence that we have at the moment.

The kiln fragment can be taken as evidence that perhaps a substantial part of the wares found on VM4 was locally produced. These locally produced sherds from site VM4 can provide – as a kind of ‘technological document’ – all sorts of information about potting in the past. The vast majority of the Medieval and Post-Medieval fragments recorded at VM4 date from the 13th to the 17th centuries. Pottery production must therefore have taken place within the timespan of these centuries. Among the types of wares which could have been locally produced, are most probably unglazed domestic wares, Coloured Sgraffito Ware and a later type of Slip-painted Ware (cf. chapter 6 for a more detailed description of these wares).

It can be assumed that the potter (or potters) of site VM4 was dependent upon some basic preconditions for pottery production. These preconditions vary from the proximity of raw materials such as clay, water and fuel, to local demand and the proximity of roads, towns or markets (cf. for these last preconditions chapter 8). Furthermore, the potter would have required a workshop, a kiln, and a covered area to dry his pots and store them after firing.
9.2.2 written sources

Unfortunately, there is little textual evidence from Medieval and Post-Medieval Greece itself which can help us to shed light on the problem of the (local) production and distribution of pottery. For instance, there exists for the Aegean area no technical manual like the beautifully illustrated Italian treatise on the manufacture of Maiolica, which was written by the amateur potter Cipriano Piccolpasso around 1557 AD.[2] What we do have, though, is a Persian manuscript written in 1301 AD by Abu’l-Qaim, a member of a famous potters’ family from Kashan, which gives us a glimpse of pottery-making in the Near East in this period.[3] Although the potters in the Near East were technologically far more advanced than their Western contemporaries (who tried to follow their inventions), the basic structure of pottery manufacture in the Aegean was probably by and large comparable to that in the Near East.

In addition, two Medieval treatises from North-Western Europe concerning the decoration of pottery contain comments on ceramic production in the 12th century. A Medieval manuscript with the title De diversis artibus was written in the Rhineland by the monk Theophilius about 1110-40 AD, probably from much older material.[4] Heraclius’ treatise De coloribus et artibus Romanorum was composed as a craftsman’s handbook at about the same date, or a little later.[5]

Finally, there are some scattered passages about pottery production in the Mediterranean in the Classical and Byzantine written sources. Some of these were already compiled by Gisela Richter in her book The Craft of Athenian Pottery (Richter 1923, 87-105). Others are presented here for the first time together. The problem of these references, however, is that they are widely dispersed over a long period of time: they vary from the 2nd century scholar and rhetorician Pollux of Naucratis to the 14th century lawyer Constantine Harmenopoulos.

9.2.3 ethnographic/ethnoarchaeological studies

Relevant information on traditional pottery techniques may be learned from contemporary Greek potters, who still work under, or remember, the pre-modern technological and socio-economic circumstances in which their craft was carried out. Apart from the loss, or occurrence, of some technological innovations, circumstances may have remained more or less unchanged for centuries. Their insights could therefore be helpful to come to a plausible reconstruction of the Medieval production process.

The value of ethnographic studies for research into archaeological problems has been stressed before, for instance, by the archaeologist Carla Sinopoli in her Approaches to Archaeological Ceramics. She stressed that ethnographic studies of pottery have provided general

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Fig. 9.1 Kiln fragment from site VM4 in Boeotia (photo: J. Vroom).

Fig. 9.2 Engraving of a Medieval potter by Jost Amman (1539-1591 AD) (after Bidon 1986, fig. 3).
frameworks from which archaeological ceramics and particular research problems can successfully be approached. Although the issues they describe are of broad relevance to archaeological studies, one can not but agree with her caution that conclusions must be evaluated and tested in each archaeological case (Sinopoli 1991, 73-4).

Information about the role of the potter in Early Modern Greece or the distribution of his products can be extracted from recent ceramic ethnographic and ethnoarchaeological research in Greece and Cyprus, dating back to Stanley Casson’s pioneering article on this subject in 1938 (cf. the ‘Early Modern period’ of chapter 3 for an overview of these publications). In particular, I will use here the studies on traditional pottery centres of Koroni in Messenia, of Thrapsano and K renti on Crete and various villages on Cyprus (e.g. Casson 1938; Hampe & Winter 1962; id. 1965; Matson 1972a; Voyatzoglou 1984; Blitzer 1984, 1990; London 1989a, 1990; 1998-99).

9.3 Ceramic production

9.3.1 Raw materials (fig. 9.3)

First of all, potters have to assemble and prepare the clay and tempering materials for the making of pottery. This holds of course also true for the Medieval potters at site VM4. A passage from the Geoponika (II, 49, 3), a 6th century text on Byzantine agriculture, states that Greece had not only local ceramic production but also many clays suitable for making pottery: ‘It is most necessary for every reason to have potters [on a farm], since we are convinced that it is possible to find potter’s clay on any land: for either on the surface, or deep down, or in out-of-the-way places on the land you will find earth suitable for making pottery’ (as cited by Richter 1923, 87).

In Boeotia the best clay deposits are to be found nearby Lake Kopais. The Kopais plain consists of lacustrine sediments, but alluvial deposits of the Late Pleistocene and Holocene periods extend around the edges of the lake and in the Kiphissos Valley. In the Valley of the Muses and at the modern village of Askra (nearby site VM4), deposits of flysch, soft limestone and limestone debris can be found. The local clays are of a secondary type, and they are brown-, red- and ochre yellow-firing clays.[6] The red clays (kokkinochoma) are associated with residual soils formed on the limestone and limestone conglomerates (these soils are also known as terra rossa). Furthermore, the clays are naturally variable in their appearance, texture and potting and firing properties.

The Boeotian terra rossa clays have a low melting/sintering point and they tend to be surface clays. They are very plastic clays and they shrink a lot causing problems not only in forming but also in drying and firing. For these reasons, usually, they can not be used on their own. Modern potters in different areas of the Aegean use them mainly in combination with other clays (in mixtures).[7] The Boeotian terra rossa clays, as well as the silty limestone deposits, were presumably dug (by the potters) near the surface. Ethnographic studies in Greece (and abroad) suggest that the digging of clay usually happens within a radius of half an hour’s walk with a pack animal (1-2 km) from the workshop (Arnold 1985, table 2.1; Hampe & Winter 1962, 14; Blitzer 1984, 146; Jones 1986, 872).[8] Material needed in small quantities, such as white clay for a slip inside or lead for

Fig. 9.3 Potter’s clay of pottery workshop (photo: J. Vroom).
glazing, could be brought from some distance away
(Arnold 1985, table 2.3).

After digging, the earth was pounded in order to
pulverize it. Early Modern potters in Messenia, on Crete
and on Cyprus beat the clay with a wooden stick or
mallet (the so-called kopano or kopana), made from a
forked tree branch, and mixed with water in a wooden
trough or earthenware pithos (Matson 1972a, 214, pl. 14-2;
Blitzer 1984, 148, pl. 15a-c; id. 1990, 680-81; London
1989a, 74; id. 1990, 52-3, fig. 36; Korre-Zographopu
1995, figs. 1 and 7).[9]

The 14th century Persian treatise, written by Abu’l-
Qaim, describes this process as follows: ‘the materials are
broken up and powdered like grains of kohl by means of
beating, powdering, grinding, sifting and sieving
[through coarse silk]. Some materials are broken up to
the size of a pea with an iron hammer and ground by
means of a mill. When this is done with a hand mill it is
much better’ (as cited by Allan 1973, 112).

The next step was to mix different clays to a blend
which was suitable for making vessels. The Medieval
potters were aware of the importance of the right
composition and consistency of their clay. In the
Geoponika (VI, 3, 1) one can read that ‘not all earth is
suitable for pottery, but with regard to potter’s clay, some
prefer the yellowish red, some the white, and others mix
the two’ (cited by Richter 1923, 88). In more modern
times, mixing clays of different colours and properties
appeared to be still common at traditional potters’
workshops in Greece and on Cyprus (Jones 1986, 873).

Modifiers were sometimes added to the mixed clay by
the potter, or were already naturally present in it. An
added tempering material or filler was, for instance,
‘grog’ (crushed clay or potsherds) which provided
pottery with a very fine texture. A section in Heraclius’
treatise De coloribus et artibus Romanorum (III, 3) offers a
recipe for preparing grog, made of potter’s clay which
was fired and then crushed into a powder. ‘Take some
potter’s clay as strong as you can find. Put it either in a
kiln with other pots where it will bake with a slow fire, or
in another kiln until it is quite red. When it has cooled,
put it in a pot and pound it until it is quite pulverised.
Then take some water and add it to this powder; pour all
of this into another pot and let it stand for a day. After
this throw away the water, take the residue, mix it with
clay which is free of sand in the proportion of two parts
to three for the very strong clay mentioned above.
Pound the lot with a pestle. You can then make any sort
of pot you like’ (as cited by De Boüard 1974, 68-69; see
also Ilg 1873, 49-51 for the German translation).

9.3.2 MANUFACTURING (FIG. 9.4)

After the mixing, the clay was further sieved and washed
to remove natural impurities, such as pebbles, roots etc.
The preferred method to purify the clay was by ‘levigation’,
or letting the clay settle in water basins to separate
finer and coarser silts.

The final preparation of the clay before the actual
forming of the pots, was by kneading and wedging. This
involved beating, thumping and rolling the clay until it
was judged to be evenly mixed and all the air was
expelled. The 5th-6th century lexicographer, Hesychius
of Alexandria, wrote in his Lexicon under the heading
‘orgasai’: ‘to make ready: or as is said, to knead the clay,
which is to prepare it, to mix it, to wet it, to work it into a
plastic mass’ (as cited by Richter 1923, 88).

According to the 14th century potter Abu’l-Qaim, the
clay was kneaded with the hands: ‘This is kneaded well

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Fig. 9.4 Throwing of traditional pottery (photo: J. Vroom).
like dough and left to mature for one night. In the morning it is well beaten by hand and the master-craftsman makes it into fine vessels on the potter’s wheel; these are left standing till they are half dry’ (as cited by Allan 1973, 114).[10]

After the kneading, the clay was suitable for throwing on the wheel (the Medieval unglazed and glazed pottery from site VM4 in Boeotia was all wheel-made). According to a Byzantine editor of Aristophanes’ Clouds (perhaps Manuel Moschopoulos?),[11] potters used a wheel (a so-called trochos) as a main tool in their workshops (Koukoules 1947-55, II, 196, n. 10). The precise structure of this wooden wheel is uncertain, as none has yet been found during excavations. Perhaps it was a foot-operated wheel, which probably resembled the kick wheel type used by traditional potters in Early Modern Greece (Kyriazopoulos 1969, 103; Matson 1972a, 214; Blitzer 1984, 149, pl. 15e; Voyatzoglou 1984, 134-9). The potters used both hands to shape the clay on the upper wheel as they kicked the lower wheel with their feet. The kick wheel is depicted in Western European illustrations from the 13th century onwards (Fig. 9.2).[12]

Suidas in his Lexicon, which was compiled around the end of the 10th century, described Koliás as a place in Attica where vases were made on a potter’s wheel: ‘It is said that all the kinds of clay that are brought to the wheel (and the wheel on which vessels are shaped is meant), that is, of all the clay fit for making vases, the clay of Koliás is the best, so that it is also dyed with miltos’ (as cited by Richter 1923, 97).

However, not all vessels in Medieval Greece were shaped on a kick wheel. Especially large pots were built by hand, or plates could be formed in moulds (cf. Rice 1987, 124-9). Hand-modelling of the clay is described in the Geoponika (VI, 3, 4): ‘Potters do not use the wheel for all pithoi, but only for the small ones. The larger ones they build up day by day, placing them on the ground in a warm room, and thus make them large’ (as cited by Richter 1923, 93). The use of wooden cores or moulds for the manufacturing of pottery was already mentioned by the 2nd century scholar and rhetorician Pollux of Naucratis in his Onomasticon (VII, 164): ‘That around which those who make pithoi put the clay and shape it – this wooden core is called kanavos’ (as cited by Richter 1923, 93).

The fragments of the locally produced pottery found on site VM4 were obviously manufactured on a fast rotating wheel, because fine horizontal grooves and ridges (also known as ‘rilling’), caused by the potter’s hands, are prominent on the outside.[13] After being shaped the pot was taken off the wheel using a knife or string to cut it away (like a cheese-wire) and carried to the drying room, where it was left until it was leather-hard (or ‘green-hard’). In this stage, additional features such as handles, spouts and bases were stuck on the pot, using a little slip as adhesive.

After the wheel-throwing process the pottery was left to dry (often with a volume reduction of nearly 5% due to water loss) before being placed in the kiln, during which the outside was wet-smoothed with a piece of cloth to remove all ruggedness. The 14th century Persian treatise described this process as follows: the vessels ‘are scraped down on the wheel and the feet are added, and when they are dry they are washed with a damp linen cloth in order to smooth over the lines on them so that they disappear. When they are dry again they are rubbed with a wool cloth until they are clean and smooth’ (as cited by Allan 1973, 114).

9.3.3 Surface Treatment and Decoration (Fig. 9.5)
As soon as the vessel was dry enough to hold its final shape, the surface of the pot was covered, either by dipping, by pouring or by wiping, with a thin white slip (also called an engobe).[14] This slip (pure clay thinned with water) was known by Early Modern potters in Greece as bandana or astari (Papanikola-Bakirtzis 1999, 18). On open vessels the slip was generally applied as a thin coating on the inside, and on closed ones on the outside.

Medieval potters used a range of techniques to achieve elaborate surface decoration. Several factors might have determined the motifs to be employed. These included the vessel’s intended function, the availability of raw materials and the potter’s perception of what kind of decoration will please or sell. Table wares tend to be more elaborate than ordinary domestic vessels, although some cooking pots in Boeotia have surfaces with rouletted or incised decoration.

One type of decorated ware found on site VM4 was produced by incising or engraving through the white or creamish slip with a sharp tool, cutting down to the underlying clay to create a contrasting design. This is called the sgraffito technique (sgraffito is from the Italian word sgraffiare for ‘scratched’).[15] The technique was
already used by Muslim potters in the Near East before it became an important decoration-method in Byzantine pottery. It survived until Modern times in traditional Greek workshops. The potters used a stylus or smoothed cane to incise the decoration through the white slip (Papanikola-Bakirtzis 1999, 18).

The width of the incised line distinguishes the different classes in Medieval pottery (as mentioned before in chapter 6). In Fine Sgraffito Ware (ca. 11th-12th centuries) the potter made the line quite thin, giving the designs a certain delicacy. After the middle of the 12th century the incised line became broader. Another development of the 12th century sgraffito technique was the removal of the slip coating around the representations in such a way as to make the decoration appear to be in low relief on the dark-coloured clay (the so-called champlévé technique). During the Middle Byzantine period, compasses must have been used by the potters to get regular circles in the slip, because traces of holes caused by the compasses can still be seen in sgraffito sherds (Vogt 1993). Also brushstrokes with colour were added to the sgraffito decoration, but the colour was apt to run in the lead glaze.

Another type of (local?) glazed ware found on site VM4 was decorated with a white liquid slip, as a kind of paint. The Medieval potters applied the slip directly on the vessel, giving it a pattern in relief or in contrasting colours (usually light on a dark body). The slip-trailed designs on these sherds may have been decorated by hand with the aid of an implement, such as a so-called ‘painting horn’. This was a potter’s tool in the form of a hollow cow’s horn with a strong reed in the open end, which served as a fountain-pen, releasing the slip in suitable doses for drawing the design.[16] None of these potter’s tools, however, are preserved archaeologically from Medieval times (Bidon 1986, 86).

Ethnographic and ethnoarchaeological research shows that Early Modern potters in Greece and Cyprus used knives, stamps, combs, sponges, strings and brushes to decorate vessels. Most of their decoration tools were adapted from reused domestic objects, or from widely available (and highly perishable) materials such as wood, cane or bone (cf. Psaropoulou 1989; London 1990, fig. 70 and Korre-Zographou 1995, figs. 28, 29, 32 and 44-5).

In Early Modern Messenia, for instance, a piece of broken comb or reed was used to make wavy lines on the body of the vessels. The shaping tool (or potter’s rib) was known locally as a stella and was made of beech wood. Lips of vessels were finished with a small piece of cloth (pani), dipped constantly in water (Blitzer 1990, 691). Ethnoarchaeological research on Cyprus has further revealed that decoration tools not only varied regionally, but also from village to village (London 1989a, 72).

9.3.4 GLAZING
The effect of the decoration on the vessels was enhanced by the use of a clear glaze (a coating of glass fused with the surface of the vessel). Glazing also had the function as a sealant of the porous clay. Lead glaze, a paint-like liquid of lead and silica oxides, was the principal type of glaze in Medieval Greece. The relatively easy technique of lead oxide glazing had already been known in most parts of the Roman Empire, but became widely spread in the Eastern Mediterranean from the 9th century onwards. Glazes with or without metal oxides could be applied either to unfired leather-hard pottery or to already fired vessels.

In Boeotia, lead glaze was used functionally and decoratively on the inside of bowls and dishes and on the outside of jugs to give them a transparent, glassy and non-porous finish. It is rarely found on cooking pots, and only from the 14th century is it found on the inside of cooking vessels and bowls where it had a more functional use.

The lead glazes, used on sherds found at site VM4, were colourless, sometimes with a pale yellowish hue. The glazes could be coloured by the addition of other metallic oxides, usually copper to produce a green colour and iron for a yellow-brown tone. The technique was relatively fast and easy: the glaze could either be sprinkled over the vessel in powdered form, or applied as a liquid by dipping the pot into the glaze or brushing the glaze on to the surface. Lead glaze was little prone to firing mistakes, solid and durable in use and required only a low firing temperature (about 800° Centigrade) to form a thin layer of glass. Recent research has shown that there are no obvious changes in glazing technology from the 9th until the 13th centuries. Very similar high lead transparent glazes are used for both the Glazed White Wares and the Glazed Red Wares (Armstrong et al. 1997, 229).

A Medieval treatise from North-Western Europe gives us a recipe from Greek potters for glazing vessels in
various colours. This manuscript with the title *De diversis artibus* was written in the Rhineland by the monk Theophilus in the first half of the 12th century. ‘They [the Greeks] take all kinds of colours and grind each one separately with water. With each one colour they mix a fifth part glass of the same colour, finely ground by itself with water’ (as cited by Dodwell 1986, 47).

Furthermore, Heraclius’ treatise *De coloribus et artibus Romanorum* (III, 3) offers a 12th century recipe for decorating pottery with a clear lead, or a copper lead glaze. This text is the oldest in the Middle Ages which mentions the use of lead, copper or brass in the manufacture of glazes. ‘But if you wish to lead-glaze the pot, take some wheat flour, boil it in a pan with water, then let it cool and cover the whole of the surface of the pot with it. Then take some lead well *solutum* [powdered?]. However, if you want to obtain a green colour, take some copper, or better still, some brass, and mix it with the lead as follows: take the lead and melt it in a pot; when it is molten stir it by turning with your hands (sic) in the pot until a powder is produced, and mix this then with 6 parts of brass filings. When the pot has been dampened with water and flour sprinkle it immediately with lead, i.e. with the filings mentioned above. If you want a yellow glaze sprinkle the pot with pure lead without brass filings’ (as cited by De Boüard 1974, 69; see also Ilg 1873, 50-51 for the German translation).[17]

In short, for lead glazing the Medieval potter mixed the ingredients and ground them, adding water or an organic material (such as flour) until he had a homogeneous liquid. Any metallic oxide required was then added. The liquid was then applied to fired pottery either by dipping or in some other way, and then the coated ware was re-fired in the kiln. The 14th century potter Abu’l-Qaim from Persia mentions that the glazed vessels afterwards ‘stood on top of a broad-meshed sieve, which is the lid of a trough, so that the excess of colour drips away. They are dried in the sun’ (as cited by Allan 1973, 114).

Lead glazes permitted a much greater range of colouring, but were apt to smudge and run. Theophilus’ treatise *De diversis artibus* mentions that the Greek potters painted with a lead glaze ‘circles, or arcading, or squares, and, in them, animals, birds or foliage, or anything they please’ (Dodwell 1986, 47). It is archaeologically unknown whether these elaborate decorations were only used for special purpose pottery, or also on more common vessels. It is known, however, that in Early Modern Messenia the customers were more concerned about the minimum cost of vessels that served their function well, than they were about the perfect appearance of the glazed surface (Matson 1972a, 216).

Unfortunately, the soft-fired lead glaze was at the same time not very healthy for producer and user, since some of the poisonous lead could easily be dissolved by organic acids in wine, fruit juice, vinegar or milk. The adaptation of lead glaze may have reduced the potter’s working life, as one of the first symptoms of lead poisoning is a trembling of the hands. And of course, trembling hands could produce distortions of the vessel at several stages of the manufacture process (cf. for the dangers of lead poisoning, Caiger-Smith 1973, 221-22 and Halle 1996).

9.3.5 Firing (fig. 9.6)
The glazed fragments from site VM4 show that the pottery was fired twice: one phase for the shape, the
other for the lead glaze above the slip (see also Papanikola-Bakirtzis 1999, 18). Because of the red, porous and relatively soft vessel fragments found in Boeotia, one can presume that the clay must have been low-temperature fired (under 900 ° Centigrade) in an oxidising kiln. Imperfect kiln control resulted in unintended colour variations. Some of the glazed fragments from site VM4, for instance, have a black colour, probably indicating that the firing atmosphere was not homogenously oxidising and that the kiln was too hot or in a reducing stage.

A 14th century lawyer from Thessaloniki, Constantine Harmenopoulos, specifically names in his compendium of civil and criminal law the potter’s kiln as ‘kerameikon fournion’ (Hexabiblos 2, 4, 13). He further mentions that the person, who was building a potter’s kiln in the city, had to build it at a certain location and at some distance from the houses. For example, a kiln built to the North or the East of a house had to be built at a distance of 20 pigeis (or yards); and at a distance of 12 pigeis if the kiln was built to the South or West. If the neighbouring house had no windows or doors facing the kiln, then the kiln could be built at a distance of one third of the above mentioned distances (Hexabiblos 2, 4, 13).

A reconstruction of a Medieval kiln can be made from excavated examples at sites in Greece, Turkey, Bulgaria, Rumania and on Cyprus. In Greece, Medieval kilns have been found at Athens (from the 4th-6th century in the Kerameikos; from the 6th-8th century on the Aeropagus; from the 9th-10th century and from the 16th-17th century in the Agora), at Kounoupí in the Eastern Argolid (from the 8th century), at Corinth (from the 11th-12th century), at Oreoi on the island Euboea (from the 11th-13th century) and at Didymoteicho in Thrace (from 15th-19th century).[18]

Most of these kilns were of the updraught type, with a cylindrical structure and a crude dome (see figs. 9.6 and 9.9). The fire itself was burning in a hearth next to the under-flow fire chamber. In that way, the hot gases had to pass through the fire chamber and from there upwards through a floor pierced with numerous holes into the upper baking chamber where the pottery was stacked.[19] Unfortunately, we have no details from the excavated kilns about the original form of the upper chamber. Probably kilns used for glazed pottery had a domed structure (with a chimney on the top or smaller holes in the roof). In Early Modern Greece, the kilns were usually made from clay, or a combination of stone, clay and unbaked mud bricks (Matson 1972a, 217; Blitzer 1984, 153; id. 1990, 695).[20]

There is no exact information in the written sources about the range of firing temperatures reached in the up draught kiln, but 900°-1000° Centigrade is accepted as a range which may be generally applicable (Hampe & Winter 1965, 195-6; Rice 1987, 160; Jones 1986, 873). In the Geoponika (VI, 3, 5) we can read that ‘the firing is no small part of the potter’s craft. Not too little or too much fire should be built under the pots, but just enough’ (as cited by Richter 1923, 94). Large quantities of fuel were required for firing the kiln. Documentary evidence of the Medieval industry in England shows three types of fuel used there: wood, coal and peat (Le Patourel 1968, 117-19).[21]

A Medieval treatise from North-Western Europe gives us some indications about the firing technique used by Greek potters for glazed vessels. Theophilus writes in his 12th century manuscript De diversis artibus: ‘They [the
Greeks] put the vessels in the kiln, which they used for making glass, and light a fire of dry beech wood below until they are red hot from the flames around. Then they take away the wood and block up the furnace’ (Dodwell 1986, 47).

Furthermore, the 14th century potter Abu’l-Qaim from Persia offers a detailed description of the kiln: ‘[It] is like a high tower, and inside has row upon row of fired earthenware pegs, each an arsh and a half long, fitted in the holes in the wall. The vessels are placed on them and fired for twelve hours with a hot even fire, with this stipulation: that no wood be put on until the smoking has stopped, so that the smoke does not ruin or blacken the pots. In Hashan they burn soft wood [like hyssop and walnut], and in Baghdad, Tabriz and other places the wood [of the willow] is stripped of its bark so that it does not smoke. The vessels are removed from the kiln after a week [after they have cooled]’ (as cited by Allan 1973, 114).

Many excavated Medieval pots contain marks that show how they were stacked in the kiln. The largest and heaviest vessels would have been stacked at the base of the kiln with the smaller and lighter pots near the top. Most Medieval kilns, such as the one at Corinth, had a kiln capacity of 200 vessels of medium measure (Morgan 1942). The glazed pots were often stacked upside-down inside the kiln, as is often indicated by the drops of glaze found at the rims and the absence of accumulated glaze in the bottoms of Medieval vessels.

From the end of the 13th century onwards, tripod stilts (or earthenware supports) were used to separate glazed vessels from sticking together in the kiln, when fired (Papanikola-Bakirtzis 1992, 26, figs. 16-7; see figs. 9.7-8). These clay stands made it possible to stack the pots vertically one on top of the other. This allowed better distribution of heat and flow of air around vessels in the kiln, when compared with simple stacking. A thicker vitreous glaze seems to accompany the use of these tripod stilts, which (after taking away) often leave small marks of bare clay on the bottom of the vessels. The introduction of the tripod stand resulted in a tighter packing in the kiln and consequently a substantially increased output.

Apparently, ‘saggars’ (protective clay containers) were also used for firing glazed pottery in Medieval and Post-Medieval times. A section in Heraclius’ treatise De coloribus et artibus Romanorum (III, 3) gives us an idea about saggars used in 12th century Europe. ‘Then place this pot in a bigger pot and put it in the kiln so that it will become more brilliant and beautiful, but in a slow heat, not too much nor too little’ (as cited by De Boüard 1974, 69; see also Ilg 1873, 51 for the German translation).

In Early Modern Messenia, the kilns for wheel-made vessels were smaller than those for pithoi. The average number of wheel-made pots fired at once was 500-600 vessels, although the larger kilns could contain 700-800...
or even 1000 vessels (Matson 1972a, 219). Glazed pots were placed in the centre of the kiln with a ring of unglazed vessels around them (Blitzer 1990, 696). Kilns were used for fairly long periods, if kept in repair, they could last for two or three generations (Matson 1972a, 218).

9.3.6 ORGANISATION OF THE WORKSHOPS (FIG. 9.10)
In the Byzantine written sources, potters were called piloplastai, pilopsitai or plintourgoi; tile-makers on the other hand were called, amongst others, keramides, keramidoplastai and kouphokeramourgoi. A potter’s workshop was called kerameion (see Koukoules 1947-55, II, 196 with references).

The archaeologist David Talbot Rice states that ‘the Emperor Constantine granted in a law of 337 AD special favours to members of 36 professions at Constantinople, and among them were potters.’ (Talbot Rice 1930, 1; unfortunately he does not give a reference for this information). According to Alexander Kazhdan and Timothy Gregory, the potters (or kerameis) ‘were evidently professionals, although the Book of the Eparch [a 12th century tract regulating the activity of merchants and corporations of artisans in Constantinople] does not list a potters’ guild and in general they are infrequently mentioned in written sources’ (Kazhdan et al 1991, 399). Names of potters (kerameos) are, on the other hand, mentioned in Byzantine grave inscriptions from Cilicia in Southern Turkey (Mentzou 1975, 90-93, nos. 259-283). The occupation of potter was in this region especially common in Korykos, because the number of mentioned potters is here relatively large compared to other occupations. According to Mentzou, some potters in Korykos must have had private workshops, others must have worked as employees in larger workshops. He concluded this from the evidence of two inscriptions where the potters were referred to as ‘employer’ (ergodotis) (Mentzou 1975, 92, nos. 281-82). Also interesting is an inscription where the term ostrakas or ostrakarios is mentioned: this was apparently a specialist using ceramics for reinforcing ceilings and walls of cisterns against water (Mentzou 1975, 92, no. 283 and note 1).

In addition, the 8th-9th chronicler Theophanes refers in his Chronographia (440) that 500 ostrakarioi (tile-makers) were send from ‘Hellas and the islands’ to Constantinople by the Byzantine Emperor Constantine V Kopronymos in 766 AD to assist with the repair of an

Fig. 9.9 Modern kiln with recycled pithoi in wall (after Korre-Zographou 1995, fig. 447).

Fig. 9.10 Potter’s workshop in Dardanelles, ca. 1903 AD (after Korre-Zographou 2000, fig. 8).
aqueduct in the Capital (Koder & Hild 1976, 59). This could mean that craft production was at a reasonable level in Early Medieval Greece, and could stand the loss of 500 craftsmen.[24] Potters or tile-makers may have worked either on their own or more probably in small or larger workshops, both in large urban centres such as Thebes and in or outside rural communities such as VM4. The author of the 10th century Geoponika (85,20) describes the potter, for instance, as 'the most necessary craftsman in the countryside'. Apparently, there even existed a saint, namely Agios Spiridon, who was regarded as the protector of potters (Kyriazopoulos 1984, 14).

In Late Roman Egypt, the potters were paid in wheat and money from various estates for the manufacture of new wine-jars, as in shown on expenditure accounts written in some 6th century papyri from Oxyrhynchus (Oxyrhynchus Papyri, xvi, 1911, 1913) It is, however, likely that most Medieval potters in the Aegean combined their craft with agriculture, so that besides making pots they earned a living by growing some crops and keeping a few animals. The 12th century writer of ecclesiastical decrees Balsamon (PG 137, 929C) lists, as an illustration of this practice, potters' shops (kerameia) among various agricultural properties.

In Early Modern times, traditional potters in Greece and on Cyprus were seasonal workers. Potting was often done as a supplement to the income from farming during the spring and summer months: from April or May until August or even November. During this season, the potters worked every day (except Sunday) from dawn till dusk. In Kornos on Cyprus, for instance, 10,000 to 11,000 coil-built pots (including 3000 cooking pots) could be sold during the six-month pottery-making season (London 1989b, 227). The rest of the year was mainly devoted by traditional potters to agricultural labour, for instance the olive harvest or the cultivation of wheat (Xanthoudides 1927, 111; Matson 1972a, 220; Voyatzoglou 1984, 131; Blitzer 1984, 145; Jones 1986, 873; London 1989a, 65).

Potters (or tsikala) were mentioned, among several other professions, in the archives of the monasteries of Mount Athos. In 1316 AD, for instance, there were seven potters in the Eastern Macedonian village Radolibos (modern Rodolivos), which was the largest community in the region, with more than 200 households at the beginning of the 14th century. Apparently, there were two family ateliers in Radolibos: one with three artisans, the other with two.[25]

This might suggest that the basic unit of pottery production on Medieval rural sites must have been the household, in which wives, children and family joined in work that was carried out in the house or its vicinity.[26] Each workshop or kiln would not have employed more than three or four persons. Women, children and hired workers were involved in the process (see fig. 9.10).

This would fit in with examples from ethnographic studies in the Aegean. Women may have been potters, as was (and still is) the case on Early Modern Cyprus, or perhaps served as helpers in their husband’s workshops, as was the case on Crete in Early Modern times (Blitzer 1984, 145; London 1987; 1989b; 1998-99; 2000).[27] Ethnoarchaeological research on Cyprus shows that children accompanied their parents to help carry and trample the clay (London 1989a, 67-8). Apprenticeship rarely started before the age of 8 or 9 years, for a certain strength in the hands was required for working the heavy clay (Ionas 1998, 148). In Early Modern Cretan villages, the youth were provided with their own wheels, were taught by their elders, and when they reached a suitable age (about twelve or thirteen) were incorporated into the production process (Blitzer 1984, 145).

In Medieval Europe the status of the Medieval potter was, in the eyes of his contemporaries, a lowly one (Bidon 1986, 71). In the town he was probably in the lowest stratum of the craft hierarchy. In the countryside of Medieval England he was a peasant, potting as a by-industry, or a small free-holder or cottager (Le Patourel 1968, 106-7). The textual sources considered the potters of their day barely as craftsmen, let alone artists. This could also have been the case in Medieval Greece. The 10th century lexicographer Suidas gives in his Lexicon as explanation of the word ‘to make pottery’ this phrase: ‘commonly said instead of to work hard’ (as cited by Richter 1923, 104).

Early Modern potters at Koroni, Messenia, referred to a fairly harsh life in which their diet consisted of no more than oil, bread and tomatoes. A potter earned in a day perhaps more than a worker in the fields, but his task was harder and required longer hours (Matson 1972a, 221). The local daily wage around 1900 AD was approximately one drachma. At this time a wheel-made clay vessel with a capacity of 20 okades (1 oka = 1.27 kg.) costed 20 lepta (100 lepta = 1 drachma). A large pithos
with a capacity of roughly 300 okades was sold for a price between 10 and 15 drachmas. A wooden barrel holding around 500 kilograms was priced at 50 drachmas (Blitzer 1990, 679).

In contrast, on Crete before the Second World War, traditional potters in Kentri received two and a half drachmas for each small water jar (Blitzer 1984, 155, n. 14).

9.3.7 Location of the workshops (fig. 9.11)
The writer Artemidorus stated in his late 2nd century treatise on the interpretation of dreams, the so-called Oneirokritika (2, 20), that potters and tanners lived ‘away from the city’ (White 1975, 101). Furthermore, an inscription on a pithos found in the village Aboudjak, near Alishar in North-Central Turkey, records the presence of a potter’s workshop outside the city (Mentzou 1975, 93). Also in Medieval Europe potters’ workshops were built outside cities and villages, apparently because of the fire-hazard and the bad smell (Bidon 1986, 71).

On Early Modern Crete, the workshops and kilns of traditional potters were generally located in a ring around the outskirts of the village, away from the residential areas. ‘This arrangement, according to the potters, freed the village from the extensive amount of smoke produced during the firings, which might take place as often as every eight to ten days’ (Blitzer 1984, 147).

The written sources also mention solitary coastal locations of pottery-making. The Lavra monastery at Mount Athos, for instance, acquired in 952 AD for three gold coins a potter’s workshop located near the seashore (Lavra 1, no.4.4). By 982 AD the Iviron monastery at Mount Athos was served by a pottery workshop, which was also situated by the sea (Ivir. 1, no. 4.68). The coastal location of potteries seems to be corroborated by archaeological finds. In Preslav, Bulgaria, in Ganos on the Sea of Marmara and in Kato Vasiliki, Aetolia, kilns have been found at the sea-shore (e.g. Günsenin 1993). These kilns were perhaps located near the sea, because of the availability of river clays or the advantages of quick transport by ship of the finished products.

This seems to be confirmed by recent ethnoarchaeological research. For instance, the location of a Early Modern pottery workshop on the island of Thasos, Northern Greece, had to satisfy three conditions: 1) the plot chosen had to be more than an acre to accommodate roofed constructions; 2) a well was necessary in close proximity to the area where the levigation of the clay took place; and 3) the workshop had to be a short distance from the sea since transport of the pots was principally by water (Papadopoulos 1999, 122).

A rural pottery workshop for coarse ware of the Late Roman-Early Byzantine period has been excavated at Dhiories in Cyprus (Catling 1972). A cluster of small rectangular buildings was there associated with the production of unglazed cooking pots. The complex included a workshop with some kilns next to it, as well as a storeroom with stock available for sale at the time the site was abandoned. In Early Modern times, similar rural workshops in general included a workroom, a kiln, and an outdoor work area (see, in general, Voyatzoglou 1979-80, fig. 5: Blitzer 1984, figs. 18.3-4; id., 1990, fig. 3). Apparently, there existed no standard plan (see fig. 9.11).
If potters’ workshops for particular reasons had to be located within the city, they had to operate according to specific conditions (Koukoules 1947-55, II, 196). At the excavations of Corinth, at least four Medieval pottery workshops were recovered within the limits of the ancient Agora, all within the immediate vicinity of the Byzantine centre (Morgan 1942, 7). Two complexes comprised a courtyard surrounded by stone-built rectangular buildings and containing kilns and wells. The plan of these two Medieval pottery workshops at Corinth was compared by Charles Morgan to that of a traditional Early Modern pottery at Amaroussi in Attica (Morgan 1942, 7-10). However, this research is frustrated by the relative paucity of archaeological evidence of pottery-making at Corinth. According to the present director of the excavations at Corinth, Guy Sanders, only one of the previously identified four Medieval kilns in the Forum area at Corinth can be described as a pottery kiln with any degree of certainty (Sanders 1999, 159).

9.4 Ceramic distribution (Figs. 9.12-13)

Unfortunately, the written sources give us no information on the mechanisms of distribution of Medieval and Post-Medieval pottery within the region. Therefore, it is not possible to formulate anything more precise on distribution than some generalisations, largely based on ethnographic and ethnoarchaeological studies of traditional potters in Early Modern Greece and Cyprus. The two main ways of distributing local pottery were distribution from the workshop of a sedentary potter to a local market and distribution by means of itinerant potters who travelled from local market to local market.

The British archaeologist Colin Renfrew has proposed a general hierarchy of five possible exchange mechanisms for pottery (Renfrew 1977, 9-10). At the lowest level the consumer obtained his pot from the home or workshop of the potter/artisan. At the next level the potter himself carried his wares to the consumers, acting as an itinerant pedlar. Alternatively, the potter and consumer exchanged at a third place such as a market. Slightly more sophisticated is the idea of a middleman purchasing products from the potter and arranging for the distribution. Finally, the potter consigned all his stock to some central body which gave him goods in exchange.

9.4.1 Sedentary potters

Sedentary potters produced vessels in a fixed workshop for the local consumer within their region of production. The pots were either sold directly by the potters from
their workshops to local consumers who came to buy immediately, or in bulk to a richer household in response to a specific order. On Early Modern Cyprus, the bulk (80% of 1880 pieces) of a total output of the largest rural pottery was sold to local customers (London 1989a, 68). For the Early Modern potters at Koroni in South-Eastern Messenia, however, this direct contact was not a substantial source of income (Blitzer 1990, 699).

Another method for distributing pottery was through local markets or village fairs (the so-called *panigiria*), which were held during the summer in small towns and villages. In the Peloponnesus, these *panigiria* in the 17th and 18th centuries were primarily small, day-long markets where local necessities were offered for sale (Blitzer 1990, 699). In Boeotia during the Ottoman period, there were common markets (*pazar*) in the urban centres of Thebes and Livadheia, as well as a smaller intermediate market (*panigiria*) at the village of Vrastamites, now Ipsilantis (Angelomatis-Tsougarakis 1990, 182). On these markets and *panigiria*, payment for the pottery rarely involved money, but more often locally grown vegetables, pulses, olive oil, or wheat for the winter (Voyatzoglou 1984, 131; London 1989a, 68; id., 70; Jones 1986).

Manorial (and monastic) estates, and the way in which they were managed and administered, could also have had an influence on pottery circulation. Lay landlords may have encouraged the siting of production centres, as well as the distribution of pottery (Moorhouse 1978, 16). The larger and more dispersed the estate of a powerful magnate was, the greater opportunity there was for vessels to travel (outside their normal area of circulation). Pots sometimes travelled in the baggage of a wealthy family or officials moving between the holdings of a single estate (cf. Moorhouse 1983).

The transport to the regional fairs and local markets was either done by the potters themselves, or by middlemen who received a share of the profits. On Early Modern Cyprus, traditional potters visited villages, especially on the days of the local *panigiria* (London 1990, 69; Jones 1986, 875; Ionas 1998, 149). In Messenia, transport was carried out by the Koroni potters with pack animals, or with a *karo*, a two-wheeled vehicle that allowed quantities of goods to be transported (Blitzer 1990, 699).

Sedentary potters in Early Modern Greece could also sell their wares to local and visiting middlemen (*emporoi*) who accumulated pottery from the potters’ workshops and resold it in larger land markets. Many of these *emporoi* were from the same region of production, while others were from more distant towns to which they returned with their purchases. Travel went overland with pack animals or carts, or by water with ships. The *emporoi* in Koroni, for example, were able to buy pottery from the potters, stockpiled them, and then offered them to ship captains stopping at the port for other Peloponnesian commodities, including olive oil and currants (Blitzer 1990, 700).

Early Modern pots were also distributed by ship over greater distances throughout the Eastern Mediterranean (Ionas 1998, 151; see fig. 9.12). At the town of Didymoteicho in Thrace, for instance, elderly inhabitants remembered the boats on the river Evros for shipment of the locally produced ceramics (Bakirtzis 1980, 153). This transport by small sailing ships or caiques was conveyed primarily during the warm months of the year: roughly from April until October (Casson 1938, 466; Matson 1972a, 220; Blitzer 1990, 701). The pots were either directly shipped on the shore below pottery villages, or at the quay of a harbour.[209]

Documentary evidence from the Byzantine and Medieval periods for the movement of pottery is sparse or non-existing, yet the archaeological evidence suggests that ceramics were distributed on ships for specific tastes. Shipwrecks, excavated in the Aegean since the 1970s, show that pottery (and especially different types of amphorae) moved a lot in Late Roman and Byzantine times (cf. Parker 1992). Pottery was at first, however, never a major item of most ship cargoes in the Mediterranean, because it was quite cheap. Pottery was usually stowed on top of the main cargo. Some scholars suggest that ceramics (even the fine tablewares) were more likely to have been space-fillers for more valuable shipments (cf. Gill 1991 on Classical Greek fine wares). An 11th century shipwreck at Serçe Limani, South-West of Marmaris, contained both Islamic glazed wares and Byzantine wine amphorae, as well as its main cargo: 3 tons of broken glass vessels and glass cullet and 80 intact glass vessels (Bass & Van Doorninck 1978; Van Doorninck 1989; 2002).

However, from the 12th century onwards some ships began to carry glazed tablewares as their principal cargoes. The Pelagonissos-Alonnesos shipwreck, for instance, transported 1,490 ceramics and other objects, among them 768 complete vessels and 628 fragments of
decorated tablewares (mainly Fine Sgraffito Ware) compared to 79 pieces of domestic wares and amphorae (Kritzas 1971; Papanikola-Bakirtzis 1999, 122-42). The Skopelos and Kastellarizo shipwrecks were carrying cargoes of Incised Sgraffito Ware, Champlevé Ware and Slip-painted Ware (Armstrong 1991; Filotheou & Michailidou 1989; Loucas 1989). In the same period, one can notice more finds of these wares in areas outside the Byzantine Empire, such as in Italy and in the Near East (François 1997, figs. 2-4).

This commercialisation and internationalisation of pottery distribution coincides with the emergence of a larger scale pottery production in the Middle Byzantine period, perhaps capable of supplying more extensive markets. In addition, the rise of population numbers and relative wealth in towns and countryside, as well as the more organised circulation of persons and goods between East and West during the 12th and 13th centuries may have created new markets for these glazed wares (François 1997). From the 13th century onward, one can observe also a more intensive (maritime) circulation of pottery between the Western and Eastern parts of the Mediterranean (François 1995, figs. 23-24; id. 1997).

9.4.2 Itinerant potters
Medieval documents in England have shown that potters in that period also travelled many miles to sell their wares at more distant locations (Le Patourel 1968, 119). However, one must not think yet in terms of a large-scale trade system for pottery, because the costs of transport would be very high in relation to the price of the article.[30] In Medieval England, for instance, transport could cost as much as 25 percent of the total price or more in some cases, and as a result of this, coarse wares travelled little more than a radius of 20 miles from their place of origin (Le Patourel 1968, 120).

Furthermore, transporting fragile pottery over the Greek mountains and foothills could be a risky business. The itinerant potters from Early Modern Cyprus, therefore, prepared pottery to commission; using their own clay or the locally available clay they found at the villages they visited (Casson 1938, 467; London 1990, 69). These potters set out with their donkeys, laden with some wet clay as well as with a load of pots for sale. After arriving in a village they sold ready made pots and also made pottery to commission. In addition, they mended damaged pots or remade others (Casson 1938, 467).

An ethnographic study in the Boeotian village Vasilika shows that potters were among the wide variety of itinerant specialists whose regular visits were an important characteristic of the household economy of the villagers on mainland Greece. The villagers took it for granted that they would use part of their produce, in kind or in cash, to pay for the services of these itinerant specialists (Friedl 1962: 34-35).

The Early Modern potters from the island of Siphnos were seasonally itinerant craftsmen. Being islanders, they travelled throughout the Aegean as merchants of their wares. They loaded into their ships not only their pots but also their clay (like the Cypriot potters), in order to manufacture to commission at their ports of call. A caique of 13 tons could take pottery to Megara, near Athens, coming back with resinated wine (Casson 1938, 470-71; Jones 1986, 861).

9.5 Peacock’s model of production and distribution
A general model for ceramic production and distribution in the Mediterranean has been given by the archaeologist David Peacock for Roman pottery studies (Peacock 1982, 6-11). Peacock identified six principal modes of production characterized by an increasing level of complexity and scale: 1) household production for the family; 2) household industry; 3) individual workshops; 4) nucleated workshops; 5) the manufactory and 6) the factory. Each mode of production is defined by its own level of organisation and associated technology (see table 9.1).

Following Peacock’s model, his third mode, the ‘individual workshops’, would resemble in closest way the Medieval pottery production and distribution on site VM4 in Boeotia. The ‘individual workshop’, as defined by Peacock, is usually an isolated workshop, found in a rural rather than an urban setting. Although mainly seasonal, pottery-making is the main source of subsistence. It may have been practised for only part of the year, in combination with farming or garden cultivation during the winter.

The ‘individual workshops’ require investment in technology, including a wheel and kiln for the manufacture of pottery. The craftsman (rather a man than a woman) may work by himself but since efficiency is
important, he is liable to employ assistants, perhaps members of his own family or hired workers. The labour requirement together with his investment in equipment favours a sedentary existence. The potters' workshops no longer produce for the own household, but rather for the most lucrative markets for sale.

Although useful in general terms as a framework for the situation in Boeotia, Peacock's model of ceramic production and distribution is not without its handicaps. It can not always describe the whole range of production modes present and the observed variability. Firstly, some of his modes are too broad for categorisation. Pottery might have been produced during the Medieval and Post-Medieval periods in more, and overlapping, types of production modes. Both extremes of Peacock's framework, the household and the factory, might have co-existed within a single culture in past times (Gaimster & Freestone 1997, 14). As we have seen above, in Early Modern Greece sedentary and itinerant potters, as well as urban and village potters existed next to each other. Furthermore, we also have to consider the family industry in Early Modern Greece, where workshops were close to the house and women and children were assistants (or sometimes potters themselves).

A second problem is the effect of land tenure and feudal structures on production centres and the distribution of Medieval pottery. Could the potter dispose freely of his own products? Many products were manufactured and transported in the Middle Ages by tenants in service for the use of land. Manorial documents from England show, for instance, that the Medieval potter there had to pay for licence to dig clay, and he had to pay whether he took clay from the Lord’s land or from his own land (Le Patourel 1968, 113).

9.6 Summary

Scanty and fragmented as they are, the archaeological, textual and ethnographical sources of information suggest that pottery production in Medieval and Post-Medieval Greece must have been much more common and much more widespread in the countryside than is often assumed. The standard view on ceramic production and distribution in Medieval times seems often biased by the finds of beautiful manufactured vessels, made by highly skilled artisans in large urban centres such as Constantinople or Corinth. Those are, however,
the fairly exceptional, expensive imported wares, whereas the general picture which seems to emerge now is that domestic pottery was a widespread relatively cheap everyday utensil, made by local peasant-potters directly for a local market.

Furthermore, ethnographic and ethnoarchaeological observations of traditional potters in Greece and Cyprus suggest that regional diversity and overlapping types of production levels (urban and village potters, family industry, sedentary and itinerant potters) characterized ceramic production and distribution processes in Early Modern times. This may very well have been the case in previous centuries.

The general picture is that, although they were small, the Early Modern potters’ workshops did not produce only for their own household, but rather for wider markets. They invested in technology, including a foot-operated kick wheel and an up draught kiln, for the manufacture of pots during the summer months. The finished products were sold on the nearest market or village fair, or directly to local customers. When pots travelled in quantity over longer distances, middlemen were often acting as links between potters and customers. The situation on rural sites (such as VM4) in Medieval and Post-Medieval Boeotia probably resembled this pre-industrial/pre-modern organisation of production and distribution.

NOTES

1. The manufacture of these tin-glazed wares will be discussed in the Chapter 10. Cf. on the technological investigations of tin-glazed wares from Italy and Turkey, Wilson (1987) and Tite (1989; 1991).

2. Cipriano Piccolpasso’s manuscript is translated and provided with an introduction by Lightbown and Caiger-Smith (1980).

3. Abu’l-Qasim’s treatise has been published in its original Persian with a German translation and notes by Ritter, Ruska, Sarre and Winderlich (1935). An English translation of the treatise with a more detailed commentary has been given by Allan (1973).

4. Theophilus Presbyter, De diversis artibus / The Various Arts, was edited and translated by Dodwell (1986). Older editions sometimes use the title Diversarum artium schedula.


6. According to Richter (1923, 1), when Early Modern potters speak of the colour of a clay, they refer to the colour after firing, not in the raw state.

7. I would like to thank Dr. Evangelia Kiriatzi, Director of the Fitch Laboratory in Athens, and Dr. Robert Shiel of the University of Newcastle (UK) for this information on the Boeotian clays. See also Allen (1997) for the environmental conditions of the Kopais Lake.

8. Blitzer (1984, 146) mentions that Early Modern potters on Eastern Crete brought the clay to their villages on pack animals laden with sacks capable of holding 125 to 150 okades (one oka equals roughly 1.25 kg) of clay each.

9. It has been suggested by Papanikola-Bakirtzis (1992, 22, fig. 12) that this pulverization by wooden mallets was also done in Byzantine times.

10. Foot trampling was usually done to prepare extremely large batches of clay. According to Matson (1972a, 214), the Early Modern potters in Messenia wedged their clay with their feet. They worked the clay out from the centre of the pile into a flat circular cake perhaps 3 m. in diameter, and then worked back again toward a central mound. Also Blitzer (1984, 148) mentions that the Early Modern potters on Crete stamped the clay with their bare feet.


12. Blitzer (1990, 691) suggests that in Early Modern Messenia wheels could be used by traditional potters for as long as 80 to 90 years. For the technical aspects of different types of potter’s wheels, see Loebert (1984).

13. Wheel-throwing in general requires plastic clays. The presence of rilling depends on the specific forming technique and the surface treatment afterwards.

14. The term ‘engobe’ is French. According to Rice (1987, 149), the term ‘tends to be used primarily with reference to high-
fired ceramics, to designate a slip applied under a glaze. Engobes are intended to alter the colour of the vessels and are usually white; their ingredients are selected to ensure low shrinkage and good fit with the vessel.

15. The term ‘sgraffiare’ was used for the first time by Cypriano Piccolpasso in his 16th century treatise on pottery techniques, which provides us with many potter’s terms. Cf. Lightbown and Caiger-Smith (1980).

16. Instead of a cow’s horn other nozzled tools (in Modern Greek called chradotiri) could also be used for the slip-painting technique. Cf. Psaropoulou (1989, figs. 7-9). According to Korre-Zographou (1995, 25, fig. 25), an analogous tool, called ploumoudistiri, was also used in Skyros.

17. In Early Modern Chalkis, the green glaze was prepared by traditional potters from black copper oxide, copper red lead (from Laurion) and a fine siliceous white powder from Melos (called atsakas) which may be bentonite. Cf. Jones (1986, 868).


20. According to Rice (1987, 158), kilns are generally constructed of refractory material, such as brick, which is able to withstand the stresses of continual expansion and contraction in firing and cooling.

21. For Early Modern potters fuel is the most expensive of their materials, and represents, next to hired workers, their greatest expenditure. Cf. Rice (1987, 162).

22. Cullen and Keller (1990, 184) mention that Early Modern potters at Trapsano on Crete produced 400 to 500 pithoi each season, at a rate of 10-14 vessels per day.

23. According to Voyatzoglou (1984, 132), the itinerant jar makers of the potters’ village of Thrapsanos on Crete were once part of 30 to 35 guilds, totalling about 200 men. Each guild had six members: the master, the second master, the wheeler, the clay man, the wood cutter and the carrier.

24. This reference of Theophanes shows that life in Greece during the 8th-9th centuries was not so dark after all! Apparently it was not a problem to find these specialists.


26. Voyatzoglou (1984, 130) mentions that in Thrapsanos on Crete the potter-craftsman was the father while other members of the family were his assistants. According to Casson (1938, 468), the master potter was called mastoras or protonmastoras on Early Modern Crete.

27. On Cyprus, women of all ages played an important role at home in pottery-making, especially in hand-built pottery on a round or square turntable. Cf. London (1987; 1998-99).

28. Richard Hodges has drawn attention to an alternative tiered hierarchy of markets proposed by Skinner (Hodges 1982, 15-16). At the lowest level, ‘the minor or incipient standard market’, there is a simple exchange of peasant-produced goods and no imported items. The next stage, ‘the standard market’, is the point at which surpluses generated at peasant level early to flow more freely and imported goods cease to be distributed. A level above, or ‘the central market’, lies strategically on the major route ways and possesses an important wholesaling and regional function. At the highest level, ‘the regional market’, dominates the marketing of a vast area.

29. In Boeotia, Chalkis, Livadostro or Anthedon could have served as ports for the distribution of local products.


31. Another but less relevant model of ceramic production and distribution (because it is not specific for the Mediterranean region) is given by Van der Leeuw (1977), who divided the organisation in pottery production in: 1. household production; 2. household industry; 3. workshop industry and 4. large-scale industry.