Myles McCallum & J. Theodore Peña

A REASSESSMENT OF THE TWO POTTERIES AT POMPEII: 1.20.2–3 AND THE VIA SUPERIOR

While the pottery production facilities on the Via di Nocera at 1.20.3 and on the Via Superior (**fig. 1**) have been the subject of archaeological inquiry for quite some time,[1] both merit renewed examination for what they can reveal about the organization of Roman pottery workshops and how pottery production was integrated into the spatial and social fabric of the town at the time of its destruction in AD 79. Indeed, Pompeii provides us with a unique opportunity to understand the relationship in a Roman town between both the manufacture and distribution of pottery on the one hand, and land-use, traffic patterns, labor and resource exploitation on the other.

Recently, the standing architectural remains of both production facilities have undergone careful and detailed reexamination with an eye to identifying and locating various processes in the manufacture of pottery within each facility,[2] but it still remains to put these into the wider context of their neighborhoods in order to identify connections between these facilities and their surroundings. This is the goal of this paper. In particular, attention is paid to potential links, both physical and functional, between production facilities and adjacent or nearby structures and to the special resource needs of pottery production. Finally, location theory is applied to the data to determine the degree to which economic utility may have played a role in the siting of these two facilities.

Via di Nocera Facility

The Via di Nocera Pottery Production Facility (1.20.2–3) fronts on the west side of the Via di Nocera, at the mid-point of insula 20, ca. 45 m to the north of the Porta di Nocera (**fig. 2**). It was excavated in its entirety down to the AD 79 ground surface in 1959, and underwent a program of cleaning and test excavation in 1973, a short description of which was published by Cerulli Irelli in 1977.[3]

The small (9.7 × 11.5 meters, 112 square meters), five room structure was originally a Nappo Type 4 row house built during a period of increased housing construction and presumably also population growth at Pompeii between the end of the third and the first quarter of the 2nd century BC that saw most of *regiones* I and II converted from farmland into regular row houses.[4] It is unclear when this structure was converted to a pottery production facility, although Nappo suggests that over half of the western part of the row house was purchased by the owner of 1.20.4 after the earthquake of AD 62 and 1.20.4 was subsequently enlarged.[5] If this is true, then we may presume that the eastern portion of the former row house was contemporaneously converted to a pottery production facility. Immediately to the south is a vineyard with wine pressing, fermentation, and dining facilities known as the Caupona del Gladiatore (1.20.1) that occupies the entire southern half of the *insula* (approximately 1200 sq. m). The two facilities were connected by two ground-floor doorways and a stairway that led from the Caupona del Gladiatore to the pottery production facility's mezzanine or roof, and may well have been operated as a single commercial establishment.

The simple fact that the only opening connecting the Caupona del Gladiatore to the Via di Nocera is a narrow (1.25 m wide) and apparently quite low (as reconstructed, 1.5 m high) doorway at 1.20.1, one which is partially obstructed by the aforementioned stairway, suggests that this facility was normally accessed through the Via di Nocera Pottery Production facility. When placed within the context of the entire *insula*, it is possible that the Caupona del Gladiatore, the pottery workshop, 1.20.4, and the Shop Garden at 1.20.5 were owned by the same individual at the time of their destruction in AD 79.[6]

The pottery production facility on its own corresponds to Flohr's Type 1, 1–4 room production facility, typical of *tabernae* at Pompeii, and it is much smaller than production facilities associated with baking, tanning, and textile preparation.[7] Rooms 1–3 and 5 have a concrete pavement and were presumably roofed, while Room 4, floored with

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1 See especially Cerulli Irelli 1977; N. Cuomo di Caprio, In margine alle fornaci di Pompei. In: Cronache pompeiane 2 (1976) 231–240; Peña/McCallum 2009 (page numbers are not provided for Peña/McCallum 2009 as the pagination for the article had not been determined at the time the article before you was composed).

2 Peña/McCallum 2009

3 Cerulli Irelli 1977

4 Nappo 1997, 91–93

5 Ibid. 113–115

6 Ibid. 113–115. Only further, focused stratigraphic excavation will reveal the ownership of the units within 1.20.

7 Flohr 2007, 132–134. While it may be that the Via di Nocera facility contained more than four rooms, particularly if the stairway led to a second story wherein were located rooms associated with the production facility, only four are clearly identifiable in the archaeological record.

Fig. 1. Map of Pompeii showing locations mentioned in text. (Based on stadtplan from H. Eschebach, Die Städtebauliche Entwicklung des Antiken Pompeji. Mit einem Plan 1:1000 und einem Exkurs: Die Baugeschichte der Stabianer Thermen [Heidelberg 1970].)

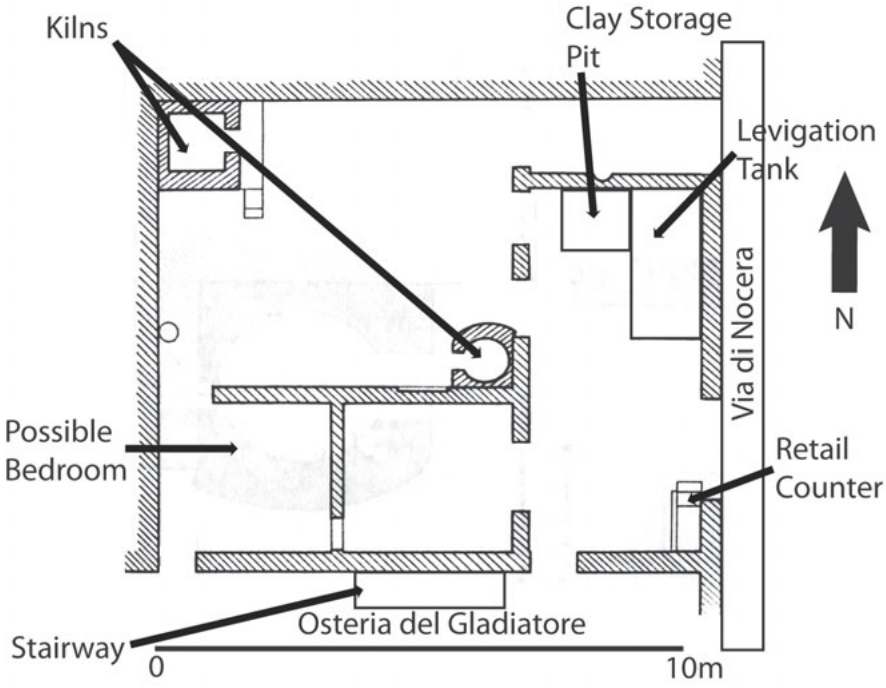

Fig. 2. Plan of the Via di Nocera Production Facility.
(Based on Peña/McCallum 2009 fig. 10, itself modified from Cerulli Irelli 1977 figs. 1–2.)

rammed earth, was presumably an open court. The walls of all five rooms are surfaced with unpainted plaster. The facility also had either a mezzanine (above room 1, and perhaps also above rooms 2, 5, and/or 3) within, or a flat roof upon which it would have been possible to carry out various activities relating to the production of pottery (**fig. 3**). Based on the presence of lamps, lamp molds, and *fritilli* in the combustion chambers of kilns 1 and 2, which were placed here either for storage or for safe keeping, this facility is often referred to as a lamp workshop.[8]

Based on extant architectural evidence, it is likely that a full suite of potting processes took place within the Via di

[8] Cerulli Irelli 1977, 53–55; Peña/McCallum 2009. The combustion chamber of kiln 1 contained 16 intact and 8 fragmentary bivalve molds used in the manufacture of single- and double-spouted lamps. The firing chamber of kiln 2 contained a pyramidal stack of 61slipped, single- and double-spouted lamps, 26 of which were manufactured from 18 of the 24 molds recovered from kiln 1; 35 were manufactured from molds not present. The combustion chamber of kiln 2 contained 123 supposed *fritilli*, vessels that may have been used as dice-cups in gaming.

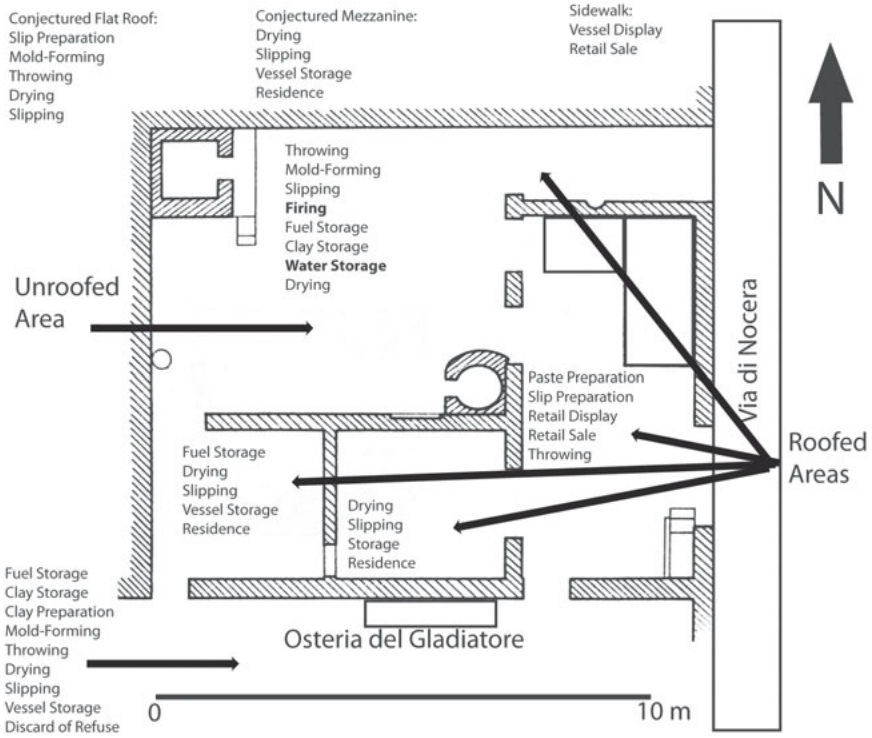

Fig. 3. Plan showing room uses of the Via di Nocera Production Facility. Activities for which there is physical evidence appear in bold type. (Based on Peña/McCallum 2009, Fig. 10, itself modified from Cerulli Irelli 1977 figs. 1–2.)

Nocera facility, including the storage of raw materials, paste and slip preparation, the mold-forming of lamps, the wheel throwing of *fritilli*, the drying of newly formed and newly slipped vessels, the slipping of vessels, the firing of vessels, the storage of fired vessels, the display of finished vessels for sale, and the removal of refuse or debris associated with potting activities.[9] It is also likely that the building was utilized as a residence for at least some of its associated workforce.[10]

The southeastern sector of the town in which the Via di Nocera facility is located, particularly the western edge of *regiones* I and II, is unique: it is what we might refer to as a 'green zone' within the city due to the large number of market gardens, vineyards, and public green spaces associated with the Palestra and the Amphitheater (**fig. 4**).[11] Indeed, over 73 percent of *insula* 20 is occupied by two large garden areas (**table 1**), one, the Caupona del Gladiatore, planted primarily with vines but also a few fruit or nut trees, and the other, the Shop-House Garden at 1.20.5, planted with both abundant vines and at least 16 fruit and nut trees, and a small house garden in the rear of 1.20.4.[12] The *insulae* on the eastern side of the Via di Nocera, in 2.8 and 2.9, contain large garden areas as well (such as 2.8.6, "The House of the Garden of Hercules"),[13] and 53 percent of 2.9 ad 49 percent of 2.8 were covered by gardens. To the west and north, 68 percent of 1.21, 63 percent of 1.15, and 34 percent of 1.14 are covered by gardens, and there is evidence that most, if not all, of them contained grape vines and trees.[14] The Caupona del Gladiatore, the Garden of Hercules, and Garden of the House of the Ship Europa, and the garden at 1.20.5 all contained trees, including hazelnut, chestnut, apple, oak, olive, sorb, and birch.[15] The Palestra area, 1.7, and the space between the Palestra and the Amphitheater also show evidence for vegetation including shrubs and trees.[16] The area outside the Nocera Gate was presumably also part of this green zone, made up in large part of agricultural properties at least as far as the Sarno River.[17] Finally, while the exact course of the Sarno River in the Roman period is not known, it is highly probable that it passed not too far from the Nocera Gate, likely less than a kilometer.[18]

9 Peña/McCallum, 2009.
10 Cerulli Irelli 1977, 55–58; Peña/McCallum 2009.
11 Jashemski 1979a, 160–162; Laurence 1996, 67.
12 This and subsequent calculations on green-space in *regiones* I and II are based on measurements taken from the Müller-Trollius Stadtplan in L. Eschebach, Gebäudeverzeichnis und Stadtplan der antiken Stadt Pompeji (Cologne, Vienna 1991). For information on 1.20.5, see Jashemski 1979a, 190–193.
13 Id. 1979a, 121; id. 1979b, 403–411.
14 For 1.21, see id. 1979a, 243–246; for 1.15, see id. 1974, 410–403 and id. 1979a, 235–238; for 1.16, see id. 1979a, 31.
15 For the Caupona del Gladiatore, see id. 1979a, 227–228; on the House of the Ship Europa, see id. 1974, 401–403 and id. 1979a, 235–238; for the Shop-House Garden at 1.20.5, see id. 1977, 221–224; for the Garden of Hercules, see id. 1979b, 407–408.
16 Id. 1979a, 160-161; Maiuri, Notizie degli Scavi 1939, 194 n. 1.
17 Nappo 1997, 93–96; M. De' Spagnolis Conticello , Il ritrovamento di località Tre Ponti di Scafati e la via extraurbana Pompei-Sarno. Riv. Stud. Pompeani 3, 1989, 41–52.
18 Nappo 1997, 93–95; E. Furnari, Nuovi contributi all'identificazione del litorale antico di Pompei. In: Neapolis II. Temi Progettuali (Rome 1994) 245–258).

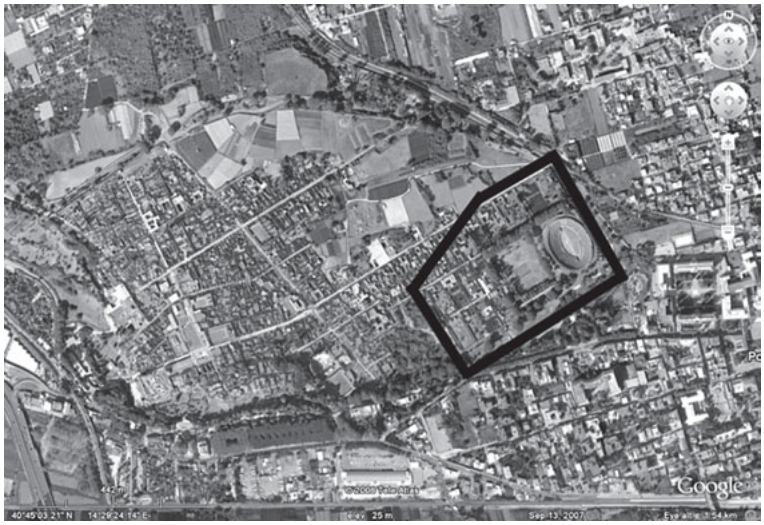

Fig. 4. Green zone of Pompeii. (Satellite Image from Google Earth, December 4, 2008).

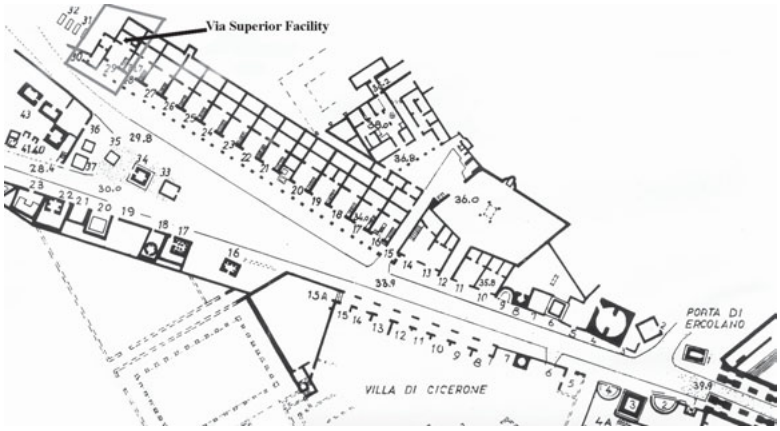

Fig. 5. Via Superior Production Facility and surroundings. (Based on Stadtplan of J. Müller-Trollius in: L. Eschebach, Gebäudeverzeichnis und Stadplan der Antiken Stadt Pompeji [Köln; Wien, 1993].)

The Via di Nocera, which runs N/S from the Via di Nola in the north through the Nocera Gate in the south, is a narrow (approx. 2.8 meters wide) one-way street that directed wheeled traffic from the Nocera Gate towards the Via dell'Abbondanza.[19] A sidewalk, approximately 0.80 meters wide, runs north-south alongside the Via di Nocera outside of the pottery production facility. Insula 20 is flanked on the north by a one-way street, the Via della Palestra, which carried traffic eastbound to the Via di Nocera and beyond to the Palestra.[20] Beyond the Nocera Gate lies the Nocera Necropolis, a series of tombs running roughly E/W along the Nocera Gate Road, approximately 100 meters from the Via di Nocera Facility. As noted above, the Palestra and Amphitheater were also nearby, approximately 60 and 180 meters respectively to the east of the facility.

Via Superior Facility

The Via Superior Pottery Production Facility is situated on the Via Superior, ca. 150 m outside the Porta di Ercolano (**fig. 5**). Excavations undertaken in this area in 1838 and again in or somewhat before 1875 revealed part of a pottery production facility.[21] The facility, which has never been published in detail, occupies the northwest end of a NW-SE oriented commercial Strip Building (86 m long × 18 m deep) constructed ca. 150–100 BC that runs along the northeast side of the Via Superior, backing up against the Villa delle Colonne a Mosaico. The building consists of a row of 14 identical two-story, four-room ranges – each with a pair of rooms on the lower level and a pair of rooms on the upper level – fronted by a continuous arcade.[22] The relationship between the Strip Building and the Villa of the Mosaic Columns is not certain, but it is possible that they were owned by the same individual and that the presence of a row of commercial and industrial properties attached to the Villa denotes the economically productive use of private property located in a relatively high-traffic area.

[19] R. Tsujimura, Ruts in Pompeii: the traffic system in the roman city. Opuscula Pompeiana 1, 1991, 58–86; Poehler 2006, 54 fig. 1.
[20] Ibid.; E. Poehler, personal communication.
[21] Kockel/Weber 1983, 70–72.
[22] Ibid. 55–56; 75–79.

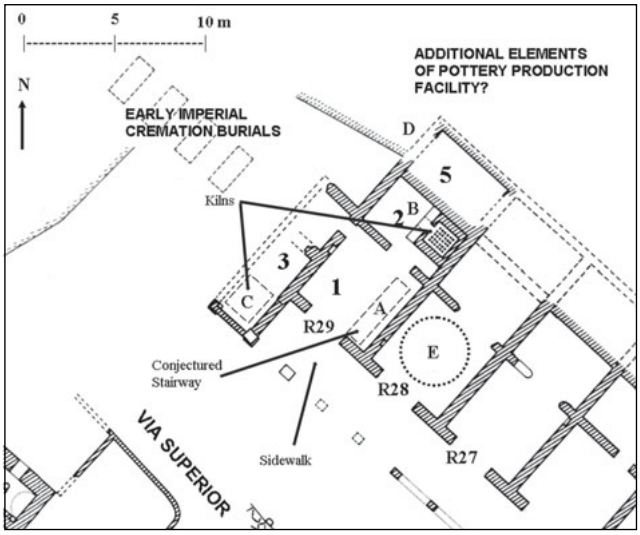

Fig. 6. Plan of Via Superior Production Facility. (Based on Peña/McCallum 2009 fig. 13, itself modified from Kockel/Weber 1983, 212.)

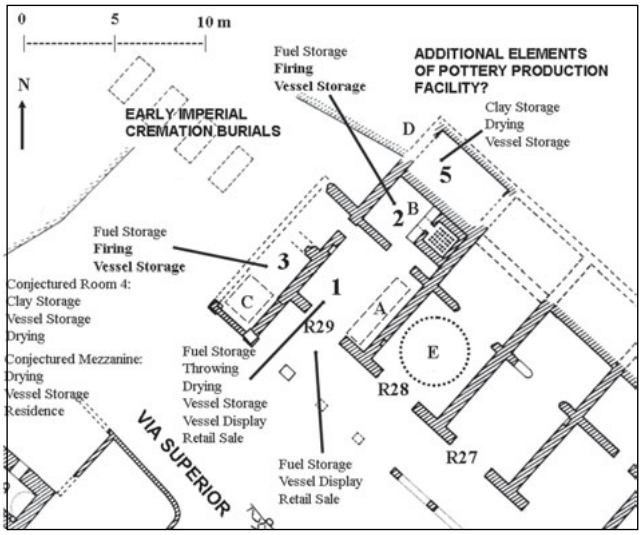

Fig. 7. Plan showing room uses of the Via Superior Production Facilities. Activities for which there is physical evidence appear in bold type. (Based on Peña/McCallum 2009 fig. 13, itself modified from Kockel/Weber 1983, 212.)

The pottery production facility is located in the northwestern-most of these ranges. While there is no stratigraphic evidence that would allow us to date its construction, the production facility was likely not present on the premises from the outset, as there is evidence for substantial renovation of parts of this structure at some point prior to AD 79.[23]

The Via Superior Production Facility consists of at least five ground-level rooms, measuring 8.60 × 8.60 meters or 73.96 square meters and possibly two updraught kilns (**fig. 6**).[24] The facility may also have included a mezzanine above the lower-level front room and may have possessed a flat roof that could have been utilized for pottery production operations. The facility corresponds to Flohr's type I production facility, the smallest class of such facility at Pompeii; it is essentially a *taberna*.[25]

The architectural remains suggest that a variety of activities associated with pottery production took place at the Via Superior facility, including the storage of raw materials, the throwing of vessels, the drying of newly formed vessels, the firing of vessels, the storage of complete vessels, the display of completed vessels, and the collection or discard of refuse (**fig. 7**).[26] While possible, there is no evidence that the structure was also used as a residence.

The Via Superior Facility is in the immediate peri-urban area of the town, set amidst the Herculaneum necropolis and large villa-style properties like the Villa of the Mosaic Columns, Villa of Cicero, Villa of Diomedes, and, further north, the Villa of the Mysteries (**fig. 5**). Archaeological evidence suggests that this area was suburban in nature, with dwellings less densely packed than within the town's fortification wall.[27] Presumably, this area was also the locus of agricultural activity, including vineyards (i. e. the press room and *dolia* at the Villa of the Mysteries), market gardening, and arboriculture.[28]

The Via Superior is a NW/SE running road that branches off of the Via dei Sepolcri approximately 100 meters to the northwest of the Herculaneum Gate. Since the Via de Sepolcri, which changes name to the Via Consolare once it passes through the Herculaneum Gate, is one of the primary arteries for traffic entering the town from the North, with two way vehicular traffic,[29] the intersection between it and the Via Superior was likely a high-traffic area. Based on the work of Kockel and Weber,[30] there is evidence for a broad (~6.5 m at its widest) sidewalk or small plaza on the exterior of the colonnade, running from the entrance to the Villa of the mosaic columns to the northwestern edge of the Strip Building (~90 meters NW/SE). Also, the intersection between the Via Superior and the Via dei Sepolcri, wherein are located 3 tombs (33, 34, 35), presents a relatively open space devoid of wheeled traffic approximately 12 m to the west of the Strip Building's colonnade.[31] To the northwest of the production facility is another relatively flat and open area in which were located 4 early imperial cremation burials, none of which are visible today.

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23 Ibid. 62–63; Peña/McCallum 2009.

24 L. Fulvio, Delle fornaci e dei forni pompeiani. In: M. Ruggiero (ed.), Pompei e la regione sotterrata dal Vesuvio 1 (Naples 1879) 273–293; 280; M. Annecchino, Suppellettile fittile da cucina di Pompei. In: L'instrumentum domesticum di Ercolano e Pompei. Quad. Cultura Materiale 1 (Rome 1977) 105–120; 106; Kockel/Weber 1983, 79, state that the existence of one of the two kilns is uncertain.

25 Flohr 2007, 132–134.

26 Peña/McCallum 2009.

27 Kockel/Weber 1983, 51–58; L. Richardson, Pompeii: An Architectural History (Baltimore, London1988) 28–35; 347–360.

28 Jashemski 1979a, 41; 151–153, notes the presence of an elaborately decorated ornamental garden in the Villa of the Mosaic Columns.

29 Poehler 2006, 68 fig. 29.

30 Kockel/Weber 1983, 54 fig. 1; 68–70.

31 Ibid. 54 fig. 1; 55–57; Peña/McCallum 2009.

Insula	Total Area (square metres)	Area Covered by Gardens (square metres)	% of Total Area
1.14	2788	946	34%
1.15	2754	1734	63%
1.20	2686	1971	73%
1.21	2788	1882	68%
2.8	2720	1339	49%
2.9	2788	1489	53%

Table 1. Amount of Green Space in *Insulae* Surrounding 1.20.

Interpretation

Location theory suggests that rational economic actors will attempt to maximize their profits by locating productive activities to maximize their utility.[32] In the case of pottery production, the proximity of basic resources or consumers might influence the location of pottery production facilities.[33] Rent, related to property value, may also be a factor. Both facilities appear to be positioned within the town's urban/peri-urban fabric to take advantage of available resources, traffic patterns, and, in the case of the Via di Nocera facility, available labor. Also, their location and layout suggests that these facilities were home to small workshops and that pottery manufacture at Pompeii was a small-scale productive activity, likely marginal with respect to other productive activities such as tanning, textile manufacture, and baking.

Resources

Turning to the Via di Nocera facility first, its position within the town's so-called Green Zone suggests a number of possibilities, as does its close physical relationship with the Caupona del Gladiatore and close proximity to other gardens in *regiones* I and II. First, we may presume that there is some relationship between agricultural production and pottery production. This is most likely related to resources, particularly fuel, but also possibly clay or tempering material provided by agricultural properties. While recent evidence suggests that the primary fuels associated with industrial activity at Pompeii in the 1st century AD were Beech and Oak, wood from coppicing activity and trimmings from fruit arboriculture, oleoculture and viticulture were also used, possibly as kindling or as charcoal.[34] Even the tombs located along the Nocera Gate Road can be considered part of this green zone as many of them were likely outfitted with small gardens planted with one or two trees, some evergreen shrubs, possibly a vine or two, and some flowers,[35] and the maintenance of these gardens may have provided some amount of fuel used in small industrial activities such as pottery production. Presumably, the agricultural activities at 1.20.5 and in the Caupona del Gladiatore provided some amount of fuel for the workshop, and other nearby urban gardens may have contributed as well. Moreover, one may imagine that the agricultural activities in the town's immediate peri-urban zone, specifically on agricultural properties between the town's pomerium and the Sarno River, would also have been a source of fuel. It is interesting to note that if this was the case, then the fuel used in the firing of pottery may have been significantly different from that used in other industrial activities at Pompeii.[36]

It is also possible that this agricultural activity, which leaves ground uncovered and requires the digging of holes, allowed for the exploitation of clay-pits in urban and suburban gardens, such as the clay-pit discovered in the House of the Ship Europa,[37] or of deposits of temper such as volcanic sand (lightly weathered or unweathered alkaline volcanic material presumably including fragments of volcanic rock, plates and perhaps also books of biotite mica, grains of leucite, subangular to angular grains of feldspar, including sanidine and, less abundantly, plagioclase, and subangular to angular grains of clinypyroxene)[38] which is commonly encountered in excavations throughout the town and its peri-urban area.

The Nocera production facility is also near the Sarno River, a potential source of flavio-lacustrine clay.[39] Its location on the Via di Nocera, a one-way, northbound street would have allowed for clay, fuel, or temper from the town's hinterland to be transported by wagon or pack animal to the facility's front door. While there is evidence within the Bay of Naples for the transport of clay from Ischia to Puteoli for the manufacture of Red Slip pottery (ITS), it appears to have been more common for pottery production facilities to have been located in the immediate vicinity of clay sources,[40] prob-

32 Plattner 1987, 70–10.

33 Arnold 1985, 32–60, presents the most detailed analysis of the relationship between resources and the location of potting. This is summarized in Rice 1987, 177–180

34 R. Veal, personal communication based on her examination of charcoal from both 6.1 and 8.7.1–15. This will be published in her PhD dissertation at the University of Sydney.

35 Jashemski 1979a, 144–145 esp. 149–150 for discussion of the possible garden located in the Tomb of Eumachia outside the Nocera Gate.

36 R. Veal, personal communication during a conversation about possible sources of fuel used in pottery production at Pompeii. This will be published in her PhD dissertation at the University of Sydney.

37 Jashemski 1974, 393.

38 Peña/McCallum 2009.

39 Ibid.

40 Ibid.; Peacock 1982, 99–101.

ably because clay is relatively heavy[41] and pottery is a relatively inexpensive trade good.[42]

The Via Superior facility is also potentially well-positioned to take advantage of nearby resources, particularly fuel and also probably clay and temper. The immediate peri-urban area was a center of agriculture activity, including viticulture and fruit arboriculture, and evidence from excavations at 6.1 suggests the presence of oak, birch, olive, and pine trees in the area as well, all good sources of fuel.[43] Indeed, the Villa of the Mosaic Columns immediately adjacent the Strip Building has a substantial decorative garden with flowers, a pool, statuary, and, most importantly from our perspective, a number of large trees[44] that could have provided fuel when pruned. Again, the tombs lining the Via dei Sepolcri beyond the Herculaneum Gate also likely contained some number of ornamental gardens probably planted with one or more cypresses,[45] and that the maintenance of these gardens likely produced a small amount of fuel. While no clay sources have been identified in the area around the Via Superior facility, it is possible that a volcanic, sedimentary clay source, similar to that used in the manufacture of cookwares in the Bay of Naples region, was located nearby. Certainly, it would be much easier to exploit such a source in the peri-urban area of the city rather than its built-up core, particularly in *regio* VI which shows little open space, and recent work at Scoppietto provides evidence for the location of pottery production facilities adjacent to an important clay source at the expense of other logistical considerations such as easy access to a navigable river.[46]

The Via Superior facility's location adjacent to the Via dei Sepolcri/Via Consolare, one of the most important arteries directing wheeled traffic into and out from the town, is likely an important factor in the structure's siting. This roadway would have allowed for the easy transport of raw materials to the production facility, particularly heavy loads of wood for fuel or large amounts of clay, both items most easily transported either with a pack animal or on a wagon or cart.

Labor

The location and arrangement of the Via di Nocera production facility also presents possible benefits to staffing and labor. It is likely that the Nocera workshop and the Caupona del Gladiatore represent a single commercial operation and, consequently, shared labor, an arrangement which might parallel that seen in rural production facilities attached to villa estates (localitá Porto in the Volturnus Valley north of the Campi Flegrei, for example).[47] Presumably the workforce involved in viticulture, wine production, and food service in the Caupona could on occasion provide extra labor for the pottery workshop, moving fuel, loading and unloading kilns, transporting vessels, and perhaps even making pottery. It is also possible that the workforce of potters and their assistants active in the Via di Nocera facility may have worked seasonally or occasionally tending vines, harvesting grapes, crushing the grapes, and possibly even serving customers.

There is little evidence for the possible sharing of labor between the Via Superior production facility and neighboring commercial installations within the Strip Building. While the Villa of the Mosaic Columns and the Strip Building likely form the residential and commercial/industrial sections of a single property, the units within the Strip Building resemble rental units rather than units staffed by the slaves, freedmen, and clients of the property owner. Hence, it seems most probable that the workshop active at the Via Superior production facility worked independently of the commercial enterprises alongside them, and also independently of the property's owner.[48] The workshop, then, was likely quite small, and its produce was evidently capable of generating revenue sufficient both for the renovation of the property into a production facility and for its rental.

Traffic/Marketing

Both facilities were located in areas of high traffic and presumably were also points of retail activity. The Via Superior facility is located immediately outside the Herculaneum Gate, through which runs the Via Consolare, a busy two-way street.[49] This facility is also situated within a long multi-shop retail facility that likely drew potential consumers on a daily basis and functioned as an important market center for those resident in the densely populated northwestern area of the town – *regio* VI – and in the town's peri-urban zone.

The Via di Nocera facility is also located near one of the town's gates on a road that must frequently have been bustling with traffic bound for the nearby palestra and amphitheater. It is of note that the shop counter in Room 1 of the facility is positioned to be readily visible to pedestrian traffic moving towards the Nocera Gate, perhaps indicating that many sales were to residents of the town's hinterland, to spectators at the amphitheater whose primary residence was outside of Pompeii's urban core, or to customers purchasing lamps to use as offerings in the nearby Nocera necropolis.[50]

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41 Rice 1987, 116–118, discusses the distance travelled by potters to procure clay, which, due to its relatively high density, some ethnographic studies show to be less than 10 km. Arnold 1985, 35–57, presents a more detailed model that he calls, 'the exploitable threshold model'.

42 Rice 1987, 172; Peña/McCallum 2009; Peacock 1982.

43 R. Veal, personal communication.

44 Jashemski 1979a, 151–153.

45 Ibid. 142–145.

46 M. Bergamini, personal communication. See also Bergamini, this volume. Of course this example is taken from the Tiber Valley north of Rome and therefore is only generally suggestive of the location of early imperial Roman pottery production facilities in Italy with respect to resources and transport networks.

47 C. Cicirelli, La ceramica comune da Terzigno: nota preliminare. In: M. Bats (ed.), Les ceramiques communes de Campanie et de Narbonnaise (I^{er} s.av.J.-C. – II^{e} s.ap.J.-C.). La vaisselle de cuisine et de table (Naples 1996) 157–171; E. Chiosi/F. Miele, Impianti produttivi nella media valle del Volturno. In: G. Olcese (ed.), Ceramica romana e archeometria: lo stato degli studi (Florence 1994) 301–312; E. Chiosi/G. Gasperetti, Localita Porto. Un quartiere produttivo romano sulla riva sinistra del fiume. Boll. Arch. 11–12, 1991, 121–126; Peacock 1982, 99.

48 Flohr 2007, 144–145; P. Allison, Placing Individuals: Pompeian Epigraphy in Context. Journal Mediterranean Arch. 14.1, 2001, 53–74 esp. 56–57.

49 For discussion of the traffic patterns in *regio I*, see Poehler 2006, 61–72

50 Peña/McCallum 2009.

The integration of these production facilities within the town's road network also hints at the nature of exchange that took place at both the Via Superior and Via di Nocera facilities. Doubtless, production at each facility was for local consumption. There is no evidence that either of these facilities produced pottery for export from Pompeii, although it is possible that lamps and cookpots produced in them were transported directly by consumers to nearby towns such as Herculaneum or Nuceria. It is certain that spectators from surrounding communities attending performances at the amphitheater passed by the Via Superior workshop when returning to their homes. Finally, it is possible that itinerant traders purchased consignments of pots from one or both of these establishments and regularly transported them to neighboring communities.[51] It seems highly improbable that these pots were the object of extra-regional trade beyond the Bay of Naples area.

Status of pottery production

Both facilities are located in what were likely marginal areas with respect to property values and rent, perhaps indicative of the economic status of the pottery industry. The Via di Nocera facility is located in an area of the town dominated by small market gardens and vineyards, indicating that property values here may have been relatively low with respect to the other, more heavily built-up areas of the town where the higher density of settlement put greater pressure on space and so made property values relatively high.[52] Similarly, the Via Superior facility is positioned entirely outside of the town's urban core and so likely in an area of lower property values and rents. It seems, then, revenue generated by potting was relatively low; otherwise, we may expect to find production facilities in more densely built-up parts of the town, where, in fact, almost all other production facilities are located.[53]

It is also possible that the location of these production facilities in zones with a low-density of residences is a function of the noxious gasses emitted during firing. While we have no direct evidence for this at Pompeii, Zebahim notes in the Babylonian Talmud, Baba Kamma 82B that in Jerusalem during the Second Temple Period there were prohibitions against potting kilns within the city.[54] The location of both the Via Superior and the Via di Nocera facilities in areas of Pompeii with relatively few residences and with low property values is probably not accidental.

Scale of production

The layout of both production facilities, their size, and the size of the kilns within them, all suggest that the scale of pottery production was small. Each facility is less that 150 sq. m., which puts them in the smallest third of Eleni Hasaki's typology of Greek production facilities;[55] they contain two relatively small kilns; there is little room to employ a large workforce of potters, and it is unlikely that they could have efficiently produced vessels much larger than cookpots.

The only evidence from Pompeii for the organization and scale of pottery production comes from a single fresco recovered outside the Hospitium/Caupona of Pulcinella at 1.8.10, which has been taken as evidence for pottery production within this building prior to the second half of the 1st century AD (**fig. 8**).[56] The fresco, excavated in 1940, measures 1.38 meters long by 0.59 meters high. It was located to the immediate north of a blocked doorway that once connected the room in the southeast corner of 1.8.10 to the street on the eastern edge of the *insula*,[57] and had been scored and plastered over with white wall-plaster, some of which had fallen off prior to the fresco's excavation. Maiuri initially thought that the fresco was pre-Roman in date, but it probably dates to the Roman period.[58]

The fresco can be divided into two sections. The left section, measuring 0.72 m long by 0.57 m high, depicts the production of pottery, perhaps within a production facility similar to those discussed above. The right section of the fresco, measuring 0.87 m long by 0.57 m high, depicts what may be two figures engaged either in the sale of textiles or a dramatic production and is of little interest to this study.[59] The right side of the left section depicts two registers of figures, two on the top register, the one on the upper left only partly preserved, and three on the lower register. Each of the four potting figures is dressed in a tunic and seated on a stool before a turntable mounted on a cone or pivot, on which rests a partially finished pot. All of the potters also have a pole which may be used to propel the wheel.[60] A woman stands between the two potters on the lower register, facing the one on the right with a vessel in each hand, possibly taking them from or giving them to this potter.

The three complete male potters are working on either two different vessel forms – one an open bowl form, the other a closed pitcher form – or a single form in different stages of production. The female, who may be another potter or an assistant, is either finishing a vessel, presenting a vessel to one of the seated potters, or taking a vessel from this same potter.[61] The partial male potter appears to be turning another vessel on a fourth turntable, although neither the turntable nor the vessel are visible. If these figures rep-

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51 Ibid.; For a general, although dated, presentation of itinerant trade at Pompeii, see E. Magaldi, Il Commercio Ambulante a Pompei. Atti Accad. Pontiniana 60, 1930, 61–88.

52 Laurence 1996, 67; Raper 1977, 206–219 R. Raper, The analysis of the urban structure of Pompeii: A sociological examination of land use (semi-micro). In: D. Clarke (ed.), Spatial Archaeology (New York, London 1977) 189–222.

53 Laurence 1996, 55–67.

54 F. Vitto, Potters and pottery manufacture in Roman Palestine. Bull. Inst. Arch. 23: 1987, 47–64.

55 See E. Hasaki, Ancient Greek Ceramic Kilns and their Contribution to the Technology and Organization of the Potter's Workshops. In: G. Kazazes (ed.), Ancient Greek Technology, Second International Conference (Athens 2006) 221–227.

56 SAP Inventory Number 45622.

57 Maiuri 1953–1954, 90-92; De Carolis 1999, 164; Peña/McCallum 2009

58 Maiuri 1953–1954, 90.

59 De Carolis 1999, 164.

60 Peña/McCallum 2009, discuss the possible interpretation of this evidence with respect to Roman potting wheels.

61 Ibid.

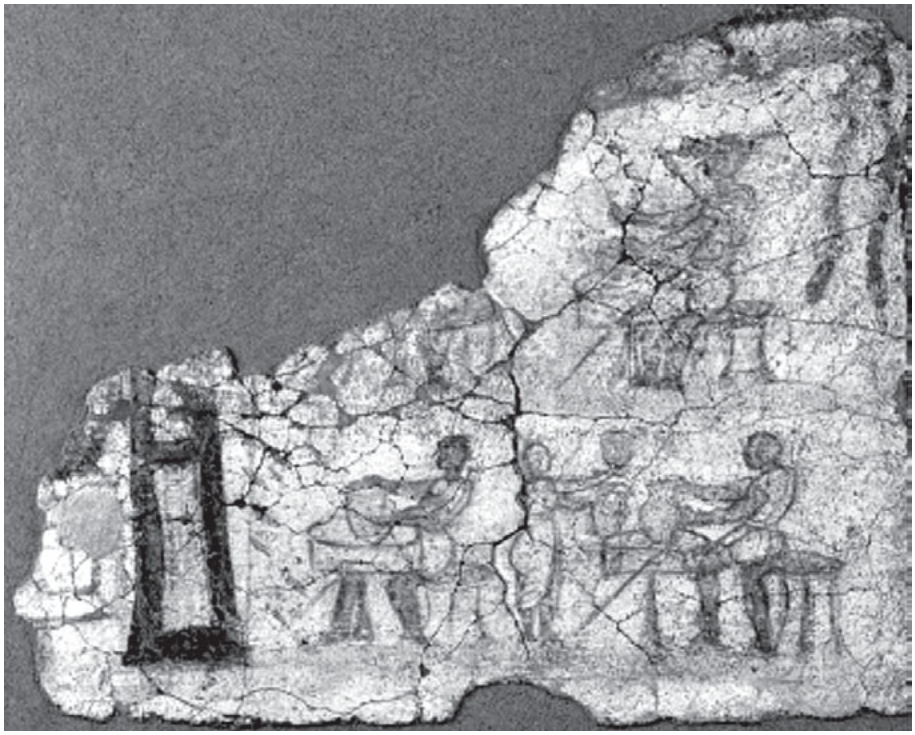

Fig. 8. Fresco from 1.8.10 depicting pottery production. (© Soprintendenza Archeologica di Pompei, Inv. 45622).

resent four potters working simultaneously, then this may be taken as evidence for the presence of pottery workshops at Pompeii comprised of 5 or more workers. If these figures represent the serial production of a single vessel, then this may be taken as evidence that there were 1st century AD pottery workshops at Pompeii with a single potter and perhaps only one or two assistants.

The artifactual evidence from the Via di Nocera and the Via Superior pottery production facilities corroborates the pictorial evidence and suggests that they were small-scale facilities similar to other pottery production facilities elsewhere in the Roman world. The limited variety of vessel forms found at both production facilities suggest specialized production units similar to those described by Peacock in his study of potting in the Roman world.[62] Peacock refers to such production units as 'workshops': specialized full-time production units located in facilities that were dedicated to the production of pottery. Pottery workshops employed a small number of skilled professional potters, produced a limited repertoire of vessel forms, and supplied local demand for pottery.[63] Both Pompeian workshops appear to have been involved in specialized production, with the Via Superior facility producing a limited repertoire of open cookware or coarseware forms and the Via di Nocera workshop responsible only for the production of mold made lamps and *fritilli*, and it is likely that they manufactured pottery to supply demand at Pompeii. Finally, if we take the fresco at 1.8.10 to be a realistic depiction of activities at pottery production facilities within Pompeii during the Roman period, then the workshops associated with these production facilities were small, with as few as two and perhaps as many as six potters and their assistants.

Conclusion

Placing the Via di Nocera and the Via Superior pottery production facilities within the urban, peri-urban, and suburban fabric of Pompeii indicates that their siting was not accidental and can be understood with respect to certain basic principles of economic rationalism embodied in location theory. First, there may be a symbiotic relationship between agricultural production, particularly viticulture, and the production of pottery, perhaps not dissimilar to what has been proposed for other parts of the Roman world. Agricultural activities likely provided some amount of fuel for potting, and it is possible that labor was shared between agricultural concerns and pottery production facilities. This hypothesis merits further archaeological investigation to ascertain the types of fuel utilized at both production sites and to determine whether or not the production facilities were independent economic units or constituent parts of larger ownership units that included neighboring properties. Second, the production facilities were sited so as to take advantage of local traffic patterns and locally available resources, particularly clay and fuel. Third, both production facilities were likely small workshops producing almost exclusively for local consumption at Pompeii, although it cannot be ruled out

[62] Peacock 1982, 25–31; 90–101; 120–128; Fulle 1997, 136–144.

[63] Peacock 1982, 90–101; W. Jongman, The Economy and Society of Pompeii (Amsterdam 1988) 183–186, notes that the wide range of artisans identified at Pompeii suggests that almost all requirements for goods such as pottery could be met from local production. See also, Laurence 1996, 55.

that some small amount of their produce was distributed more broadly throughout the region through a regional trade network of itinerant traders and periodic markets. Fourth, and finally, it is likely that both facilities, based on their size and productive output, were situated in parts of Pompeii with relatively low-rents.

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