

MARIA TRAPICHLER

## Pottery Production in the Bay of Naples

### THE BLACK GLAZE WARE

#### INTRODUCTORY NOTE

The *fabrics* established below result from several sites in the Bay of Naples and from Velia as an example of the distribution area. Probably most important are 36 samples of Black Glaze Ware, which stem from the excavations of Piazza Nicola Amore in Naples, conducted by D. Giampaola from the Soprintendenza Speciale per i Beni Archeologici di Napoli e Pompei. These samples were taken from contexts connected with the use and obliteration of a pottery workshop, active from the first half of the third to the mid of the second century B.C.E.<sup>1</sup>

This evidence was complemented by nine samples of Campana A of the last third of the third and the first third of the second century B.C.E. from the site of Velia.<sup>2</sup> The *fabrics* of these samples, identified as productions of the Bay of Naples by archaeometrical analyses,<sup>3</sup> correspond very well to those established for the samples from Naples.

We further classified about 300 fragments of Black Glaze Ware, found at Cuma. The majority of these samples stem from the excavations of the *Tempio con Portico*, conducted in 2001 by the Università di Studi Federico II Napoli (290 samples), dating from the Archaic to the Hellenistic period. Nine fragments were provided by the Centre Jean Bérard and derive from the excavation of the Northern Suburban Sanctuary from a deposit (US 700137) which is dated to the last third of the fourth and the beginning of the third century B.C.E.<sup>4</sup> Though a local production of Black Glazed Ware at Cuma does not seem improbable, in particular for the periods in which the city enjoyed great wealth, the identification of this production remains uncertain as no archaeological evidence exists, such as kilns or kiln wasters for the production of Black

---

<sup>1</sup> Febbraro – Giampaola 2009, 11732 and the contribution in this edition of **FACEM**. See also Olcese 2012, 356–60. For the workshop of Corso Umberto excavated earlier by W. Johannowsky, see Accorona et al 1985; Morel 1985, 372. 375. 376; Morel 1986, 339. 342; Morel and Picon 1994, 43–4; Febbraro et. al. 1996, 101; Febbraro 1997; Laforgia 1997; Morel 2005, 1004; see also Olcese 2012, 349–51 with earlier bibliography.

<sup>2</sup> These samples stem from the Austrian Excavations of the fortification wall in the Lower Town of Velia (Trench 5/98), dated by the latest pieces of Black Glaze Pottery to the first half of the second century B.C.E. (Velia's pottery phase E 1), one sample (M2/134) is a residual find in a levelling layer, dated to early imperial period (508/98). For the excavations, see Gassner and Sokolicek 2000, for trench 5/98, see Gassner and Sokolicek 2000, 100.

<sup>3</sup> Analyses by Roman Sauer, consisting of Thin Section and Heavy Mineral analysis. The *fabric* NA-RE-G-1 of **FACEM** edition June 2011 has now been divided to BNAP-G-1 ( M2/133–134); BNAP-G-2 (M2/151 and M2/156); BNAP-G-3 (M2/159, M2/160 and M2/163), see also the description of *fabrics* below.

<sup>4</sup> The examined fragments of this site were analysed by means of thin section and chemical analyses by V. Morra and his team, see note 5.

Glaze Ware in Cuma.<sup>5</sup> Hopefully, the archaeometric studies still in course will allow a better understanding of the situation.<sup>6</sup>

## DESCRIPTION OF *FABRICS*

### The Production of Naples – Campana A

Common characteristics of these *fabrics* described below are the appearance of carbonate-pseudomorph moulds within the matrix and tiny black inclusions (probably dark volcanic glass) among its temper. Carbonate-pseudomorph moulds result from the decomposition of carbonates during firing due to a high firing temperature. As they represent reaction seams of carbonates colouring the surrounding matrix, they may evoke the impression of a much higher percentage of the original contained carbonates. Anyway, the used raw material for the production of these Campana A *fabrics* has to be calcareous clay.<sup>7</sup>

The following *fabrics* BNAP-G1 to 3 were distinguished when re-examining the *fabric* NA-REG-G-1 of the version 2011 of **FACEM**. In BNAP-G-1 and BNAP-G-2 carbonate-pseudomorph moulds are both fewer and smaller than in BNAP-G-3, which is riddled with them. BNAP-G-1 and BNAP-G-2 are distinguished by differences in the appearance of the matrix, with the matrix of BNAP-G-1 characteristically appearing “grey mottled” (see below).

The archaeometric analyses of the examples from Velia of BNAP-G-1 to BNAP-G-3 made the provenance from the volcanic area of the Bay of Naples very likely. The optical comparison of the Velinian samples with those from the workshop area in Naples, Piazza N. Amore confirmed this assumption.

### BNAP-G-1

*Reference sample:* M 151/2, *further examples from Naples:* M 151/8, 17, 18, 25; *from the distribution area Velia:* M2/133 (former *fabric* NA-REG-G-1, reference sample); M2/134, M2/158; *from Cuma:* M142/159

*Matrix:* The *fabric* varies in colour from light reddish brown (2.5YR6/4) to reddish brown (2.5YR5/4), the fracture surface is granular. The matrix characteristically appears “grey mottled”, with the “mottles” consisting of an accumulation of tiny dark and shining particles (probably dark mica or volcanic glass). It contains a high amount of small carbonate-pseudomorph moulds, which range in size from 0,02 to 0,05 mm. Voids are rare (estimated percentage 5%) and mostly irregular in shape (“vughy”), less frequent chamber-shaped.

---

<sup>5</sup> Only one obscure fragment of an over-fired lekythos of the fourth century B.C.E., now in the Museo Archeologico Nazionale in Naples is mentioned by Morel 1981, 52, n. 143. It can, however, not be regarded as proof of a local production.

<sup>6</sup> The publication of these analyses is provided for the edition of **FACEM** 2013.

<sup>7</sup> As carbonate-pseudomorph moulds do not show up as carbonates in chemical analyses, the *fabrics* of Campana A are usually described as “without carbonates”, see for example the analyses of Campana A fragments of Corso Umberto by Morel and Picon 1998 (“Campana A from Corso Umberto, non calcareous Matrix”).

*Temper:* Inclusions are generally rare (estimated at 2,5%) and of different grain sizes from 0,05 to 0,12 mm. Most characteristic, but sparsely visible are dark brown to black shiny particles (probably volcanic glass) which are very small with a grain size up to 0.05 mm. Striking among the carbonate-pseudomorph reaction seams are some rounded, spherical to subspherical white particles, which occasionally may show a yellow core (probably recrystallized calcite). The inclusions comprise further rounded spherical to subspherical black and reddish brown particles (probably iron-oxide-concretions). Less characteristic and often sparsely visible are small angular and spherical clear quartz inclusions (max. 0,12mm)

*Shapes:* cups (Morel 2787), plates (Morel 1310)

*Chronology of contexts:* first half of third to second century B.C.E.

### **BNAP-G-2**

*Reference sample from Naples:* M 151/15; *further examples from Naples:* M151/1, 4, 5, 6, 16, 21, 22, 23, 30, 32, 36; *from the distribution area:* Velia M 2/151, M2/157

*Matrix:* The *fabric* varies in colour from mostly reddish yellow (7.5YR6/6) to light reddish brown (5YR6/4) and strong brown (7.5YR5/6). The fracture surface is granular. Voids are comparatively frequent (estimated between 5 and 7,5%) and mostly irregular in shape (vughy or less frequent chamber-shaped.) The matrix contains a high amount of carbonate-pseudomorph moulds, which are partly only recognizable as tiny white spots and range in – measureable sizes – from mostly 0,02 mm to 0,05 mm, only sporadically up to 0,12 mm, representing possibly actually bioclastic remains. The *fabric* also frequently contains white and dark mica (mostly up to 0,08 mm, singularly to 0,25 mm). The *fabric* is distinguished from BNAP-G-1 by the absence of the “grey mottles” within the matrix.

*Temper:* The inclusions are generally rare and small and do not differ from BNAP-G-1. They comprise characteristic, but only sparsely identifiable dark angular and glassy particles. Frequently represented are also black rounded spherical to subspherical inclusions, less frequent are reddish brown inclusions (probably iron-oxide concretions). Striking are rounded spherical to subspherical white particles with grain sizes up to 0,5 mm. Less characteristic and scarcely visible are angular, spherical clear quartz particles, which ranges in size from 0,05 mm to 0,5 mm.

*Shapes:* cups and plates: cup Morel 2979, plate Morel 1312

*Chronology of contexts:* second century B.C.E.

### **BNAP-G-3**

*Reference sample from Naples:* M 151/20; *further examples from Naples:* M151/3, 10, 34; *from Velia:* M2/159, M2/160, M2/161, M2/163

*Matrix:* The *fabric* is light reddish brown (5YR6/4) and granular. It differs clearly from BNAP-G-1 and BNAP-G-2 by the high content of partly large carbonate-pseudomorph moulds, which range in size from 0,02 to 0,1 mm. Voids are sparse in occurrence and mostly irregular in shape (estimated at 1–2,5%). Characteristic within the matrix are tiny black shining particles which are not accumulated in mottles and form the characteristic feature of B-Nap-G-1.

*Temper:* Inclusions are generally rare (estimated at 2,5%). They comprise characteristic black rounded, mostly spherical to sporadically elongate particles (probably iron-oxide-concretions, vulcanite?) and inhomogeneous reddish brown inclusions, measuring up to 0,2 mm. Only seldom to identify are bioclastic remains as echinoid spines, measuring from 0,12 to 0,17 mm. Less characteristic and rare are clear or white angular, subspherical quartz or feldspar particles.

*Shapes:* plates (Morel 1443), kantharoi (Morel 3221), cups

*Chronology of contexts:* early third to mid second century B.C.

The *fabrics* BNAP-G-1 to BNAP-G-3 mostly have been defined by material coming from the context of a workshop area at Piazza Nicola Amore at Naples where wasters of Black Glaze ware were found which showed a variety of Campana A shapes. They therefore contest the production of Black Glaze Ware in this workshop or in its vicinity.<sup>8</sup> The macroscopical classification of the Black Glaze Ware, found in this context, led to the eventual distinction of three *fabrics* (BNAP-G-1 to BNAP-G-3), which show close connections among each other and most probably can be connected with the local production of Naples. This assumption is strengthened by the fact that the *fabrics* are also typical for the production of Campana A types, but it should be noted that it is also found with pottery dating as early as the first half of the third century B.C.E.<sup>9</sup>), thus not being restricted exclusively to the large production of Campana A.

### **Production Centre in the Bay of Naples, possibly Cuma (?), group 1**

*Fabrics* BNAP-G-4 to BNAP-G-6 are characterized by a light brown matrix which is riddled with carbonate-pseudomorph moulds or spots. The distinction of these three *fabrics* is based on differences of the size of these carbonate-pseudomorph moulds as well as of those of their other inclusions and on the variability of the compactness of the *fabric*.

*Fabrics* BNAP-G-4 to BNAP-G-6 both differ clearly in the colour as in inclusions visible under the optical microscope: In contrast to the *fabrics* BNAP-G-1 to BNAP-G-3, generally dark glassy inclusions of a probable volcanic origin are not visible, while the occurrence of a high amount of dark mica within the matrix forms a characteristic feature. The archaeometric analyses of the examples from Cuma of BNAP-G-4 and BNAP-G-6 made the provenance of the group from the volcanic area of the Bay of Naples very likely.<sup>10</sup> While the *fabrics* BNAP-G-1 to BNAP-G-3

---

<sup>8</sup> For the context of Piazza Nicola Amore, see Giampaola and Febbraro in this edition of **FACEM**. Unfortunately, the waster was not attributable to a specific *fabric*, due to its misfiring.

<sup>9</sup> M 151/8.

<sup>10</sup> The archaeometric analyses were conducted by V. Morra and his team.

hitherto have been observed in the Hellenistic production of Black Glaze Ware at Naples, BNAP-G-4 and BNAP-G-6 occurs also in earlier contexts from the Archaic time onwards.

#### **BNAP-G-4**

*Reference sample from Cuma: M 145/9, further examples from Cuma: M 142/113, from Naples: M 136/21*

*Matrix:* The granular, light brown matrix (7.5YR6/3) is riddled with partly rather coarse carbonate pseudomorph moulds which measure up to 0,08 mm. Voids are rather frequent in comparison to the other *fabrics* of the group (estimated with 5%) and mostly irregular in shape. Very characteristic is a high amount of white and dark mica, the latter appearing in cross section as short fine and dark lines within the matrix (up to 0,18 mm).

*Temper:* Inclusions are generally not frequent in occurrence (estimated with about 5%). The particles vary in size between 0,02 mm and 0,08 mm, with only a few measuring between 0,1 and 0,12 mm. Singular inclusions of up to 0,4 mm are also present. Characteristic are white rounded and spherical particles among the carbonate-pseudomorph moulds, which may occasionally contain a yellowish core (probably recrystallized calcite). Also important are rounded spherical to subspherical black and – less frequent – reddish brown inclusions (probably iron-oxide-concretions). Less characteristic and rare is subrounded and spherical clear quartz, up to a size of 0,12 mm.

*Variation:* example M 142/113 contains a clearly larger amount of quartz

Shapes: small bowl (Morel 2714), jug

*Remark:* The same *fabric* is also common with finer coarse ware (*ceramica a decorazione lineare, ceramica commune depurata*) of the Archaic period, which might be taken as hint for the local origin of the *fabric*.

*Chronology:* Archaic to Hellenistic periods

#### **BNAP-G-5**

*Reference sample from Cuma: M142/14; further example from Cuma: M142/141*

*Matrix:* The *fabric* is light brown (7.5YR6/4) and differs from BNAP-G-4 by a fracture surface which is finer grained. Also the carbonate-pseudomorph moulds are smaller. Like BNAP-G-4 it contains a high amount of white and dark mica. Voids are rare (estimated at 2,5%) and mostly irregular in shape (vughy), less frequent channel-shaped.

*Temper:* Inclusions are altogether very rare (estimated at about 1,5%). They are very small, with only few particles measuring more than 0,08 mm. Characteristic are very small black (0,02–0,05) spherical to elongate particles, which are – as far as their shape is recognizable – rounded to subrounded. Rare are reddish brown particles of the same shape (both probably

iron oxide concretions) Less frequent are white rounded, spherical particles, some of them with a yellow core (probably recrystallized calcite).

*Shapes:* cup

### **BNAP-G-6**

*Reference sample from Cuma:* M 145/12, *further example from Cuma:* M 142/254

*Matrix:* The matrix is light brown (7.5YR6/4), the fracture surface fine grained. It is riddled by carbonate-pseudomorph moulds, which are often only recognisable as tiny white spots. Voids are rare and mostly irregular in shape ("vughy"), less frequent channel-shaped (estimated with 2,5%). The *fabric* also contains a high amount of dark and white mica with singular particles up to 0,18 mm.

*Temper:* Inclusions are generally rare (estimated with 2,5%) and small. They frequently comprise very small rounded spherical to subspherical black and, less frequently, reddish brown particles. Only singular inclusions are as large as 0,2 mm (probably iron-oxide concretions). Characteristic, but infrequent are white to yellowish white, well rounded, spherical particles (probably precipitated calcite) which reach a length up to 0,18 mm.

*Shapes:* plate (Morel F 2222), kylix

*Chronology:* Archaic to late Classic/early Hellenistic periods

### **Production of a Centre in the Bay of Naples, possibly Cuma (?), group 2**

In contrast to the first group, the second group of *fabrics* is characterized by the absence of carbonate-pseudomorph moulds within the matrix and a high amount of white and dark mica. The differences between the *fabrics* BNAP-G-7 to BNAP-G-11 are due to the porosity and the frequency/size of the observed inclusions. As the occurrence of carbonate-pseudomorph moulds is due to a high firing temperature, the same clay might have been used as for the first group, but fired at a lower temperature.

The archaeometric analyses of samples of BNAP-G-7 and BNAP-G-9 from Cuma made the provenance of the group from the volcanic area of the Bay of Naples very likely<sup>11</sup>.

### **BNAP-G-7**

*Reference sample from Cuma:* M145/21; *further examples from Cuma:* M142/19; M 142/57; M 142/227; M 142/240

---

<sup>11</sup> The archaeometric analyses were executed by V. Morra and his team.

*Matrix:* The *fabric* is light brown (7.5YR6/4), the fracture surface is smooth. The matrix contains a high amount of white and dark mica, the later measuring in its cross-sectioned elongate shape up to 0,3 mm. Voids are rare and mostly irregular in shape, less frequent chamber-shaped (estimated at 2,5%).

*Temper:* Inclusions are generally very rare (estimated at 1%). Characteristic and very frequent are tiny black particles, with only a few of them reaching a length of up to 0,2 mm. Less characteristic and less frequent are rounded to sub-rounded spherical to sub-spherical reddish brown particles (up to 0,12 mm, probably iron oxide concretions).

*Shapes:* Bowl (Morel 2783), skyphos, small bowls, kylix "Bloesch C", plate

*Chronology:* Archaic to Hellenistic periods (?)

### **BNAP-G-8**

*Reference sample from Cuma:* M145/10; *further examples and variations from Cuma:* M 142/166, M 142/168, M 142/169, M 142/239, M 142/268

*Matrix:* The *fabric* is light yellowish brown (10YR6/4), the fracture surface very fine grained. It contains a high amount of dark mica, which in its characteristic, cross-sectioned, elongated shape may range in size up to 0,12 mm. The matrix is also riddled with unidentifiable tiny black and reddish brown particles. Voids are rare and mostly irregular in shape, less frequent channel-shaped or vesicular (estimated at 2,5–5%).

*Temper:* Inclusions are generally very rare (estimated between 1–2,5%), and very small (up to 0,18 mm). Characteristic are sub-angular elongated yellowish brown inclusions (iron-oxide-concretions) which reach a length of 0,75 mm and "smears" up to 2 mm. Further very frequent and characteristic in occurrence are small (between 0,02 and 0,08 mm) rounded spherical to sub-spherical black particles.

Varieties of the *fabric* are observed in porosity and the size of the contained dark mica (from very fine 0,08 mm to average 0,18 mm). The brown smears are not always visible in the fracture surface. Only sporadically observed are angular spherical to sub-spherical black glassy particles (probably volcanic glass) and fine clear quartz particles.

*Shapes:* skyphos (Morel 4373), small bowls, small bowl with concave-convex profile, pyxis.

*Chronology:* Classical to Hellenistic periods (?)

### **BNAP-G-9**

*Reference sample from Cuma:* M145/6; *further example from Cuma:* M 142/191

*Matrix:* The *fabric* is light brown (7.5YR6/4) and fine grained, the fracture surface is irregular. Voids are comparatively frequent (estimated at 5 to 7,5%) and mostly irregular in shape

("vughy") less frequent channel-shaped. The matrix is riddled with very fine black particles and contains a high amount of white and dark mica.

*Temper:* Inclusions are generally rare (estimated between 1–2,5%), their standard size being very small (only a few particles up to 0,12 mm). They consist of rounded, spherical to sub-spherical mostly black and less frequent reddish brown inclusions (probably iron oxide concretions).

*Shapes:* one handler (Morel 6220), plate

*Chronology:* Archaic to Hellenistic periods (?)

*Remarks:* BNAP-G-9 differs from *fabrics* BNAP-G-7 and BNAP-G-8 in its porosity and the texture of the fracture surface.

### **Production of a Centre in the Bay of Naples, possibly Cuma (?), group 3**

Even to the naked eye, the third group differs clearly from the two other groups established above in terms of colour and the numerous visible fine white inclusions. Up to now it seems to be restricted to the late fourth century B.C.E., because it was not observed in earlier contexts.

The archaeometric analyses of the reference sample from Cuma of BNAP-G-10 made the provenance of the group from the volcanic area of the Bay of Naples very likely<sup>12</sup>.

### **BNAP-G-10**

*Reference sample:* M145/11

*Matrix:* The *fabric* is reddish yellow (5YR6/6), the fracture surface is granular. It contains some fine white mica. Voids are comparatively frequent (estimated at 5%) and mostly of irregular shape ("vughy"), less frequent channel shaped.

*Temper:* Inclusions are comparatively frequent (estimated at 7,5%). Dominant are well rounded to rounded very spherical to spherical white inclusions with a grain size up to 0,4 mm. Some of them are to be regarded as carbonate-pseudomorph moulds, probably bioclastic or shell-remains. Less frequent and less characteristic are clear quartz (0,8 mm) and rounded, spherical reddish brown particles (probably iron-oxide-concretions).

*Shape:* skyphos (Morel F 4382)

*Chronology:* Later fourth to early third century B.C.E.

---

<sup>12</sup> The archaeometric analyses were conducted by V. Morra and his team.



## REFERENCES

- Accorona, F. 1985. "La fornace di Corso Umberto". In *Napoli Antica*: 378–85.
- Febbraro, S., and Giampaola, D. 2009. "Scarti di ceramica comune di età ellenistica dallo scavo di piazza Nicola Amore a Napoli: dati preliminari sulla produzione". In *Les céramiques communes d'Italie et de Narbonnaise*, edited by M. Pasquali, 117–32. Collection du Centre J. Berard, 30. Naples: Centre J. Berard.
- Febbraro, S., Longobardo, Michelotti, F., and Roncella, B. 1996. "La storia dei quartieri sudorientali di Neapolis alla luce degli scavi per il cablaggio". *Bollettino di Archeologia* 39/40: 97–111.
- Gassner V., and Sokolicek A. 2000 Die Befestigungsanlagen von Velia. Vorbericht zu den Grabungen in der Unterstadt 1997 – 1999. *ÖJh* 69: 95–129.
- Laforgia, E. 1986. "Ceramica a vernice nera dallo scarico di fornace di Corso Umberto". In *Atti del 25 Convegno di studi sulla Magna Grecia. Taranto, 3–7 ottobre 1985*, 362–66, Taranto: Istituto per la Storia e l'Archeologia della Magna Grecia.
- Laforgia, E. 1997. "L' Officina della ceramica di Campana A di S.Marcellino", In *Tracce: Sotto le strade di Napoli. La città. I lavori di cablaggio portano alla luce importanti tracce di Neapolis*, 145-46. Naples: Telecom Italia; Soprintendenza Archeologica di Napoli e Caserta.
- Morel, J.-P. 1981. *Céramique Campanienne. Les Formes*. BEFAR 244. Rome: École Française.
- Morel, J.-P. 1985. "La ceramica campana A nell'economia della Campania". In *Napoli Antica*: 372–78.
- Morel, J.-P. 1985a. "Remarques sur l'art et l'artisanat de Naples antique". *Neapolis. Atti del 25 convegno di studi sulla Magna Grecia, Taranto*, 305–25. Taranto: Istituto per la Storia e l'Archeologia della Magna Grecia.
- Morel J.-P. 2005, "La céramique et la mer, role et modalités de commerce et de diffusion des produits céramiques". In *Aequora, jam, mare... Mare, uomini e merci nel Mediterraneo antico. Atti del Convegno Internazionale Genova, 9–10 dicembre 2004*, edited by Canepeta, C., Grasso, L., and Gianatassio, B. M.100–108. Firenze: All'Insegna del Giglio.
- Morel, J.-P., and Picon, M. 1994/1995. "Les céramiques étrusco-campaniennes: recherches en laboratoire". In *Ceramica romana e archeometria: lo stato degli studi*, edited by G. Olcese, 23–46. Quaderni del Dipartimento di Archeologia Università di Siena, 37. Firenze: All' Insegna del Giglio.
- Olcese, G. 2012, *Atlante dei siti di produzione di ceramica (Toscana, Lazio, Campania e Sicilia) con le tabelle dei principali relitti del Mediterraneo occidentale*. Immensa Aequora, 2. Rome: Quasar.