

Cumae: Imports and Productions in the Archaic City

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The Site

The recent archaeological investigations between Pithekoussai and Cumae allowed us to fix a series of well-established data in the bibliography based on the reading and interpretation of ancient sources. On the island of Ischia, strategically placed along the metal routes, the first Euboean settlement was established during the first half of the 8th century BC. The new colony of Cumae on the mainland that the ancient sources consider the oldest Greek *apoikia* in the west was founded later and with the contribution of other groups of Greeks migrating from the motherland.

The archaeological research on the island, conducted for decades by Giorgio Buchner and David Ridgway with exceptional methodology and attention, has allowed these events to be placed during the first half of the 8th century BC. Instead, we must record, for Cumae, a considerable lack of research; its exploration and the relative scientific debate, especially for the Archaic period, were substantially linked to the works of Emilio Stevens and to the edition of Ettore Gabrici, to the early 19th century. Cumae returned, for a long time, only shreds of documentation, sporadically and inorganically recovered, proof of a reality much more complex. For many centuries, fortuitous recoveries, spooling and stealing marked of research in the most ancient Greek colony of the west. The history of research in Cumae has been already told and is a rather edifying story for Italian archeology; it is only at the beginning of the 20th century that the Italian State finances the first research and excavation works in Cumae; on the Acropolis the Temple of Apollo and that of Jupiter were discovered, but the most evocative and exciting find, which obviously had a great echo, was the c. d. *grotta della Sibilla*, whose discovery seemed to evoke the Virgilian mythology.

In 1927 the Archaeological Park of Cumae will be established and the research, with alternating events, most often solicited by external emergencies, almost exclusively invest the Acropolis; to Amedeo Maiuri we owe the first exploration the flat part at the foot of Mount Cumae, which led, among other things, to the discovery of the Capitulum and the Roman Forum (fig. 1).

But the area of the lower city still remained firmly in the hands of private individuals who continued to cultivate the land and to inhabit a splendid eighteenth-century *masseria*, known as Masseria del Gigante, for the discovery of the colossal torso marble of Jupiter, today at the MANN (Museo Archeologico Nazionale Napoli)

This, in a very short summary, is the history of research in Cumae, which for many years has remained an unknown land, and not only for the scientific community.¹

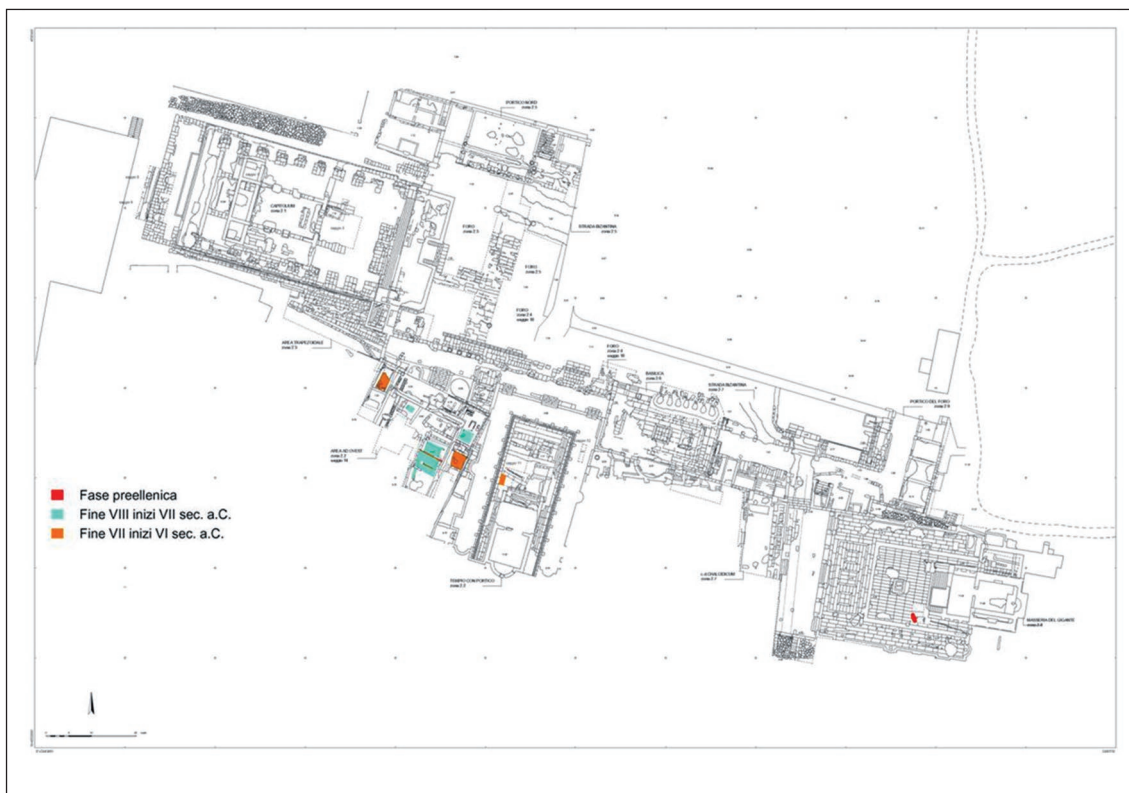


Fig. 1: Cumae. Roman Forum.

New Research (fig. 2)

We had the first systematic program of wide-ranging research only in 1994, funded by the Campania Region with funds from European Union, organized by the Department of Antiquities of Naples. The Kyme project, carried out in three successive steps (1994–1996, 1999–2002, 2004–2006) involved were the main scientific Neapolitan institutions: the University Federico II, the University “L’Orientale” and the Center Jean Bérard.²

The aim was to start a wide exploration of the ancient city to define the urban organization, the port area, the defensive walls, the public monuments, the extension of the urban areas, with the final aim of giving back to the public one of the most fascinating archaeological realities of the ancient world, which became part of the collective imagination of western culture, thanks to the song of Virgil.

Slowly the structural and material reality of Cumae emerges from the shadow of a research that has never really been planned and the shape of the city begins to give back form and structure. From the reconstruction of the geomorphological evolution of the coast and the agricultural landscape to the better knowledge of the pre-Hellenic settlement, there are numerous innovations triggered by the research carried out in the last twenty years.



Fig. 2: Cumae. Roman Forum. Panoramic view.

The new data show how the native settlement was actually much more extensive and articulated than assumed in the literature and occupied, in a scattered form not only the plateau and the slopes of Monte di Cumae but also the flat area facing the coast.

It is only around the middle of the 8th century BC. that on the graves of the indigenous people, covered with lapilli, a sedimentation level is formed, determined both by natural inputs and by land reported to level and plan a different form of occupation of the area that will be used as an indigenous and Hellenic necropolis.³ The consistent presence of pottery of indigenous production, mixed with the first Hellenic ceramics and in stratigraphic relationship with the first housing structures of the Greeks allow to outline for a settlement reality for Cumae parallel to Pithekoussai with, in the early stages of colonization, the formation of a still mixed Greeks – indigenous community, of which we certainly do not know the relations of strength, of alliance, of cohesion (fig. 3).

The excavations in the “lower town” returned a substantial amount of Greek pottery that dated around the middle of the 8th century BC, significantly reducing the chronological hiatus with the settlement on the island. And the most significant evidence is the contextual presence of ceramics produced in local clay in imitation of the imported Euboean or Corinthian ceramics; these materials are the same as those found in Pithecusae. A enduring presence on the coast in the third quarter of the 8th century BC, as



Fig. 3: Cumae. Masseria del Gigante. Graves of the Indigenous people.

evidenced by the many materials found in the whole area of the “lower town”; relations and contacts with the indigenous people who live in the area date back, however, to about half of the century as evidenced by the well-known chevrons cups of Euboean production found in a pre-Hellenic tomb, such as “exotic” and valuable elements of the grave offerings.⁴

But the new discovery of an early Archaic houses of the Greek colony arranged on a fairly extensive area, dates back to the last quarter of the 8th century BC (fig. 4a–c).

The residential area, probably organized by sectors, already delimited and destined to housing buildings since this first moment, lives with different transformations and extensions up to the final decades of the 6th century BC when this settlement is removed to make space for a different organization that will be reserved for monuments with exclusively public and sacred functions (a first phase of public Agora).⁵

New monumental buildings were erected with in the area, which show constructive techniques, orientations and planimetric organization that are completely different from the houses they replaced.

The most recent materials date the start of this urban program in the final decades of the 6th century BC, while the use phase covers the entire 5th century BC. It is a process of political organization that, very probably, started a few years before the appearance on the political scene of the town of the figure of Aristodemus, to which the definition and completion of the urban planning revision of the town, on the other hand well emphasized in the fortification walls, in the construction of two impressive public works, such as the sewage collector and the large moat and, on the Acropolis, in the construction of the monumental Temple of Jupiter. The Greek town between the 6th and 5th century BC seems therefore well organized around a political/cultural center, in monumental forms, in the flat part at the foot of the Acropolis where it defines the space intended, in all likelihood, to the Agora and its sacred and public buildings. The town, protected by a powerful defensive wall, is also equipped with impressive civil works functional to the development and exploitation of living spaces while the necropolis continues its development outside the walls along the plain of Licola and the Acropolis remains destined for sacred functions.⁶

At the end of the 5th century BC (421 BC) the Samnites who had already taken Capua in 423 BC, conquered Cumae and the monumental buildings of the Classical age are destroyed and the decorative materials as well as the votive are discharged and sealed in pits, with proper closing ceremonies that perpetuate them the cultural and votive character. The element that marks a clear *caesura* with the Greek urban planning organization most is the introduction of a new orientation for the buildings, which nevertheless retain the sacred/public character that the area already had in the times of Aristodemus. So the public square (Agora) retains its function but has a different orientation and is bordered by a mighty yellow tuff wall that is the background of a first *portico* that borders, on the long sides, the open public space.⁷

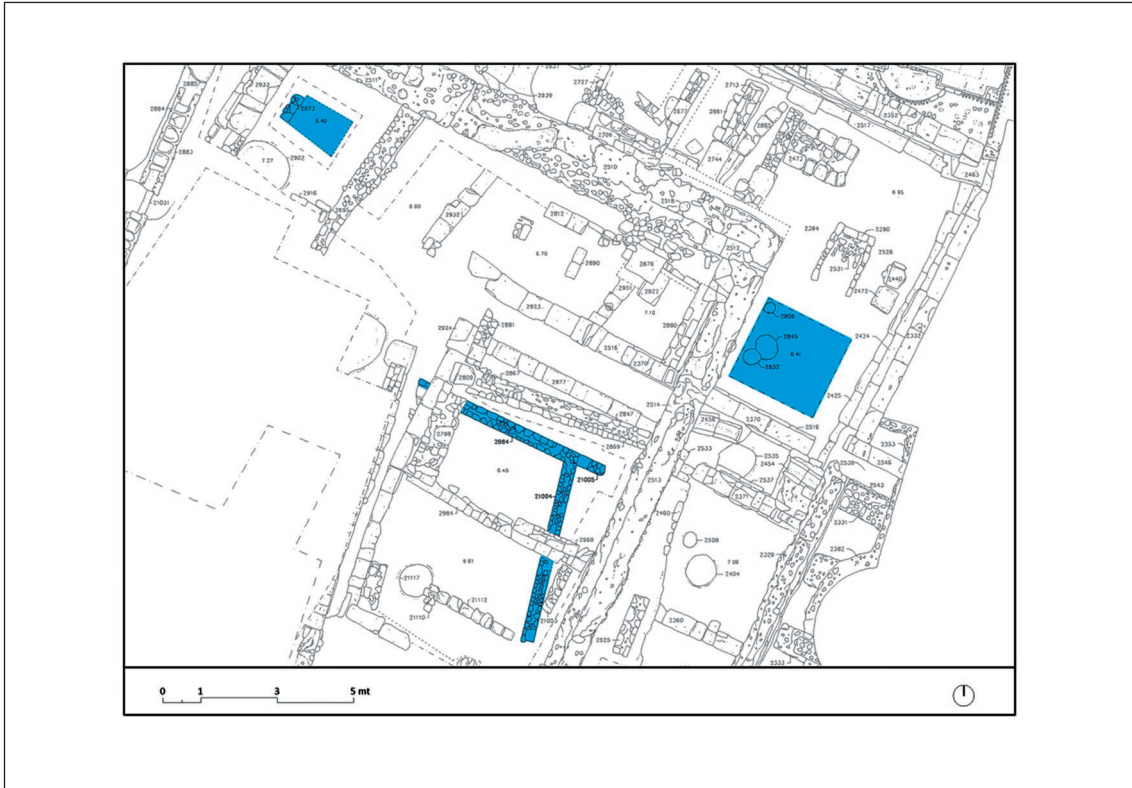




Fig. 4a–c: Archaic houses.

The history of the town changes deeply and it is the moment of the alliance with Rome that will lead to the assumption by the Samnite city of the *civitas sine suffragio* (338 BC).⁸

Imports (8th–7th century BC)

This brief summary of the news resulting from the last season of archaeological research in Cumae is the setting for the issue of pottery classes imports, not only from Greece, alongside a rich and varied local production that starts from the beginning of the settlement⁹.

In Cumae they products from Corinthian, Argive, Ionian, Rhodian-Cretan, Oriental, Attic, Laconic and Phoenician workshops arrive from the first moments of the most ancient phases settlement; the notable presence of Etruscan bucchero, which appears towards the decline of the 7th century BC, is one of the most recent acquisitions of research. The considerable quantity, quality and variety of materials found speak for a flourishing economy, involved in traffic and trade routes that cross the western Mediterranean.

A comparative work between the pottery imported at Pithekoussai and Cumae showed a strict homogeneity between the two centers, thus revealing an identical commercial trend, a clear sign of an identical form of consumption and product choices; and the affinities between the two settlements are also recorded for the presence of other archaic productions such as bucchero and Etruscan-Corinthian pottery, well attested in both sites (fig. 5).¹⁰

The frequency-tables made on the materials imported into the two centers, while providing some taxonomic data, although still very labile, reflect rather clearly a Mediterranean circulation of productions, as shown by the known wrecks in the bibliography (such as that of Giglio) where there are coexistences of products from shops and different areas; however, it is the choices of the products and therefore their consumption and forms of absorption that define the identity and homogeneity between Pithekoussai and Cumae in the Archaic period; at the same time they define well the economic relationships that had to exist among different peoples such as Greeks, Orientals, Cypriots, Phoenicians, Etruscans at an equal level of exchanges and contacts.¹¹

The first attested production is, obviously, the ceramics of Euboic production due to a chronological horizon of the half of the 8th century BC (MG II/TGI) present both on the island and on the mainland, although in different contexts; on the mainland the context is still purely indigenous and it has been well demonstrated, just by the recent revision of pre-Hellenic materials, that the indigenous settlement on the coast was lively and flourishing, in close exchange with both the northern Lazio communities and the Villanovan groups of northern and southern Campania (Pontecagnano and Sala Consilina)

| PRODUZIONE | PERIODO | | | | | | | | | |
|--------------------|---------|---------|-----------|---------|---------|---------|--------------------|---------|---------|--|
| | 775-750 | 750-725 | 725-700 | 700-675 | 675-650 | 650-625 | 625-600 | 600-575 | 575-550 | |
| | MG II | TG I | TG II-PCA | MPC | TPC | TR | CA | MC | TC | |
| | SECOLO | | | | | | | | | |
| VIII sec. | | | VII sec. | | | | Prima metà VI sec. | | | |
| Euboico-cicladica | P | | | | | | | | | |
| | C | | I | | | | | | | |
| Corinzia | | P | | | | | | | | |
| | | C | | | | | | | | |
| Argiva | | P | | | | | | | | |
| | | | C | | | | | | | |
| Laconica | | | | | | | P | | | |
| | | | | | | | C | | | |
| Fenicio-cipriota | | P | | | | | | | | |
| | | | | C | | | | | | |
| Rodia | | | P | | | | | | | |
| Rodio-Cretese (KW) | | | P | | | | | | | |
| | | | C | | | | | | | |
| Orientale | | P | | | | | | P | | |
| | | | C | | | C | | C | | |
| Chiota | | | | | | | | | | |
| Ionica (coppe) | | | | | | | | C | | |
| | | | | | | | | P | | |
| | | | | | | | | C | | |

Fig. 5: Pithekoussai and Cumae: imported pottery.

and with those of Valle del Sarno. The chevron Euboic cups, found on the island, come instead from an already Hellenic context referable to a first generation of the Greek colony. It is only in the last quarter of the 8th century BC, when there relations with the indigenous communities are deeply modified, that the presence of imported pottery, in Cumae, shows a remarkably significant peak of attestations, a clear sign of a not sporadic presence or linked to relations of exchange and contacts, but rather a sign of a better structured settlement. The housing structures highlighted in the flat area at the foot of Monte di Cumae constitute the clearest evidence of a now Hellenic occupation and of a transformation of the use of the space that, from necropolis and indigenous settlement, becomes the seat of a stable Greek settlement that soon, already in the first decades of the seventh century, it will assume urban connotations.¹²

The first imported ceramics offer a very varied and rich panorama: a lekythos of the TG II in a Cumaean grave is an Argive production while a presence of pottery from Phoenician-Cypriot workshops is attested in the Archaic settlement, mainly plates datable between the TGII and the MPC. The large transport containers document the arrival of products from the eastern Mediterranean even more clearly and reflect a circuit of trade and relations that invests almost all the main centers facing the Mediterranean. In Cumae as well as in Pithekoussai, there are amphorae from Chio, SOS Attic amphorae, Corinthian amphorae type A, Phoenician amphorae of TGII, amphorae from Lesbos that well document the influx of products and the trafficking network in which Cumae. It is perfectly included (fig. 6a–b, 7a–b). But it is Corinthian pottery that constitute the most quantitatively significant nucleus of imports; the fossil guide, for these high Archaic levels from the urban area is the Thapsos type cup with or without panel; there are also numerous kotylai, pyxis, lekythoi coming from Corinthian workshops, while the form of the *aryballos* is less widespread, and even less so, that of the *alabastron*, forms, however, better attested in the necropolis.¹³

For the first time, in the houses, the crater-calyx appears. Early a local pottery production of imitation takes place during the first decades of the 7th century BC and replacing, almost entirely, the flow of imports from the Corinthian workshops.

| PRODUZIONE | FORMA | CONTESTO | BIBLIOGRAFIA |
|------------------------|---|---|--|
| Euboica | Anfora TG II | Pithecusa, necropoli | Buchner-Ridgway 1993 |
| Corinzia | Anfora grezza TG I-II | Pithecusa, necropoli | Buchner-Ridgway 1993 |
| | Anfora grezza TG II | Pithecusa, necropoli, abitato Monte Vico, Scarico Gosetti | Buchner-Ridgway 1993; Di Sandro 1986 |
| | Anfora Tipo A VII-VI sec. | Pithecusa, necropoli, abitato Monte Vico, Scarico Gosetti, abitato punta Chiarito | Buchner-Ridgway 1993; Di Sandro 1986 Gialanella 1994 |
| Fenicia | Anfora grezza TG I | Pithecusa, necropoli | Buchner-Ridgway 1993 |
| | Anfora grezza TG I-II | Pithecusa, necropoli | Buchner-Ridgway 1993 |
| | Anfora grezza TG II | Pithecusa, necropoli | Buchner-Ridgway 1993 |
| | Anfora a spalla emisferica distinta TG II | Pithecusa, abitato Monte Vico, Scarico Gosetti. | Di Sandro 1986, p. 91. |
| PRODUZIONE | FORMA | CONTESTO | BIBLIOGRAFIA |
| Chiota | Anfora protochiota TG II | Pithecusa, necropoli | Buchner-Ridgway 1993 |
| | Anfora chiota C | Pithecusa, necropoli | Buchner-Ridgway 1993 |
| | Anfora chiota Metà VII-inizi VI sec. a.C. | Pithecusa, abitato Monte Vico, Scarico Gosetti. | Di Sandro 1986, p. 58, Tav 11. |
| | Anfora chiota Inizi-metà VI sec. a.C. | Pithecusa, abitato Monte Vico, Scarico Gosetti | Di Sandro 1986, pp. 54-57, Tav 11. |
| Greco-orientale | Anfora grezza ad ogiva TG II | Pithecusa, necropoli abitato Monte Vico, Scarico Gosetti | Buchner-Ridgway 1993 Di Sandro 1986, pp. 100-101 |
| | Anfora di Lesbo II quarto del VII sec. a.C. | Pithecusa, abitato Monte Vico, Scarico Gosetti | Di Sandro 1986, pp. 86-87 |
| | Anfora VII sec. a.C. | Pithecusa, abitato Monte Vico, Scarico Gosetti | Ridgway 1984, pp. 102-104, fig. 23 |
| | Anfora VI sec. a.C. | Pithecusa, abitato Monte Vico, Scarico Gosetti | Di Sandro, 1986, pp. 77-81 |
| Attica | Anfora SOS TG II | Pithecusa, necropoli, Pithecula, abitato Monte Vico, Scarico Gosetti | Buchner-Ridgway 1993 Di Sandro 1986 |

Fig. 6a-b: Cumae. Anforae.

| PRODUZIONE | FORMA | CONTESTO | BIBLIOGRAFIA |
|-----------------------------------|---|---|--|
| Corinzia | Anfora tipo A Inizi del VI sec. a.C. | Abitato – Area del Foro Mura arcaiche - terrapieni | <i>Cuma. Le fortificazioni</i> |
| Fenicia | Anfora grezza TG II | Necropoli | Catalogo Museo Campi Flegrei, p. 198 |
| Chiota | Anfora chiota Fine VII-inizi VI sec. a.C. | Abitato – Area del Foro Mura arcaiche - terrapieni | Tomeo 2008 <i>Cuma. Le fortificazioni</i> |
| Greco- orientale (generico) | Anfora di Clazomene Seconda metà del VII-VI sec. | Abitato – Area del Foro Mura arcaiche - terrapieni | Tomeo 2008 <i>Cuma. Le fortificazioni</i> |
| | Anfora di Lesbo VI sec. | Abitato – Area del Foro Mura arcaiche - terrapieni | Tomeo 2008 <i>Cuma. Le fortificazioni</i> |
| | Anfora VI sec. | Mura arcaiche - terrapieni | <i>Cuma. Le fortificazioni</i> |
| Nord-Egeo | Anfora VI sec. | Mura arcaiche - terrapieni | <i>Cuma. Le fortificazioni</i> |

| PRODUZIONE | FORMA | CONTESTO | BIBLIOGRAFIA |
|------------|---|--|---|
| Laconica | Anfora Prima metà VI | Mura arcaiche - terrapieni | <i>Cuma. Le fortificazioni</i> |
| Attica | Anfora SOS TG II | Necropoli Fondo Artico Abitato - Area del Foro Mura arcaiche - terrapieni | Pellegrini 1903, coll. 261-263, fig. LII Tomeo 2008 <i>Cuma. Le fortificazioni</i> |
| | Anfora à la brosse Primo-secondo quarto del VI sec. | Abitato - Area del Foro Mura arcaiche - terrapieni | Tomeo 2008 <i>Cuma. Le fortificazioni</i> |

Fig. 7a–b: Pithekoussai. Anforae.

Local Production of Corinthian Pottery (8th/7th century BC) (fig. 8)

Since the earliest stages of Greek settlement, both on the island and on the coast, the presence of locally produced pottery is remarkable, in the characteristic Phlegrean clay rich in tiny volcanic compounds, which incorporates and reproduces decorative forms and repertoires of the pottery imported from the motherland. The age-old question of the origin of the clay used for this production has not yet been completely clarified and it becomes, very probably, also completely pleonastic to continue to explore the different solutions. Geomorphological, petrographic, chemical and archaeometric studies and research have highlighted the use of a clay with a substantial identity both on the island and on the mainland, labeled under the generic name of 'flegrean clay'; and that there were deposits of clay as well as on the island (as assumed by G. Buchner) also on the mainland, today it is not at all to be excluded; on the other hand, there were ceramic workshops in Cumae since the first moments of the colonial settlement, it is very plausible that an import from the island of both clay and pottery is not very cheap and rather unproductive; the two centers – on the island and on the mainland – are both producers and are perfectly bipolar and mutually independent; that then the formal

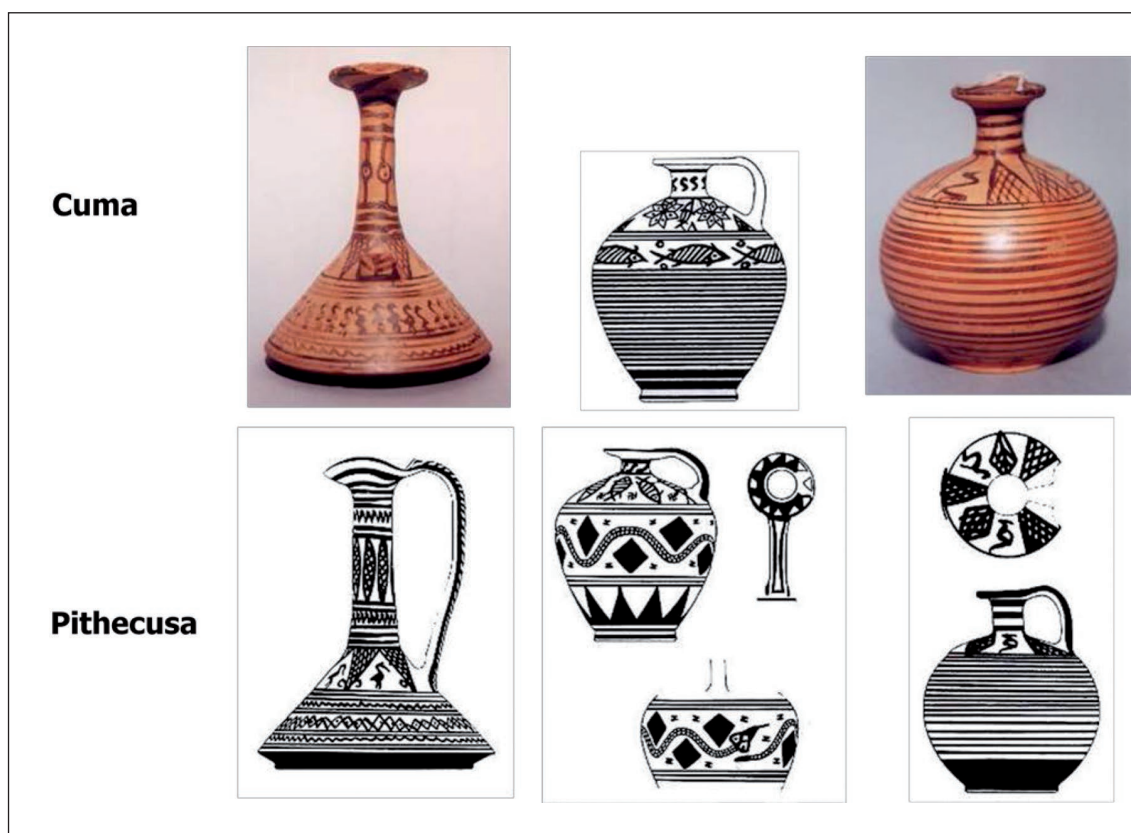


Fig. 8: Cumae. Corinthian pottery: local production.

and decorative repertoire reflect the same trend, the same style and the same figurative language is the result of the common roots and common parameters of reference of the artisans. The essential contribution of the archaeometric analysis has allowed to identify and define the local productions – on the island or on the mainland – which are already developed during the second half of the 8th century BC, acquiring formal and decorative repertoires from imported products but determining choices, selections and methods of production of all their own such as to make this local production perfectly identifiable and distinguishable. The production of imitation Corinthian pottery is of the highest technical and qualitative level, perfectly able to rival the products that continue to flow from the Euboian and Corinthian workshops; the Pithekoussan-Cumaean workshops intensify the production especially in the last quarter of VIII and, during the 7th century BC, local production will almost completely displace the imported one.

The Cumaean fabric of the Corinthian pottery includes a not very varied formal repertoire; the forms are substantially that used for eating and drinking; in the contexts of the urban area the association between skyphos/oinochoe as well as in the necropolis is well attested; the basic set used for the consumption of wine, provides the association of skyphos/oinochoe/kotyle. The skyphoi are produced in two main variants: with an offset lip and a skyphoid cup and with a distinct lip; the decorative repertoire is still geometric and refers to the known repertoire of Corinthian prototypes such as Thapsos skyphoi; the *sigma* decoration in the panels, which diffuses mainly between PCA and MPC, is imitated by the imported ones; a simple decoration with bands on the lip characterizes many samples that have the main motif developed in a panel between the handles. The skyphoi without panel have a decorative repertoire with simple dark bands. Imported model and local production coexist in Cumae in the same contexts of urban area and local production is rather serial, products of a single workshop.

The *kotyle*, an open lipless shape with a deep cup with a continuous profile and two handles under the rim, is attested in local production from the PCA and presents a morphological development that covers a chronological arch from the end of the VIII and up to the middle around the 7th century BC; the decoration, in the area of the handles has very simple motifs: sigma, lozenges, birds, snakes, framed by vertical bands.

The *oinochoe* is the most attested closed form; it almost becomes the guiding fossil of this local production and a sort of ‘motivo firma’ of local workshops. The form is attested both in contexts of necropoleis and urban areas and the first attestations of a local production date back to the middle of 8th century BC Pithekoussai. The decorative repertoire proposes that of the Geometric Corinthian pottery: palmettes, rays, lotus flowers, animals, fish and snakes; the decoration develops on the shoulder while the neck and the body are decorated with Geometric patterns. During the time there is an evolution of the form from low and globular, with short neck, to global with a higher and slender profile, until it becomes almost pear-shaped; this variant will find greater development in the MPC. The local pottery that preserves, overall, the reference models, however, is characterized by a light yellow groove covering the entire surface of the vase and for a

more composite decorative repertoire that draws from different cultural areas. It clearly distinguishes a group of oinochoai known as *Ischia-Cuma-Tarquinia*, characterized by two main decorative motifs, the fish and the snake, drawn from Corinthian repertoire but reinterpreted and moved from their original location on the shoulder of the vase, to the more central to the point of maximum expansion of the body. The production is very homogeneous and is immediately recognizable. In the scientific discussion, the location of the production workshop between the island and the mainland still oscillates; the analysis of material from Cumae, compared with those of the Pithekoussai, allowed us to identify products from an identical workshop and identify some personalities of craftsmen whose products are indifferently present both on the island and on the coast.

The flat-bottomed *lekythos* is a peculiar form of the Corinthian pottery repertoire and becomes very widespread in local production starting from the PCA (last quarter of the 8th century BC); the formal repertoire is very conservative while the decorative one varies between zoomorphic and phytomorphic motifs; the elongated neck always has geometric decoration. Among the forms of the vessels produced by the Pithekousan-Cumaean workshops, stands out the crater, frequent at Pithekoussai while in Cumae it is attested in the urban area in few individuals, among which we highlight the one decorated with an animal theory that makes this exemplar unique in the Phlegrean production of pottery of the PCA.

The recently published study of this production has clearly highlighted the variety of the formal and decorative repertoire that make these products immediately identifiable; it is a production of high quality and craftsmanship and it has been possible to identify the activity of “artisans” specialized in certain figurative motifs. But it is above all the form of *oinochoe* that constitutes the representative form of production and it is no coincidence that, in the screening of the diffusion of these products that reach different locations in the western Mediterranean, the oinochoe/cup pair, the base of the symposium, is the most attested one, as if it were a sort of specialization on the market that seems to require this specific service for the symposium from the Phlegrean workshops of pottery.¹⁴

The products of this workshop – between Cumae and Pithekoussai – circulate between the end of the 8th and 7th centuries BC in the whole Campania plain and they are objects of prestige for the indigenous communities of the hinterland; more sporadically these products arrive in the Vallo di Diano and are attested, not surprisingly, to Zancle, founded, according to sources, from Cumaean pirates or to the Timpone della Motta in Francavilla, in the Sibaritide. To the north, ceramics from the Phlegrean workshops are present in Etruria (in Caere) as in Sulcis or in Carthage or in Andalusia; they are significant traces of the commercial role that first Pithekoussai and then Cumae had in the Mediterranean commercial circuits between the 8th and 7th centuries BC.

Other Local Productions of Pottery

Alongside this production that identifies and defines a very specific Phlegrean territory, there are also other pottery classes that show the shapes and decorative patterns of imported products; next to it is a local production that satisfies the needs of a settlement that has grown and become rich and powerful.

Thus, in the Phlaegrean workshops, a vessel class is produced for eating and drinking with linear decoration; as is the variety of the production of kitchenware and cooking vessel in raw clay; an intense mole production is also that of the large containers (amphorae and pithoi) of the bricks and painted architectural terracottas; it is all a wide range of Pithekoussan – Cumaean productions that goes through, almost without interruption, all the phases of life of Pithekoussai and Cumae. The kilns found in the excavations of Santa Restituta in Ischia document an artisan activity that lasts over time, from the first moments of the arrival of the Greeks on the island to the middle of the 8th century BC and up to the late Hellenistic age. And while the island has returned more material evidence of workshops – if we only take into account the more than 7 kilns of Santa Restituta – Cumae still has not been identified the working district, which even had to be very active. Still during the 3rd century BC, the cumaean workshops are specialized in the production of a particular type of vessel destined to the cooking that will become very famous and refined and it will be Marziale to immortalise the *patella cumana*, one of the first pans to experiment a sort of anti-stick film!

In this scenario, a rather lack of evidence linked specifically to production (scraps of kiln work appear rather late) stands out the discovery, in the levels of use of the Archaic high house, of scraps of the amber working that well document an artisan activity usually considered to be the prerogative of the indigenous world and rather they are documenting both a phase of cohabitation and sharing of spaces and productive activities and a revitalization of a craft with the characteristics of the indigenous world. A large bronze bar, with a trapezoidal shape and weight of 2,580 kg has been recovered in association, together with slag from iron and pebbles for working; they are minor but significant traces of a metallurgical work in Cumae, in the context of a high-Archaic settlement that will be better analyzed and deepened.¹⁵

Archaeometric Analyses

The analysis of the fabrics has been joined in all these years by studying the chronotypological analysis of pottery; at first, we examined and analyzed, for the Archaic production, the class of the fine banded ware and the Ionian cups; for the Classical age the black-glaze ware was examined.¹⁶

The work had three different stage of investigation: a first screening was made with the help of the Munsell tables; the next check was made by the use of a stereo-electron

microscope, according to the protocol developed within the FACEM project (in collaboration with the University of Vienna) and finally a further sampling was submitted to laboratory tests, both chemical-petrographic and mineralogical.

With the FACEM protocol numerous fabrics have been identified, however, referable to two main groups of fabrics: a type of calcareous clay, therefore with a higher percentage of calcite (CaCo) and one of non-calcareous type. Both types have a common origin and are characterized by the presence of volcanic components and therefore a different location of the production center cannot be defined. The distinction of the fabrics, moreover, goes back to the different ways of working the clay and to the addition or lowering of some degreasing agent. The local production is therefore realized through different qualities of fabrics that share similar characteristics that suggest the same raw material coming from the same deposit or from several argilliferous deposits but with the same geological characteristics. The interesting fact is the observation of an almost exclusive use of these fabrics along a chronological period between the seventh and the beginning of the 5th century BC, proof of constant preservation over time of both technological processes and sources of supply.

The results of the analyses allow us to confirm a Cumaean production of the fine-banded ware, starting from the first Archaic productions and up to the Ionic cups of the second half of the 6th century BC. Among the recognized non-local fabrics, a group of Ionic cups with a fabric from the Paestan area stand out, also exported to the south, to Elea, and to the north, to Cumae.

The petrographic, chemical-physical and mineralogical investigations highlighted the mineralogical components of the fabrics, characterized by a substantial uniformity, with inclusions of quartz, white and brown mica and the presence, among other minerals, of traces of pyroxene which clearly define the volcanic nature of the clays used and their relevance to a geographical area corresponding to that of the Phlegrean Fields; some variations are linked to the different production processes that establish the temperatures to be subjected to the ceramic during cooking.

The data that is certainly confirmed is the local production of the different pottery classes; it is a production characterized by a strong conservatism of both the formal and decorative repertoire as well as the processing techniques and the use of raw materials. The question of the location of the clay supply areas still to be identified in the territory of Cumae or more generally in the Phlegrean area remains open. A broader study of a geological nature in the Campi Flegrei area has returned a characterization of the Bay of Naples and a roughly similar composition of the raw materials throughout the coastal area. The absence, at the current state of research, in Cumae, of archaeological evidence of kilns or processing waste and other elements attributable to a productive activity, is, however, a clear limit to the reconstruction of the ways and forms of production Cumaean of pottery.

Notes

- ¹ Greco – Gasparri 2007.
² De Caro 2009, 295–301.
³ Cuma 2009.
⁴ Ridgway 1984, 134.
⁵ Greco 2009, 333–444.
⁶ D’Acunto 2011, 251–261.
⁷ Greco 2011, 35–53.
⁸ Liv. 8, 14, 11; Mele 2014.
⁹ Cuma 2009.
¹⁰ Greco – Tomeo 2012, 511–547.
¹¹ Buchner – Ridgway 1993.
¹² D’Acunto 2011, 251–261.
¹³ Greco et al. 2010, 30–36.
¹⁴ Mermati 2012.
¹⁵ Greco – Gasparri 2009.
¹⁶ Greco et al. 2014, 37–68.

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Fig. 1, 2, 4a, 4c, 5, 6ab, 7ab, 8: Department of Humanities, University of Naples Federico II. – Fig. 3: Greco – Gasparri 2009, 14, fig. 2. – Fig. 4b: Greco 2009, 395, fig. 5.

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