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The roots of culture. The use of *ollae perforatae* in Cagliari (Sardinia, Italy) and the garden as cultural marker of Romanisation.

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Abstract: A series of ceramic vessels intentionally perforated on the bottom has been found during the archaeological excavation of a rectangular room in via Caprera 8 in Cagliari, in southern Sardinia (Italy), dated to the first half of the 1st century AD. The aim of this paper is to demonstrate their function as *ollae perforatae*, perforated planting pots used in the Roman arboriculture and horticulture practices in order to make a garden, and to analyze their cultural significance in relation to the phenomenon of the so-called 'Romanisation'.

Keywords: Sardinia, ollae perforatae, perforated planting pots, garden, Romanisation.

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Τῆς παιδείας τὰς μὲν ῥίζας εἶναι πικράς, τὸν δὲ καρπὸν γλυκύν.
The roots of education are bitter, but the fruit is sweet.
(D.L. V, 18, 712)

1. INTRODUCTION. THE ROLE OF THE GARDEN IN THE ROMAN CULTURE

This contribution focuses on the functional analysis of eight perforated ceramic vessels coming from the archeological excavation in the courtyard of 'Agenzia LAORE Sardegna' in via Caprera 8, in Cagliari, south Sardinia (Italy)[1] (fig. 1). The aim is to demonstrate their identification with *ollae perforatae*, perforated planting pots used in the Roman arboriculture and horticulture practices in order to make a garden, and to analyze their cultural meaning in relation to the so-called "Romanisation".

The structure and function of the garden changed considerably during the Roman age[2]. Initially, in the early Middle Republican age, the *horti* of the houses were kitchen gardens and they were used by their owners to grew herbs and vegetables as source of food for their families. According to Plinius the Elder, the ancient *horti* were the symbol of the superior morality of the earlier Romans because «ex horto plebei macellum, quando innocentiore victu»[3], «from the garden, a poor man had his marketplace,

[1] The results of this research have been partially anticipated in PARODO 2019a. I would to thank Dr. A.L. Sanna (Soprintendenza Archeologia, Belle Arti e Paesaggio per la città metropolitana di Cagliari e le province di Oristano e Sud Sardegna), responsible of the archaeological excavation in via Caprera 8, Prof. M. Giuman, Prof. R. Martorelli and Prof. C. Del Vais (University of Cagliari, Department of Humanities, Languages and Cultural Heritage), responsible of the related laboratory, and all colleagues who have studied the artefacts coming from the excavation.

[2] VON STACKELBERG 2009, pp. 9-47; HARTSWICK 2017; MORVILLEZ 2017.

[3] Plin. *nat*. 19, 52.

nourishment much more innocent». Later, from the 2nd cent. BC, the gardens associated with the peristyle and decorated with frescoes, mosaics and sculptures became a fundamental vehicle of high social and cultural status, so much that Cicero wrote to Atticus in the ninth *Epistulae ad familiars:* «Si hortum in bibliotheca habes, deerit nihil»[4], «If you have a garden in the library, you have everything you need».

For this ideological reason, the representation of luxurious *horti* constitutes one of most important figurative theme of upper class mosaic floors, especially in North-Africa, like, for example, the well-known mosaic of *Dominus Iulius* in Carthage (end of the 4th – beginning of the 5th cent. AD), composed of three registers, whose images provide documentary evidence of daily life and wealth of the Roman aristocracy in Late Antiquity[5] (fig. 2). In the upper register, the wife of the *villa*'s owner, depicted with bracelets on each wrist, sits on a bench among the trees of the garden, while the servants offer her some rural products, like olives, ducks, and lambs. In the lower one the woman, decorated richly dressed in a rose garden, holds a mirror and wears earrings, surrounded by two servants that gift her a basket of flowers and jewelry. On the right side, *Dominus Julius*, the master of the great estate represented in the center of the mosaic, sits on a chair between two fruit trees of the *hortus* and receives a message that certifies his elite status.

Passing from the utilitarian purpose to the decorative one, and becoming consequently a symbolic medium of self-representation[6], the

[4] Cic. *epist*. 9, 4, 1.
[5] Tunis, Musée National du Bardo. RAECK 1987; NEVETT 2010, pp. 131-141; PARODO 2019b, pp. 8-12.
[6] PURCELL 1995; VON STACKELBERG 2009, pp. 50-98; MARZANO 2014, pp. 196-203, 230-233.

garden can be considered a remarkable marker of the 'Romanisation'. Sardinia represents a highly interesting area for the study of this debated phenomenon, because its ancient history, marked by the passage from the centuries-old Phoenician-Punic domination to the Roman one, was characterized by the continuity of the Punic traditions and the introduction of new cultural models by Roman-Italic groups[7].

2. ROMAN SARDINIA AND THE PHENOMENON OF "ROMANISATION"

In the early phase of their domination in Sardinia, the Phoenicians were primarily interested in commercial traffics with local populations, as confirmed by their first permanent settlement, *Sulky*, now Sant'Antioco (SI), founded in the southern coast of the island in the 1st half of the 8th cent. BC with the aim of exploit the mineral resources of this area[8]. The whole south-western Sardinia was involved in a large process of colonization through to the foundation of urban centers with a sea-based economy, in particular fishing and harbor commercial activities, like *Karaly* (now Cagliari), on the center of the homonymous gulf, Nora, near Pula (CA), on the south-west of the same gulf, and Tharros, near Cabras (OR), on the southern border of the Sinis peninsula, in the central-western Sardinia.

The beginning of the Punic conquest of Sardinia, started in the last quarter of the 6th cent. BC, following the guidelines of a more centralized political control, was a moment of decisive socio-economic changes for the island. Carthage, after it has incorporated the ancient Phoenician emporia-

[7] BERNARDINI 2007; STIGLITZ 2010; ROPPA 2018.

[8] The bibliography about Phoenician Sardinia is very wide; see particularly: BARTOLONI 2005, pp. 25-43; GUIRGUIS 2017b; ROPPA 2019.

cities, intensified greatly the phenomenon of urbanisation of coastal areas, encouraged the development of settlements in inland areas with a function of military control, and enhanced the exploitation of metallurgical and agricultural resources, in particular the cultivation of cereal crops, in order to integrate the maritime economy of coastal cities with rural resources coming from the hinterland[9]. Due to the crisis caused by the revolt of Carthaginian unpaid mercenaries after the end of the First Punic War, Sardinia was occupied by Rome in 238 BC[10], but its conquest was a gradual process, often hampered by numerous hostile acts, supported by Carthaginians due to their economic interests to the island[11], as in particular the guerrilla warfare of the Sardinian landowner Hampsicora in 216-215 BC[12].

However, despite the annexation of the island into the Roman rule as the province *Sardinia et Corsica* in 227 BC[13], the Punic influence remained notable on many aspects of the Sardinian culture and society until the Late Republican age, as confirmed, for example, by the long-living presence of the Carthaginian administrative institutions, in particular the suffetes, the two annually elected chief magistrates. The best know case is that of suffetes *Aristo* and *Mutumbal* in *Caralis* (42-36 BC), as documented by the issue of coins in bronze with the image of their heads on the observe and the

[9] The bibliography about Punic Sardinia is equally wide; see in particular: BARTOLONI 2005, pp. 43-60; ROPPA 2014; BARTOLONI 2017.
[10] Plb. 1, 79-88.
[11] MELONI 1990, pp. 43-64; MASTINO 2005b, pp. 65-77; IBBA 2015, pp. 15-19.
[12] Liv. 23, 32, 5; 34, 10; 40, 1; 41, 1; Sil. 12, 342-354, 379-419.
[13] Str. 17, 3, 25.

depiction of the façade of the Venus temple of *Caralis* on the reverse[14] (fig. 3).

Another example is that of *Himilkat* and *Abdeshmun*, two suffetes mentioned in the trilingual inscription of a votive bronze base made between the 1st half of the 2nd cent. and the 2nd half of the 1st cent. BC, found in San Nicolò Gerrei (SU), written in Latin, Greek and Punic languages[15]. It was dedicated by *Cleon*, a servant of oriental origin who worked for a society of *publicani* in *Caralis* involved in the exploitation of the salt pans, in order to thank *Aesculapius-Asclepius-Eshmun Merre* for favours received[16]. Due to this large range of the archeological evidence of the Punic culture still in Roman times, Sardinia represents a very interesting case-study for the analysis of Romanisation[17].

Going beyond the Theodor Mommsen's concept of *Romanisierung* as a one-directional process of civilization, elaborated during the 2nd half of the 19th cent., in the last thirty years the analysis of this topic has been at the center of a wide theoretical debate, influenced, from the ideological point of view, by the post-colonial and anti-imperialistic perspectives, in particular in relation to the complex relationships between the Roman Empire and local identities[18]. This debate has been focused on the need to reinterpret the

[14] Observe legend: *ARISTO MUTUMBAL* (*filius*) *RICOCE SUF*(*etes*); reverse legend: *VENERIS KAR*(*alis*). SOLLAI 1989, pp. 51-61; ZUCCA 2004, pp. 86-87; PORRÀ 2007, pp. 54-56.
[15] *CIL* I², 2226 = *CIL* X, 7856 = *ILS* 1874 = *ILLRP* I, 41 = *IG* XIV, 608 = *IGR* I, 511 = *CIS* I, 143. Latin text: *Cleon salari*(*orum*) *soc*(*iorum*) *s*(*ervus*) *Aescolapio Merre donum dedit lubens / merito merente.* Greek text: Ἀσκληπιῶι Μηρρη ἀνάθεμα βωμὸν ἔστη / σε Κλέων ὁ ἐπὶ τῶν ἁλῶν κατὰ πρόσταγμα. Punic text: To the Lord Eshmun Merre the altar of copper weighing one hundred pounds vowed by Cleon. (Eshmun) has heard his voice and healed him. In the year of the suffetes Himilkat and Abdeshmun, sons of Himilk. ZUCCA 1996, pp. 1463-1465; CULASSO GASTALDI 2000.
[16] ZUCCA 2004, pp. 136-137; MASTINO, ZUCCA 2012, pp. 403-404; IBBA 2016, pp. 76-77.
[17] VAN DOMMELEN 1998; VAN DOMMELEN 2001; VAN DOMMELEN, TERRENATO 2007.
[18] HINGLEY 2005, pp. 14-48; REVELL 2009, pp. 1-39; MATTINGLY 2011, pp. 3-42.

phenomenon of Romanisation, also from a terminological point of view, as a new historiographic category, in order to overcome the obsolete bipolarity between foreign colonizing groups and the native colonized ones[19]. Consequently, nowadays Romanisation is identified not simply as a form of acculturation, but as a process of forming of a new cultural system, chronologically and geographically not-homogeneous. For this reason, it has been interpreted in different ways, according to new hermeneutic paradigms and proportionally to the degree of cultural interactions between the Roman component of the society and the native one. As a result, Romanisation has been defined alternatively as 'hybridisation'[20], 'creolising'/'pidginisation'[21] or '*métissage*'[22], and more recently it has been investigated also on the basis of the modern terms of 'globalisation'[23] or 'mondialisation'[24] of the Greek-Roman culture.

Being, as many Authors, not convinced of the semantic effectiveness of these solutions due to their political implications[25], in this paper I will use the term 'Romanisation' in order to define the set of relations between Romans and natives which have created a cross-cultural interactions system in which they attributed reciprocally new meanings and functions to their material and intangible culture, , in accord with to the theories of 'cultural bricolage'[26] and 'transferts culturels'[27], though inevitably unbalanced on the

[19] ALFÖLDY 2005; INGLEBERT 2005.
[20] VAN DOMMELEN 1997; STOCKHAMMER 2012.
[21] WEBSTER 2001; CARR 2003.
[22] LE ROUX 2004; TRAINA 2006.
[23] VERSLUYS 2014; PITTS, VERSLUYS 2015.
[24] VEYNE 2005, pp. 345-377; WALLACE-HADRILL 2008, pp. 3-24.
[25] See, among others, LE ROUX 2004, pp. 297-306; CECCONI 2006, pp. 88-92; GALSTERER 2009, pp. 23-27.
[26] TERRENATO 1997; ROTH 2007, pp. 19-27.
[27] HAACK 2008; LE ROUX 2014.

side of Rome as the winning military power. Particularly in western provinces as Sardinia, where the socio-political structures were less structured than the eastern ones, the elaboration of this process was mediated by a very relevant phenomenon. It is the tendency of the local upper classes, and in the suborder of the lower ones that referred to them, to emulate the cultural models coming from Rome in order to consolidate their primacy within their own community and optimise their relations with the conquerors, on the basis, respectively, of the theoretical models of the 'elite interaction'[28] and the 'vulgar Romanisation'[29].

3. THE ARCHAEOLOGICAL EXCAVATION OF VIA CAPRERA 8 IN CAGLIARI (SARDINIA) AND THE PERFORATED POTS

The archaeological investigation in the courtyard of 'Agenzia LAORE Sardegna', in via Caprera 8 in Cagliari, made under the direction of the Soprintendenza Archeologia, Belle Arti e Paesaggio per la città metropolitana di Cagliari e le province di Oristano e Sud Sardegna between 2014 and 2015, brought to light a rectangular room (5.20 x 3 m), built between the 3rd and the 1st cent. BC and probably related to a house, with an entrance presumably located in N-E[30]. From the 2nd half of the 2nd cent. BC, the room underwent a first modification due to the obliteration of the entrance and its internal subdivision, through the building of two

[28] MILLET 1990; WOOLF 1997.
[29] ALCOCK 2001; MATTINGLY 2002.
[30] SANNA 2019, pp. 2-3, 5-6.

partitions, which were demolished when a new floor was also constructed, while the previous wall parameters were preserved[31].

From the half of the 1st cent. AD, the room was subjected to a landfill action, in order to raise the level of foot traffic and to change its function, because it was probably transformed from internal to external space; immediately later new walls, called USM 44/47 and USM 90/52, were built overlapping the previous ones in direction N-W, while the N side of the room was closed by the wall USM 7/53[32]. The R1-R8 perforated pots, which are the object of the analysis of this paper, come from the 45 layer (fig. 4).

The first four vessels, from R1 to R4, were aligned along the wall USM 44/47 (fig. 5) and have a hole on the bottom (2.5-3.2 cm diameter). Three of these – R1, R2, R3 – are intact thin-walled little jugs with striped walls of the type Ricci I/30 = Marabini XV = Mayet XXIV form. R1 also has an additional hole in the lower part of the body (fig. 6). R4 was discovered in a fragmentary state and typologically belongs to the pottery production of Sutri (1st form, n. 6)[33]. These artefacts were made in central Italy between the end of the 1st cent. BC and the 1st cent. AD, as confirmed by the presence of a coin, hypothetically identifiable with a Late-Republican age uncial reduction[34], located between R1 and R2, whose mouth were partially covered by fragments of an amphora wall.

R5 and R6 vessels were placed in front of USM 90/52. The first artefact is a Dressel 2-4 wine amphora coming from the Vesuvian area, dated between the half of the 1st cent. BC and the Julio-Claudian age[35]. The

[31] SANNA 2019, pp. 6-8.
[32] SANNA 2019, pp. 8-10.
[33] NAPOLITANO 2019, pp. 77-78, 91.
[34] D'ORLANDO, MURESU 2019, pp. 583-584.
[35] D'ORLANDO 2019, pp. 188, 191-192.

amphora was placed upside down and supported in vertical position by the removed handles, while its upper portion and bottom were resected (fig. 7). It has a *titulus pictus* – *P* (---) / *C* (---) *E* (---) – that could be interpreted hypothetically as the *tria nomina* referring to the producer or trader of amphora; it is interesting to note that the same sequence of letters is attested also for a ceramic vessel from Pompeii containing olives, whose type and origin are unknown[36].

R6 is an Italic tradition cooking pot dating back to the Late Republican-Early Augustan ages, whose bottom was not intentionally drilled[37], while R7 and R8 vessels, found along the USM 7/53, are two little *ollae* of central Italic production in fragmentary state, which imitate, in larger dimensions, the above-mentioned R1, R2 and R3 thin-walled vessels[38].

All R1-R8 vessels were covered with earth when the site was transformed into a landfill between the 2nd half of the 1st cent.-2nd cent. AD, reused between the 4th and the end of the 5th cent., and finally abandoned at the beginning of 6th cent.[39]

4. THE PERFORATED VESSELS OF VIA CAPRERA: A RITUAL FUNCTION?

Which was the function of these pots? The answer is not immediate. Hypothetically it is possible to suggest their connection with a ritual of foundation which was done in the Etruscan and Roman-Italic world to

[36] FARRE 2019, p. 660.
[37] PINELLI 2019, pp. 411, 425.
[38] PINELLI, PINELLI 2019, pp. 352, 361.
[39] SANNA 2019, pp. 10-13.

consecrate the construction of new buildings and monuments, both religious, like temples and altars, and civil ones, like urban walls and doors, under the divine protection[40]. The main elements of this ritual were a bloody or bloodless sacrifice, the deposition of the sacrificial instruments, votive offerings and ceramic containers used for the ceremony into closed deposits, as demonstrated by one of the oldest cases, that of Porta Mugonia in Rome (730-720 BC)[41].

On the contrary, this type of ritual was rarely performed in private buildings: it included the excavation of pits, usually dug under the foundations of the perimeter walls, mosaic floors or plaster of the walls, where the vessels, used for the ceremonial banquet, were placed, often associated with the remains of the sacrifice or other specific objects, in particular coins or nails. An example is the case of Aquileia, where the signs of the foundation ritual have been found in numerous houses, built from the Augustan-Tiberian age to the 6th cent.[42]

On the basis of this documentation, it should be excluded that the perforated vessels of via Caprera were connected to a foundation ceremony, considering that they were not into closed context of deposition, like pits, and they did not contain any typical ritual element, since the above-mentioned coin has been found outside R1 and R2 pots. At the same time, no organic residue of substances traditionally used in ritual libations, as incense, honey, oil or wine[43], has been found inside the perforated pots, as

[40] D'ALESSIO 2014, pp. 318, 320-324; MICHETTI 2014; PARODO 2018, pp. 108-110.
[41] BONGHI JOVINO 2005, pp. 33-36; LAMBRINOUDAKIS *et alii* 2005, pp. 337-346; BELFIORI 2019, pp. 12-17.
[42] RIZZO *et alii* 2013, pp. 8-9; FACCHINETTI 2008; FACCHINETTI 2012, pp. 339-344.
[43] SIEBERT 1999, pp. 26-59; SCHEID 2005, pp. 189-209, 320-332.

demonstrated by the GC/MS analyses[44]. Furthermore, the fragments of the amphora wall placed above the mouths of R2 and R3 probably did not have a sealing function. Indeed, the presence of the hole at the bottom of all vessels led to the hypothesis that these artefacts are the so-called *ollae perforatae*.

5. THE USE OF *OLLAE PERFORATAE* AND THE PERFORATED VESSELS OF VIA CAPRERA

Although there are numerous denominations, like *calices perforati*[45] or *vasa fictilia*[46], that of *ollae perforatae*[47] is the well-known one and it refers to a particular typology of perforated pots, used in arboriculture and horticulture practices and documented in central Italy, especially in the Vesuvian area, central-southern Britain, *Galliae*, particularly *Belgica* and *Lugdunense*, Greece and the Syro-Palestinian provinces. Generally, they are coarse and small-sized vessels, with a cylindrical or truncated-conical form, a flat bottom, everted rim, without handles, characterized by an accentuated thickness of the walls[48].

The main characteristic of *ollae perforatae* is the presence of one or more holes greater than 1 cm on the bottom or also on the lower part of the body and, as confirmed by the most important ancient Authors of agronomic

[44] I would to thank Prof. P.L. Caboni (University of Cagliari, Department of Life and Environmental Sciences) for carrying out the analyzes of R1-R4 perforated vessels by Gas-Chromatography/Mass Spectrometry.
[45] Cato *agr*. 52; 133.
[46] Plin. *nat*. 12, 25; 17, 97; 25, 160; Pallad. 3, 25; 4, 10; 6, 6; 10, 14.
[47] Plin. *nat*. 17, 64.
[48] MESSINEO 1984; JASHEMSKI 1992b; BARAT, MORIZE 1999, pp. 213-221; MACAULY-LEWIS 2006a.

treatises, like Theophrastus[49], Cato the Elder[50], Plinius the Elder[51] and Palladius[52], these holes were useful to facilitate the drainage of water and the aeration of the roots (fig. 8). The vases were used for sowing fruit and ornamental tree species, for the transport of plants from the nurseries to the gardens where they were planted, and for the propagation by air layering[53] (fig. 9). The type of the vegetable crops, in particular flowers, aromatic plants, vines and fruit trees[54], changed according to their commercial or ornamental function, and depending on the spaces in which the *ollae perforatae* were used, like nurseries, *horti*, sacred and monumental gardens[55].

Although in the Roman world this typology of vases is documented only from the end of the 1st cent. BC, there are more ancient iconographic evidences, as the *ollae perforatae* depicted on Egyptian frescoes dating back to the beginning of the 15th-14th cent. BC[56], which would confirm their eastern origin, as written by Theophrastus in his *Historia plantarum*[57]. Especially in the eastern Mediterranean area there are many archaeological evidences about the use of perforated planting pots in sacred and public spaces. The oldest case (3rd cent. BC) is represented by the series of buried *ollae perforatae* surrounding the two long sides of *Hephaisteion* in the Athens Agora in order to made a sacred garden[58]. Another and more recent

[49] Thphr. *HP* 4, 4, 3; 6, 7, 3
[50] Cato *agr*. 52; 133.
[51] Plin. *nat*. 12, 25; 17, 97; 17, 64; 25, 160.
[52] Pallad. 3, 10; 3, 25; 4, 10; 6, 6; 10, 14.
[53] JASHEMSKI 1979a, pp. 238-240, 284-285, 293-296; KLYNNE, LILJENSTOLPE 2001, pp. 201-202; JASHEMSKI 2017b, pp. 425-426.
[54] GLEASON 1994, pp. 17-18; CARROLL 2008, pp. 41-42; JASHEMSKI *et alii* 2017b, pp. 469-470.
[55] MACAULY-LEWIS 2010, pp. 21-24; CARROLL 2017, pp. 155-162; MACAULY-LEWIS 2017, pp. 99-105, 114-118.
[56] WILKINSON 1998, p. 76; NICHOLSON, SHAW 2000, p. 139
[57] Thphr. *HP* 6, 4, 3.
[58] THOMPSON 1937, pp. 404-425; KOCH 1951, pp. 356-359.

example is the *Tropaeum* built by Octavian between 29 and 27 BC in *Nikopolis* to commemorate the naval victory of Actium (31 BC): this monument was articulated on two superimposed terraces, the upper one surrounded on three sides by a two-nave *stoa*, having an internal garden made with the plants of *ollae perforatae*[59]. Two cases also come from Petra and Jericho, where perforated planting pots were used at the end of the 1st cent. BC in order to decorate respectively the garden with swimming pool[60], and that one with Ionic peristyle of the winter residence of Herod the Great[61]. More specifically, this building provides an interesting example of Romanisation, considering that the king knew so well the Roman traditions that he replaced them in the Judean city[62].

While in the eastern Mediterranean area the *ollae perforatae* were mainly used to build monumental gardens, in the western regions of the Roman Empire their use is more frequent in private spaces, also for commercial purposes such as the Garden of Hercules in Pompeii (II, 8, 6)[63], in particular in *domus* and *villae* of central Italy, both in very high-ranking and lower social level houses. With regard to the first case, it is emblematic the example of the *villa* of Livia at Prima Porta (Rome), whose peristyle, built in the last quarter of the 1st cent. BC, housed a garden made with perforated planting pots, aligned along the colonnade and in the intercolumns[64]. Concerning the second case, the archaeological evidences are more numerous, coming in particular from Pompeii, and all are dated between

[59] MURRAY, PETSAS 1989, p. 85; ZACHOS 2003, p. 81.
[60] MACAULY-LEWIS 2006B, pp. 159-164; BEDAL *et alii* 2007, pp. 313-315, 323-326.
[61] GLEASON 1993, pp. 159-161; BEDAL 2004, pp. 171-178.
[62] EVYSAF 2006, p. 198; MACAULY-LEWIS 2017, pp. 118-120.
[63] JASHEMSKI 1979b, pp. 408-410; JASHEMSKI 2017a, pp. 143-144.
[64] LILJESTOLPE, KLYNNE 2000, pp. 223-225; KLYNNE, LILJENSTOLPE 2001, pp. 201-203.

the 1st cent. BC and 79 AD, such as, for example, the House of *Caius Iulius Polybius* (IX, 13, 1-3), where the garden was composed of trees and vineyard planted with *ollae perforatae*[65], and, above all, that of *Marcus Fabius Rufus* (VII, 16, 22).

Here, the archaeological excavation, conducted by the University 'Suor Orsola Benincasa' of Napoli from 2004 in a large garden (1581 m^2) located in the western area of the *domus*, brought to light numerous perforated planting pots[66]. Between the end of the 1st cent. BC and the 1st half of the 1st cent. AD, five cisterns for the collection of rainwater were built in this area, later dismantled in order to build a portico, damaged by the earthquake of 62 CE. Subsequently, the space was used as a landfill to dispose the building materials used in the restoration of the damaged house, and then as a *hortus* made with the *ollae perforatae*[67]. The specific arrangement of these vessels and their use in an space that changed its intended use during the time, provides a highly interesting comparison for the functional interpretation of the perforated pots of via Caprera (fig. 10).

The various typologies of the vessels from Cagliari, having several and specific sizes, were probably chosen according to the different types of plants which they had to contain, like the *ollae perforatae* of *villa* of Livia at Prima Porta[68], and those of the *Heliogabalium* garden (221 AD) at Vigna Barberini[69] (fig. 11), so that jugs (R1, R2, R3) and *ollae* (R7, R8) of via Caprera could have been used to plant minute flower bushes, while the amphora

[65] JASHEMSKI 1992a, p. 98; JASHEMSKI 1992b, p. 278.
[66] GRIMALDI *et alii* 2011, pp. 1-6; GRIMALDI *et alii* 2011-2012, pp. 127-136.
[67] GRIMALDI *et alii* 2010, pp. 1-3; GRIMALDI *et alii* 2011, pp. 9-10.
[68] MACAULY-LEWIS 2006b, p. 216; PINTO-GUILLAUME 2008, pp. 5-7.
[69] TOMEI 1992, pp. 942-943; RIZZO 2018, pp. 473-474.

(R5) and the cooking pot (R6) to plant more voluminous shrubs[70]. The use of amphorae with the buried neck and the perforated bottom was widespread in the Roman arboricultural practice, as confirmed by the gardens of the *villa* of Poppea in Oplontis (1st cent. AD)[71], the Temple of Peace in Rome (75 AD)[72], and the above-mentioned temple dedicated by the emperor Elagabalus to *Sol Elagabalus* (fig. 12).

The same alignment of the perforated vases around the wall perimeter of the room of via Caprera could confirm their use in an ornamental garden, according to a type of arrangement already documented by other cases, such as those of the *villae* of Poppea and San Marco in Stabia (Augustan-Claudian age)[73]. The presence of hedgehog spines and malacological findings in the earth conserved inside R1, R2, R3 and R4 pots would represent a further confirmation of their use as *ollae perforatae*, because similar remains, found also into other perforated planting pots, like those of temple of Venus in Pompeii (VIII, 1) (end of the 2nd cent. AD) and of *villa* of Livia at Prima Porta, provide very important sources of carbonate used as fertilizer and anti-weed[74].

6. CONCLUSIONS. THE POSSIBLE EXISTENCE OF A GARDEN IN VIA CAPRERA AND THE PROCESS OF ROMANISATION OF CAGLIARI

[70] CARROLL 2008, p. 42; GLEASON, PALMER 2017, p. 375.
[71] BARAT, MORIZE 1999, pp. 215, 221; GLEASON 2014, pp. 1017, 1033.
[72] CARROLL 2017, pp. 157-158; JASHEMSKI *et alii* 2017b, pp. 444-445.
[73] MACAULY-LEWIS 2006b, pp. 213-214; GLEASON, PALMER 2017, pp. 380-384.
[74] PINTO-GUILLAUME 2002, p. 54; CARROLL 2008, p. 40; VICO *et alii* 2007, p. 208.

The hypothetical identification of the perforated vases of via Caprera with *ollae perforatae* can be supported by the consideration that the area of *Caralis* in which they have been discovered was a residential one, and characterized by an intense infrastructural process during the Roman age, as documented by the discovery of numerous hydraulic devices[75]. The residential character of this area, concentrated around via Caprera and viale Trieste, is confirmed both by its morphological characteristics, and some archeological evidence. One of these is the *domus* in viale Trieste 105, divided into several rooms, some with mosaic floors, used from the 3rd-2nd cent. BC until the 6th cent. AD, as well as the thermal building near via Caprera, dating back to the 2nd half of the 2nd cent. AD[76], adorned by valuable sculptures, among which an acephalous statue of Venus *Pudica* and two statues of Bacchus with panther[77].

The existence of a garden in *Caralis* can be analyzed from two perspectives. First, in the light of the urbanisation process of the city[78], one of the most efficacious element of Romanisation, especially in western provinces like North-African and Iberian ones[79], although in Sardinia it was strongly chronologically and geographically discontinuous[80]. The second

[75] COLAVITTI 2003, p. 75; GHIOTTO 2005, p. 183; PIETRA 2019b, p. 158.
[76] MONGIU 1986, pp. 133-135, 139; MARTORELLI 2009, pp. 218-219; GIUMAN, MARTORELLI 2019, pp. 718-722.
[77] Cagliari, Museo Archeologico Nazionale. ANGIOLILLO 1987, p. 151; ANGIOLILLO 1989, pp. 206-207.
[78] GHIOTTO 2005, pp. 180-183; ROPPA 2013, pp. 47-53; DE VINCENZO 2016, pp. 123-127.
[79] FEAR 1996, pp. 6-30; CHERRY 1998, pp. 75-97; REVELL 2009, pp. 40-78.
[80] DYSON 2000; ROPPA 2013, pp. 135-138; a more recent anlysis of this topic was made by C. Parodo and D. D'Orlando in a lecture entitled "Urbanisation in Roman Sardinia from the 3rd to the 1st cent. BC" presented on the occasion of the Conference "Diverging Trajectories: Urbanism and the Roman conquest of Italy" (KNIR - Royal Netherlands Institute in Rome, Rome, 27-28 June 2018), under the scientific direction of F. Colivicchi, M. McCallum and T.D. Stek, which is going to published in the proceedings of the conference.

important point of view is the presence in the city of human groups coming from central Italy, the area of peninsula with the highest evidence of *ollae perforatae*, as the same perforated planting pots from via Caprera confirm.

As testified by one of the clauses of the Punic-Roman treaty, signed in 348 BC, which prohibited Romans to promote commercial relations in Sardinia and to found colonies[81], the great economic potential of the island attracted the members of the central Italic middle class, especially businessmen (*negotiatores* and *mercatores*) and public contractors (*publicani*)[82]. The impact of their presence in Sardinia was extremely relevant from a cultural point of view, as documented more specifically by three monuments in *Caralis*, which become *oppidum civium Romanorum* supposedly thanks to the intervention of Octavian in 38-36 BC after the war against Sextus Pompey[83].

Following a chronological order, the first example is the temple originally situated in via Malta, near Piazza del Carmine, in Cagliari and dedicated to Venus, built between the 2nd half and the end of the 2nd cent. BC. On the basis of its planimetric and architectural characteristics, the shrine was built like the Central Italic typological model of the terraced sanctuary, like those of *Iuno Gabina* in Gabii and *Hercules Victor* in Tivoli (mid 2nd cent. BC)[84]. It was a tetrastyle temple on podium, probably delimited by a *triporticus*, which was in axis with a theatrical *cavea*, supposedly for celebration of the *ludi scaenici* in honor of Adonis, divine

[81] Plb. 3, 24, 3-11.
[82] MELONI 1990, pp. 112-115; COLAVITTI 1999, pp. 39-46; ANGIOLILLO 2013.
[83] Plin. *nat*. 3, 7, 85. About this controversial topic see: PORRÀ 2007, pp. 62-63; IBBA 2017, pp. 186-187.
[84] COARELLI 1987, pp. 11-21; 85-112; D'ALESSIO 2011.

partner of Venus[85] (fig. 13). The same presence of the high podium of italic tradition, a rare element in the sacred architecture of the Roman Sardinia, and a notable marker of the Romanisation of the island, testifies also a political purpose[86]. It is know that exists a significant connection between the Roman expansionism and the architectural type of the terraced sanctuary, which represents a symbol of the new juridical status achieved in the territories conquered by the Romans, as demonstrated by the sanctuary of Munigua, in southern Spain, in ancient *Baetica*, built during the reign of Vespasian following the achievement of the *ius Latii* by the civic community[87].

The second example is a funerary monument with Doric frieze, belonging to one of the two types of Hellenistic monuments characterized by the presence of *dado* or *ara* which were widespread in central Italy between the Late Republican Age and the Early Augustan Age[88]. The monument found in via XX Settembre in Cagliari and dated to the 1st cent. BC, is adorned by a metopal decoration consisting of six-petal flowers and umbilicated *paterae*, and its patron, as confirmed by the inscription[89], was the Etruscan *Caius Apsena Pollio*[90] (fig. 14). It is possible that also the patron of the *fullonica* in the same street, *Marcus Plotius Rufus*, was a Middle Italic businessman, as confirmed not only by the onomastic analysis of his name[91],

[85] ANGIOLILLO 1986-1987; BONETTO 2006, pp. 261-266; TOMEI 2008, pp. 79-99, 212-213.
[86] GHIOTTO 2005, pp. 53-54; PIETRA 2019a, pp. 73-74.
[87] STEK 2014; STEK 2017.
[88] TORELLI 1995, pp. 159-189; POLITO 2010.
[89] *C. APSENA C. F. HEIC / HEIC EST POLLIO* (*AE* 1986, 271). SOTGIU 1988, pp. 635-636; ZUCCA 1996, pp. 1460-1461).
[90] ANGIOLILLO 1985, pp. 99-102; BONETTO 2006, p. 267; PARODO 2017, pp. 119-120.
[91] *M*(*ARCUS*) *PLOTI*(*US*) *SILISONIS F*(*ILIUS*) *RUFUS* (*ILSard* I, 58). SOTGIU 1988, pp. 561, 629; ZUCCA 1996, pp. 1459-1460).

but also by the style of the mosaic, dated to the 1st cent. BC. Indeed the third example is the mosaic which decorates the ancient laundry; it is characterized by typical motifs of Hellenistic art, widespread in Italic area, like flowers with six spindle-shaped petals, dolphins in association with anchors, rudders and double axes[92] (fig. 15).

In conclusion, the existence of a private *hortus* in *Caralis* related with an owner coming from central Italy is plausible in the light of the dynamics of the cultural Romanisation involving Sardinia. From this point of view, an interesting comparison with the case of via Caprera comes from a Late Republican *domus* in via Falzarego, near viale Sant'Avendrace, on the slopes of the Tuvixeddu hill in the north-western Cagliari, the main funerary area of the Punic city[93]. Here, in 1940, the remains of a possible *hortus* were discovered, made with fifty-four amphorae, cut in half and buried side by side[94] (fig. 16). The *domus* is composed of six rooms, whose three have been hypothetically identified with the *tablinum* and the *alae* of the typical Roman house plan[95]. The presence of this *domus* and other ones, like the coeval "Casa degli emblemi punici" ('The House of the Punic emblems')[96], as well as cisterns, confirms the partial change of the previous funerary function of this area[97]. This is probably related to the repositioning of *Caralis* in the Roman age, when the area of Piazza del Carmine become the center of the city, as demonstrated by the presence of the *forum,* with some of the main

[92] ANGIOLILLO 1981, pp. 85-86; ANGIOLILLO 2013, pp. 22, 27-28; Angiolillo 2017, p. 127

[93] The bibliography about the necropolis of Tuvixeddu is very wide; see more recently; STIGLITZ 2007, pp. 58-60; STIGLITZ 2014, pp. 130-131.

[94] PUGLISI 1943, pp. 157-160; SALVI 2000, pp. 160-161; COLAVITTI 2003, pp. 24-25.

[95] For a discussion about the plan of the house of via Falzarego see: GHIOTTO 2005, p. 162; ROPPA 2013, pp. 48-49.

[96] ANGIOLILLO 1981, pp. 105-106; TRONCHETTI 1990, pp. 13-14.

[97] STIGLITZ 1999, pp. 18-19, 22; COLAVITTI 2003, pp. 85-86; STIGLITZ 2014, pp. 132-133.

civil buildings, like the *tribunal*, the *tabularium* and the *praetorium*, and the *capitolium*[98], other meaningful elements of Romanisation process[99].

[98] GHIOTTO 2005, p. 181; ROPPA 2013, p. 51; DE VINCENZO 2016, p. 125.
[99] STEK 2015, pp. 7-8, 16 25-28; STEK 2016, pp. 296-298.

BIBLIOGRAPHY

ALCOCK 2001: S. Alcock, *Vulgar Romanization and the domination of elites*, in KEAY, TERRENATO 2001, pp. 227-230.

ALFÖLDY 2005: G. Alföldy, *Romanisation – Grundbegriff oder Fehlbegriff? Überlegungen zum Gegenwärtigen Stand der Erforschung von Integrationsprozessen im Römischen Weltreich*, in Z. Visy (ed.), *Limes XIX. Proceedings of the XIXth International Congress of Roman Frontier Studies in Pécs, Hungary, September 2003*, Pécs 2005, pp. 25-56.

AMOROSO *et alii* 2005: A. Amoroso, J. De Grossi Mazzorin, F. Di Gennaro, *Sepoltura di cane (IX-VIII sec. a.C.) nell'area perimetrale dell'antica Fidenae*, in I. Fiore, G. Malerba, S. Chilardi (eds.), *Atti del 3° Convegno Nazionale di Archeozoologia (Siracusa, 3-5 novembre 2000)*, Roma 2005, pp. 311-327.

ANGIOLILLO 1981: S. Angiolillo, *Sardinia. Mosaici antichi in Italia*, Roma 1981.

ANGIOLILLO 1985: S. Angiolillo, *A proposito di un monumento con fregio dorico rinvenuto a Cagliari. La Sardegna e i suoi rapporti con il mondo italico in età tardorepubblicana*, in G. Sotgiu (ed.), *Studi in onore di G. Lilliu per il suo settantesimo compleanno*, Cagliari 1985, pp. 99-116.

ANGIOLILLO 1986-1987: S. Angiolillo, *Il teatro-tempio di Via Malta a Cagliari: una proposta di lettura*, in *AnnPerugia* XXIV (n.s. X).1, 1986-1987, pp. 57-81.

ANGIOLILLO 1987: S. Angiolillo, *L'arte della Sardegna romana*, Milano 1987.

ANGIOLILLO 1989: S. Angiolillo, *La civiltà romana: la produzione artistica e la gioielleria*, in V. Santoni (ed.), *Museo Archeologico Nazionale di Cagliari*, Sassari 1989, pp. 201-220.

ANGIOLILLO 2013: S. Angiolillo, *Falesce quei in Sardinia sunt*, in A.M. Corda, P. Floris (eds.), *Ruri mea vixi colendo. Studi in onore di Franco Porrà*, Ortacesus 2013, pp. 21-40.

ANGIOLILLO 2017: S. Angiolillo, *Il mosaico e la pittura*, n ANGIOLILLO *et alii* 2017, pp. 127-137.

ANGIOLILLO *et alii* 2017: S. Angiolillo, R. Martorelli, M. Giuman, A.M. Corda, D. Artizzu (eds.), *La Sardegna romana e altomedievale. Storia e materiali*, Sassari 2017.

BARAT, MORIZE 1999: Y. Barat, D. Morize, *Les pots d'horticulture dans le monde antique et les jardins de la Villa Gallo-Romaine de Richebourg (Yvelines)*, in *Société française d'Étude de la Céramique antique en Gaule. Actes du Congrès de Fribourg, Mai 1999*, Marseille 1999, pp. 213-235.

BARTOLONI 2005: P. Bartoloni, *La Sardegna fenicia e punica*, in MASTINO 2005a, pp. 25-62.

BARTOLONI, MICHETTI 2014: G. Bartoloni, L.M. Michetti (eds.), *Mura di legno, mura di terra, mura di pietra: fortificazioni nel Mediterraneo antico. Atti del Convegno Internazionale Sapienza Università di Roma, 7-9 Maggio 2012*, Roma 2014.

BARTOLONI 2017: P. Bartoloni, *L'età dell'egemonia cartaginese*, in GUIRGUIS 2017a, pp. 79-100.

BEDAL 2004: L.-A. Bedal, *The Petra Pool-Complex: A Hellenistic Paradeisos in the Nabataean Capital*, Piscataway-New York 2004.

BEDAL *et alii* 2007: L.-A. Bedal, K.L. Gleason, J.G. Schryver, *The Petra Garden and Pool Complex, 2003-2005*, in *AAJ* 51, 2007, pp. 151-176.

BELFIORI 2019: F. Belfiori, *Su alcuni depositi rituali di Agrigento: prassi sacrificale e «riti di costruzione» in ambito domestico nel Quartiere ellenistico-romano (Insula III, Casa M)*, in *MEFRA* 131.2, 2019, pp. 1-31.

BERNARDINI 2007: P. Bernardini, *La Sardegna tra Cartagine e Roma: tradizioni puniche e ellenizzazione*, in P. François, P. Moret, S. Péré-Noguès (eds.), *L'hellénisation en Méditerranée occidentale au temps des guerres puniques (260-180 av. J.C.), Actes du Colloque international (Toulouse, 31 mars - 2 avril 2005)*, Toulouse 2006, *Pallas* 70, pp. 71-104.

BONGHI JOVINO 2005: M. Bonghi Jovino, *Mini muluvanice – mini turuce. Depositi votivi e sacralità. Dall'analisi del rituale alla lettura interpretativa delle*

forme di religiosità, in A.M. Comella, S. Mele (eds.), *Depositi votivi e culti dell'Italia antica dall'età arcaica a quella tardo-repubblicana*, Bari 2005, pp. 31-36.

BONETTO 2006: J. Bonetto, *Persistenze e innovazioni nelle architetture della Sardegna ellenistica*, in M. Osanna, M. Torelli (eds.), *Sicilia ellenistica, consuetudo italica. Alle radici dell'architettura ellenistica d'Occidente. Atti del convegno di studio (Spoleto, 5-7 novembre 2004)*, Roma 2006, pp. 257-270.

CARR 2003: G. Carr, *Creolisation, Pidginisation and the Interpretation of Unique Artefacts in Early Roman Britain*, in G. Carr, E. Swift, J. Weekes (eds.), *TRAC 2002: Proceedings of the Twelfth Annual Theoretical Roman Archaeology Conference, Canterbury 2002*, Oxford 2002, pp. 113-125.

CARROLL 2008: M. Carroll, *Nemus et Templum. Exploring the sacred grove at the Temple of Venus in Pompeii*, in P.G. Guzzo, M.P. Guidobaldi (eds.), *Nuove ricerche archeologiche nell'area vesuviana (scavi 2003-2006). Atti del Convegno Internazionale, Roma 1-3 febbraio 2007*, Bari 2008, pp. 37-45.

CARROLL 2017: M. Carroll, *Temple Gardens and Sacred Groves*, in JASHEMSKI *et alii* 2017a, pp. 152-164.

CECCONI 2006: G.A. Cecconi, *Romanizzazione, diversità culturale, politicamente corretto*, in *MEFRA* 118.1, 2006, pp. 81-94.

CHERRY 1998: D. Cherry, *Frontier and Society in Roman North Africa*, Oxford 1998.

COARELLI 1987: F. Coarelli, *I santuari del Lazio in età repubblicana*, Roma 1987.

COLAVITTI 1999: A.M. Colavitti, *La presenza dei negotiatores italici nella Sardegna di età romana*, Oristano 1999.

COLAVITTI 2003: A.M. Colavitti, *Cagliari. Forma e urbanistica*, Roma 2003.

CULASSO GASTALDI 2000: E. Culasso Gastaldi, *L'iscrizione trilingue del Museo Archeologico di Torino (dedicante greco, cultura punica, età romana)*, in *Epigraphica* 62, 2000, pp. 11-28.

D'ALESSIO 2011: A. D'Alessio, *Spazio, funzioni e paesaggio nei santuari a terrazze italici di età tardo-repubblicana. Note per un approccio sistemico al linguaggio di una grande architettura*, in E. La Rocca, A. D'Alessio (eds.), *Tradizione e innovazione. L'elaborazione del linguaggio ellenistico nell'architettura romana e italica di età tardo-repubblicana*, Roma 2011, pp. 51-86.

D'ALESSIO 2014: M.T. D'Alessio, *Riti e miti di fondazione nell'Italia antica. Riflessioni sui luoghi di Roma*, in BARTOLONI, MICHETTI 2014, pp. 315-331.

DE VINCENZO 2016: S. De Vincenzo, *Aspetti del processo di romanizzazione dei centri urbani della Sardegna in età tardo-repubblicana*, in DE VINCENZO, BLASETTI FANTAUZZI 2016, pp. 123-141.

DE VINCENZO, BLASETTI FANTAUZZI 2016: S. De Vincenzo, C. Blasetti Fantauzzi (eds.), *Il processo di romanizzazione della provincia Sardinia et Corsica. Atti del convegno internazionale di studi, Cuglieri (Or), 26-28 marzo 2015*, Roma 2016.

D'ORLANDO 2019: D. D'Orlando, *Contenitori anforici di produzione italica*, in D'ORLANDO *et alii* 2019, pp. 187-205, http://ojs.unica.it/index.php/layers/article/view/3656.

D'ORLANDO *et alii* 2019: D. D'Orlando, F. Doria, L. Soro (eds.), *Archeologia urbana a Cagliari. Scavi in via Caprera 8 (2014-2015)*, *Quaderni di Layers* 2, 2019, https://ojs.unica.it/index.php/layers/article/view/3656/3277.

D'ORLANDO, MURESU 2019: D. D'Orlando, M. Muresu, *I reperti numismatici*, in D'ORLANDO *et alii* 2019, pp. 583-609, http://ojs.unica.it/index.php/layers/article/view/3656.

DYSON 2000: S.L. Dyson, *The limited nature of Roman urbanism in Sardinia*, in L. Fentress (ed.), *Romanization and the City*, Rome 2000, pp. 189-196.

EVYSAF 2006: R.-S. Evysaf, *Hellenistic and Roman approaches to gardens in the Eastern Mediterranean: Judea as a case study*, in MOREL *et alii* 2006, pp. 197-206.

FACCHINETTI 2008: G. Facchinetti, *Offerte di fondazione: la documentazione aquileiese*, in *AquilNost* 79, 2008, pp. 149-218.

FACCHINETTI 2012: G. Facchinetti, *Ritualità connesse alla costruzione di domus. Le offerte monetali di fondazione ad Aquileia*, in J. Bonetto, M. Salvadori (eds.), *L'architettura privata ad Aquileia in età romana. Atti del Convegno di Studio (Padova, 21-22 Febbraio 2011)*, Padova 2012, pp. 337-351.

FARRE 2019: C. Farre, *La documentazione epigrafica*, in D'ORLANDO *et alii* 2019, pp. 659-668, http://ojs.unica.it/index.php/layers/article/view/3656.

FEAR 1996: A.T. Fear, *Rome and Baetica: Urbanization in Southern Spain, Urbanization in Southern Spain c. 50 BC-AD 150*, New York 1996.

GALSTERER 2009: H. Galsterer, *La Romanizzazione - una, molte o nessuna?*, in G. Cuscito (ed.), *Aspetti e problemi della romanizzazione. Venetia, Histria e arco alpino orientale*, Trieste 2009, pp. 17-27.

GIUMAN, MARTORELLI 2019: M. Giuman, R. Martorelli, *Il contributo dei risultati delle indagini archeologiche in via Caprera alla conoscenza di Karales in età classica e post classica*, in D'ORLANDO *et alii* 2019, pp. 717-734, http://ojs.unica.it/index.php/layers/article/view/3656.

GHIOTTO 2005: A.R. Ghiotto, *L'architettura romana nelle città della Sardegna*, Roma 2004.

GLEASON 1993: K.L. Gleason, *A Garden Excavation in the Oasis Palace of Herod the Great at Jericho*, in *LJ* 12.2, 1993, pp. 156-167.

GLEASON 1994: K.L. Gleason, *To Bound and to Cultivate*, in N.F. Miller, K.L. Gleason (eds.), *The Archaeology of Garden and Field*, University of Pennsylvania Press, Philadelphia 1994, pp. 1-24.

GLEASON 2014: K.L. Gleason, *Wilhelmina Jashemski and Garden Archaeology at Oplontis*, in J.R. Clarke, N.K. Muntasser (eds.), *Oplontis: Villa A ("of Poppaea") at Torre Annunziata, Italy. Volume 1: The Ancient Setting and Modern Rediscovery*, para. 929-1095, https://quod.lib.umich.edu/cgi/t/text/text-idx?c=acls;idno=heb90048.0001.001.

GLEASON, PALMER 2017: K.L. GLEASON, M.A. PALMER, *Constructing the Ancient Roman Garden*, in JASHEMSKI *et alii* 2017a, pp. 369-401.

GRIMALDI *et alii* 2010: M. Grimaldi, M.L. Fatibene, L. Pisano, A. Russo, *Nuovi scavi nel giardino della casa di Marco Fabio Rufo a Pompei (VII, 16, Insula occidentalis 22)*, in *FOLD*&R 204, 2010, pp. 1-8, http://www.fastionline.org/docs/FOLDER-it-2010-204.pdf.

GRIMALDI *et alii* 2011: M. Grimaldi, P. Buondonno, A. Carannante, R. Ciardello, A. Colucci, A. Cotugno, A. De Luca, D. Di Domenico, M.L. Fatibene, F. Fuschino, M. Giorleo, R. Luongo, L. Pisano, I. Picillo, A. Russo, F. Schiano Lomoriello, G. Tabacchini, G. Trojsi, *La casa di Marco Fabio Rufo. Lo scavo del giardino e i materiali*, in *FOLD*&R 217, 2011, pp. 1-40, http://www.fastionline.org/docs/FOLDER-it-2011-217.pdf.

GRIMALDI *et alii* 2011-2012: M. Grimaldi, A. Russo, I. Picillo, *La ricerca nell'Insula Occidentalis di Pompei dell'Università Suor Orsola Benincasa di Napoli*, in *UNISOB* I, 2011-2012, pp. 127-165.

GUIRGUIS 2017a: M. Guirguis (ed.), *La Sardegna fenicia e punica. Storia e materiali*, Sassari 2017.

GUIRGUIS 2017b: M. Guirguis, *Le forme della presenza fenicia in età arcaica (VIII-VI sec. a.C.)*, in GUIRGUIS 2017a, pp. 55-61.

HARTSWICK 2017: K. Hartswick, *The Roman Villa Garden*, in JASHEMSKI *et alii* 2017a, pp. 72-86.

IBBA 2015: A. Ibba, *Processi di "romanizzazione" nella Sardinia repubblicana e alto-imperiale (III A.C. – II D.C.*, in L. Mihailescu-Bîrliba (ed.), *Colonisation and Romanization in Moesia Inferior. Premises of a Constrastive Approach*, Kaiserslautern-Mehlingen 2015, pp. 11-76.

HINGLEY 2005: R. Hingley, *Globalizing Roman culture: unity, diversity and Empire*, London 2005.

IBBA 2016: A. Ibba, *Sardi, Sardo-punici e Italici nella Sardinia repubblicana: la testimonianza delle iscrizioni*, in DE VINCENZO, BLASETTI FANTAUZZI 2016, pp. 69-88.

IBBA 2017: A. Ibba, *Gli statuti municipali*, in ANGIOLILLO *et alii* 2017, pp. 185-191.

INGLEBERT 2005: H. Inglebert, *Les processus de romanisation*, in H. Inglebert (ed.), *Histoire de la civilisation romaine*, Paris 2005, pp. 421-449.

JASHEMSKI 1979a: W. F. Jashemski, *The gardens of Pompeii, Herculaneum and the villas destroyed by Vesuvius, Vol. 1*, New Rochelle-New York 1979.

JASHEMSKI 1979b: W.F. Jashemski, *The Garden of Hercules at Pompeii (II.viii.6): The Discovery of a Commercial Flower Garden*, in *AJA* 83.4, 1979, pp. 403-411.

JASHEMSKI 1992a: W.F. Jashemski, *The gardens of Pompeii, Herculaneum and the villas destroyed by Vesuvius, Vol. 2*, New Rochelle-New York 1992.

JASHEMSKI 1992b: W.F. Jashemski, *Vasa Fictilia: Ollae Perforatae*, in W. Wilhem, H. Jones (eds.), *Two Worlds of the Poet: New Perspectives on Vergil*, Detroit 1992, pp. 371-391.

JASHEMSKI 2017a: W.F. Jashemski, *Produce gardens*, in JASHEMSKI *et alii* 2017a, pp. 121-151.

JASHEMSKI 2017b: W.F. Jashemski, *Gardening Practices and Techniques*, in JASHEMSKI *et alii* 2017a, pp. 432-454.

JASHEMSKI *et alii* 2017a: W.F. Jashemski, K.L. Gleason, K.J. Hartswick, A.-A. Malek (eds.), *Gardens of the Roman Empire*, Cambridge 2017.

JASHEMSKI *et alii* 2017b: W. F. Jashemski, K.L. Gleason, M. Herchenbach, *Plants of the Roman Garden*, in JASHEMSKI *et alii* 2017a, pp. 455-480.

KEAY, TERRENATO 2001: S. Keay, N. Terrenato (eds.), *Italy and the West. Comparative issues in Romanization*, Oxford 2001.

KLYNNE, LILJENSTOLPE 2001: A. Klynne, P. Liljenstolpe, *I giardini*, in G. Messineo (ed.), *Ad Gallinas Albas. Villa di Livia*, in *BCom* suppl. 8, 2001, pp. 201-207.

KOCH 1951: H. Koch, *Der Garten des Hephaistos*, in G.E. Mylonas (ed.), *Studies presented to D. M. Robinson on his Seventieth Birthday, Vol. I*, St. Louis 1951, pp. 356-359.

LAMBRINOUDAKIS *et alii* 2005: V. Lambrinoudakis, Z. Sgouleta, S. Petrounakos, s.v. *Consecration, foundation rites*, *Thescra* III, 2005, pp. 303-346.

LE ROUX 2004: P. Le Roux, *La romanisation en question*, in *AnnHistScSoc* 59.2, 2004, pp. 287-311.

LE ROUX 2014: P. Le Roux, *«Transferts culturels» et historiographies provincials*, in *DHA* 40.1, 2014, pp. 276-298.

LILJESTOLPE, KLYNNE 2000: P. Liljenstolpe, A. Klynne, *Investigating the gardens of the Villa of Livia*, in *JRA* 13, 2000, pp. 220-233.

MACAULY-LEWIS 2006a: E. Macauly-Lewis, *The role of ollae perforatae in understanding horticulture, planting techniques, garden design, and plant trade in the Roman World*, in MOREL *et alii* 2006, pp. 207-220.

MACAULY-LEWIS 2006b: E. Macauly-Lewis, *Planting pots at Petra: a preliminary study of ollae perforatae at the Petra Garden Pool Complex and at the "Great Temple"*, in *Levant* 38, 2006, pp. 159-170.

MACAULY-LEWIS 2010: E. Macaulay-Lewis, *Imported Exotica: Approaches to the Study of the Ancient Plant Trade*, in *BA on line* I 2010 I 2010 / Volume speciale D / D9 / 4, pp. 16-26.

MACAULY-LEWIS 2017: E. Macaulay-Lewis, *The Archaeology of Gardens in the Roman Villa*, in JASHEMSKI *et alii* 2017a, pp. 87-120.

MARTORELLI 2009: R. Martorelli, *Archeologia urbana a Cagliari. Un bilancio di trent'anni di ricerche sull'età tardoantica e altomedievale*, in *SS* XXXIV, 2009, pp. 213-237.

MARZANO 2014: A. Marzano, *Roman gardens, military conquests, and elite self-representation*, in K. Coleman, P. Derron (eds.), *Le jardin dans l'antiquité*, Vandoeuvres 2014, pp. 195-244.

MASTINO 2005a: A. Mastino (ed.), *Storia della Sardegna antica*, Nuoro 2005.

MASTINO 2005b: A. Mastino, *Roma in Sardegna: l'occupazione e la guerra di Hampsicora*, in MASTINO 2005a, pp. 63-90.

MASTINO, ZUCCA 2012: A. Mastino, R. Zucca, *In Sardinia tituli scribuntur et imagines sculpuntur,* in A. Donati, G. Poma (eds.), *L'officina epigrafica romana: in ricordo di Giancarlo Susini*, Faenza, pp. 393-428.

MATTINGLY 2002: D. Mattingly, *Vulgar and weak "Romanization", or time for a paradigm shift?*, in *JRA* 15, 2002, pp. 541-546.

MATTINGLY 2011: D. Mattingly, *Imperialism, Power, and Identity: Experiencing the Roman Empire*, Princeton 2011.

MELONI 1990: P. Meloni, *La Sardegna romana*, Sassari 1990.

MESSINEO 1984: G. Messineo, *Ollae Perforatae*, in *Xenia* 8, 1984, pp. 65-84.

MICHETTI 2014: L. M. Michetti *Riti e miti di fondazione nell'Italia antica. Riflessioni su alcuni contesti di area etrusca*, in BARTOLONI, MICHETTI 2014, pp. 333-356.

MILLET 1990: M. Millet, *Romanization: historical issues and archaeological interpretations*, in T. Blagg, M. Millet (eds.), *The Early Roman Empire in the West*, Oxford 1990, pp. 35-41.

MONGIU 1986: M.A. Mongiu, *Note per un'interpretazione-revisione della «Forma Karalis» (Scavi 1978-1982)*, in B. Fois (ed.), *S. Igia capitale giudicale. Contributi all'Incontro di studio. Storia, ambiente fisico e insediamenti umani nel territorio di S. Gilla (Cagliari), 3-5 novembre 1983*, Pisa, pp. 128-154.

MOREL *et alii* 2006: J.P. Morel, J.T. Juan, J.C. Matamala (eds.), *The Archaeology of Crop Fields and Gardens*. *Proceedings from 1st Conference on Crop Fields and Gardens Archaeology, University of Barcelona (Barcelona, Spain, June 1st-3rd 2006)*, Bari 2006.

MORVILLEZ 2017: E. Morvillez, *The Garden in the Domus*, in JASHEMSKI *et alii* 2017a, pp. 17-71.

MURRAY, PETSAS 1989: W.M. Murray, M.P. Petsas, *Octavian's Campsite Memorial for the Action War*, in *TransactAmPhilosSoc* 79.4, 1989, pp. 1-172.

NAPOLITANO 2019: M. Napolitano, *La ceramica a pareti sottili*, in D'ORLANDO *et alii* 2019, pp. 73-109, http://ojs.unica.it/index.php/layers/article/view/3656.

NEVETT 2010: L.C. Nevett, *Domestic Space in Classical Antiquity*, Cambridge-New York, 2010.

NICHOLSON, SHAW 2000: P.T. Nicholson, I. Shaw, *Ancient Egyptian Materials and Technology*, Cambridge 2000.

PARODO 2017: C. Parodo, *La scultura funeraria*, in ANGIOLILLO *et alii* 2017, pp. 119-126.

PARODO 2018: C. Parodo, *Ogni porta ha due facce. Sa Presonedda (S. Antioco, Sardegna) e il significato catactonio della porta nel mondo romano*, in *Ostraka* XXVII, 2018, pp. 105-119,

PARODO 2019a: C. Parodo, *La soglia del visibile. Alcune considerazioni circa la funzione dei contenitori ceramici forati provenienti dallo scavo di via Caprera 8*, in D'ORLANDO *et alii* 2019, pp. 679-716, http://ojs.unica.it/index.php/layers/article/view/3656.

PARODO 2019b: C. Parodo, *In Africano orbe quasi Roma. Mosaici dei mesi e autorappresentazione dell'aristocrazia romana a Cartagine tra IV e V sec. d.C.*, in *CaSteR* 4, 2019, pp. 1-23.

PIETRA 2019a: G. Pietra, *Dalla laguna al mare. Osservazioni su Cagliari tra Cartagine e Roma*, in R. Martorelli (ed.), *Know the sea to live the sea - Conoscere il mare per vivere il mare. Atti del Convegno (Cagliari – Cittadella dei Musei, Aula Coroneo, 7-9 marzo 2019)*, Perugia 2019, pp. 71-81.

PIETRA 2019b: G. Pietra, *Urbs Urbium Karalis. Cagliari, la "località di piazza del Carmine" in età romana*, in *QuadACagl* 30, 2019, 143-194.

PINELLI 2019: L. Pinelli, *La ceramica comune da fuoco. Dall'età repubblicana all'Altomedioevo*, in D'ORLANDO *et alii* 2019, pp. 409-452, http://ojs.unica.it/index.php/layers/ar-ticle/view/3656.

PINELLI, PINELLI 2019: C. Pinelli, L. Pinelli, *La ceramica comune di età romana. Dall'età repubblicana all'Altomedioevo*, in D'ORLANDO *et alii* 2019, pp. 345-388, http://ojs.unica.it/index.php/layers/ar-ticle/view/3656.

POLITO 2010: E. Polito, *Fregi dorici e monumenti funerari: un aggiornamento*, in M. Valenti (ed.), *Monumenta. I mausolei romani, tra commemorazione funebre e propaganda celebrativa. Atti del convegno di studi, Monte Porzio Catone, 25 ottobre 2008*, Roma 2010, *Tusculana* 3, pp. 23-34.

PINTO-GUILLAUME 2002: E. Pinto-Guillaume, *Mollusks from the Villa of Livia at Prima Porta, Rome: The Swedish Garden Archaeological Project, 1996-1999*, in *AJA* 106.1, 2002, pp. 37-58.

PINTO-GUILLAUME 2008: E. Pinto-Guillaume, *Jardins anciens et reconstructions modernes Réflexions autour une réhabilitation et reconstruction d'un jardin romain de la période Julio-claudienne dans une villa impériale au Nord de Rome*, in *16th ICOMOS General Assembly and International Symposium "Finding the spirit of place - between the tangible and the intangible", 29 sept.-4 oct. 2008, Quebec, Canada*, pp. 1-10, http://openarchive.icomos.org/39/1/77-CFsK-73.pdf.

PITTS, VERSLUYS 2015: M. Pitts, M.J. Versluys, *Globalization and the Roman world: perspectives and opportunities*, in M. Pitts, M.J. Versluys (eds.), *Globalisation and the Roman World: World History, Connectivity and Material Culture*, Cambridge 2015, pp. 3-31.

PORRÀ 2007: F. Porrà, *Karales: analisi del processo di promozione a città romana*, in *AnnCagl* LXII, n.s. XXV, 2007, pp. 45-69.

PUGLISI 1943: S.M. Puglisi, *Costruzione romane con elementi punici nell'antica Karalis*, in *NSc* 7.IV.1, 1943, pp. 155-165.

PURCELL 1995: N. Purcell, *The Roman Villa and the Landscape of Production*, in T.J. Cornell, K. Lomas (eds.), *Urban Society in Roman Italy*, London 1995, pp, 151-179.

RAECK 1987: W. Raeck, *Publica non despiciens. Ergänzungen zur Interpretation des Dominus-Iulius-Mosaiks aus Karthago*, in *RM* 94, 1987, pp. 295-308.

REVELL 2009: L. Revell, *Roman Imperialism and Local Identities*, Cambridge 2009.

RIZZO 2018: G. Rizzo, *L'Heliogabalium del Palatino, i suoi giardini e la cultura materiale a Roma nell'età dei Severi*, in *MEFRA* 130.2, 2018, pp. 467-508.

ROPPA 2013: A. Roppa, *Comunità urbane e rurali nella Sardegna punica di età ellenistica*, Valencia 2013.

ROPPA 2014: A. Roppa, *Identifying Punic Sardinia: local communities and cultural identities*, in J. Quinn, N. Vella (eds.), *The Punic Mediterranean. Identities and Identification from Phoenician Settlement to Roman Rule*, Cambridge 2014, pp. 257-281.

ROPPA 2018: A. Roppa, *Connectivity, Trade and Punic Persistence: Insularity and Identity in Late Punic to Roman Republican Sardinia (3rd-1st century BC)*, in A. Kouremenos (ed.), *Insularity and Identity in the Roman Mediterranean*, Oxford 2018, pp. 144-164.

ROPPA 2019: A. Roppa, *Sardinia*, in C. Lopez-Ruiz, Brian R. Doak (eds.), *The Oxford Handbook of the Phoenician and Punic Mediterranean*, Oxford 2019, pp. 523-536.

ROTH 2007: R.E. Roth, *Styling Romanisation. Pottery and Society in Central Italy*, Cambridge 2007.

SALVI 2000: D. Salvi, *Tuvixeddu, vicende di una necropoli*, in *Tuvixeddu: la necropoli occidentale di Karales, Atti della Tavola rotonda internazionale "La necropoli antica di Karales nell'ambito mediterraneo", Cagliari 30 nov.-1 dic. 1996*, Cagliari 2000, pp. 139-202.

SANNA 2019: A.L. Sanna, *Intervento archeologico d'urgenza nell'area del parcheggio dell'Agenzia regionale LAORE Sardegna (Cagliari, via Caprera 8)*, in D'ORLANDO *et alii* 2019, pp. 1-34, http://ojs.unica.it/index.php/layers/article/view/3656.

SCHEID 2005: J. Scheid, *Quand faire, c'est croire. Les rites sacrificiels des Romains*, Paris 2005.

SIEBERT 1999: A.V. Siebert, *Instrumenta sacra. Untersuchungen zu römischen Opfer-, Kult- und Priestergeräten*, Berlin 1999.

SOLLAI 1989: M. Sollai, *Le monete della Sardegna romana*, Sassari 1989.

SOTGIU 1988: G. Sotgiu, *L'epigrafia latina in Sardegna dopo il C.I.L. X e l'E.E. VIII*, in *ANRW* II. 11.1, Berlin-New York 1988, pp. 552-739.

STEK 2013: T.D. Stek, *Material Culture, Italic Identities and the Romanization of Italy*, in J. DeRose Evans (ed.), *Blackwell Companion to the Archaeology of the Roman Republican Period*, Leiden 2013, pp. 337-353.

STEK 2015: T.D. Stek, *Cult, conquest and "religious Romanization. The impact of Rome on cult places and religious practices in Italy*, in T.D. Stek, G.J. Burgers (eds.), *The impact of Rome on cult places and religious practices in ancient Italy*, London 2015, pp. 1-28.

STEK 2016: T.D. Stek, *"Romanizzazione religiosa" tra modello poliadico e processi culturali. Dalla destrutturazione postcoloniale a nuove prospettive sull'impatto della conquista romana*, in M. Aberson, M.C. Biella, M. Di Fazio, P. Sánchez, M. Wullschleger (eds.), *L'Italia centrale e la creazione di una koiné culturale? I percorsi della "romanizzazione"*, Bern 2016, pp. 291-306.

STEK 2017: T.D. Stek, *L'espansionismo romano e la fortuna dei santuari italici: una prospettiva dall'Italia antica*, in *AEspA* 79, 2017, pp. 247-257.

STIGLITZ 1999: A. Stiglitz, *La necropoli punica di Cagliari. Tuvixeddu, un colle e la sua memoria*, Cagliari 1999.

STIGLITZ 2007: A. Stiglitz, *Cagliari fenicia e punica*, in *RStFen* 35.1, pp. 43-71.

STIGLITZ 2010: A. Stiglitz, *Un'isola meticcia: le molte identità della Sardegna antica. Geografia di una frontiera*, in *BA on line* I 2010 / Volume speciale A / A3 / 3, pp. 16-28, https://bollettinodiarcheologiaonline.beniculturali.it/wp-content/uploads/2019/01/3_STIGLITZ.pdf.

STIGLITZ 2014: A. Stiglitz, *Urbanistica di una necropoli: il caso di Tuvixeddu-Tuvumannu a Cagliari (Sardegna)*, in *Archeoarte* 3, 2014, pp. 127-146, https://ojs.unica.it/index.php/archeoarte/article/view/952.

STOCKHAMMER 2012: P.W. Stockhammer, *Conceptualizing Cultural Hybridization in Archaeology*, in P.W. Stockhammer (ed.), *Conceptualizing Cultural Hybridization: A Transdisciplinary Approach*, Berlin-Heidelberg 2012, pp. 43-58.

TERRENATO 1997: N. Terrenato, *The Romanization of Italy: Global Acculturation or Cultural Bricolage?* in C. Forcey, J. Hawthorne, R. Witcher (eds.), *TRAC 97: Proceedings of the Seventh Annual Theoretical Roman Archaeology Conference, Nottingham 1997*, Oxford 1998, pp. 20-27.

THOMPSON 1937: D.B. Thompson, *The Gardens, of Hephaistos*, in *Hesperia* 6, 1937, pp. 396-425.

TOMEI 1992: M.A. Tomei, *Nota sui giardini antichi del Palatino*, in *MEFRA* 104.2, 1992. pp. 917-951.

TOMEI 2008: D. Tomei, *Gli edifici sacri della Sardegna romana: problemi di lettura e interpretazione*, Ortacesus 2008.

TORELLI 1995: M. Torelli, *Studies in the Romanization of Italy*, Alberta 1995.

TRAINA 2006: G. Traina, *Romanizzazione, «métissages», ibridità: alcune riflessioni*, in *MEFRA* 118.1, 2006, pp. 151-158.

TRONCHETTI 1990: C. Tronchetti, *Cagliari fenicia e punica*, Sassari 1990.

VAN DOMMELEN 1997: P. Van Dommelen, *Colonial Constructs, Colonialism and Archaeology in the Mediterranean*, in *WorldA* 28, 1997, pp. 305-323.

VAN DOMMELEN 1998: P. Van Dommelen, *Punic persistence. Colonialism and cultural identities in Roman Sardinia*, in R. Laurence, J. Berry (eds.), *Cultural identity in the Roman Empire*, London-New York 1998, pp. 25-48.

VAN DOMMELEN 2001: P. Van Dommelen, *Cultural imaginings. Punic tradition and local identity in Roman Republican Sardinia*, in KEAY, TERRENATO 2001, pp. 54-70.

VAN DOMMELEN, TERRENATO 2007: P. Van Dommelen, N. Terrenato, *Beyond resistance: Roman power and local traditions in Punic Sardinia*, in P. Van Dommelen, N. Terrenato (eds.), *Articulating Local Cultures: Power and Identity under the Expanding Roman Republic*, Portsmouth 2007, *JRA* suppl. 63, pp. 55-70.

VERSLUYS 2014: M.J. Versluys, *Understanding objects in motion. An archaeological dialogue on Romanization*, in *ARD* 21.1, 2014, pp. 1-20.

VEYNE 2005: P. VEYNE, *L'empire gréco-romain*, Paris 2005.

VICO *et alii* 2007: L. Vico, F. Galeazzi, V. Vassallo, *Ricostruzione dei giardini della villa*, in M. Forte (ed.), *La villa di Livia: un percorso di ricerca di archeologia virtuale*, Roma 2007, pp. 203-209.

VON STACKELBERG 2009: K.T. von Stackelberg, *The Roman Garden: Space, Sense, and Society*, London 2009.

WALLACE-HADRILL 2008: A. Wallace-Hadrill, *Rome's Cultural Revolution*, Cambridge 2008.

WEBSTER 2001: J. Webster, *Creolizing the Roman provinces*, in *AJA* 105.2, 2001, pp. 209-225.

WILKINSON 1998: A. Wilkinson, *The garden in ancient Egypt*, London 1998.

WOOLF 1997: G. Woolf, *Beyond Romans and natives, in Culture Contact and Colonialism*, in *WorldA* 28.3, 1997, pp. 339-350.

ZACHOS 2003: K.L. Zachos, *The Tropaeum of the sea-battle of Actium at Nikopolis: interim report*, in *JRA* 16, 2003, pp. 64-92.

ZUCCA 1996: R. Zucca, *Inscriptiones latinae liberae rei publicae Africae, Sardiniae et Corsicae*, in M. Khanoussi, P. Ruggeri, C. Vismara (eds.), *L'Africa Romana*

XI. Atti dell'XI Convegno di studio (Cartagine, 15-18 dicembre 1994), Ozieri 1996, pp. 1425-1489.

ZUCCA 2004: R. Zucca, *Sufetes Africae et Sardiniae. Studi storici e geografici sul Mediterraneo antico*, Roma 2004.

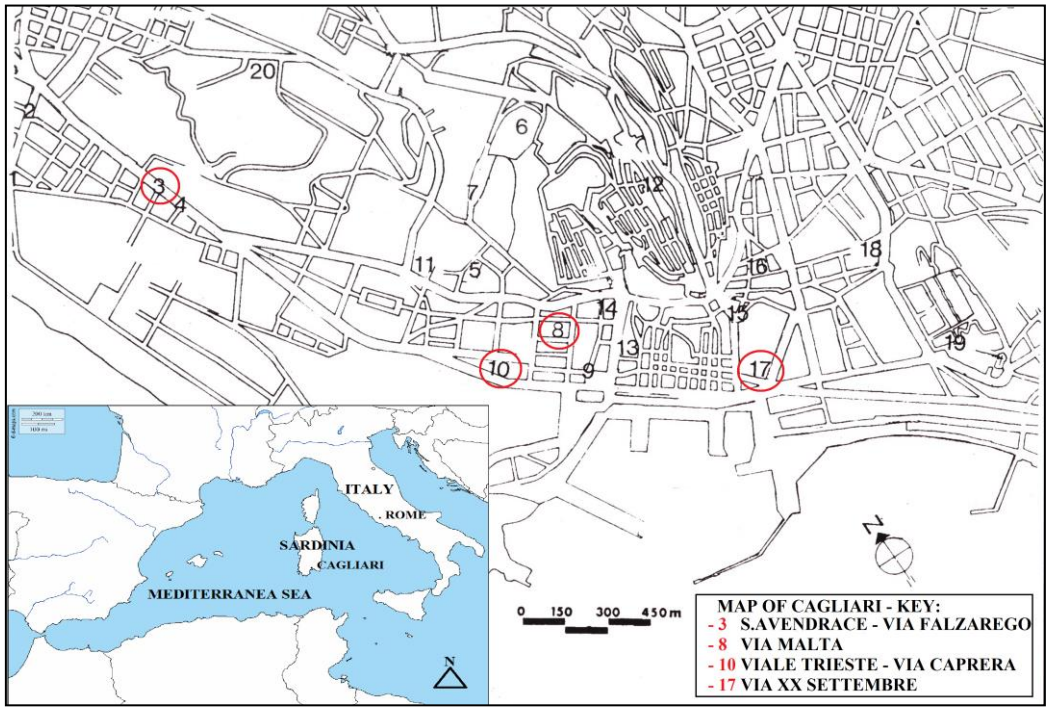

Fig. 1. Map of Cagliari (from GHIOTTO 2005, fig. 86 & http://d-maps.com; figure elaborated by C. Parodo).

Fig. 1. Mosaic of *Dominus Iulius* (Tunis, Musée National du Bardo; courtesy of M. Khanoussi).

Fig. 3. Coin of suffetes *Aristo* and *Mutumbal* in *Caralis* (from BONETTO 2006, fig. 8; picture elaborated by C. Parodo).

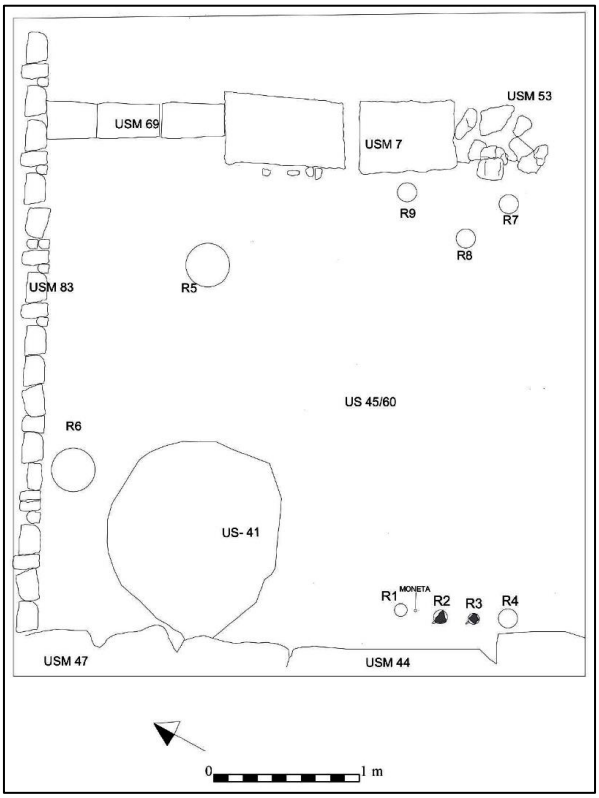

Fig. 4. Drawing of the archaeological excavation of via Caprera (from SANNA 2019, tav. II).

Fig. 5. R1-R4 perforated pots aligned along the wall USM 44/47 (photo courtesy of A.L. Sanna).

Fig. 6. R1, R2, R3 perforated thin-walled vases (from PARODO 2019a, figs. 2b, 2c, 3a, 3b, 4a, 4b; pictures by M. Todde & D. D'Orlando; picture elaborated by C. Parodo).

Fig. 7. R5 perforated Dressel 2-4 amphora (picture by M. Todde & D. D'Orlando) from the archeological excavation of via Caprera (picture by A.L. Sanna) (picture elaborated by C. Parodo).

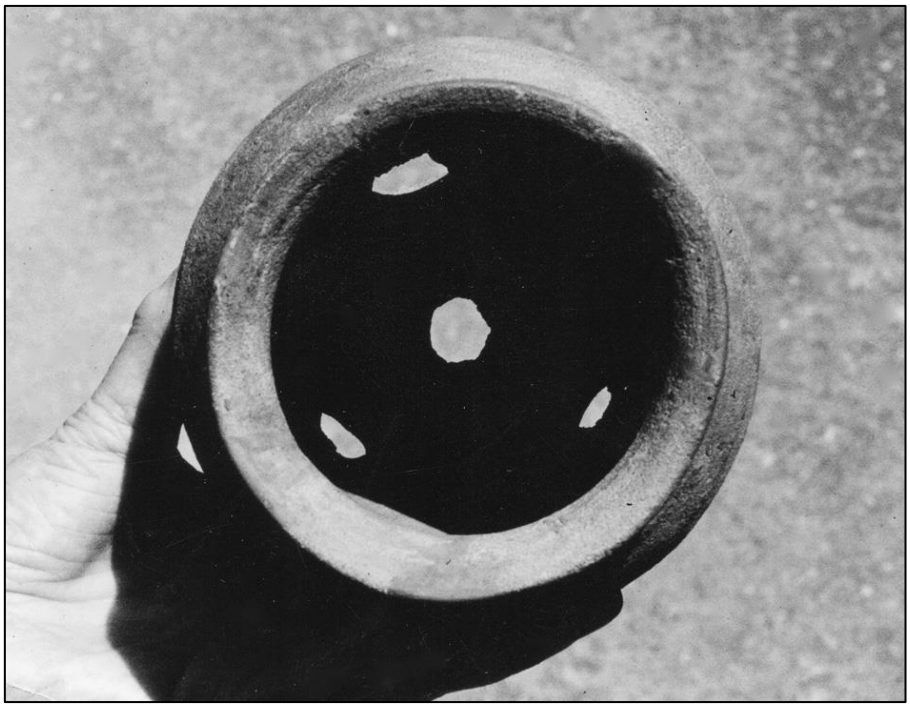

Fig. 8. Example of *olla perforata* from the House of Ship Europa, Pompeii (I, 15) (from JASHEMSKI 2017b, fig. 16.11).

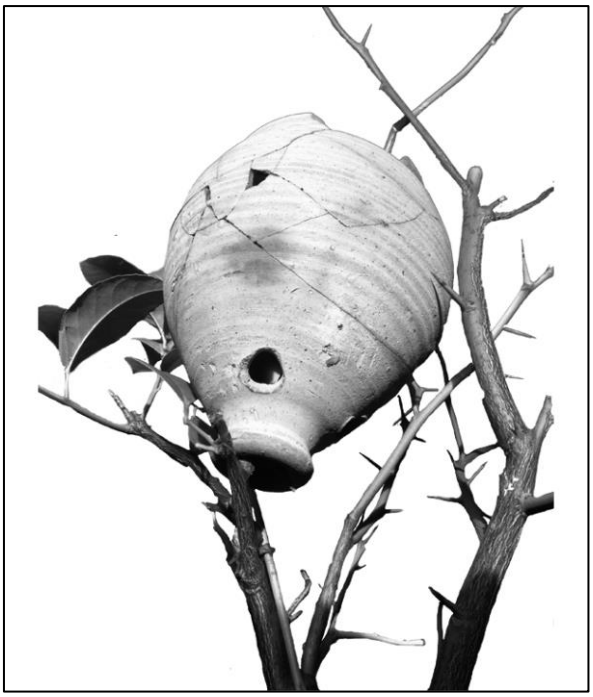

Fig. 9. Example of *olla perforata* from the *villa* of Poppea, Oplontis (from GLEASON 2014, fig. 6.24).

Fig. 10. *Ollae perforatae* from the archeological excavation of the House of *Marcus Fabius Rufus*, Pompeii (VII, 16, 22) (from GRIMALDI *et alii* 2010, fig. 3) and those from via Caprera (photo courtesy of A.L. Sanna; picture elaborated by C. Parodo).

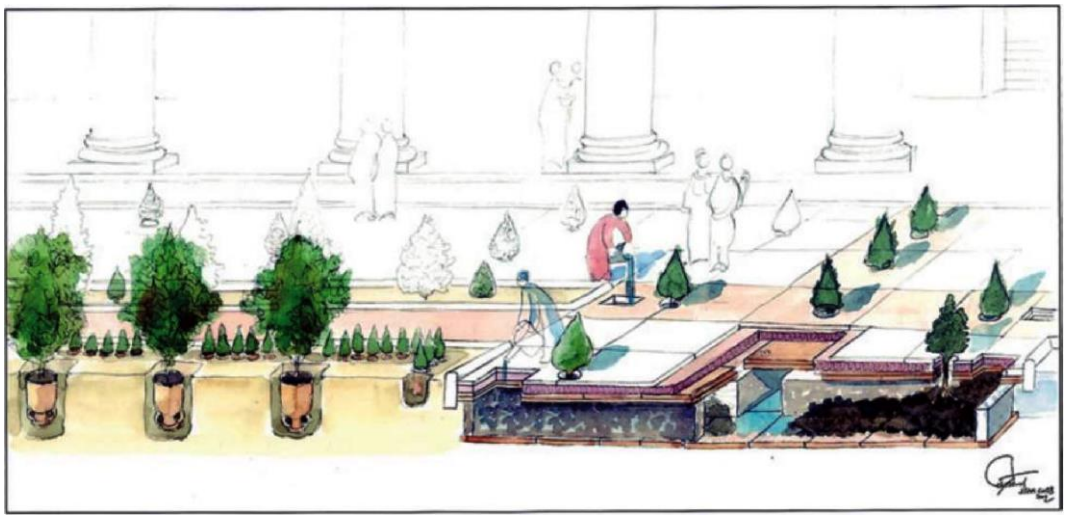

Fig. 11. Reconstruction of part of the *Heliogabalium* garden (from JASHEMSKI 2017b, fig. 16.9a) (figure elaborated by C. Parodo).

Fig. 12. Amphorae reused as planting pots (without scale in the original picture from RIZZO 2018, fig. 9) from the archeological excavation of the *Heliogabalium*, Rome (from TOMEI 1992, fig. 18 (picture elaborated by C. Parodo).

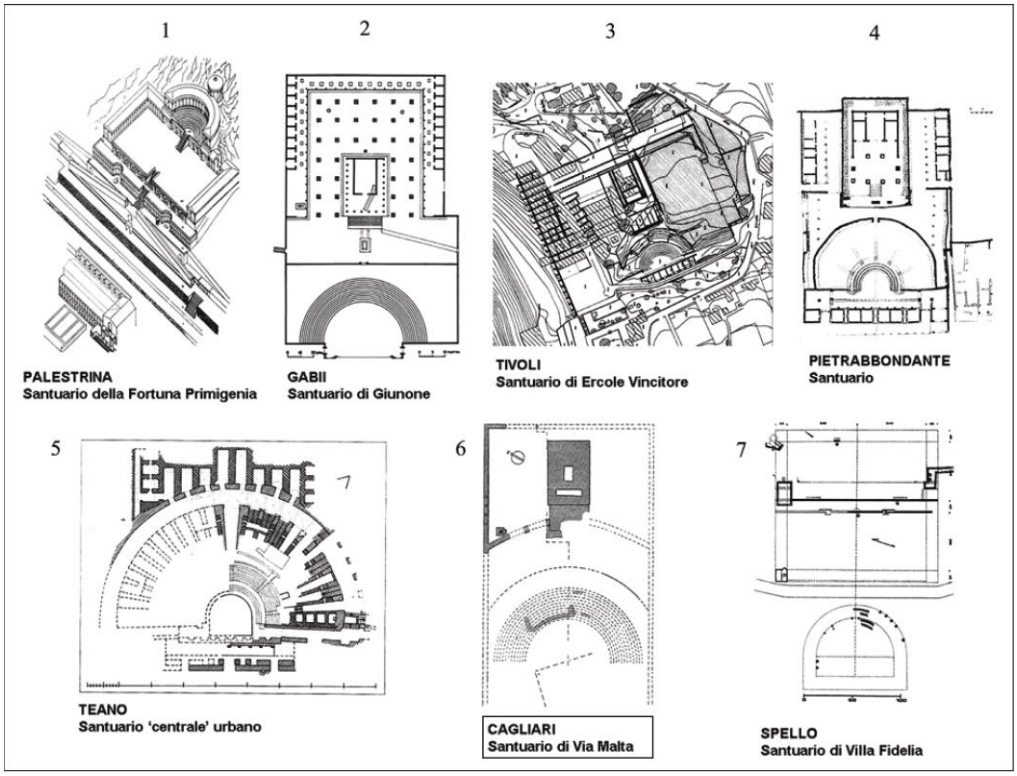

Fig. 13. Plan of Venus temple in Cagliari (n. 6), and those of the main terraced sanctuaries in central Italy (from D'ALESSIO 2011, fig. 5; figure elaborated by C. Parodo).

Fig. 14. The funerary monument with Doric frieze of *Caius Apsena Pollio* in Cagliari (from ANGIOLILLO 2013: fig. 37).

Fig. 15. Mosaic of *Marcus Plotius Rufus* from the *fullonica* in via XX Settembre, Cagliari (from ANGIOLILLO 2017: p. 128).

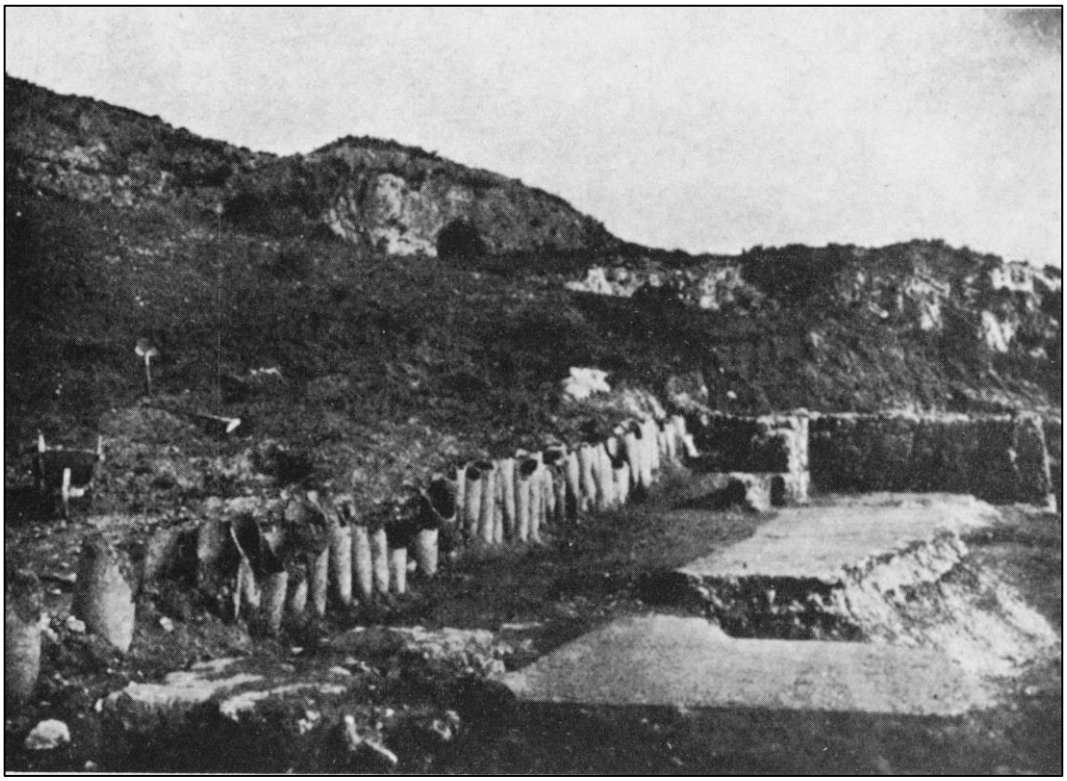

Fig. 16. Roman *domus* of via Falzarego (Cagliari) (from PUGLISI 1943, fig. 1).