

What's beyond the Etruscan bridge?

Analysis and dating of the Vignale plateau

San Giovenale. Results of excavations
conducted by the Swedish Institute
of Classical Studies at Rome and
the Soprintendenza alle Antichità
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Dust jacket: The enigmatic Stone Platform excavated on Vignale in 1959, looking north-west (photograph by C.W. Welin, courtesy of SIR). See p. 183, *Fig. 155*.

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ABSTRACT

Yvonne Backe Forsberg & Richard Holmgren, *San Giovenale VI:2–3. What's beyond the Etruscan bridge? Analysis and dating of the Vignale plateau* (Skrifter utgivna av Svenska Institutet i Rom 4°, 26:6:2–3), Stockholm 2024.

The Etruscan site of San Giovenale has been excavated periodically since 1956. From the beginning the main focus has been the question of settlement remains. However, a fundamental area within the site had still not undergone the inquiry necessary for a complete understanding of the site as a whole. The Vignale plateau, connected to the main site by an Etruscan bridge, was surveyed and partly excavated in 1959–1960, but not published. The Vignale Archaeological Project (VAP) began new investigations in 2006 that aimed to answer the question of “What's beyond the Etruscan bridge?” This publication focuses on the initial investigations of 1959–1960, augmented by new ground- and aerial remote sensing surveys.

The current volume is divided in six chapters. Through an introduction, and geological/topographic and historical/archaeological settings (*Chapters 1–3*), the reader achieves a general understanding of Vignale within a larger framework. The main archaeological studies of various features on the plateau, their function and dating are covered in *Chapter 4*, where Vignale from the Final Bronze Age to medieval times is approached with an emphasis on the Etruscan periods. The study of the latter investigates the connection to Vignale's sister plateau (the Acropolis area), and the plateaus' connection to the surrounding landscape. An intrinsic aspect of Vignale is the association with wine over time. *Chapter 5* therefore elaborates on wild and domesticated vines with emphasis on production, ritual, and material remains, concluding with a summary and synthesis in *Chapter 6*. Two extensive appendices follow, one detailing the material remains and data connected to the southern Bridge Complex, and the other a treatise on the Etruscan awareness of their local mineral salt, alunite.

Keywords: San Giovenale, Vignale, Etruscan, viniculture, viticulture, cisterns, infrastructure, necropolis, remote sensing, LiDAR, aerial, bridge, ram's head, settlement, photography, defence structures, platform, quarry, wine press, alun, alunite

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Chapter 4. Remnants of the past

The structures of Vignale

The various sites surveyed and discussed in this chapter predominantly concern the far eastern end of the Vignale plateau with its necropoleis and obviously, the settlement on the western promontory. When referring to these sites, the same naming convention is used as in both the first joint Italian-Swedish aerial mission in 2007 and the 2012 report.¹¹⁰ The areas are referred to as TS1, TS2 and TS3, that is “Test Sites 1–3” (*Fig. 26*). These however, do not cover all sites of documentation and interest at Vignale—in such cases the reader will be informed in each feature description below. Largely, TS1 comprises of the area north of the Vignale plateau and its western promontory, that is the zone between the Dogana and the northern edge of the Vignale plateau. Thus, it includes Bridge 1 with its attached monumental edifices, but also the nearby lower crossing positioned west of the large bridge (Bridge 2). Also included in TS1 is the area of Via Pontalto departing from the Dogana to Bridge 1, along with the Via Vignale Nord and other features connected to the area immediately south of the bridge.¹¹¹ TS2 embraces most of the features encompassing the actual Etruscan settlement, such as house remains, wells/cisterns, and cultivation trenches (CT1–3)—and also the Southwestern necropolis which is situated immediately south of these features. Basically, TS2 constitutes the area that was explored during excavations and trial soundings in 1959–1960 and later incorporated into VAP’s study. TS2 was expanded somewhat further to the west and south in comparison to the 2012 aerial report in order to incorporate Vignale’s western tip with its several indications of wells and cisterns, as well as the southern low-lying land with, for example, the Wine Press WP2.¹¹² TS3 contains the majority of the necropolis of Fosso del Pietrisco. It extends

slightly to the north of the brook itself but does not include the necropolis of Valle Vesca immediately south, although the latter is discussed in this chapter.¹¹³

The archaeological remains, both architectural features and small finds, that were unearthed during the excavations of 1959–1960 proved essential since find-spots indicated areas of interest to VAP for its ground and aerial surveys (*Fig. 27*). Each feature in this chapter is presented with a small template map showing its approximate position, oriented to the north. The ceramics and other small finds from these excavations were examined, registered, counted, marked with find numbers, and classified by VAP.¹¹⁴ The finds totals from various contexts have been listed in tables and graphs that follow most of the feature descriptions (*Tables 14–15, 22–23, Graphs 1–4*). A small number of artefacts from each feature have been selected for the catalogue to demonstrate the variety of forms of various wares and decorations, which are of significance when dating the material. Only the diagnostic fragments have been counted and presented in the tables.¹¹⁵ The selected finds are catalogued according to their various find-spots. Included among the catalogued material are also some surface finds collected in 2006 on the westernmost tip of the plateau (*Fig. 28*). The finds from the northern slope of Vignale excavated in 1960–1963 are compiled in a separate catalogue in *Appendix 1* and will be discussed together with the finds from the western part and the summit of the Vignale plateau. *Tables 12–13* list finds deriving from Vignale’s cisterns, wells, and cellars, as well as items from the surroundings in San Giovenale.

¹¹⁰ Lasaponara *et al.* 2012, 29, fig. 3.

¹¹¹ Lasaponara *et al.* 2012, 28, 34, figs. 3, 5a, 10.

¹¹² Lasaponara *et al.* 2012, 28, 31, 34, figs. 3, 5, 6a–b, 7a–b, 8, 10.

¹¹³ Lasaponara *et al.* 2012, 31, 34, figs. 3, 9a–d, 11.

¹¹⁴ From spring 2009 onwards all the finds have been stored in new storage rooms at Blera.

¹¹⁵ The finds listed in the catalogue are all illustrated either by drawings or photographs by Richard Holmgren.

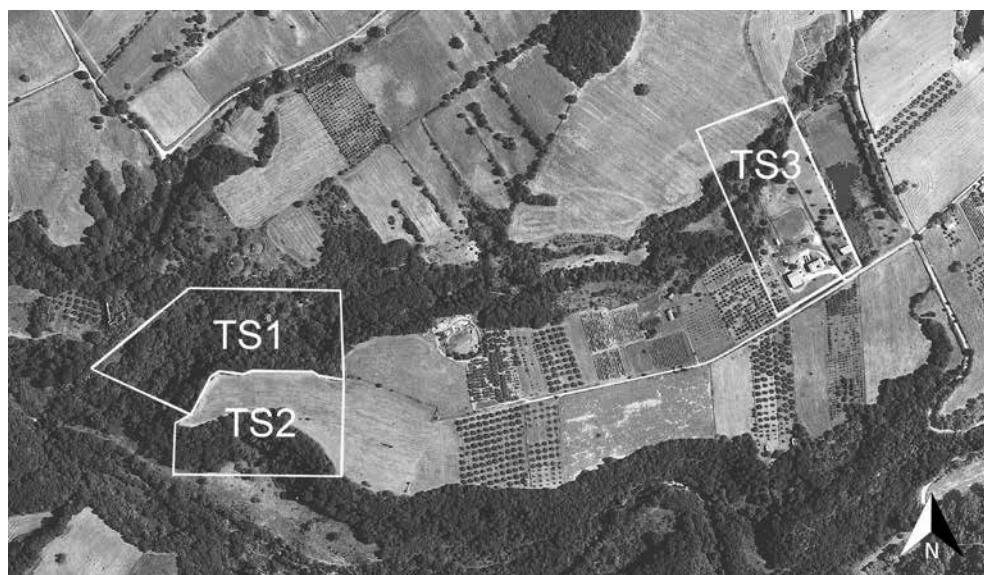


Fig. 26. The three test sites on and adjacent to the Vignale plateau, TS1–TS3, referred to in Chapter 4. For a more precise location of the features within the test sites, see Fig. 27 or the co-ordinates/geographical position in each feature description (illustration by VAP after Apple Maps 2018).

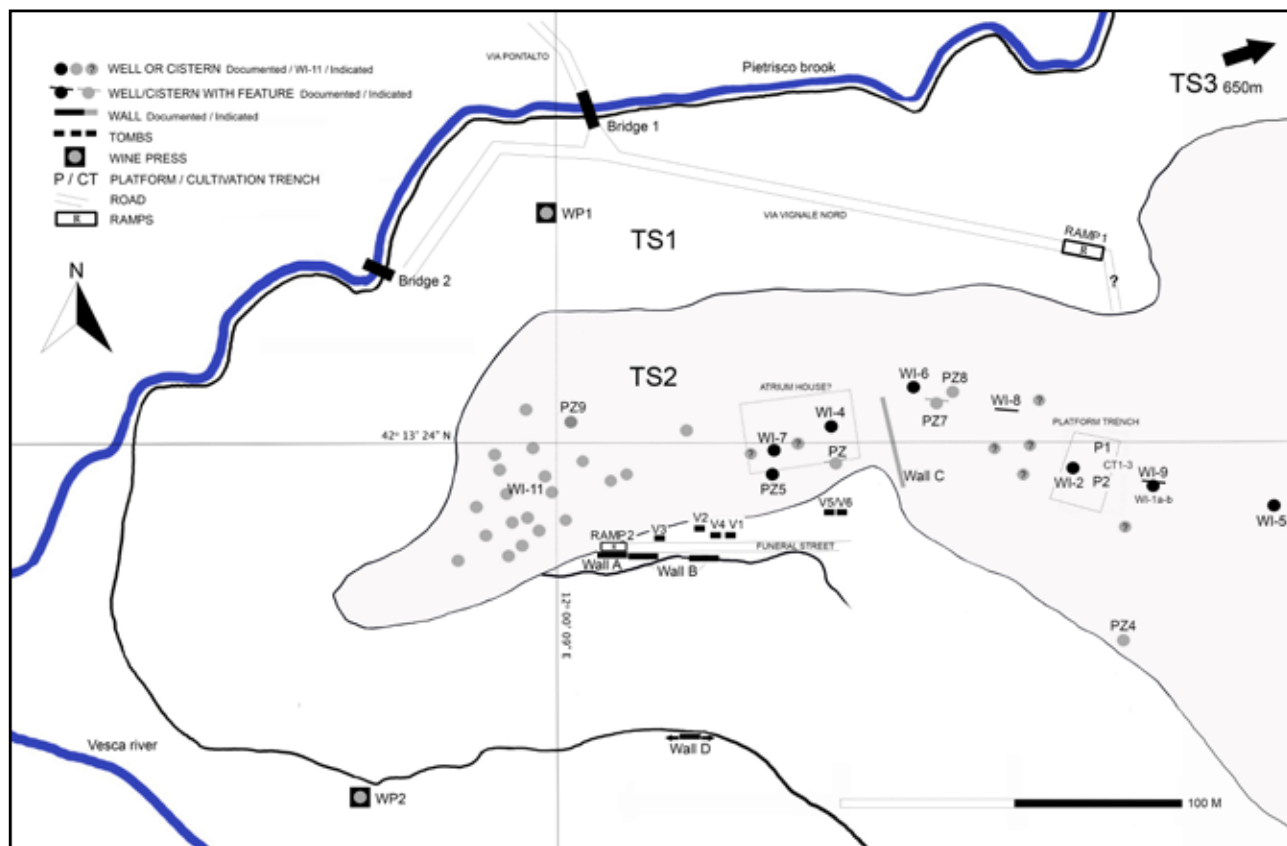


Fig. 27. Overview of the most important features at Vignale discussed in the text (illustration by VAP).



Fig. 28. Large amount of fragmented tufa blocks, tiles, and ceramics among white flat and rounded river stones—testimonies of the Late Etruscan activities on Vignale's westernmost tip, looking east (photograph by R. Holmgren).



Fig. 29. On mules, E. Wetter and G. Filippetto, two members of the “flying squad”, together with three assistants. The man at the right is holding a probe (spillo) (photograph by C.E. Östenberg, courtesy of SIR).

Infrastructure—roads, bridges, and ramps

A well-developed road system with bridges and fords facilitates social, economic, and political communications on several levels: at a local level (within the settlement), at an interregional one (between the neighbouring sites), and at an intraregional level (transport of goods, animals, and humans for long-distance ventures).¹¹⁶ Two types of Etruscan roads dominate the landscape between the settlements of San Giovenale. These are characterized by tracks on and along valley floors as well as ridgeways, present as V-shaped hollow-ways suitable for animals and pedestrians. During the 7th–6th centuries BC the Etruscan landscape was covered by roads that were used by wheeled transport in a network between larger and minor centres as well as the rural country. These roads were longer, took a route with gentler gradients which were lessened by hollow-way cuttings, better suited for wagons. These cuttings could be very deep, such as the passage between Nepi and Faleri-Veteres which was 15 m deep and 200 m long.¹¹⁷ As we shall see, in San Giovenale the roads leading to and connecting the settlements on the Acropolis and Vignale required the construction of at least two larger bridges in order to deal with the deep ravines in the area.

The general layout of the Etruscan road network in South Etruria was established in surveys made in the 19th century

by Gamurrini.¹¹⁸ A few recent studies of Roman roads and bridges in South Etruria were made by Mario Cristofani and Lorenzo Quilici, while Maria Luisa Cicognolo investigated all the Roman bridges along Via Clodia and Via Cassia with comments on the Etruscan remains.¹¹⁹

Field surveys and excavations, such as the early ones made by Wetter and the “flying squad”/*Squadra volante* in the 1950s, have yielded knowledge of a well-developed Etruscan road system, including bridges (Fig. 29).¹²⁰ All the ancient roads and bridges found, as well as the modern ones, were used as a basis for the map published in *Architettura etrusca nel Viterbese*.¹²¹ Fig. 30 in this volume is in turn based on that particular map, and is complemented with ancient roads marked on the aerial photomaps F6–F9 published by Wetter in 1962 and by Luciano Santella in 1988.¹²² On an interregional level some of the local roads and tracks are connected to a larger network of roads and bridges in the immediate surroundings

¹¹⁸ Gamurrini *et al.* 1972, 146, n. 1, 151, n. 1, fig. 100.

¹¹⁹ Cristofani *et al.* 1985; Quilici 1989; Cicognolo 1993–1994.

¹²⁰ Hemphill 1993; 2000; Bengtsson 2001; Backe Forsberg 2005, fig. 1; Cicognolo 1993–1994; O'Connor 1993; Ward-Perkins 1957; Wetter 1962, 172 (De Santis), 177 (Remo from Blera), 181 (Gino Filippetto administrative secretary at SIR) 184, the “flying squad” with King Gustav VI Adolf, 188; Östenberg 1962, fig. 189. See Wetter 1960, fig. 146, the members of the “flying squad” (*Squadra volante*) excavating Villa Sambuco.

¹²¹ Gierow 1986, fig. 2.

¹²² Wetter 1962, photomaps F6–F9; Santella 1988, 5, fig. 3, Archaic roads in the “agro blerano”. See also Santella 1986, 6–8, fig. 7, San Giovenale, Luni sul Mignone, and Civitella Cesi south of Blera in “agro blerano” from the 7th–6th centuries BC.

¹¹⁶ Backe Forsberg 2005, 110–114; Mähl 2002, 14.

¹¹⁷ Izzet 2007, 194.

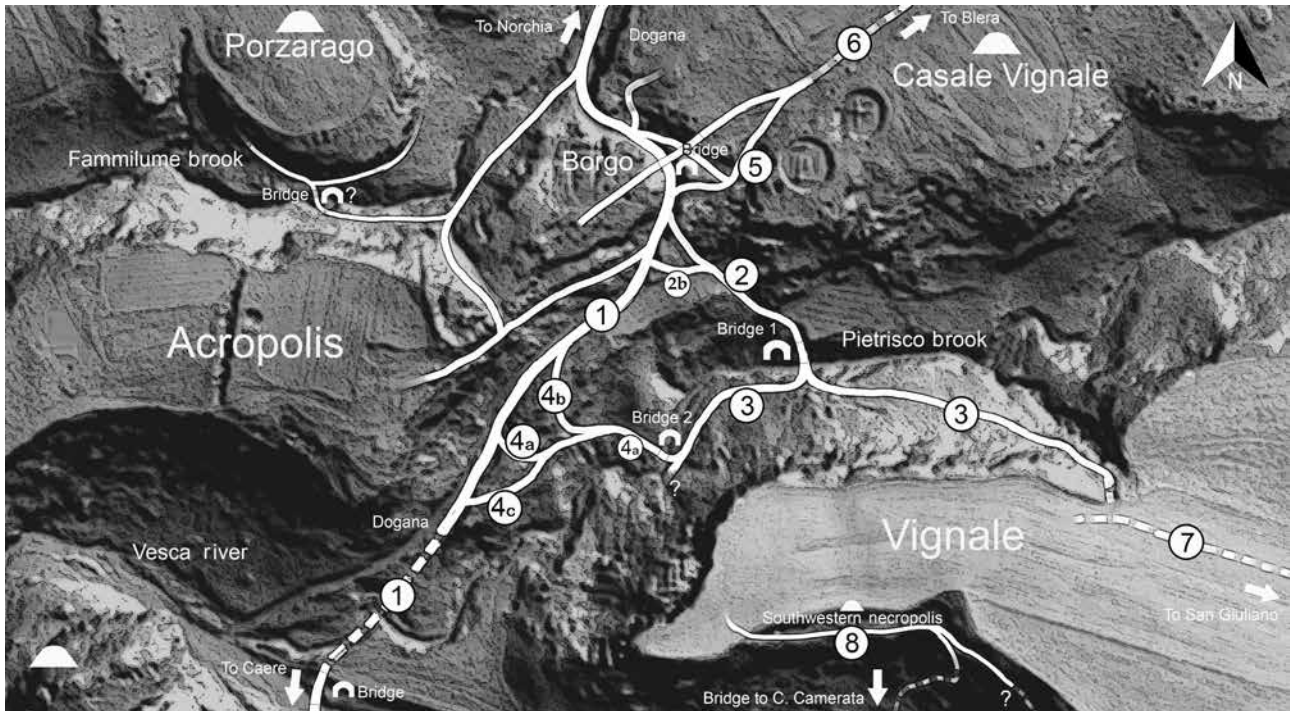


Fig. 30. The central area of San Giovenale with the most important local roads/streets identified with their connections to the interregional infrastructure: 1. the Dogana (Via Ceretana); 2. Via Pontalto (with side track 2b); 3. Via Vignale Nord; 4. Vie Ponte Basso; 5. La Strada delle Poggette; 6. Casale Vignale funeral street; 7. Vignale eastern access; 8. Vignale southern access (funeral street) (illustration by R. Holmgren and Y. Backe Forsberg, based on LiDAR data by Geocart srl with processing by N. Masini [CNR/IBAM] and R. Lasaponara [CNR/IMAA]).

of San Giovenale (Fig. 5). The roads located to the west, north-west, north, and north-east of the settlement take the form of a fan with San Giovenale in the centre. In using the westward road, it was possible for the inhabitants to reach Tarquinia and Gravisca via Luni sul Mignone by a road following the edge of the river valley (arrow to Norchia in Fig. 30). The Dogana, which forked north of San Giovenale, is a direct link with Blera, passing Cerracchio, Viterbo, and Acquarossa.¹²³

The second branch ran towards the north-west, crossing the main east-west route of Tarquinia–Blera–Falerii and passing Norchia, Castel d’Asso, Acquarossa, and Orvieto (Volsinii) in the north.

Through the roads running across Casale Vignale as well as Vignale, it was possible to connect with San Giuliano in the north-east and further to Falerii, but also to the neighbouring site of Civitella Cesi in the south-east.¹²⁴ There were at least two options to reach Caere and the coastal cities in the south-west; after crossing the river Vesca the southwards transhumance road (Dogana) continued through a rugged landscape with deep ravines and high plains covered by

woods, down to the Tolfa Mountains.¹²⁵ On the way, a crossing over the Mignone was necessary at Passo di Viterbo. This could be done either by fords during the summertime or by bridges during times of high water.¹²⁶ The second main road, running from Blera through San Giuliano, passed Monterano and joined the Dogana at Rota (Figs. 5, 30).¹²⁷ At Monterano and Stigliano, the road crossed the Mignone by bridges. The modern wooden bridge at Monterano can, as has been suggested earlier, advantageously be used as a model for an early Etruscan bridge before the adaption to stone bridge constructions.¹²⁸

¹²³ This road has recently been named Via Ceretana by Proietti & Sanna 2013, 13–16, 105, figs. 3, 83, pls. 1, 3. In their book *Tra Caere e volsinii*, the authors follow the road from Caere to Orvieto describing the various archaeological features along the way. Proietti and Sanna have placed the Dogana to the west of San Giovenale.

¹²⁴ According to Wetter 1962, 169–170, fig. 143, there may have been a bridge, possibly Roman, at this place, but no longer surviving: see Naso *et al.* 1989, figs. 7–8 for the distribution of burial-grounds and habitations south of San Giovenale.

¹²⁵ Hemphill 2000, 84.

¹²⁶ Backe Forsberg 2005, figs. 68–69. See Proietti & Sanna 2013 on the new name of the Dogana.

¹²³ On the transhumance road, see Chapter 2.

¹²⁴ Hemphill 2000, 146.

When the Romans expanded their territory during the 4th century BC, they used the existing Etruscan roads and bridges. The Romans built bridges during the 3rd century BC in the vicinity and along main roads of Via Clodia and Via Cassia. The remains of several arched stone bridges dated to the 3rd century BC in the neighbourhood of San Giovenale, as well as besides roadbeds of large basalt stones lined with kerb-stones, bear witness to this.¹²⁹ The road system changed dramatically after the Roman systematization of roads and bridges in 174 BC.¹³⁰

The local and interregional roads were connected to thoroughfares running from territories and mountainous areas in the north down to the coastal areas in the south. The Dogana can be considered an intraregional road since it seems to have started in the Umbrian mountains and then ran by the way of Viterbo and San Giovenale and further south-west to Tolfà. From there it continued to present-day Civitavecchia, heading to Caere in the coastal region (Fig. 5).¹³¹ The road was probably already an important transhumance route in the Bronze Age, as suggested by Jens Erik Skydsgaard and Carl-Erik Östenberg.¹³² It seems to have continued as an important economic route during the Orientalizing and the subsequent Etruscan periods, judging from the numbers of tombs lining it that date to c. 625–450 BC and the beginning of the 3rd century BC.¹³³

The Dogana, with its links to the south, north, and north-west, would however also have been important on an intraregional level because it facilitated social, political, and economic contacts. This in particular concerns the growing city-states of Tarquinia and Caere together with their harbours at Gravisca, Regisvillae, and Pyrgi, as well as the inland areas of Umbria. The economic importance of these towns during the Early Archaic period is shown in the expanding

road system of which the Dogana is the main artery.¹³⁴ The trading of Greek pottery from Caere, Pyrgi, and Gravisca is reflected especially in the large amount of Attic pottery but also in Corinthian and Laconian vessels found in the tombs of San Giovenale—which can also be seen in the find material of the Bridge Complex.¹³⁵

The ancient inhabitants of San Giovenale seem to have had at least three options to get access to the Vignale hill. The first option is from the south-western tip of the plateau (Via Camerata, Fig. 30:8). The second from the northern slope by the roads connecting to the two Pietrisco bridges. These two roads in question are Via Pontalto (Fig. 30:2) and Vie Ponte Basso (Fig. 30:4a–c). The third option would have been by a road crossing Vignale from the east (Fig. 30:7), analogous to the Casale Vignale funeral street leading to the Acropolis (Fig. 30:6). In the case of Vignale's eastern access, one should here emphasize that no remnants of any road construction could be traced leading to the Vignale promontory. But as we shall see there is ample indirect evidence for such an approach. In the various feature descriptions below, the road system to and from the main settlement, i.e., routes on the Acropolis, the Borgo, and through the Casale Vignale cemetery, will be described, followed by the northern, southern, and the eastern accesses to the Vignale plateau. Since the infrastructure around and on Vignale is dependent upon the general road system of the San Giovenale locality, it is also important for the reader to become acquainted with the connecting plateaus, especially the Acropolis. The road system of San Giovenale is furthermore excellent in that it links Etruscan and Roman isolated localities studied by VAP and earlier projects in San Giovenale, thus providing chronological cross-references.

The main access to the Acropolis, via the *Spina* (immediately south-east of the Borgo area), seems to have passed through a local street directly connected to a bridge. In turn, this route lead to the interregional road of Casale Vignale in the east, which connected to the Etruscan cities of Blera and San Giuliano (Figs. 5, 30:6). The road passed through the Casale Vignale cemetery which is flanked by large and small tumuli on each side, i.e., it was the central burial place during the Etruscan period (Fig. 31:1). The aforementioned bridge spanned the Dogana (Figs. 30:1–2). Abutments in the form of cuttings in the tufa rock, and traces of wheel marks worn into the rock found on both sides of the ravine (on the *Spina* and Casale Vignale) are strong indications of a bridge linking the two plateaus.¹³⁶ These tracks, resulting from carriages using

¹²⁹ On Ponte Diavolo and Ponte della Rocca at Blera, cf. Cicognolo 1993–1994, figs. 24–31; Santella 1981, map 2, figs. 49, 54, 85–86; Galliazzo & Chevalier 1994–1995, 89–91. Many of the bridges were rebuilt during the Middle Ages, and therefore the remains of the Etruscan and Roman phases were destroyed: cf. the medieval bridge over Biedano south of Blera, Santella 1981, figs. 56, 58. On Ponte Piro near Barbarano Romano, see Cicognolo 1993–1994, 33–36.

¹³⁰ O'Connor 1993, 163; Cicognolo 1993–1994: see the map of Roman bridges in the surroundings of San Giovenale, the Faliscan and Umbrian areas in Galliazzo & Chevalier 1994–1995, 51, 75, 91, 149.

¹³¹ On transhumance, see Barker 1981, 26–30.

¹³² Skydsgaard 1974, 30; Östenberg 1967. Skydsgaard concludes that there is evidence for transhumance from Late Roman Republic and Imperial times and also from texts from earlier periods. The archaeological evidence supports the texts, Skydsgaard 1974, 24. See also Santillo Frizell 2004; 2006.

¹³³ *San Giovenale* I:1; I:5; Ricciardi 1985; 1986a; 1986b; Fuglesang 1997–1998. A parallel to San Giovenale is Tiati, situated at a river and along the important transhumance route in Daunia: cf. Antonacci Sanpaolo 2001, 179–190.

¹³⁴ Cicognolo 1993–1994, 3–5. The Dogana or *La Dogana dei Pascoli* was of economic importance during late medieval times as well as during earlier periods, from the Bronze Age to the Roman era, see Santella & Ricci 1994, 56–63, n. 143; Santillo Frizell 2004; 2006.

¹³⁵ Backe Forsberg 2005, 60–107, figs. 75–95, sections 2.4–2.5.3.

¹³⁶ Backe Forsberg 2005, figs. 2a–b, 72–73a.



Fig. 31. Two aerial photographs showing (1) the Casale Vignale necropolis with tumuli flanking its road connecting the San Giovenale Acropolis with Blera and San Giuliano, (2) the now-missing Etruscan bridge linking Casale Vignale with the habitation area, (3) the road passing through the Borgo area to the central Acropolis (4). The actual Dogana/Via Ceretana (5) is here seen passing under the bridge (2). The northern edge of the Vignale plateau is seen in the upper left of the lower image (photograph by R. Holmgren).

iron-clad wheels, are particularly visible in the tufa-cut road with a width of 1.95–2.00 m, situated on the eastern side of the *Spina*.¹³⁷ The span over the deep gully is quite sizeable and therefore it is probable that the now missing bridge was com-



Fig. 32. An Etruscan road with deep wheel-tracks cut into the tufa bedrock seen on the Spina, looking south-east (upper image), connecting the latter with the Casale Vignale necropolis, looking south west (below), which further links to Blera and San Giuliano through the interregional road (Fig. 31:3) (photographs by Jan Mark, courtesy of SIR and the Nordiska Museets arkiv).

posed of an elaborate wooden structure (Fig. 32).¹³⁸ Another possible entrance to the main settlement on the Acropolis is

¹³⁷ A number of iron fragments found in the tombs such as nails *in situ* have been interpreted as wheel-dressings of wooden wheels as already

mentioned, cf. *San Giovenale* I:1, pls. 61–62, PP.1. Dr.1, P.S.1:76–77 in Pontesilli.

¹³⁸ Backe Forsberg 2005, figs. 1, 2a–b. A differing view on a bridge over to the Casale Vignale is expressed by Pohl, *San Giovenale* V:3.



Fig. 33. *La Strada delle Poggette* connecting Casale Vignale necropolis with the Dogana, looking north-east (photograph by Y. Backe Forsberg).



Fig. 34. A cut-out ledge in a boulder marks the position of a Roman bridge over the river Vesca. The actual abutment is positioned on the northern riverbank, close to the ford near the confluence of the Pietrisco brook and Vesca river, see lower left corner of Fig. 30 (photograph by Y. Backe Forsberg).



Fig. 35. Roman bridge abutment still visible in the Vesca river, looking east (photograph by R. Holmgren).

the one passing north of the Borgo area. This is indicated by a steep road cut in between the western unexcavated area of the Borgo and the elevated area of the Acropolis. The existence of this road is also indicated by a gate in the northern Borgo city wall, which is further connected with a lane passing between the nearby houses.¹³⁹ The latter is not marked on Fig. 30 since it only represents a pathway, which was closed after the reor-

ganization of the site; that is, following the destructive effects of the earthquake in 550/530 BC (see below, Fig. 71).¹⁴⁰

The local road system on the Acropolis may have consisted of a few major roads running in an east–west orientation along the city/fortification wall of the plateau. From these, smaller streets branched out among the houses and other structures. The building complex of House I–III is arranged in a large *insula*, which may indicate a systematic division of the plateau with

¹³⁹ *San Giovenale* V:2, lane K-Ka/K1-C4, opening at area Cb. We thank Prof. Carl Nylander for this information.

¹⁴⁰ Blomé *et al.* 1996; Blomé & Nylander 2001; *San Giovenale* V:1, 138–142.

streets and alleys between house blocks.¹⁴¹ Unfortunately, other such clear traces of local Etruscan streets are rarely found on the plateaus in San Giovenale. A small stepped road leading down to a *cuniculus*, was however found in connection with the large monumental building in Area C, positioned at the southern edge of the Acropolis promontory (Fig. 69, along section H).¹⁴² Likely this road branched off from an east–west central thoroughfare across the Acropolis plateau.

The access to the Porzarago cemetery, north of the Acropolis, was probably used by both the Proto-Villanovans and the Etruscans, likely through a ford. An alternative option to reach the burial-ground from the south, in line with solutions found elsewhere, was the use of a small bridge spanning the Fammilume brook (Fig. 30). Porzarago could likely also be reached directly from the Dogana, where the latter passed this necropolis on the higher elevation north of San Giovenale (Fig. 170:6).

Not far from the western edge of Casale Vignale, the funeral street branches off into another bedrock-cut road with deep wheel-tracks heading in a more southerly direction. This road is named La Strada delle Poggette (Figs. 30:5, 33).¹⁴³ It is lined with chamber tombs and connected Casale Vignale with the Dogana (Fig. 30:1). From this point, the Dogana runs through a natural passage and partly continues through a cutting in the tufa rock on the south-eastern side of the Acropolis. This passageway continues down to the open valley of the river Vesca and fords near to the point where the Pietrisco brook discharges into the river Vesca (Fig. 30 lower left corner).

A ledge-like cutting in a boulder, on a slightly higher level from the river along this transit road, seems to indicate an attachment support for wooden beams (Fig. 34).¹⁴⁴ The cutting may have served as a small abutment for a poled bridge, supporting a superstructure of timber logs. This crossing of the Vesca was necessary in order to reach the nearby and southern necropoleis of Montevangone and Pontessili—tombs that could be seen by visitors and traders travelling the road between the coastal areas and inland during Etruscan times (Fig. 170:7).¹⁴⁵ The importance of this route in later periods is demonstrated further east, where the remains of a collapsed Roman bridge can still be seen in the river Vesca during low water levels (Fig. 35).¹⁴⁶

¹⁴¹ *San Giovenale* IV:1, 158–164, figs. 290, 295a–c.

¹⁴² Hanell 1962, 302–304, figs. 275–278: pers. comm. M. Lindgren, and information in notebooks from Area C by Lindgren (stored at SIR).

¹⁴³ Proietti & Sanna 2013, 105, 108, figs. 83, 87.

¹⁴⁴ Backe Forsberg 2005, figs. 2–3, 5, 21–22.

¹⁴⁵ The Civitella Cesi Survey yielded material from a few more tombs, dated to the first half of the 6th century BC and in use to the 5th–3rd centuries BC, see Hemphill 2000, 51 and Tobin-Dodd 2015 on the discovery of hundreds of tombs in the area.

¹⁴⁶ Wetter 1960, 180–182 mentions a Roman bridge over the ford with the abutments visible. There is a reference to this abutment in Backe

THE NORTHERN ACCESS TO VIGNALE'S WESTERN TIP

Via Pontalto and Via Vignale Nord with Ramp 1

Figs. 19, 27, 30, 36, 38.

Feature: tufa-cut roads with wheel-tracks

Interpretation: interregional streets leading to and from the San Giovenale bridges

Preliminary date of first construction: late 7th century BC

Preliminary date of use: late 7th–2nd (?) centuries BC

Area: (TS1) Via Pontalto and Via Vignale Nord

Geographical location: area between Vignale's western tip and the Dogana

Position: -

Measurements: various

Finds: tufa blocks, tile fragments



Fig. 36. The northern access to Vignale's western tip (feature map by VAP).

To reach the Vignale plateau from the Dogana in the north during the 7th century BC and onwards, there were at least two main options. Firstly, through Via Pontalto (Fig. 30:2) using the Bridge Complex (Bridge 1) over the Pietrisco brook which in turn connected to the area of Vignale and consequently Via Vignale Nord (Fig. 30:3). Alternatively, to reach Via Vignale Nord, one could use the lower bridge, a short-span bridge that was positioned further south-west, downstream over the same brook (Bridge 2). The road system leading to the lower bridge from the Dogana is here named Vie Ponte Basso (Fig. 30:4a–c).

Forsberg 2005, fig. 21, which however at the time was confused with the "Etruscan" ledge abutment further west, seen here in Fig. 34.

Via Pontalto—the road connecting the Dogana and the Bridge Complex (Bridge 1)¹⁴⁷

This northern access to the Vignale plateau is initiated through Via Pontalto (Fig. 30:2), which is a side road branching off the Dogana and leading c. 150 m south to the Pietrisco Bridge Complex. More precisely, Via Pontalto starts a few metres west of the funeral road coming from the burial-ground of Casale Vignale (Fig. 30:6).¹⁴⁸ During the winter survey of 2009, VAP observed another side road situated c. 10 m south of Via Pontalto, later to join the former.¹⁴⁹ Via Pontalto and its side track measure 2.5 m in width and are partly dug into the tufa rock where wheel ruts are most visible on the side track (Figs. 30:2, 30:2b). Closer to Bridge 1, the road was partly constructed of tufa blocks mixed with earth, river stones, tiles, and pottery. The bridge connecting the two plateaus is to date the oldest Etruscan bridge found, having a *terminus ante quem* of c. 560 BC. The crossing was possible via a postulated wooden bridge with stone abutments, leading to the southern bank of the brook, i.e., the northern side of the Vignale hill.¹⁵⁰ Here it reached a white river-pebbled “piazza” and forked into two directions along the Via Vignale Nord (Fig. 30:3)—one leading east, ascending the gradient to end in the western part of the Etruscan settlement on Vignale. The other direction, somewhat downhill, would lead west to the lower bridge over the Pietrisco brook (Bridge 2, Fig. 43). From the lower bridge it was possible to reach the Dogana along the Vie Ponte Basso (Fig. 30:4), which will be further examined below.

Via Vignale Nord—road connecting Bridges 1 and 2 with the Vignale plateau

Via Vignale Nord can be described as the road running parallel to the north-western end of the Vignale promontory (Fig. 30:3). In brief terms, the road connects the lower bridge (Bridge 2) and the main Bridge Complex (Bridge 1) with the plateau. In the middle segment of the road, there is a junction at a small “piazza” where the road also connects to the main bridge. This “piazza” is also connected to features such as walls and is therefore documented as part of the infrastructure. Close to the ravine is a tufa stone wall (Wall O), located during excavations in a trench named East (see Appendix 1, Fig. 227) which made part of the collapsed abutment. Further up the slope, a few metres from the “piazza”, a foundation of a road could be traced.¹⁵¹ Wall O was a road-edge made with tufa blocks near the bridge, but this

structure disappeared without trace further up along the road. (Fig. 19, right). During the VAP field survey of 2006, it was established that the road, which measures c. 3 m in width, had been lined with kerb-stones on its northern side—likely to create a protective edge against the ravine drop. Traces of a supporting wall, opposite the kerb-stones, have also been found. Half way up the slope the road was dissected by a diagonal drain which was constructed of small vertical stones. These in turn supported flat tufa stones that were positioned across the road.¹⁵² During the same survey it could also be established that a huge stone ramp (Ramp 1) in the eastern part of the road facilitated the connection with the actual plateau (Figs. 27, 37). This structure was not documented by the “flying squad”¹⁵³ or by the excavators of the 1959–1963 investigations. However, Forsberg did record in his 1961 excavation diary that he did not believe that the “path” (Via Vignale Nord), which is mentioned and mapped in the book *Etruscan Culture*, was the original trail to the summit of Vignale.¹⁵⁴ Instead there are some notes explaining that the path could have taken a much steeper direction—where it would have been cut out of the bedrock along a ledge and paved with tufa blocks, passing a rock-carved niche. Unfortunately the diary does not mention any further details on the position of these observed remains.¹⁵⁵ Contrary to the statement by Forsberg, there is substantial evidence that Via Vignale Nord, as documented by VAP in Figs. 27 and 38, is the Etruscan and original main route between Bridge 1 and the Vignale plateau.

The width of Via Vignale Nord (3 m) and the outer limits of the side furnishing of tufa blocks, do indicate that the road and a ramp structure (Ramp 1 in Figs. 27, 37), described below, may have been made for larger transports with various vehicles (two- and four-wheeled wagons or larger animal herds). This would also be a natural assumption since the connecting and substantial structures of the main bridge are also large in size. The date of Ramp 1, as it appears today, is uncertain (Fig. 37). Due to the risk of a substructure collapse the survey team could not collect pottery sherds or tile fragments among the blocks. The vertical surface of the substructure with a maximum height of c. 5 m has been heavily undermined by roots and water erosion from a small stream emanating from the plateau. This has also caused some of the blocks to tumble into the ravine, revealing an inner core construction of reused ashlar, boulders, and earth fill. The ramp seems originally have been furnished with an outer façade of reused Etruscan tufa ashlar. These and smaller blocks may derive from Etruscan constructions above and/or debris from the collapsed bridge. One hypothesis is that

¹⁴⁷ Forsberg 1984; Backe Forsberg 2005, fig. 2.

¹⁴⁸ The funeral road has been named Via Poggette by Proietti & Sanna 2013.

¹⁴⁹ Backe Forsberg 2005, fig. 17. On side roads see, for example, Tuppi 2010, 263–285; 2014.

¹⁵⁰ Backe Forsberg 2005, figs. 36, 44a, 52, 62.

¹⁵¹ The road was earlier noted as a track by the excavator and later authors, see Hemphill 2000, 43–44.

¹⁵² Similar drains were discovered in Etruscan roads at Veii.

¹⁵³ Östenberg 1962, 313; Wetter 1962, 196, fig. 189.

¹⁵⁴ SF notebook I 1961.

¹⁵⁵ SF notebook I 1961. A possible explanation of the 1961 excavation diary entry is that it may indicate a narrower short cut, not intended for heavy transport.



Fig. 37. The large stone ramp (Ramp 1) in the eastern part of Via Vignale Nord facilitated the connection between the road and the plateau above, looking south-east (photograph by R. Holmgren).

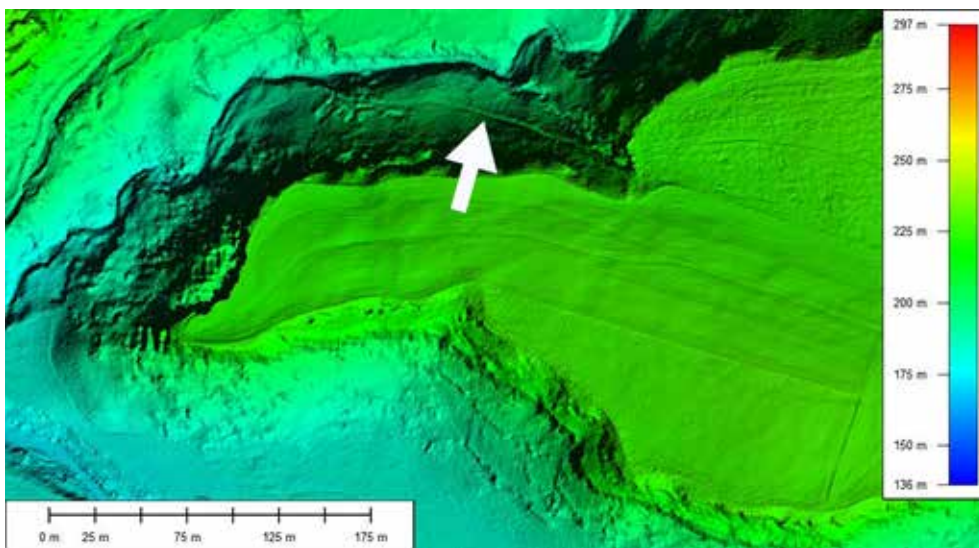


Fig. 38. Vertical image of Vignale showing the Etruscan road (Via Vignale Nord) connecting the Bridge Complex (Bridge 1) with the plateau. The road is clearly visible on the northern side of the plateau with the old excavation trenches situated at the Bridge Complex. An oblique version of the same area can also be seen as the top image in Fig. 25 (image: acquisition of LiDAR data was carried out by Geocart srl with processing and interpretation by N. Masini [CNR/IBAM] and R. Lasaponara [CNR/IMAA]).

the ramp was built (or re-erected) in medieval times in order to transport easily accessible building material scavenged from the Etruscan habitation on the Vignale plateau—this for the medieval constructions on the Acropolis. A pertinent question is whether the blocks of the ramp simply represent rearranged blocks, or a hurried repair of an even-older ramp. The reuse is highly probable since the cliffy terrain would otherwise have formed a barrier to accessing the plateau—as seems to have been the case in post-Etruscan periods. As we shall see it is however possible to conclude that Via Vignale Nord must have

crossed at the position of the ramp during the time of the Etruscan Bridge Complex. The various phases of the ramp construction could be analogous to the now-concealed road beneath the hastily constructed ramp structure (Ramp 2) on the southern slope (the connection between the funeral street and the plateau itself (Figs. 27, 55:b). In any case the communication route between the Vignale plateau, through the transit road of the Dogana with the Acropolis, must have been considered important enough for maintaining a monumental ramp for various purposes through the ages.

Via Vignale Nord could not be traced all the way to the plateau (east of Ramp 1), due to extremely dense and thorny vegetation. The LiDAR scanning performed over Vignale and the area comprising Via Vignale Nord allowed us to see through the vegetation cover,¹⁵⁶ revealing the entire stretch of the road for a length of c. 180 m. The road runs in a straightish alignment along the slope, seemingly ending in a sharp (?) turn to the south, east of the ramp construction—this in order to connect with the summit. However, no observations of any entrance or other transition onto the plateau could be made (Figs. 25, 27, 30:3, 38).

There is a considerable width between Walls O and P, bordering the “piazza” where Bridge 1 connects to Via Vignale Nord (Fig. 40, plan at left). This has been discussed as evidence for two different phases of Bridge 1. Therefore Via Vignale Nord, with its eastern and western directions, undoubtedly belonged to the Etruscan periods both before and after the earthquake of 550/530 BC.¹⁵⁷ The Bridge Complex was restored in the middle of the 6th century BC, with the consequence that the adjacent house to the north was reduced in size and the bordering abutment rebuilt. It is probable that the earthquake caused a landslide. This is quite apparent since the road of necessity had to be shifted slightly to the east (Figs. 39, 40, 226). This fact is also shown in the re-entrant angle of the abutment wall (Wall O), which also affected the alignment with the road on the northern abutment. Furthermore, the western wall (Wall P) in the “piazza” aligns with the pre-earthquake road on the opposite side of the main bridge, whereas the eastern wall (Wall O) aligns with Via Pontalto’s second extension towards the east.

The remains of Wall P, with its 15 m-long curved barrier, form part of the southern abutment and tracks the road running in a westerly direction (Figs. 39, 40, plans at left). This downhill road, also making part of Via Vignale Nord, continued along the Pietrisco brook linking the “piazza” to a crossing with sparse remains of the simple bridge abutment of Bridge 2 (Figs. 43, 226). This transitional route further connected with the Dogana through Vie Ponte Basso, described below (Fig. 30:4). This downstream bridge with its connecting roads to the Dogana (Fig. 30:1) thus suggests that it was contemporary with the two phases of the main Bridge Complex—this, through the western extension of Via Vignale Nord (Fig. 30:3).¹⁵⁸

The Bridge Complex (Bridge 1, southern Via Pontalto, Via Vignale Nord)¹⁵⁹

Figs. 39–41

Feature: north and south bridge abutments with adjacent paving and houses

Interpretation: Bridge Complex, local and interregional road

Preliminary date of first construction: 6th century BC

Preliminary date of use: 6th to 3rd centuries BC

Preliminary dating of building material: 6th to 3rd centuries BC

Area: (TS1) Via Pontalto and Via Vignale Nord

Geographical location: bridge connecting Via Pontalto and Via Vignale Nord

Position: 42°13'27.47"N, 12°00'09.77"E (northern foundation)

Height ASL (m): 162 (northern foundation)

Measurements (m): c. 18, bridge span

Finds: houses, yard, well, basins (pestarola), pottery, tiles, terracotta objects, inscriptions



Fig. 41. The Etruscan Bridge Complex (southern Via Pontalto, Bridge 1, and Via Vignale Nord) (feature map by VAP).

On the northern bank of the main Bridge Complex are the remains of a road, a stone abutment, and the excavated remnants of an adjacent tile-roofed tufa building. A 6-m-deep well in the building’s courtyard supplied the complex with fresh water. A wine press (*pestarola*) consisting of two communicating vats, hollowed out from a large single tufa block, was situated in the backyard (Figs. 39, 40).¹⁶⁰ The analysis of the architectural remains and the archaeological finds yielded an occupational phase from the 6th to the 3rd centuries BC. The complex could furthermore be divided into four major building phases.¹⁶¹

¹⁵⁶ Coluzzi *et al.* 2011; Lasaponara *et al.* 2012.

¹⁵⁷ Backe Forsberg 2005, figs. 3, 29, 44a, 52.

¹⁵⁸ Backe Forsberg 2005, figs. 3, 29, 44a, 52.

¹⁵⁹ Forsberg 1984, 73–75. The Pietrisco Bridge Complex was excavated during 1959–1963 and is discussed in Backe Forsberg 2005, chapter 2.

¹⁶⁰ Note that the wine press is named “basins” in both figures.

¹⁶¹ Backe Forsberg 2005, 159–160.

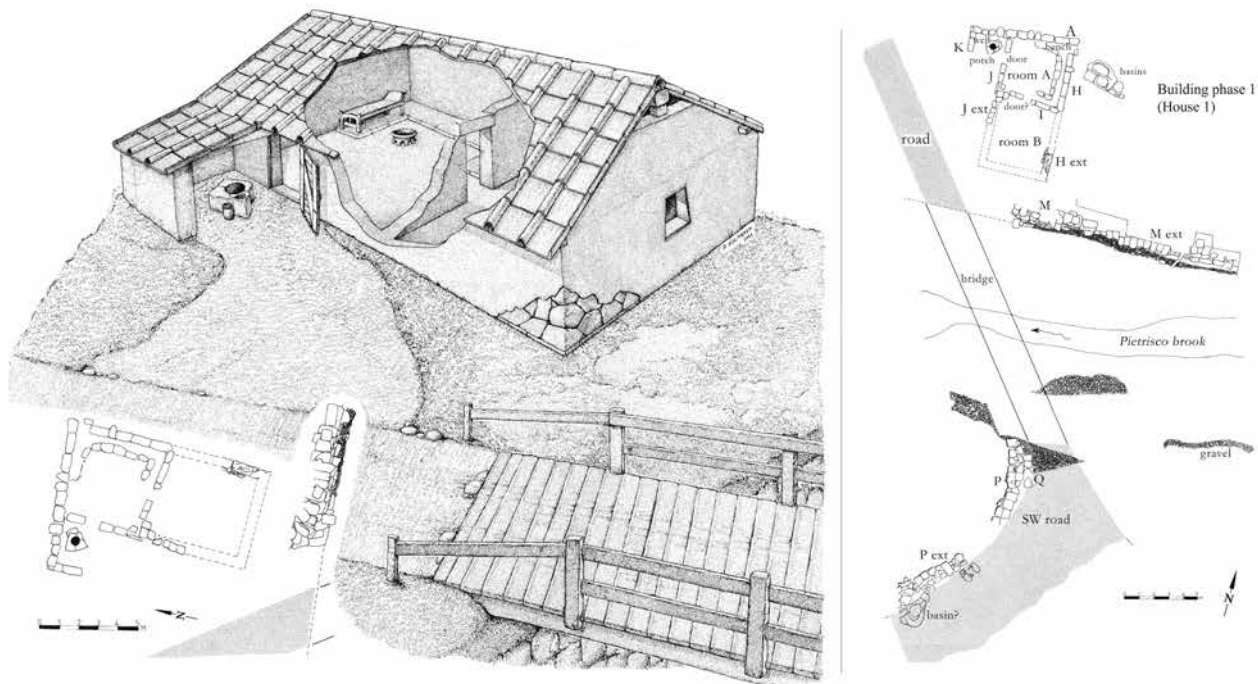


Fig. 39. Phase 1 of the Bridge Complex (before the earthquake of 550/530 BC) showing (left) a reconstruction of House 1 (northern abutment) adjacent to the bridge with plan of House 1, and (right) plan with House 1 and both the northern and southern bridge abutments (reconstructions after Backe Forsberg 2005 by Y. Backe Forsberg and with illustrations by R. Holmgren).

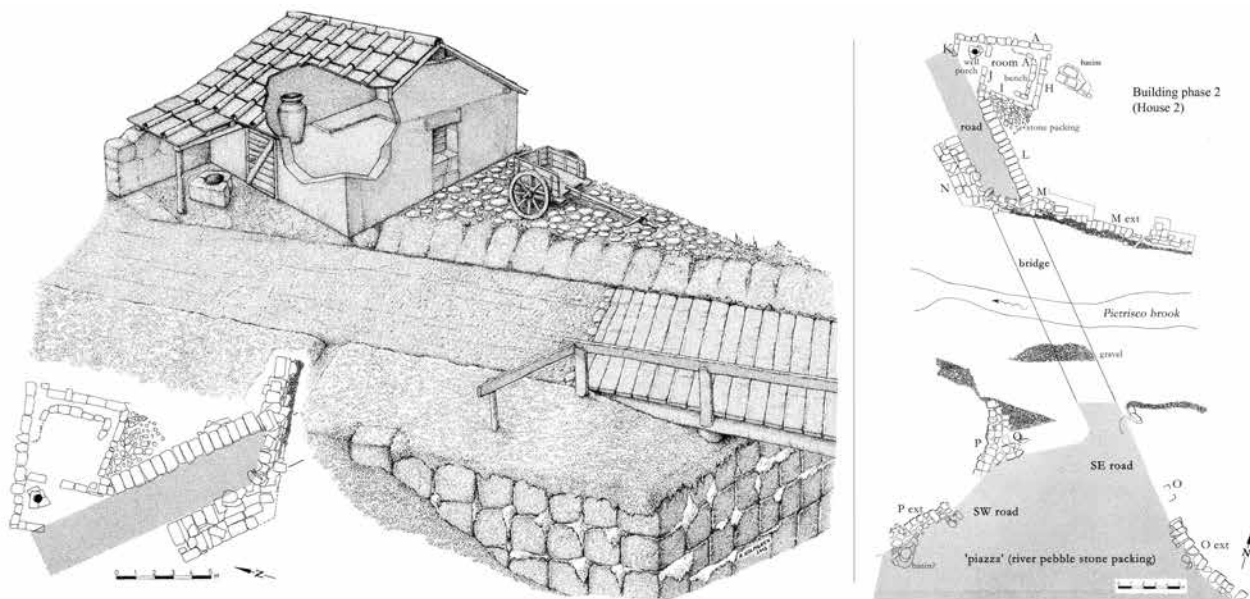


Fig. 40. Phase 2 of the Bridge Complex (after the earthquake of 550/530 BC) showing (left) a reconstruction of the reduced House 2 (northern abutment) adjacent to the bridge, with plan of House 2, and (right) plan with House 2 and both the northern and southern bridge abutments (reconstructions after Backe Forsberg 2005 by Y. Backe Forsberg and with illustrations by R. Holmgren).



Fig. 43. Hiding under dense vegetation cover is the northern abutment of the lower Etruscan bridge (Bridge 2), looking south-east (photograph by R. Holmgren).



Fig. 44. The Dogana (Fig. 30:1), also named Via Ceretana, facing south-west, before separating into the road system named Vie Ponte Basso by the VAP project (Fig. 30:4a–c). During Etruscan times the three diverging and curved tracks of Vie Ponte Basso led to the lower bridge (Bridge 2), while continuing on the main route of the Dogana towards the south-west would have led to another bridge (Fig. 34) positioned at the current ford in the river Vesca (photograph by R. Holmgren).

The lower bridge (Bridge 2) and Vie Ponte Basso

Figs. 30:4, 42–43

Feature: bridge foundation with streets

Interpretation: alternative or preceding (to the main bridge) interregional street with simple bridge foundation

Preliminary date of first construction: 7th century BC (?)

Preliminary date of use: 7th century BC (?) to 4th century AD and later periods

Preliminary dating of building material: -

Area: (TS1) Vie Ponte Basso and Via Vignale Nord

Geographical location: western part of the Pietrisco brook, west of Bridge 1

Position: 42°13'26.49"N, 12°00'10.25"E (bridge foundation)

Height ASL (m): 152

Measurements (m): c. 6, bridge span

Finds: possible tufa blocks of bridge abutment?



Fig. 42. The lower bridge (Bridge 2) and Vie Ponte Basso (feature map by VAP).

The lower bridge, west of the main Bridge Complex, is connected to a separate road system here named Vie Ponte Basso (Figs. 30:4, 44). Departing northwards from the lower bridge with a c. 6 m span, this road ultimately separated into three diverging tracks, cut deeply into the tufa bedrock, this before joining the Dogana (Fig. 30:1). These three tracks of Vie Ponte Basso run east–west (Fig. 30:4a), north–south (Fig. 30:4b), and north–east–south–west (Fig. 30:4c).

The east–west track of Vie Ponte Basso (Fig. 30:4a) was traced during the land survey in 1959 and is visible on an aerial photograph from 1960 (Fig. 45). All three tracks constituting the Vie Ponte Basso were clearly seen on the LiDAR images produced in 2010,¹⁶² and further confirmed on the ground during the survey of 2009. The northern abutment of Bridge 2 seems to have been constructed upon a conglomerate layer (Fig. 43). A few large tufa blocks buried among bushes, found on the southern side of the Pietrisco brook, may represent the southern bridge abutment. Where the east–west (Fig. 30:4a) and north–east–south–west (Fig. 30:4c) tracks of Vie Ponte Basso merge, coming from the north, the southern part of the east–west track was lined with a wall constructed of large tufa blocks in four courses (Fig. 46). These blocks seem to have been built as a support for the east–west track, quite similar to Ramp 2 found in the southern access to Vignale where the road connects to the plateau (see below). The very fact that the tufa blocks are irregularly positioned as a retaining wall to

¹⁶² Wetter 1962, 206, aerial photomap F7; Lasaponara *et al.* 2012; *San Giovenale* I:2–3, 8–11. The aerial photographs taken by the Italian agency Stato Maggiore Aeronautica Militare in 1960–1961 are stored in the Archaeological Archives at SIR. See, for example, Scardozzi 2003, 261–265, figs. 476–483, esp. fig. 477; Backe Forsberg *et al.* 2008a; 2008b.

Image only available in print edition.

Fig. 45. White arrow pointing to the rock-cut east–west track of Vie Ponte Basso (Fig. 30:4a), here seen clearly in an aerial photograph taken in 1960 (© courtesy ICCD-Aerofototeca Nazionale, fondo Aeronautica Militare, volo 23 giugno 1961 fotogrammi 412, processed by VAP).



Fig. 46. Etruscan tufa blocks along Vie Ponte Basso (Fig. 30:4a, c), a route likely modified and reused during medieval times (photograph by Y. Backe Forsberg).

the earthen ramp, suggests that the passage was refurbished in later periods, perhaps in medieval times. In such case, at least the east–west track of the Vie Ponte Basso was likely used and further connected to Via Vignale Nord (Fig. 30:3), where Ramp 1 was used simultaneously. One could then assume that the Bridge 1 complex was not in use—leaving Bridge 2 as the only option to reach the Vignale plateau.

THE EASTERN ACCESS TO VIGNALE'S WESTERN TIP

Figs. 47–48

Feature: road

Interpretation: road of interregional level and funeral street

Preliminary date of first construction: 7th century BC

Preliminary date of use: 7th century BC to 6th century AD and later

Preliminary dating of building material: -

Area: (TS2, TS3)

Geographical location: departing from the modern Blera–Civitella Cesi road, later crossing Via Valle Vesca, continuing to the western tip of Vignale

Position: 42°13'31.62"N, 12°00'54.81"E (modern road crossing)

Height ASL (m): 190 (E) to 170 (W)

Measurements (m): L c. 1100

Finds: tombs and ruts

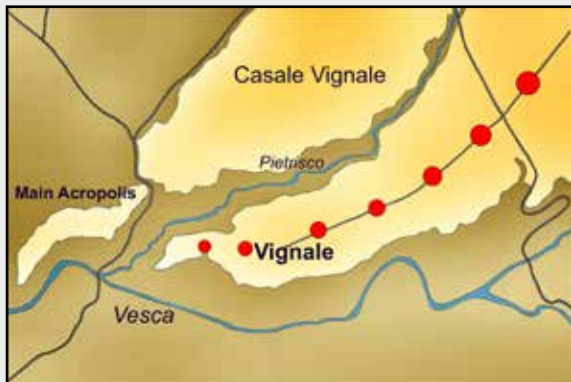


Fig. 47. The eastern access to Vignale's western tip (feature map by VAP).

Approaching the Vignale promontory from the east is easy. There are no physical obstacles in the form of ravines—instead the tableland makes a smooth transition into the surrounding eastern landscape (Fig. 9). The construction and usage of any

ancient road across the plateau would thus have been unproblematic, although less suitable for defence purposes.¹⁶³

As such Vignale is in stark contrast to the isolated Acropolis in San Giovenale, which is divided by the bedrock cut of the actual Dogana—where a bridge connected to the Casale Vignale necropolis. Separating the Etruscan acropoleis from their hinterland is a common feature documented elsewhere.¹⁶⁴ Due to this circumstance it is harder to establish the exact entrance point of an eastern access into the Etruscan or later habitation site on Vignale. There is no “bottleneck” due to the width of the plateau, and therefore material evidence of the access point is hard to find. However, there are indirect testimonies that such a passage was indeed present. In order to limit the study area, an imaginary border of Vignale's eastern access was established between the modern Blera–Civitella Cesi asphalt road and Vignale's western tip (Fig. 9).¹⁶⁵ We believe that there is a connection between the burial sites of the Fosso del Pietrisco cemetery (within TS3) and the nearby Valle Vesca necropolis with the habitation or monumental buildings on the western tip (TS2)—a distance of about 1.1 km (Figs. 26, 48). This would then be analogous to the relationship between the Casale Vignale and the Acropolis.

With this in mind the eastern access constituted the final approach of the interregional and Etruscan road connecting Vignale and its surroundings with settlements such as San Giuliano, c. 10 km north-east of San Giovenale. From the modern asphalt road and westwards the ancient street must then have passed through a cemetery—dating from the Early Iron Age to the 3rd century BC, depending on the type of burials.¹⁶⁶ As stated above, the geography of this area allows a good comparison to be made to the relationship between Casale Vignale and the Acropolis, where the eastern access would have been framed with tumuli and other types of burials¹⁶⁷ when approaching the site from contemporary Etruscan settlements, such as Blera.¹⁶⁸ In the case of tumuli, present along the possible eastern access to Vignale, these are also to be found on the eastern side of the Civitella Cesi road—that is, beyond our area of investigation. The tumuli and chamber tombs of the Valle Vesca necropolis found on the western side of the modern road date to the 6th century BC, and are comparable to the above-mentioned tumuli a stone's throw further east.

¹⁶³ The existence of a possible defensive wall on the Vignale promontory, see section ‘Discussion and parallels – extensive walls’.

¹⁶⁴ Bosio & Pugnetti 1986; Petacco 2014, figs. 3, 9–10; Michetti 2016, figs. 1–14 traces of bridges; Leighton 2004, 86–88; 2013; Michelucci 2005.

¹⁶⁵ On the distinctions of the terms boundary, border, and frontier, see Feuer 2016, 11–23. We thank Cecilia Sandström for the information on this book.

¹⁶⁶ Wetter 1962, 206, aerial photomap F7.

¹⁶⁷ Gamurrini *et al.* 1972, 146, n. 1, 151, n. 1, fig. 100; Ricciardi 1987a.

¹⁶⁸ Wetter 1962, 206, aerial photomap F7.

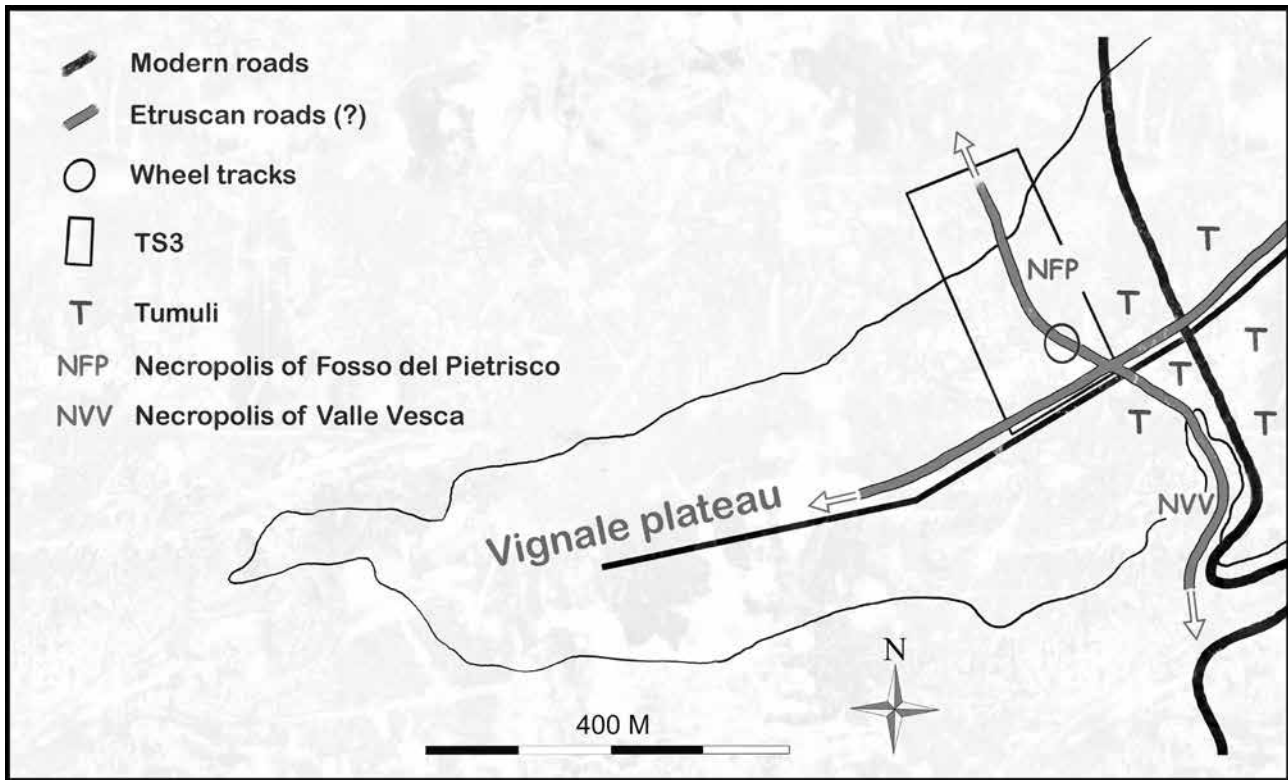


Fig. 48. The eastern part of the Vignale plateau showing the possible Etruscan road intersection (in grey) compared with its modern version (in black). It is likely that it was here that the eastern access to Vignale's western promontory was crossed by another road running in a north–south alignment. Coming from the east one would pass through the tumuli of the northern extension of the Valle Vesca necropolis (for the location of the necropoleis, see Fig. 170) before gaining access to the plateau. Here, the interregional transport road temporarily became a funeral street—analogueous to the road running through the Casale Vignale necropolis heading to the Acropolis. Similarly, the south–north stretch passed through the necropolis of Valle Vesca, the tumuli of the plateau, and through the Fosso del Pietrisco necropolis before heading north. The circle shows the estimated position of preserved bedrock-cut wheel-tracks, an indication of the possible connection between the necropoleis at Valle Vesca and Fosso del Pietrisco (illustration by VAP).

As the name suggests, the Fosso del Pietrisco cemetery (Figs. 26:TS3, 170:1) is situated on the northern side of the Vignale headland and as such probably also connected to yet another interregional road running north–south, now only surviving in faint traces (Fig. 9). It is highly probable that the latter made part of an Etruscan road connecting Casale Vignale in the north with the Valle Vesca funeral street in the south. As such, this road would have crossed over Vignale's eastern tableland and over the Pietrisco brook. Thus, the street remains within the Fosso del Pietrisco cemetery formed the ancient version of the Blera–Civitella Cesi asphalt road. In this case, there must also have been an intersection between the eastern access and the ancient north–south thoroughfare—very much in the same manner as the modern east–west dirt road of Vignale crosses the north–south-oriented asphalt road (Fig. 48).

The Fosso del Pietrisco necropolis contains a few tombs dating from the 11th century to the second half of the 8th century BC. Find material and installations connected to the Late

Etruscan period are also present within the Fosso del Pietrisco necropolis and extend beyond it in a westerly direction. This may strengthen the relationship between the eastern access as part of a funeral street leading to an inhabited area of Vignale during the Etruscan and probably pre-Etruscan periods.¹⁶⁹ The fact that the eastern access at Vignale forms a parallel to Casale Vignale and its relation to the Acropolis further north is a strong indication for Vignale having a larger habitation on its tip, as otherwise Casale Vignale would probably have formed the sole eastern access to the larger San Giovenale area.

¹⁶⁹ Hanell 1962, 304. On the Final Bronze Age–Proto-Villanovan settlement at San Giovenale, see *San Giovenale* III:3; IV:1; V:1; V:2. On the four Iron Age tombs in the Porzarago necropolis, see *San Giovenale* I:5. On the three *pozzo* tombs in Fosso del Pietrisco necropolis, see *San Giovenale* I:8; Tobin-Dodd 2015, 61–62, 67–68, fig. 40.



Fig. 50. A preserved hardened structure (Roman bridge abutment?) descending into the Vesca river from its southern bank, seen to the right, looking east. This potential road likely connected the Vignale settlement with the Castellina Camerata necropolis (photograph by R. Holmgren).

THE SOUTHERN ACCESS TO VIGNALE'S WESTERN TIP

Interregional road connecting the western tip of Vignale to the area of Castellina Camerata

Figs. 49–52

Feature: road

Interpretation: road of interregional level, connecting the Vignale tip to the area of Castellina Camerata

Preliminary date of first construction: 7th century BC

Preliminary date of use: 7th century BC to 6th century AD and later

Preliminary dating of building material: Early Roman (the Vesca bridge abutment), medieval (Wall D gateway)

Area: interregional street south of TS2

Geographical location: from the eastern end of the funeral street down the slope, crossing the marshland to the Vesca bridge abutment

Position: c. 42°13'22.07"N, 12°00'12.37"E (eastern end of the funeral street) to c. 42°13'17.96"N, 12°00'09.50"E (the Vesca crossing)

Height ASL (m): 159 to 139

Measurements (m): L 140 "as the crow flies"

Finds: bridge foundation (?)

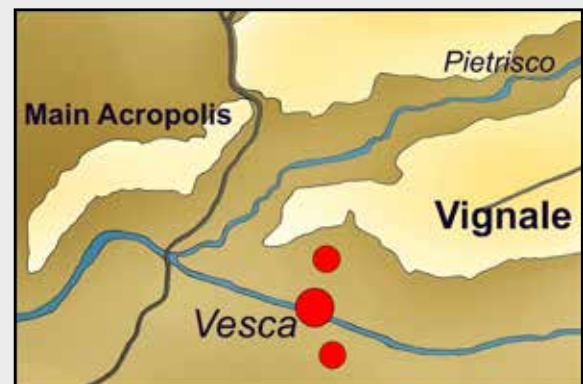


Fig. 49. The southern access to Vignale's western tip—interregional road (feature map by VAP).

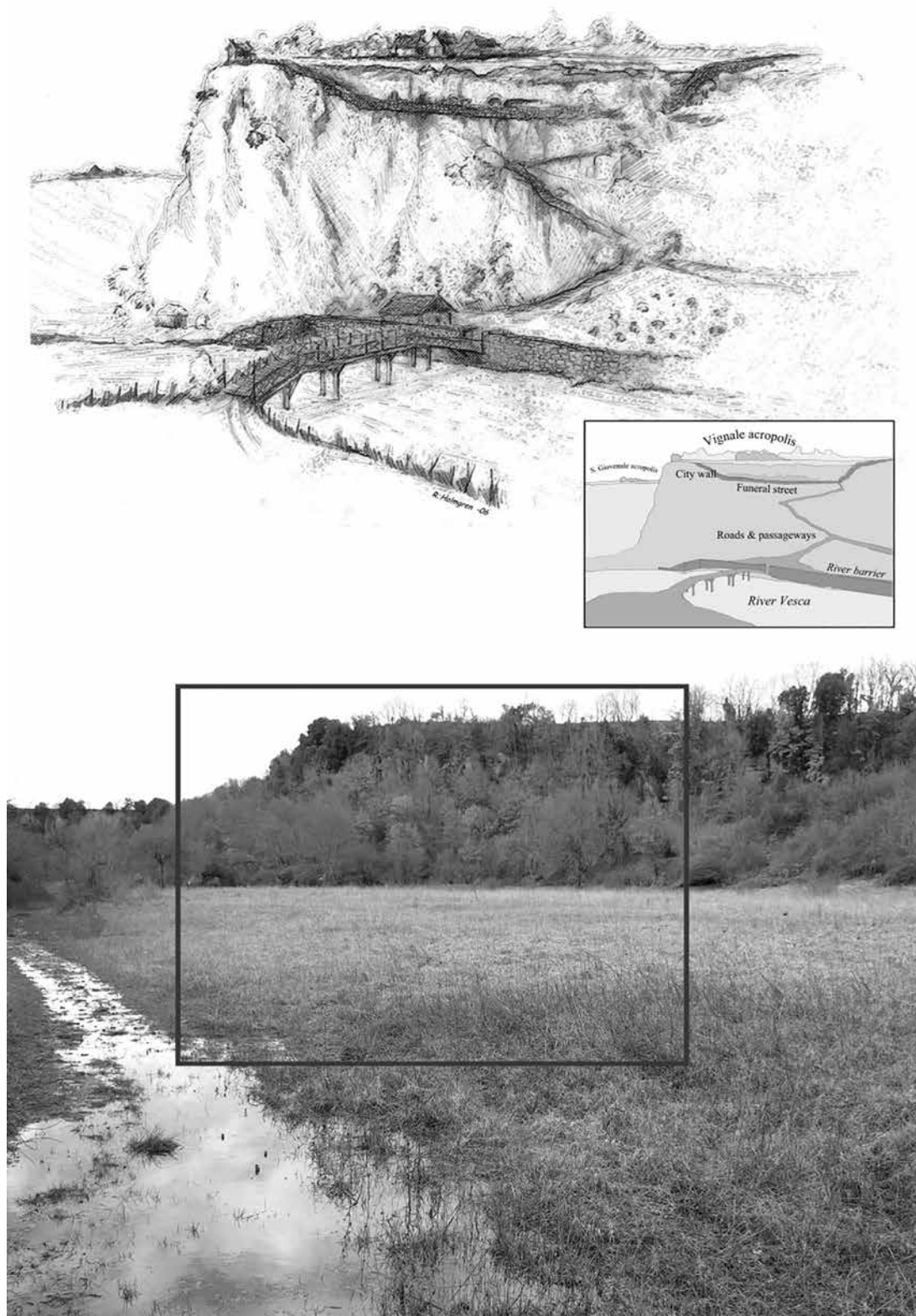


Fig. 51. Above: a schematic interpretation of the ancient steep slopes of Vignale during the Late Etruscan period, looking north-west. The marshy meadowland found in the present-day valley bottom (seen in the photograph below) is here understood as the ancient bend of the Vesca river, although there is no evidence for any of the depicted structures near the river (illustration by R. Holmgren).



Fig. 52. Traces of yet another crossing over the Vesca river (white arrows)—likely Etruscan and similar in shape to the modifications made in the tufa block near the ford of the Dogana (Fig. 34). This crossing was probably a minor one, connecting the valley directly south of Vignale with the lower area of the Valle Vesca necropolis further east (photograph by VAP).

A visit to the southern tip of the Vignale plateau in 2006, apart from the areas that were inaccessible due to dense vegetation, revealed a clear street connecting the western hilltop with the area of the Vesca river. The street follows a previously used, but now earth-filled shelf. This also passes the rock-cut tombs of the Vignale Southwestern necropolis (see Figs. 30:8, 170:3) leading its way along the southern slopes of Vignale in a north-west–south-east alignment. It is today difficult to determine the exact extent of this presumed ancient road, since falling blocks and erosion from above have buried much of it. The street/road is quite apparent where it runs along the chamber tombs just beneath the plateau, but becomes less apparent further east along the slope. One can only speculate the importance of this access to Vignale and its function in relation to the major eastern access on top of the plateau. This south-western connection must have served as an ancient road connecting the Vignale plateau itself with the lower grassland of the river Vesca. From the lower-lying ground there is no evidence of any connecting ancient road, due to the deep accumulation of colluvium, but a modern path connects this area with the ford of the Dogana, further west.¹⁷⁰ A more reasonable explanation for this smaller and southern access to Vignale is the fact that this road most probably made the connection to the necropolis of Castellina Camerata with a further connecting route from there. Although much older, Castellina Camerata must have been considered an important

site of the religious and cultural environment at the time of the Late Etruscan tombs at the Vignale Southwestern necropolis (Fig. 170:3). The relationship between these two units can perhaps be seen as an artificial and hardened surface structure (a Roman bridge abutment?) descending into the river Vesca. It is distinctly visible on its southern riverbank (Fig. 50). It can be argued that the structure dates to the Roman period, but it fits the general type of infrastructure displayed by older roads and passageways. Another connecting route to the funeral street is the steep area about 80–100 m to the east of the ramp structure (Ramp 2), i.e., where the road from the south splits to yet another possible track to the Vignale plateau (Figs. 27, 55:b). There are no clear remains of this route except for a cleared area with scattered ashlar, that makes a smooth transition up to the Vignale plateau west of Wall C.

When discussing the lower grassland, it is important to note the fact that the water from the river Vesca's seasonal flooding must have affected this periodically waterlogged area considerably (Fig. 11). An attempt to recreate the Late Etruscan landscape is shown in Fig. 51. Here we can see the steep winding road from a habited plateau passing the rock-cut chamber tombs of the Vignale Southwestern necropolis, and its division into a south-eastern extension and a southern connection into the valley below. In the drawing presented alongside the photograph in Fig. 51, the waterlogged valley bottom is reconstructed as being periodically flooded as landscape changes suggest there was a higher water flow in

¹⁷⁰ Wetter 1962, suppl. maps 1, F 7. Military aerial photograph from 1961 in Scardozzi 2003, 261–262, figs. 476–477.

Etruscan times.¹⁷¹ The depicted bridge is merely a tentative interpretation for the extension of the road and takes some of its concept from the Bridge Complex over the Pietrisco brook (Bridge 1). As mentioned above, a bridge abutment (?) connecting to an ancient road can clearly be seen today on the southern side of the river Vesca (Fig. 50). No abutment or any road was distinguished on the northern side of the river and is probably partly buried under the grassland (Fig. 10). Gamurrini surveyed the area during the 19th century,¹⁷² and Hemphill during the 20th century, without finding a route over the Vesca river.¹⁷³ Another crossing has been traced upstream at the river Vesca, c. 80 m east of the just-mentioned putative traverse. Currently it is visible during low water levels as a modified part of the tufa bedrock—likely cuttings to fit an abutment positioned in the middle of the river (Fig. 52).

Funeral road in Vignale Southwestern necropolis and interregional road, with Ramp 2

Figs. 30:8, 53–56

Feature: street

Interpretation: road of interregional level connecting to a funeral street running through the Vignale Southwestern necropolis

Preliminary date of first construction: 7th century BC

Preliminary date of use: 7th century BC to 6th century AD and later

Preliminary dating of building material: Etruscan (medieval filling of Ramp 2?)

Area: (TS2) Funeral street and interregional street

Geographical location: begins at the south-west tip of Vignale, continuing below the settlement along the ledge towards the south-east

Position: 42°13'22.60"N, 12°00'09.10"E to c. 42°13'22.07"N, 12°00'12.37"E

Height ASL (m): 165 (west) to 159 (east)

Measurements (m): L 80–100

Finds: -

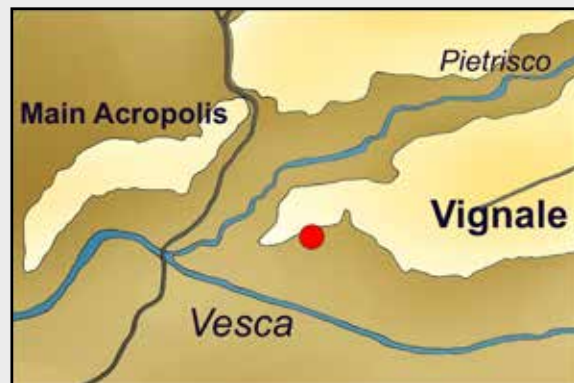


Fig. 53. The southern access to Vignale's western tip—funeral street, interregional road, and Ramp 2 (feature map by VAP).

The perhaps most observable remains of the Vignale southern access (Fig. 30:8) are to be found in front of the four Chamber Tombs V1–V4 in the Vignale Southwestern necropolis (Figs. 27, 170:3). This most discernible part covers a strip of about 80–100 m. The access to an earthen ramp (Ramp 2) can be found in its most western part, linking the plateau with the steadily descending street. There are no discernible details or features of the construction itself, except for the 3–4 m width of the natural/partly rock-cut (?) shelf, situated between the tomb façades and the precipice facing south. The latter is framed by a skilfully built retaining wall (Wall B) that gives the impression of a combined defence structure (Figs. 58, 63).¹⁷⁴ The entire shelf is heavily covered by a thick layer of loose earth—likely an accumulation from decades of cultivation above which has also covered most of the tombs along the cliff. A single row of stones and ashlar are positioned on top of this soil layer, following the edge of the precipice in front of the tombs. This is however only a recent marker of the route making up for the now-missing upper part of the ancient retaining wall, Wall B (Fig. 54).

The present authors first considered Ramp 2 to be a construction from antiquity, but a closer inspection suggested a more recent modification of an earlier Etruscan passageway—today most likely hidden below. Ramp 2 is situated between the rocky cliff and a large wall (Wall A) (Figs. 27, 55:b, 58).¹⁷⁵ This sturdily built wall of large tufa ashlar is the actual continuation of the retaining/defensive wall (Wall B)—only here it is better preserved in height (Figs. 58, 60, 63).

¹⁷¹ See, for instance, a geological description on this area in Judson 2013.

¹⁷² A drawing was made by Cozza in Gamurrini *et al.* 1972, fig. 100.

¹⁷³ Hemphill 1993; 2000.

¹⁷⁴ Backe Forsberg *et al.* 2008a; 2008b; Lasaponara *et al.* 2012.

¹⁷⁵ Backe Forsberg *et al.* 2008a; 2008b; Lasaponara *et al.* 2012.

Fig. 54. A row of reused stones and broken ashlars visible along, and slightly within, the Etruscan retaining wall (Wall B). These surface stones are likely used as an edge barrier for a post-Etruscan track. Previously this stretch established the Late Etruscan burial street through the South-western necropolis (photograph by VAP, courtesy of SIR).

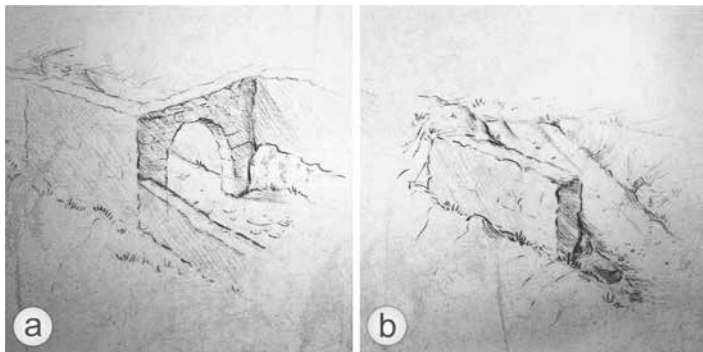


Fig. 55. Rough sketches showing an interpretation of the southern entrance to the westernmost habitation on Vignale (a), and its current situation (b). The original entrance (a) appears to have passed through a gate connecting the defence structures on the plateau with the walls surrounding the incline. The current situation is depicted in (b), where Wall A is supporting a more recent ramp-like earthen filling, constituting Ramp 2 (illustration by R. Holmgren).



Fig. 56. A situation resembling that seen at the southern entrance to Vignale is perchance found in the peripheral northern walls of the Etruscan settlement of Petrolo, adjacent to the modern town of Blera. Here, a more recent (?) ramp-like structure was made in order to have easy access to the plateau, looking south-east (photograph by R. Holmgren).

Excavation is required to reveal the exact function and construction details of Ramp 2—nevertheless, it is to be suggested that the location of this edifice was the main south entrance to the westernmost habitation on Vignale. There is reason to believe that the original entrance passed through a possible gated structure (Fig. 55:a). The filling that constitutes the actual Ramp 2 in the southern slope of Vignale seems to be later and from a period that required easy access to the plateau (Fig. 55:b). As guidance, a similar solution can perhaps be compared with the Etruscan peripheral walls of Petrolo, adjacent to the modern town of Blera (Fig. 56). The height

of the Etruscan retaining/defensive wall is unusual for a ramp structure and might, as suggested above, be understood as a segment originally built for a possible gated structure, parts of which were later deliberately left to create a support for the filling material of the earthen ramp. The same kind of rather swift rearrangement is to be found in Vignale's northern ramp construction (Ramp 1, Fig. 37).¹⁷⁶ Systematic removal of stone

¹⁷⁶ See feature description of Vignale Ramp 1, in section 'Via Pontalto and Via Vignale Nord with Ramp 1'.

material for use in more recent monumental buildings and walls, such as property divisions, likely explains the absence of building material in what remains of Vignale's constructions. In fact, it is likely that the creation of the medieval di Vico castle of San Giovenale depended largely on reused blocks. Perhaps Ramp 2 was useful in a time when building material was collected in this area, which might explain why the supporting wall of Ramp 2 is rather well preserved in height—perhaps it was left untouched during a period when heavy transportation of building material was crucial, such as during the 13th century AD.

DISCUSSION—THE ROADS, BRIDGES, AND RAMPS OF VIGNALE

As we have seen, the road network in San Giovenale is rather well documented. The reason for this is not only the well-preserved Dogana, which helps in locating local streets and passageways, but also the result of the many widely distributed trenches, trial soundings, and surveys performed in the area over the years. These have identified parts of thoroughfares and streets that could be placed in the overall infrastructure of the road network. The studies on and around the Vignale plateau have further helped in tracing the road arrangement of the site's southern boundary, which clearly shows Vignale as an important hub within the locality of the San Giovenale settlement. Here, traces of access roads are present at the east, south, and north. In the latter case, and especially important, is the Etruscan Bridge Complex (Bridge 1).

Bridge 1 was furthermore fundamental in tracing the whereabouts of the roads leading past it and highlighting the question of the Vignale hill's significance. Another important result, connected with the aerial and land surveys performed by VAP, was the location of several smaller bridge abutments over the Pietrisco brook and the river Vesca. These probably date to the Roman period, but they still give a hint of earlier infrastructure and regional connections from the Etruscan periods and beyond. However, there are no physical traces of road communications dating to the Late Bronze Age and Early Iron Age—we can only assume they must have played an important role in the early periods. In this case, the Dogana, as an important thoroughfare for transhumance, is significant in helping to understand how such early arteries had the potential to create social and economic flows between access to land, producers, and markets, but also the spreading of beliefs and ideas. The distribution of necropoleis, such as Fosso del Pietrisco and Porzarago (beginning of the 11th century BC), are however strong indicators of how pre-Etruscan settlements on Vignale and the Acropolis hill were already interlinked, presumably by some of the roads used during the Etruscan era.

Nevertheless, the local road infrastructure traced to the Etruscan periods shows a natural development of several side roads that both lead away from and into the intraregional transit road—the Dogana (*Fig. 30:1*). As mentioned, this intraregional road is essential in both understanding and locating the development of streets and roads from the Archaic period onwards. For example, the Dogana was used to link the Acropolis with Vignale through traffic on additional side roads such as Vie Ponte Basso (*Fig. 30:4a–c*) and Via Pontalto (*Fig. 30:2a–b*)—both further interlinked to Via Vignale Nord (*Fig. 30:3*). Quite possibly the use of these roads depended on the direction in which the transport or larger herds were heading. For example, it seems that the three Vie Ponte Basso tracks were in use during the same period in time. A plausible interpretation of such a cluster of tracks would be that they were used to facilitate the flow of traffic due to narrow and at times clogged roads.

During the 7th and the 6th centuries BC, when the Etruscan trading contacts increased, using wheeled transports, the seemingly intricate system of roads leading to and from the main Bridge Complex (Bridge 1) might both be the result of using the construction itself, but also temporary solutions when wagons met in narrow, steeply inclined roads.¹⁷⁷ Furthermore, a road might seem ambitiously spacious for occasional or daily use in a site with a relatively small population, but during seasonal transhumance shifts, especially between summer and winter pasture, some roads must have been heavily crowded with large flocks of animals.¹⁷⁸

There are also differing elevations (relative depths below the local ground level) of the various connecting roads. This is particularly evident where the local roads attach to the Dogana (*Fig. 30:1*). More specifically this concerns the western end of the Casale Vignale funeral street (*Fig. 30:5–6*) and particularly where Via Pontalto (*Fig. 30:2*) detaches from the Dogana down to the Bridge Complex. Following the discussion, cited in for example *The archaeology of Etruscan society*, the soft rock easily became worn down from the increasing traffic from the 6th century BC onwards.¹⁷⁹ This must have been particularly the case for the transit roads, which of necessity had to be regularly recut. In the case of San Giovenale it is hard to determine exactly during which period the difference in elevation occurred between the Dogana and the regional roads. As mentioned above, the difference in height must eventually have altered to the point that the junction between the adjoining roads became impractical or even unusable. This in turn could, for example, give us an idea of how long the main Bridge Complex was in use before

¹⁷⁷ Tuppi 2010, 263.

¹⁷⁸ See, for example, Santillo Frizell 2006, 148 (photograph); 2007, figs. 4, 9, 12.

¹⁷⁹ Izzet 2007, 193.



Fig. 57. Stretched panoramic view of part of Via Clodia on the western side of the Etruscan settlement of Petrolo in Blera. The road has been widened, which has further exposed Roman arcossoli, tombs originally cut out from the tufa bedrock along the road (photograph by R. Holmgren).

being abandoned. The question might seem less significant considering the vast extent of San Giovenale's infrastructure and the size of the site in general, but any roads connecting to Bridge 1 should be considered important—also a central theme in the title of this study. Before suggesting the most plausible explanation for the circumstances of varying road elevations, let us bring up some pertinent considerations.

If we assume that the modified deeper cutting of the Dogana was implemented in the 7th or 6th centuries BC, then we must also assume that the function of Bridge 1 as a means of heavy transport, through Via Pontalto with wagons, would have been problematic. Indeed, this could be the case if we assume that the reorganization of the Bridge Complex after the large earthquake in the middle of the 6th century BC used a rebuilt bridge as a downscaled route rather than as the main artery for heavier vehicles. The archaeology of the Bridge Complex shows that the site was still in use after the earthquake,¹⁸⁰ but the lower Bridge 2 over the Pietrisco brook (through Vie Ponte Basso) might partly have replaced the function of the previously larger Bridge 1. This would also make sense, since a lowering of the surface of the Dogana would not only have removed the grooves from wheel-tracks in the bedrock, but also had the ability to ameliorate its slope. This seems plausible since any transport had to be redirected through Vie Ponte Basso, further east and downhill that is.

Another hypothesis is that any recutting of the Dogana was done during the Roman period. Yet another feasible explanation for the difference in elevation between the roads discussed might simply relate to the fact that the transit road was once paved with more durable cobblestones. If this was the case, we could presume that this bedding once constituted the surface of the Dogana and as such raised the street level to a height analogous to the adjacent streets. The lower area of

the Dogana, passing the southern side of the Acropolis, still shows an abundance of scattered cobbles and pebble stones mixed with eroding soil from above. This can be explained if we consider the results of water having flash-flooded downhill over the centuries, detaching the original paving on the sloping ground. Similar stonework can be seen elsewhere in San Giovenale: for example, during the excavation of the southern abutment of Bridge 1 the “piazza”, or the square junction, revealed two cobbles surface levels (Fig. 230).¹⁸¹ This type of stonework was also present on the northern bridge abutment.¹⁸²

In order to cover all hypotheses, the perhaps most credible reason for the Dogana being modified in the way discussed above should be associated to more recent alterations. This does not however exclude any Etruscan or Roman methods of paving certain segments of the intraregional road in San Giovenale. An example is how Ramp 1 on the northern side of Vignale seems to have been rearranged for transporting medieval building material to the Acropolis hill. Another example is Via Clodia's modification on the western side of Blera which was widened considerably during medieval times. In the latter case this reorganization is evident from the cutting-into of Roman *arcossoli* tombs along this road (Fig. 57).¹⁸³

We would also like to emphasize an often-overlooked practice of road systems which may have left traces in San Giovenale. It concerns the kind of infrastructure used during larger or long-term building projects. Heavy transports of both timber and stone from their sources must have required sturdy road beddings. Such initially temporary routes most likely became parts of the established road and street arrangement. It can furthermore be assumed that some such temporary

¹⁸⁰ Blomé *et al.* 1996; Blomé & Nylander 2001; *San Giovenale* V:1, 138–142.

¹⁸¹ Hanell 1962, 304–305, revealing phases of two bridge abutments: see also Backe Forsberg 2005, figs. 30, 44a, 52.

¹⁸² Backe Forsberg 2005, figs. 59, 61a–b.

¹⁸³ On medieval roads, see Santella & Ricci 1994; Edlund-Berry 2006, 122–123 on roads as communication tools and boundaries.

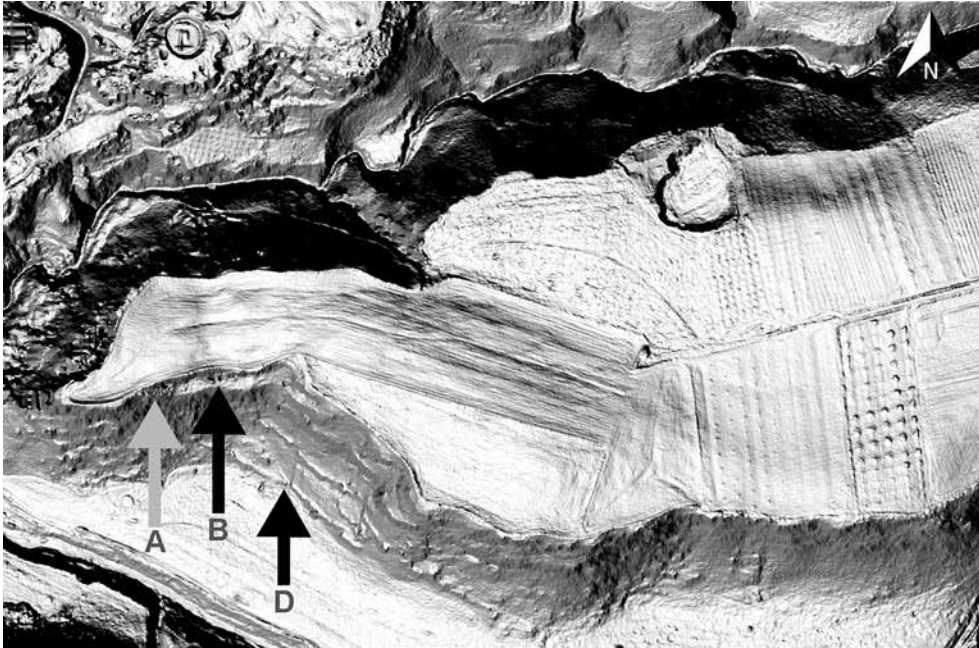


Fig. 58. LiDAR image showing terraces on Vignale's southern slope. The three arrows indicate Walls A, B, and D, of which Walls A and B support the terrace of the Late Etruscan funeral street. Wall D is a medieval/modern wall, where a steeply sloping passageway is also visible—a shortcut to and from the plateau of unknown date (data of LiDAR image acquisition from Geocart srl with processing and interpretation by N. Masini [CNR/IBAM] and R. Lasaponara [CNR/IMAA]).

road fragments became redundant after concluding a certain building project. One could also argue that during times of large-scale building undertakings such as, for example, tumuli, monumental buildings, and stone/earth removal, parts of road stretches simply required alternative and temporary passageways. In many cases this must have left roads and streets that today might seem excessively worn considering the perceived importance of a specific area. Not the least is this evident in the Etruscan way of mitigating a slope in order to make streets more level. This could be achieved simply by digging out the most elevated road stretch into the bedrock.¹⁸⁴ The addition of ramp-like structures to already existing Etruscan roads might be a similar solution during larger building projects. Such earthen ramps, although more temporary, might also have been constructed during the medieval period, as suggested here for Ramp 2. Supplementary roads and streets dated to the Etruscan period could, for example, be the three diverging tracks of Vie Ponte Basso.

Extensive walls

The main Etruscan city states were surrounded by large fortification walls which not only served defensive purposes; "... they also projected order, reassurance and prestige, while demarcating plots of ground, suggesting a re-organization of

space along rectilinear, block-like principles in this zone".¹⁸⁵ Early defensive walls and ditches dated to 750–700 BC were noted at Early Iron Age Veii, at Vulci with a palisade, mud-brick walls at Roselle, and rough stone walls at Castellina del Marangone and Cerveteri.¹⁸⁶ The 6th-century BC city wall of Veii was constructed with a width of one or two ashlar blocks throughout the wall and without mortar. Remains of a city wall from the 6th century BC have been excavated at Tarquinia, where a long section has been dated from the end of the 5th to the first half of the 4th centuries BC. Etruscan walls lack towers while the medieval ones have one or several.¹⁸⁷

Thus, one important aspect of understanding the type of early occupations on Vignale was to locate and document any remains of walls. Foremost, this regarded the larger, more extensive walls. A few such barriers (Walls A–D in Fig. 27) were documented in the field surveys of 1959 and during VAP's field sessions of 2006–2010. When the "flying squad"¹⁸⁸ surveyed the plateau for tombs, they instead found remains of cisterns, wells, and a noteworthy long ashlar and rubble wall (core-and-veneer or *emplekton*) (Wall C in Fig. 27). Although partly excavated, these constructions were unfortunately sparsely documented. On the initiative of Wetter, the area was photographed (in monochrome) in 1960–1961 by the Italian Military Airforce. Since the vegetation cover during the 1960s was much

¹⁸⁵ Leighton 2013, 141.

¹⁸⁶ Leighton 2013, 140–141, n. 36; Izzet 2007, 182–187.

¹⁸⁷ Bengtsson 2001, 50–51, n. 201. On fortifications at Tarquinia, see, for example, Cerasuolo & Pulcinelli 2008.

¹⁸⁸ Östenberg 1962, 313. On the "flying squad", Östenberg 1976, 92–93.

¹⁸⁴ Tuppi 2010, 263.

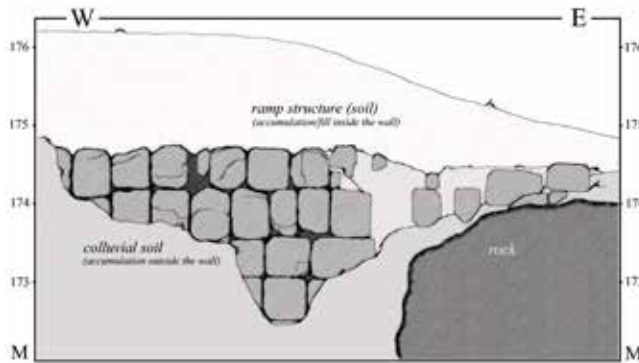


Fig. 60. Wall A, a city and retaining wall on Vignale's southern promontory. Wall A differs in its construction from Wall B, also a city/terrace wall, which makes a continuation to the east. The reason for the difference might be that Wall A also functioned as a gated structure providing access onto the plateau. Later, Wall A served as a retaining wall, supporting the accumulated soil for a ramp structure, Ramp 2 (illustration and photograph by R. Holmgren).

less dense than today, this documentation has been extremely useful for the overall analysis of the area: for example, a part of the now-vanished Wall C is discernible in these aerial views.¹⁸⁹

The land survey of the Vignale plateau was initiated in 2006, and lasted for a period of three weeks. It aimed to relocate the previously documented remains, as well as searching for new structures. The investigation yielded a few walls that were later confirmed by the various aerial surveys used by VAP in 2007–2010. The separate LiDAR survey of 2010 clearly verified the terraces that were supported by Walls A, B, and D along the southern promontory (Fig. 58), but the land survey was crucial in gaining detailed information. The diaries from the 1950s and 1960s proved essential in bringing together the initial documentation with the newly processed data.

WALL A CITY/RETAINING WALL

Figs. 21, 27, 55, 59–60

Feature: wall

Interpretation: city/retaining wall (segment of gate?)

Preliminary date of first construction: 6th century BC

Preliminary date of use: 6th century to 3rd century BC/
medieval and modern (?)

Preliminary dating of building material: 6th century BC

Area: (TS2)

Geographical location: Vignale southern slope, western end
of funeral street

Position: 42°13'22.60"N, 12°00'09.10"E

Height ASL (m): 165

Measurements (m): L 7, H 2.2, W 0.5 (exposed feature)

Finds: -



Fig. 59. Wall A "city/retaining wall" (feature map by VAP).

After having passed the chamber tombs, climbing the Vignale slope along the funeral street of the Vignale Southwestern necropolis, a relatively well-preserved wall (Wall A) of tufa blocks is exposed on the southern incline. The wall's visible surface indicates that the construction is only one block in thickness, and the exposed segment measures L 7 × H 2.2 m with several courses preserved (Fig. 60). The segment, named Wall A, is positioned at the highest elevation of the attached and longer Wall B, that continues east along the funeral street. Wall A runs parallel to the tufa cliff immediately to the north, leaving a clear area/passageway of only a few metres. This area in between the wall and the cliff contains a sloping fill layer of homogenous soil, interpreted as a more recent ramp structure, Ramp 2 (Figs. 27, 60). Wall A was documented separately from the city/terrace Wall B, since Wall A may comprise the southern part of the remains of a gated

¹⁸⁹ Wetter 1962, 206, aerial photomap F7.

structure separating the funeral street from the habitation area on the plateau itself. The more rectangular-shaped ashlar blocks of Wall A measure on average $H\ 0.5 \times W\ 0.4 \times L\ 0.5\ m$, compared to the larger and more square-shaped masonry of Wall B (Fig. 63). This is also a further indication of Wall A being a separate construction from its Wall B extension towards the east. The sketches in Fig. 55 depict what such a gated construction may have looked like. Fig. 55:a shows a bold interpretation of how the entire gate may have formed a shielded structure. Fig. 55:b shows the lower and exposed part of the walls that can still be found *in situ*, a position where it most likely remained since it later had a vital function in supporting accumulated soil and debris from the plateau, forming the feature here called Ramp 2. As such, it still functions as a ramp-like structure to connect the plateau with the funeral street—the latter which at least kept its function as a passageway to the valley below and the roads leading to the Castellina Camerata necropolis. If a smaller gate is to be found at this particular spot at Vignale, one could speculate that the easternmost part of Wall A makes a 90° angle towards north in order to connect to the tufa cliff. The hidden angle would in this case mark an entryway—now buried under the filling material added later. The fill itself is probably a result of later activities where soil and debris from the plateau were heaped up to create this ramp-like structure. It is possible that the ramp was initially constructed during medieval times for the erection of the di Vico castle.¹⁹⁰ There is furthermore reason to believe that the uppermost layers of the filling material are the result of accumulation from the last few hundred years, serving as a ramp for accessing the plateau now used for farming activities. Thus, Fig. 55:b shows an earlier stage of the ramp structure—later to accumulate even more soil. The section visible in Fig. 60 (left) clearly shows how the soil currently rises well above the Wall A structure. With or without the presence of an entrance, the building technique and position of the structure suggests that this feature is connected to building activities on top of the plateau. The existence of a continuation towards the west and further around the western tip of the plateau is also of high probability, and could as such have constituted an important part of the Etruscan defensive structures of Vignale.

Since the nearby chamber tombs can be dated to the Late Etruscan period, Wall A might also be a later addition to the Vignale infrastructure leading to and from the plateau. The dating of this wall to the 6th century BC could not be confirmed, even though the rather large and well-cut blocks point to this date, or even earlier.

¹⁹⁰ See the discussion of the ramp structure in the section ‘The northern access to Vignale’s western tip’; *San Giovenale* VI:4, 11–12, figs. 10, 14, 18–19, 31 show how the rock has been used as a part of the entrance to the Acropolis—which may be analogous to the southern entrance to the Vignale plateau.

WALL B CITY/TERRACE WALL

Figs. 27, 61, 63

Feature: wall

Interpretation: city/terrace wall

Preliminary date of first construction: 6th century BC

Preliminary date of use: 6th century to 3rd century BC

Preliminary dating of building material: 6th century BC

Area: (TS2)

Geographical location: Vignale southern slope along the funeral street

Position: from $42^\circ 13' 22.47''N$, $12^\circ 00' 09.26''E$ to $42^\circ 13' 21.84''N$, $12^\circ 00' 12.39''E$

Height ASL (m): from 162 to 157

Measurements (m): L 7, H 2.2, W 0.5 (largest exposed feature)

Finds: -



Fig. 61. Wall B city/terrace wall (feature map by VAP).

The steep slopes surrounding the tip of the Vignale plateau make a great natural defensive feature. The shelf-like and currently overgrown passageway, here also referred to as the funeral street (Fig. 30:8), connects the plateau of Vignale with its valley to the south. This shelf was bordered by a sturdy wall structure that is partly exposed along the path, especially alongside the chamber burials positioned slightly below the settlement plateau. Parallel to numerous other Etruscan habitation sites, the wall forms an excellent terrace wall, that also prevents both erosion and easy access to the plateau. An example of such a structure in San Giovenale was documented along the northern edge of the Acropolis (Fig. 62).¹⁹¹

¹⁹¹ See, for example, the Borgo and the Acropolis on the main plateau at San Giovenale, Blera, Luni sul Mignone, Veii, Caere, and Tarquinia. Cf. also a 5th-century BC circuit wall on the southern side of the plateau at the Faliscan Vignale in Carlucci *et al.* 2007, 44–45, figs. 2–3.



Fig. 62. Northern city wall on the eastern Acropolis of San Giovenale, looking south-east, with the western wall of the di Vico castle in the background (photograph by S. Hallgren, courtesy of SIR).



Fig. 63. Wall B, the city/terrace wall of tufa ashlars, still exposed on the southern slope of Vignale, looking west. The construction with its large blocks also testifies to a defensive structure, likely missing a larger part of its superstructure (photograph by R. Holmgren).

Wall B contains large and carefully placed tufa blocks (Fig. 63) and the construction itself, with the large size of the individual blocks, testifies to some sort of defensive structure. The wall is only one block thick, nevertheless constituting a sturdy foundation for an even more elaborate superstructure that is now missing. Measuring from the west, Wall B (including Wall A, with its visible western end) stretches more than 100 m towards the east before the path seemingly makes a sharp bend leading down towards the Vesca river plain (Fig. 51).

VAP was not able to determine any possible continuation towards the east due to the impenetrable vegetation and the erosion of natural material from atop. The LiDAR survey and a scan through the vegetation cover can neither confirm nor reject any continuation. In conclusion thus far, it seems that Wall B fortified the western end of the Vignale promontory and acted as a retaining wall for the steep and unstable incline. During Late Etruscan time it enclosed both the chamber tombs of the Vignale Southwestern necropolis and the activities immediately south of the inhabited plateau. In

combination with a possible eastern defensive wall on top of the plateau, Wall B provided full protection for the site on top of Vignale's western tip. A chain of smaller and visible tufa blocks can be seen on the edge inside the more substantial masonry work that constitutes Wall B. These tufa blocks are probably recent markers preventing any traveller on the shelf from getting too close to the drop-off and the demolished parts of Wall B. Their presence confirms that this passageway has been used frequently during recent centuries, during time periods when Ramp 2, together with Wall A, still constituted an important alternative route.¹⁹²

¹⁹² Lasaponara *et al.* 2012.

WALL C “DEFENSIVE WALL”

Figs. 27, 64–66

Feature: wall

Interpretation: defensive wall (“ashlar and rubble”)

Preliminary date of first construction: 4th century BC

Preliminary date of use: 4th century BC to modern

Preliminary dating of building material: -

Area: (TS2)

Geographical location: Vignale, separating the western tip from the rest of the plateau

Position: from 42°13'22.82"N, 12°00'13.47"E to 42°13'24.12"N, 12°00'12.87"E

Height ASL (m): 169 (ground level)

Measurements (m): L 45, H 1.2–1.5, W 1.6

Finds: pottery, tiles



Fig. 64. Wall C “defensive wall” (feature map by VAP).

The western tip of Vignale, with its connecting and relatively hard-to-defend land bridge to the east, must have made any habitation very vulnerable. With reference to the protective moat (*fossa*) and the substantial wall constructions of the Acropolis, we can assume that a similar construction or way of defending important structures was a necessity also in the western area of Vignale.¹⁹³ The early documentation of Wall C is nonetheless of great importance to the understanding and function of any habitation or monumental remains on the western tip of the plateau.¹⁹⁴ The wall stretches 45 m—half the way across the plateau in a south-south-east–north-north-

west alignment (whether there was an extension all the way across the plateau is unclear) (Fig. 27).¹⁹⁵ The southern end of Wall C suggests that it was deliberately constructed where the plateau has its narrowest point in the west. In this way, the wall created a clearly defined borderline following the natural topography of the hill. This should have resulted in a well-protected western tip, with steep slopes to the north and south respectively, separating the wider area east of the wall.

A possible extension of Wall C towards the north–north-west would connect to an area that was steep enough to protect—although leaving Via Vignale Nord somewhat unprotected. However, this northern slope should be considered rather well protected since it was positioned within the area of control of the San Giovenale locality, situated in between the Vignale plateau and the Acropolis. An alternative and more south-west–north-east alignment of a defensive wall would instead connect to the less-preferable elevated valley above the Pietrisco brook, thus leaving Vignale’s western tip more vulnerable.

Following the excavator’s description of Wall C, it was constructed using tufa blocks in varying sizes with the larger ones measuring c. H 0.35 × W 0.45 × L 0.70 m, with a maximum wall thickness of 1.6 m. The sketches in Fig. 65 are based on the somewhat cursory documentation in the original journals.

The importance of the now-absent wall is significant for the overall understanding of the ancient building activities on Vignale. A more profound understanding of the documentation and a reconstruction, such as the one presented below, is therefore essential. The wall was probably removed sometime during the last decades due to increasing agricultural activities. The height of the wall shows four courses of blocks to a preserved height of 1.5 m, with the uppermost course slightly separated by loose soil. The lower three courses are more tightly fitted together and the lowest course rests directly on the bedrock (Fig. 66). This separation by soil suggests that the wall was reused in a later period, since a repair with such careless fitting during the original period is less likely.¹⁹⁶ It is probable that Wall C was reused as some sort of animal barrier up to modern times. The area west of the wall, together with the steep sides and some minor barrier constructions, would have saved the labour of building an entire new enclosure. The

¹⁹³ Hanell 1962, 305–308, fig. 281; Mark 1962, fig. 329; Thordeman 1962, 331–332, figs. 307, 311; Pohl 1980; Karlsson 1999; *San Giovenale* V:1. On the defence system in San Giovenale, see *San Giovenale* VI:4, 13–34, 81.

¹⁹⁴ The only documentation found on this ashlar and rubble wall (Wall C) were two sketches of its section and two photographs of the masonry together with some brief notes in CEÖ notebook II 1959, 68.

¹⁹⁵ The wall is marked on a pencil sketch made by the architect J. Asplund in 1959. In EW daily field reports 1959 Welin made a comment on the large wall which runs across the plateau: this is not congruent with the sketch. The aerial photograph from 1961 taken by the Italian Military Airforce shows, however, a straight line across the plateau from the entrance to the plateau on the northern side to the green area on the southern side, Scardozzi 2003, fig. 477. Today the putative wall is not visible at all, even though the straight line is still visible on the Google map aerial photograph from 7 January 2002 and in aerial photographs taken in 2007.

¹⁹⁶ CEÖ notebook II 1959, 68.

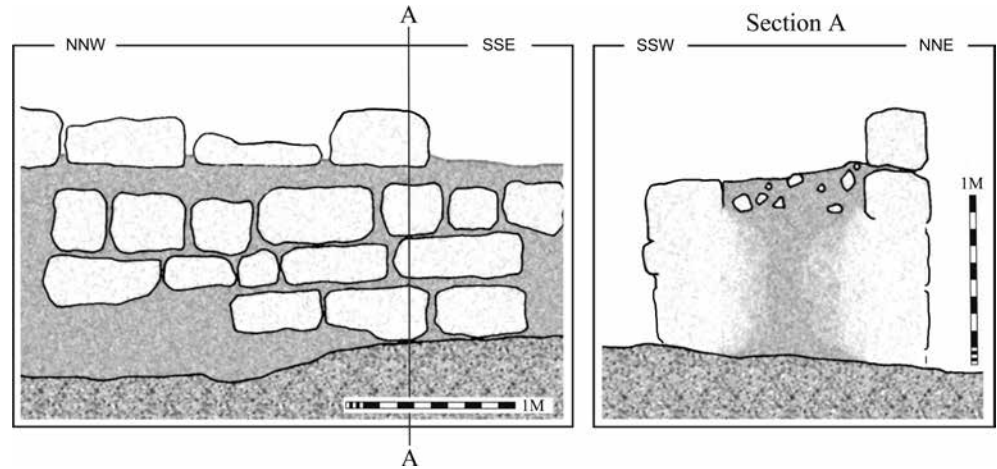


Fig. 65. The redrawn inner face of Wall C viewed from south-south-west (left) and section A (right), based on the original notebook from 1959 (illustration by R. Holmgren after CEÖ notebook II 1959, 68).



Fig. 66. Wall C with its rather well-fashioned outer surface facing north-north-east (left) and the rougher interior towards the south-south-west (right) (photographs by C.E. Östenberg, courtesy of SIR).

original part of Wall C was in the 1950s therefore most probably preserved in the lower three courses. These three are also characterized by an even-cut surface facing east (Fig. 66, left), compared to the much rougher “interior” face on the western side (Fig. 66, right). This may suggest that the less vulnerable façade faced the large, unprotected area of the plateau. In general, this construction should be understood as less common for walls built to serve as boundaries. The wall is furthermore made as a rough version of the traditional “ashlar and rubble” type of wall with only one block thick on either side. As such the construction is rare and not in line with any Etruscan period, where more elaborate works are known—such as, for example, the monumental defensive walls of Volterra with several gateways, mentioned by George Dennis in 1848.¹⁹⁷

Nor is Wall C comparable to any “regular” wall construction among the Etruscan houses found in San Giovenale. The construction itself would instead have served perfectly as a

defensive perimeter, both in size and position. Its rough appearance compared to, for example, the earlier 6th-century BC defensive walls on the Borgo area may be explained by a downscaled Late Etruscan habitation on Vignale. The creation of Wall C gives the impression of a rather hasty demand for protection. After all, this edifice was the last standing of the more elaborate structures on the plateau—possibly a testimony of a turbulent period, with the plateau later to be transformed into an open rural landscape.¹⁹⁸

Other than soil, the wall infill consists of tufa chips, and fragments of tile and pottery. When first documented the wall was only partly excavated with a full documentation of only a small section—even though the total extent of the 45 m-long construction could be traced. Pottery and tile fragments were collected from the fill of Wall C, but a comment by the excavators reveals that all ceramic samples were taken from the upper layer of the fill. Since this layer is the soil bedding for the

¹⁹⁷ Dennis 1883, 136–153 (first edition published in 1848).

¹⁹⁸ *San Giovenale* V:1, figs. 33, 35–36, pls. 1–3; Karlsson 1999.

upper, fourth course, added later, these sherds and tiles cannot give a precise dating for the original construction of the wall. This material, although indicative, must be treated as belonging to a fill added for a later function of Wall C; as the fill was probably gathered from the surrounding ground it thus may contain residual artefacts.

The pottery from the upper fill includes tiny fragments of a grey bucchero cup, a rim fragment of a coarse ware jar, as well as a flat vertical handle of a jug, a small Arretine body sherd of an open shape, and a few fragments of pantiles. The fragments are worn and thus difficult to date. The material appears to range between the 6th and 1st centuries BC or possibly even down to the 1st century AD. The dating of the wall's last period of use is uncertain but points to a later date. Even though the wall was used up to modern times, we can assume that the defence purpose of the original construction should be associated with the Hellenistic period.

Cat. nos. 1–6: the fill of Wall C “defensive wall”

Bucchero

Cat. no. 1. Bowl or cup. One tiny rim fragment. Grey bucchero. Late Archaic, 5th century BC (inv. no. 59-518). See Bonghi Jovino 2001a, pl. 99:192/49, 3/526; Perkins 2016 on bucchero in various contexts such as production, use, geography, and economy.

Arretine ware? (or African red slip ARS?)

Cat. no. 2. Small bowl. One fragment of ring-base. Fine orange red clay. Three impressed lines at internal centre of the base. Dated to the 1st century BC or later (inv. no. 59-521).

Coarse ware

Cat. no. 3. Jar. One body fragment. Brown clay with lots of white inclusions, red brown slip outside (inv. no. 59-522).

Cat. no. 4. Jug. One band handle. Fine beige clay, sandy to touch, slightly micaceous. Etrusco-Corinthian? (inv. no. 59-520).

Cat. no. 5. Open shape. One thin body fragment. Reddish coarse clay (inv. no. 59-523).

Tiles

Cat. no. 6. Pantiles. Seven thick small fragments of various tiles. Red brown clay mixed with large black, brown, and white inclusions. Late Archaic (?) (inv. nos. 59-519, 59-527). The tiny fragments are difficult to date but they seem to range between the 6th and 1st centuries BC or possibly to the 1st century AD.

WALL D

Figs. 27, 67–70

Feature: wall with gateway

Interpretation: retaining/boundary wall

Preliminary date of first construction: medieval to early 20th century

Preliminary date of use: medieval to early 20th century

Preliminary dating of building material: Etruscan and post-Etruscan

Area: -

Geographical location: below Vignale's south-western slope, running east–west along valley bottom

Position: 42°13'20.48"N, 12°00'12.28"E (gate structure)

Height ASL (m): 150 ±

Measurements (m): L c. 300, H 1–2.2, W 1–1.2

Finds: tiles

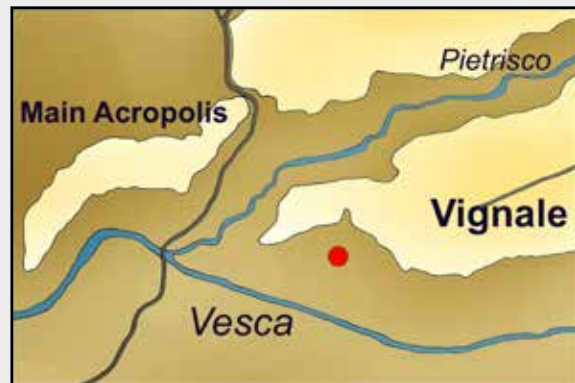


Fig. 67. Wall D retaining/boundary wall(s) (feature map by VAP).

In the valley bottom, there is a high continuous wall system in an east–west alignment along the south-western slope of Vignale (Fig. 27). The feature is partly constructed out of reused tufa blocks, mainly in the lower courses. At various locations, huge fallen rocks have been incorporated to complete the length of the wall construction (Figs. 68–70). Approximately 100 m east of Wine Press WP2, an opening in the wall is apparent, and signals the presence of a gateway structure (Fig. 69). The tufa blocks used in the construction are particularly interesting since they not only seem to be reused Etruscan blocks; they might in fact be indicative of a similar (if not identical) and earlier construction in the same position. The stones that constitute the gate are difficult to discern entirely since they are partly covered by soil eroded from the Vignale slope. The opening is positioned along the main path leading up to Vignale, where it joins the funeral street (Fig. 30:8). This slightly angled continuation can be traced in a north-westerly direction for approximately 20 m

Fig. 68. In the valley bottom along south-western Vignale is a continuous wall system (Wall D, 1). Some parts may even be in situ from antiquity, such as the corner near the gateway (2). Other features discussed are the “hunting lodge” (3), and Wine Press WP2 (4) (© segment of aerial photograph, courtesy ICCD-Aerofototeca Nazionale, fondo Aeronautica Militare, volo 23 giugno 1961, fotogrammi 411, processed by VAP).

Image only available in print edition.



Fig. 69. The gateway within Wall D could represent one of the oldest parts of the wall system running along the south-western slope of Vignale (photograph by VAP).



Fig. 70. The upper two thirds of Wall D likely date from the medieval period to modern times, while the lower reused stone courses are testimonies of construction activities elsewhere on Vignale during the Etruscan periods (photograph by VAP).

from the gate. Towards the south, across the wetland down to the river Vesca, are the remains of a crossing point. The stretch over the wetland can also be considered a part of the connection to the Castellina Camerata necropolis. Taken together, these important infrastructural remains could be indicative of a gateway older than the current opening in Wall D (Fig. 69).

The general appearance of the blocks in the gateway construction is of the larger type, found elsewhere, for example,

in Walls A and B. Their lengths differ though, unlike the regular lengths in Walls A and B, and the blocks form a sturdy eastern corner in the gateway. In fact, there are no traces of any western counterpart to the eastern side of the opening in Wall D. The opening is rather an effect of the western wall not bonding with or butting (being built against) its eastern continuation. We rather consider the eastern part of the gateway being a reinforced corner of yet another wall system, which can be discerned from various aerial perspectives. This eastern

part of Wall D is most probably connected to a smaller house, that until recently could have been used as a “hunting lodge” (Figs. 17, 68).¹⁹⁹

These walls built below the slope were not studied in detail by the surveys performed in 2006 and onwards. A detailed structural study, of any feature, was only prioritized if it shed light on activities connected to the plateau or offered any information on any connecting infrastructure—as might be the case with the gateway. Wall D is a type of wall that could have been important from the medieval period onwards. It could then have found uses as an animal enclosure or pathway, or a retaining or boundary wall; its current appearance seems to be that of a multipurpose wall as commonly used for the economic division of the landscape over the last centuries. We can assume that the major part of the construction of Wall D is derived from the vast supply of Etruscan building material from the settlement above. As mentioned, the lower courses are reused Etruscan building material, whereas the upper courses are laid using numerous boulders and flagstones. Within Wall D, the lower courses, together with Etruscan tile fragments found in the wall, might be indicative of the construction activities elsewhere on Vignale during the Archaic and Classical periods. One should also note that a great many of the reused tufa blocks and ashlar there share the size of the now-missing lower part of Wall C (Fig. 66).

DISCUSSION AND PARALLELS—EXTENSIVE WALLS

The above discussion of Vignale’s wall features presents various wall types found on and along the slopes of the plateau. The features described encompass walls functioning as dividers for purposes of retaining/terracing, defence systems, and boundary walls. In general roads and boundary stones (*cippitular*) marked the territory of Etruscan cities.²⁰⁰ The Etruscan Walls A and B on the southern slope of Vignale have been interpreted as city/terrace walls, with a possible gateway into the settlement on the westernmost tip of Vignale.

Walls A–D only represent small segments of the once quite extensive walls on Vignale, and thus it has been difficult to establish their exact dating and above all their function. The reason for this is that their different positions made them suitable for various purposes over time. It seems, for example, that the preserved lower courses of Wall C were initially erected as a defensive structure. The actual position of the wall, link-

ing Vignale’s northern and southern road systems over the plateau, eventually made the wall useful as a cattle path or as a boundary wall between crops growing on either the tip or on the eastern tableland of Vignale. The later addition of the uppermost course of stone appear to address this fact. It is also quite obvious how Walls A and B, originally forming part of the Etruscan defence system along the southern slope as well as functioning as retaining walls, also served the purpose of securing this route. That is, through medieval to modern times these walls held the mass of soil in place when this passageway was reused for agricultural purposes on the plateau above. The track would then have been ideal for transporting stone material and for moving animals. Vignale’s northern and southern road ramps (Ramps 1 and 2) are other indicators supporting this practice. It is obvious that the retaining Wall D, in the lower southern valley, was constructed for such subsequent ventures—even though some of its wall segments bear witness of reuse and in some cases might even be *in situ* from Etruscan times.

Today, retaining walls on the slopes of San Giovenale are used for controlling grazing animals and for the terraces for the cultivation of various crops. For example, on the southern slope of Casale Vignale, the landowners have used the terraces for growing hazel trees, and vegetables; they have also reused the Etruscan chamber tombs as stables and store-rooms. A similar but much earlier reuse of ancient structures is to be seen especially on the south-western slopes of Blera along Via Clodia, in Barbarano Romano, Civitella Cesi, and Sutri, among others.²⁰¹ Even though the ancient walls at Vignale also served retaining and terrace purposes, it is obvious from the choice of stones that the walls were also intended as fortifications. This particularly concerns Walls A and B, that appear to represent parts of the 6th-century BC defence system on Vignale. In line with the concepts of the time, the Etruscans chose to settle on plateaus which were steep and difficult to reach, i.e., natural fortresses. Nevertheless Vignale, as with most Etruscan habitations, had vulnerable spots at the more easily accessible gates or entrances. This was especially the case from the east, where no steep geological formation protected it.

In a broad sense, the high-positioned walls of Vignale are dividers between urban and non-urban space.²⁰² For example, Wall C, which is to be found within the remains of the 6th-century BC habitation, indicates that the Late Etruscan settlement was confined to the west of the wall—material remains confirm a smaller promontory settlement during this period.

¹⁹⁹ See the present authors’ hypothesis on the similarities of the “hunting lodge” and the used space between two blocks within the wine press complex (WP2), in the section ‘Wine presses (WP)’.

²⁰⁰ Edlund-Berry 2006, 120–122. To our knowledge there is no information on boundary stones found at San Giovenale; on the discussion of territorial boundaries at San Giovenale, see Backe Forsberg 2005, 118–119.

²⁰¹ Koch *et al.* 1915.

²⁰² “Walls defined what was in the city and what was not; they defined the parameters of the urban and differentiated it from the rural”. Izzet 2007, 184.

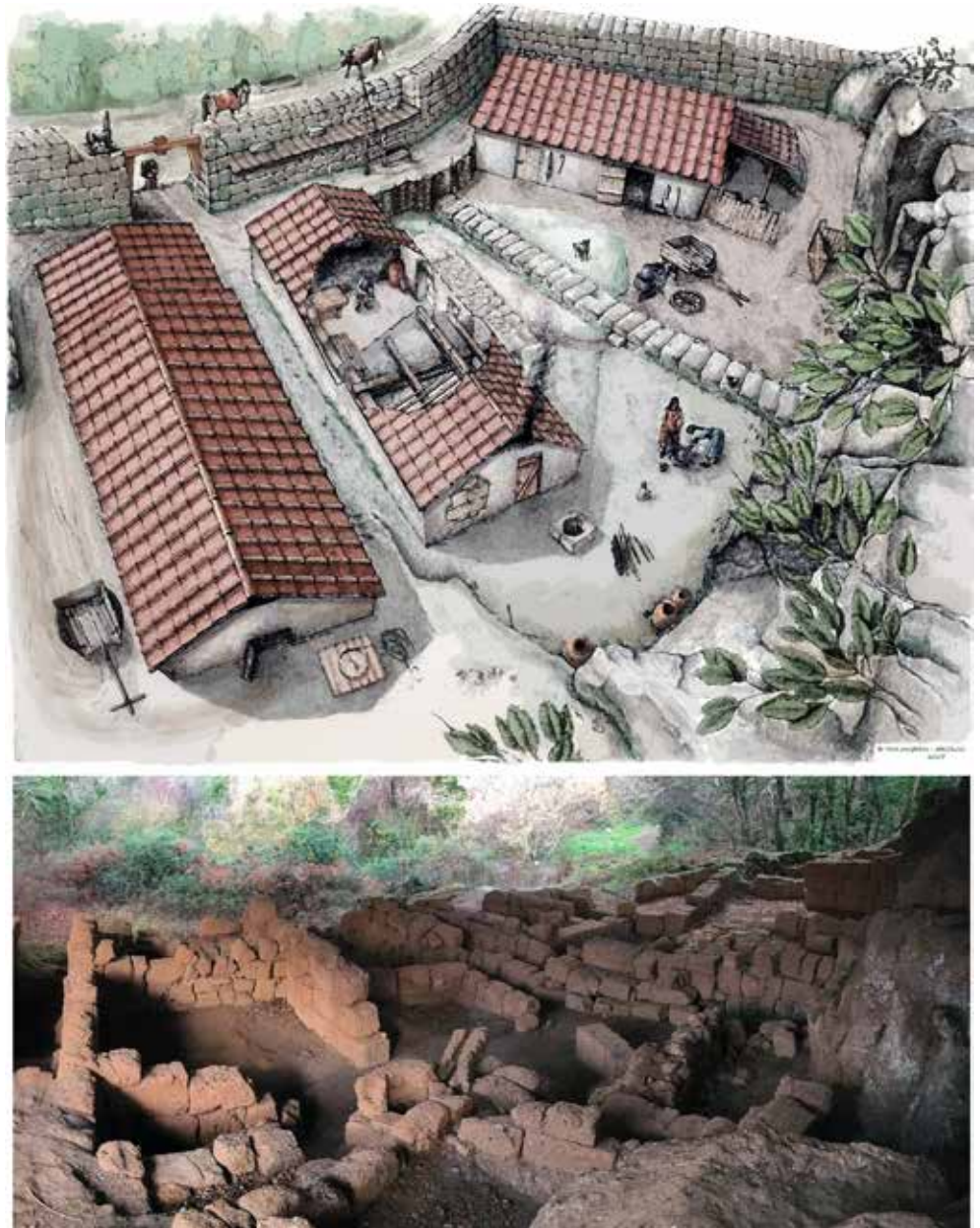


Fig. 71. Above: an artistic interpretation of the 6th-century BC Etruscan habitation and its defence structure on the Borgo area of San Giovenale. Below: the remains as seen today, looking north-west (illustration and photograph by R. Holmgren).

Any defence structure on top of the plateau, belonging to the early Etruscan habitation which spread out both westwards and eastwards of Wall C, has not been confirmed. This is one of the more problematic aspects of Vignale, since the abundance of material remains from the Archaic period attests to a settlement in need of early defences. Walls A and B arguably locate the adjacent and Late Etruscan chamber tombs within the urban space, but separate the sepulchres in positioning them below the settlement. But as discussed elsewhere, this represents the new standards of the Late Etruscan period.

There are also reasons to believe that an additional wall (a divider), surrounding the upper plateau at this time, was located somewhere in between the late tombs and the settlement itself. Fig. 184 right shows an area containing fallen ashlar between the above-mentioned tombs and the southern edge of the plateau.

Some comparisons can be made between San Giovenale's extensive walls on the Acropolis, but also with neighbouring Etruscan sites. A wall system functioning as a fortification wall, dated to the late 7th century BC, was unearthed on the



Fig. 72. A large fortification wall dated to the 4th century BC, located on the boundary between the Borgo area and the Acropolis. Left: the position of the wall below the castle, looking south-west (2009); right: a detail of the wall during the 1959 excavations, containing the reused tufa blocks described in the text (photograph by R. Holmgren and B. Blomé, courtesy of SIR).

northern slope of the Borgo NW habitation (Fig. 71).²⁰³ It continued along the northern slope as far as the medieval/modern entrance to the plateau. A ditch with some post holes in front has been interpreted as an earlier fortification system situated along or beneath this later wall.²⁰⁴ The upper structure was made of tufa blocks, alternatively laid as headers and stretchers similar to the blocks in Borgo NW Period 1, late 7th century to 575 BC. The width of the walls alternates. In the Borgo excavation plan, Wall Md is 1.8 m wide while the combined city/fortification and retaining Wall Me (on the western part of the Borgo) was two blocks in width (c. 0.84 m) with the outer face set above bedrock—this with the inner face placed on rubble and soil. How the wall superstructure was assembled is unknown.²⁰⁵ Compared to Vignale the defence structures on the Acropolis are well preserved and it is difficult to compare the two areas. In the case of Vignale, only Walls A and B can be dated to the same period as the walls at Borgo NW. Only excavation will verify the type of building technique used on Vignale.

Continuing to the west from the Borgo area, just in front of the 13th-century di Vico castle, a large fortification wall of reused tufa blocks was discovered and excavated by Börje Blo-

mé in 1959. It measured 23 m in length and was 7–8 courses high and two blocks in width; 17 profiled blocks were probably reused from a temple podium or an altar, including seven blocks with *cyma reversa* profile, with a complete height of 54 cm and a length of 48 cm and one with *anathyrosis* profile; the wall seems to have been constructed in a hurry (Fig. 72). Blomé dated the wall to Late Etruscan time, i.e., 4th century BC, due to the reused profiled blocks found within the wall. The profiled blocks may have been reused from a sacred building, perhaps a small temple, which might have been situated below the small chapel west of the castle. Ingrid Edlund-Berry, who has studied the profiles of *cyma reversa in situ*, sees them as a very early type and has dated them to the 5th–4th centuries BC.²⁰⁶ This date has been questioned by Pohl who preferred a later date, i.e., c. 200 BC, while Bengt Thordeman suggested the wall to be medieval.²⁰⁷ It is interesting here to refer to the defensive Wall C on Vignale. It equally gives the impression of being raised with little attention to detail, with its inner and rather uneven surface and the choice of stones. If indeed the “Late Etruscan wall” discovered by Blomé is of the same period as the suggested 4th-century BC Wall C (although different in its structure, perhaps due to the stone material available), it might represent the same occurrence of

²⁰³ Karlsson 1999, 105–106, figs. 12–13.

²⁰⁴ *San Giovenale* V:1, 58–60, 72–73, figs. 36, 41–44, 62; Karlsson 1999, 99, 101, 105–106, 113–116, figs. 1, 11–16, 27–28.

²⁰⁵ Karlsson 1999, 114–115, figs. 11–16. See also Steingraber 2008, 297, fig. 3 and pl. 2c.

²⁰⁶ Blomé 1984; Shoe Meritt & Edlund-Berry 2000; Edlund-Berry 2008; 2016a, 273.

²⁰⁷ Pohl 1985, 55–63; *San Giovenale* VI:4, 19.

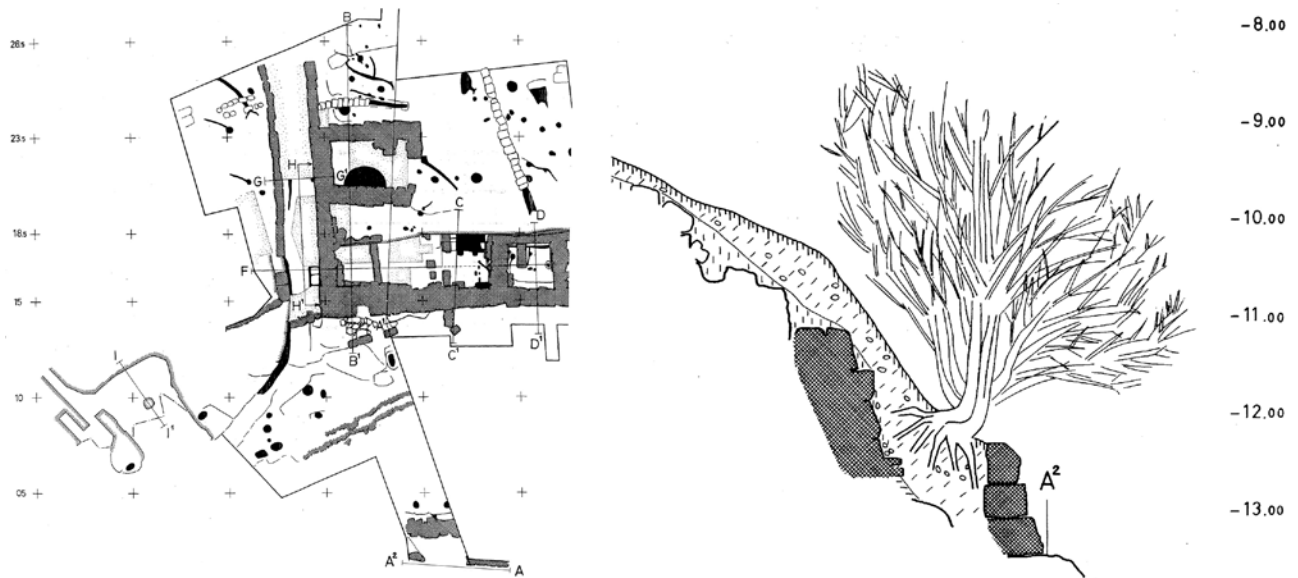


Fig. 73. Unpublished plan (left) and section (right) drawings of Area C on the southern edge of the San Giovenale Acropolis. The Archaic Etruscan retaining/fortification walls seen in section A2 (right) are comparable in size and construction to Wall B on the southern slopes of Vignale (illustrations by L. Gezelius and M. Lindgren, courtesy of SIR).

necessity. Could these walls be connected to the Roman conquest in the beginning of the 4th century BC?

Fortification walls are often problematic to interpret and provide exact dating for.²⁰⁸ Luni sul Mignone, situated on a tufa plateau a few kilometres west of San Giovenale, was fortified during different periods. Remains of a defensive/city wall have been located at the northern, southern, and eastern sides, but at the western side it ran alongside Moat 1. The wall was of a “ashlar and rubble” type, with a fill of soil and small stones. It measured in the northern part 5.6 m in length, c. 1.50 m in width, and c. 4 m in height²⁰⁹—this width is similar to that of the defensive Wall C on Vignale, also of “ashlar and rubble” type. In Luni sul Mignone the outer surfaces of the ashlar blocks were quite even and smooth while the inner surfaces were coarse and poorly set. The large northern segment of the wall has been dated to the 5th or 4th centuries BC by the Etruscan pottery present in the rubble infill. However, the defensive wall was partly rebuilt during the 11th century AD, or later, as indicated by possible remains of mortar found among blocks in its lower courses—which should not be expected

in the Etruscan wall construction.²¹⁰ Norchia has been used as a suitable comparison with its medieval ashlar and rubble wall constructed with tufa ashlar and with mortar between the blocks. Only few excavations have been conducted on the Norchia settlement plateau, where no traces of the Archaic city have been found. However, the Hellenistic city and its city wall from the 4th century BC are attested. Another section of the city wall at Norchia is constructed without mortar and dated to the 3rd century BC, which is suggested to be a Roman construction.²¹¹

Aside from Wall C on Vignale, located across the tableland, walls positioned on the southern slope of Vignale (Walls A and B) may be compared to similar wall sections on the Acropolis hill. One of the Etruscan roads that branches off from the Dogana south of the Borgo (Fig. 30), leads up to House K on the southern edge of the plateau in Acropolis Area C.²¹² The edifice faces the Dogana and the ford of the river Vesca. On the slope, only a few metres below this building, the excavators found traces of two probable Etruscan fortification/retaining walls built quite close to each other, both

²⁰⁸ See, for example, Vallenga 2012a, 188–221, on fortifications along borders.

²⁰⁹ Östenberg 1962, 323–324, fig. 300; 1967, fig. 2; *Luni sul Mignone* II:2; Bengtsson 2001, 40–52, nn. 247, 299, figs. 18–20, 25, 30–38; 2017, 19–20, figs. 1–2, 7.

²¹⁰ Östenberg 1962, 323–324, fig. 300; 1967, fig. 2; *Luni sul Mignone* II:2; Bengtsson 2001, 40–52, nn. 247, 299, figs. 18–20, 25, 30–38; 2017, 19–20, figs. 1–2, 7; 2019, 23–27, figs. 1–2, 8–9.

²¹¹ Bengtsson 2001, 51; Colonna di Paolo & Colonna 1978.

²¹² The Etruscan building is named House V in area C in *San Giovenale* I:1, 11, map 3. House K has recently been studied by Ghaza Alyasin (Alyasin 2020).

Image only available in print edition.

Fig. 74. Oblique view of the excavated parallel cultivation trenches CT1–CT3, and the water installations WI-1a–b, WI-2, WI-5, and WI-9 on the Vignale summit in 1960, taken from a helicopter, looking west (© courtesy ICCD-Aerofototeca Nazionale, fondo Aeronautica Militare, volo 18 agosto 1962, foto prospectica neg. 5943).

of which are still unpublished (Fig. 73).²¹³ On the northern edge of the plateau, facing the Fammilume gorge, a long city wall was excavated. It began at the western corner of the di Vico castle heading towards the stone tower found at the Etruscan moat (*fossa*) which divided the plateau in two parts (Fig. 62). This wall, that has been dated to the Byzantine/medieval periods, seems to have been built of reused Etruscan tufa ashlar. These blocks, together with the lower ashlar and their bedding, is strong evidence for an Etruscan fortification wall surrounding the Acropolis plateau.²¹⁴ With respect to the positioning of the wall we can expect that a similar wall but a more modest construction was once erected on Vignale. Of relevance in this regard is the indirect evidence of a wall lo-

cated immediately above the chamber tombs of the Vignale Southwestern necropolis, atop the plateau. As mentioned, there are scattered ashlar in the soil layers near these tombs—as if having fallen or slid down from above. Similar structures on the northern edge of the Vignale promontory (above Via Vignale Nord, Fig. 30:3) have not been found—however, such a wall is perhaps not to be expected since the area was better protected by its position between the Acropolis and the Vignale settlement area.

Manufacturing features

Various installations involved in any form of small- or larger-scale activity of manufacturing goods and consumer products are likely to be found throughout the area of San Giovenale. Identifying the kind of products produced can however be difficult. For example, the many different types of water cisterns (see below) could have served both the purpose of storing water for domestic use, as well as for production activities undertaken in their close proximity. The production of dyed cloth could, for example, be represented within such a context, as an

²¹³ The area was excavated by King Gustav VI Adolf, Margareta Lindgren, and Lars Gezelius in the 1960s. We are grateful to the Swedish Institute of Classical Studies in Rome for permission to use unpublished plans, photographs, and drawings of the area. See, for example, also Hanell 1962, 302–305, figs. included. See also Alyasin 2020.

²¹⁴ *San Giovenale* IV:1; Bengtsson 2001, 95, n. 80: the south-western area (Area H) was excavated by H. Furuhausen in 1961, but not published: on the location, see Nylander 1984a, fig. 1, House XII.

Fig. 75. New plan of the cultivation trenches (a 10-m grid labelled LM50–58) and adjacent water installations (from west to east, WI-2, WI-1a–b, WI-9, and WI-5). Cultivation Trench CT1 is labelled 1A–D; CT2 is 2A–B, and CT3 is 3A–B. The new plan is based on a photograph plan by B. Blomé taken during 1960, but unfortunately missing exact co-ordinates (drawing by R. Holmgren, courtesy of SIR).

abundance of water was needed for the process. Cistern WI-4 has an unusual shape (Fig. 91), and it is suggested below that it may have been used for dyeing fabrics. The question of dyeing in Etruscan society is further discussed on a more theoretical level in *Appendix 2*. However, some manufacturing features are easier to directly identify due to their distinctive appearance. Among the excavated features on the Acropolis, as well as on the slopes of Vignale, we have consequently chosen to focus on two specific examples of manufacturing features. These could be associated with either small-scale or a large-scale production—in this case that of wine. In the following subsections two types of features linked to wine are presented—cultivation trenches and wine presses.

CULTIVATION TRENCHES (CT)

The function of the long trenches cut into the bedrock was identified as cultivation by the first excavators in the 1950s and 1960s. These trenches are rectangular in section with slightly uneven bases. This special feature has been suggested as evidence for cultivation of grapes—as opposed to a trench with a concave bottom, which is more likely to be a drainage channel.²¹⁵ One of the aims of the VAP survey in 2006 was to relocate the trenches dug in 1959–1960 on the summit of the Vignale hill (Fig. 74).²¹⁶ Due to heavy rains creating water-soaked areas, as well as ongoing cultivation during February and March, VAP was unable to see any traces of the trenches except for large pools of water that indicated the excavation sites. The same result was achieved during the aerial survey in May 2007. However, crop-marks, in the form of areas of high grass with an unusually dense number of wildflower plants, indicated where these early excavation trenches were located. This was clearly seen from the air and later located from the ground. Nevertheless, the identification of their location was more or less a matter of curiosity, since the cultivation trenches themselves had been well documented by the excavators. These extensive bedrock cuttings were first discovered in the parallel trial trenches and soundings that were dug in 1959—



²¹⁵ Volpe 2009, 371; Ricciardi 1990a; Tron 1990; Incitti 1990. Drainage channels in connection with cultivation trenches are reported from various sites, for example, Centocelle, see Volpe & Armellini 2007.

²¹⁶ MdC notebook 1959; FB notebook 1960. Unfortunately, there are only a few sketches, plans, and photographs saved from the excavations. One important plan by J. Asplund is missing.



Fig. 76. The photo tower constructed for the plan views taken of the cultivation trenches. Seen in front of the tower from the left are the visitors of the 1960 excavation, General H. Cederschiöld and King Gustaf VI Adolf in discussion with architect B. Blomé and Professor A. Boëthius to the far right, looking west (photograph by C.W. Welin, courtesy of SIR).

later to be extended in 1960. The latter year's investigations comprised long excavation trenches on the highest point on the summit of Vignale, all within a grid of 10 m squares (90 × 20 m), undertaken by Mario del Chiaro and Frank Brown.²¹⁷ The squares were numbered from west to east, 50–58, and from north to south, L and M (Fig. 75), and were thoroughly documented including by the use of a photographic tower (Fig. 76).

Cultivation Trenches CT1–CT3

Figs. 27, 74–78

Feature: bedrock trenches

Interpretation: cultivation trenches (viticulture)

Preliminary date of first construction: late 4th century BC

Preliminary use: late 4th century BC to 6th century AD (?)

Preliminary dating of building material: late 4th century BC

Area: (TS2)

Cultivation Trench 1; CT1a–b, CT1c–d

²¹⁷ MdC notebook 1959, FB notebook 1960. The area was first explored by Östenberg and members of the “flying squad” in 1959, see CEO notebook II 1959.

Cultivation Trench 2; CT2a–b

Cultivation Trench 3; CT3a–b

Geographical location: central position on the western Vignale plateau, adjacent to the Stone Platform

Position: east–west alignment

Finds: small tile fragments, pottery



Fig. 77. Cultivation Trenches CT1–CT3 (feature map by VAP).

Three parallel cultivation trenches, dug in an east–west alignment, were discovered on the highest part of the Vignale plateau. Since the cultivation trenches are divided into more than one section, each cultivation trench is named by a specific letter. Thus the most northern trench is sectioned in four parts, CT1a–d. CT2 is sectioned in two parts a–b, and CT3a–b. From the 1959–1960 the cultivation trench, CT1 was traced from Square L50 eastwards to Square L58 (CT2 was identified in Squares L50–L53 and M55–M58, while CT3a–b was in Squares M53–M54 and M58). The extent of the continuation of the cultivation trenches beyond the actual area of excavation (Squares L50–M58), if any, is at the moment unknown. It should also be pointed out that some areas within Squares L50–M58 are not fully investigated. Therefore the excavation plan shows the estimated continuation of each cultivation trench, where the trenches identified during the trial soundings could be traced intermittently (Fig. 75).

The cultivation trenches, rectangular in section (Level II), were cut into the bedrock to a depth of c. 0.30 m below the plough-cultivated Level I. The upper Level also covered the adjacent quarry filling containing the ashlar blocks (see ‘Stone Platform inside Quarry’ below). The three parallel cultivation trenches (with 8 m in between) measured 0.80–0.90 m in width, 0.30–0.40 m in depth, and differed in length depending on each specific segment.

Level II, c. 0.30 m deep is found within each cultivation trench. This fill consisted of chunks of brown tufa in a fine black loam, making it a uniform and deliberately placed deposit. It was a remarkably sterile layer with only a few sherds of

Etruscan *dolia* and scattered fragments of pantiles. The pantile fragments were of two types: 1) thin, red, sand-grogged, and 2) thicker, pink to grey, pozzolana-grogged, with slanted and ribbed plaques. The latter may possibly have been used to improve drainage in the cultivation trenches. A section through Levels I and II can be seen in *Fig. 78*, which used CT1a within Square L54 as a representative segment.²¹⁸

The east–west-oriented cultivation trench CT1 differs from CT2 and CT3 in that it has additional smaller channels running off in a north-easterly direction.²¹⁹ All of these appear at the very northern edge of the excavated area and it is therefore difficult to estimate their total length. The VAP survey of 2007 tried to elaborate further on the functions of these smaller channels, and theorized that since the trenches of CT1–3 are positioned in Vignale’s highest point, it seems that the oblique and parallel side-channels are sloping towards a small ditch visible on the northern side of the plateau. This ditch in turn appears to empty itself in the valley north of the plateau, near the western entrance area of Via Vignale Nord (*Fig. 30:3*), continuing further down into the Pietrisco brook. The drainage of the plateau, deliberately planned or not, still seems to work in various places. In fact, on the plateau’s southern side, near Ramp 2, there is still running water that has worn down the bedrock and undermined the ramp construction (*Fig. 37*). Further east on the Vignale plateau, the cultivation trenches with their permeable, well-drained Level II fills, would therefore create a system of drainage features. This arrangement chimes well with the fact that vines should be planted in soils with good natural drainage. CT2 and CT3 do not appear to have north-east aligned side-channels. These could very well be concealed within the unexcavated parts of the area, but if present, are most likely to be found somewhere on the southern edges of CT3, where the plateau slowly begins sloping towards the south. Besides the function of the cultivation trenches themselves, it is also important to make a detailed description of the trenches, in order to elucidate the general phasing of Vignale’s habitation remains. Consequently, a thorough description follows below.

The two side-channels of CT1 in Square L56 are vague traces of a similar north-east channel in Square L58 (*Fig. 75*). Opposite this latter channel, in the southern edge of the CT1d section, there was a rectilinear cutting of unknown function (0.60 m wide and *c.* 3.7 m long).²²⁰ The two parallel channels departing from cultivation trenches CT1c and CT1b (0.70–0.80 m wide) are heading towards the north-east, where the direction of the latter however, is unclear.

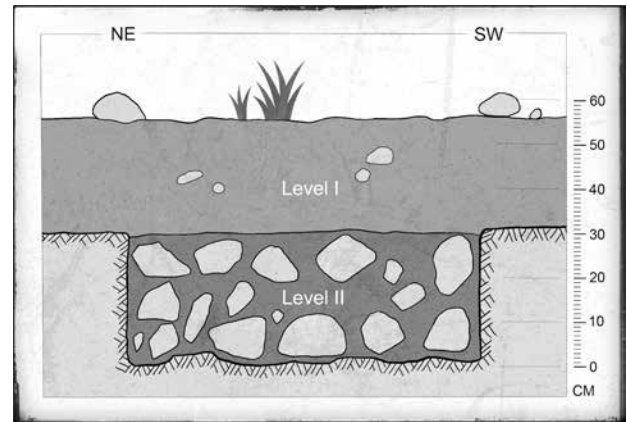


Fig. 78. A typical section of a cultivation trench, viewed from the north-west. This particular section depicts CT1 in Square L54 (illustration R. Holmgren after F. Brown, courtesy of SIR).

The end of the western segment of CT1c was rounded to a curve and formed a shallow circular basin, whilst the end of the western segment of CT1b was less precisely formed.²²¹ There is a gap between cultivation trench CT1a, running west of the large Stone Platform (*Fig. 27*), and CT1b to the east of the same platform. This divider is not sharply cut, but creates a smooth transition between the 0.3-m-deep cultivation trench and the highest level of bedrock. It is therefore lacking a side-channel at this specific point. The cultivation trench CT1a which continued westwards after the gap with a width of *c.* 4.5 m shows no traces of a side-channel. Assuming that the interval between the side-channels are consistent, the next side-channel would then appear somewhere in the boundary between Square L50–51.

At a distance of *c.* 8 m south of CT1a–d, the second parallel cultivation trench CT2a–b was traced in Squares L50–L53. In Square L53 it was interrupted by the large Stone Platform (P1–P2) after being visible for a distance of 32 m from Square L50 (*Fig. 75*). East of the Stone Platform in the western edge of Squares LM55 the trench showed up again—here named CT2b with a width of between 0.88–0.89 m (three Roman feet?).²²² CT2b, which measured 33.5 m in length, continued to the end of Square L58 where the excavation trench ended in 1960. In Square M58 the trench crossed the mouth of a cistern (WI-5) which was filled with pottery and tufa blocks (see *Fig. 75*).²²³

The third parallel cultivation trench CT3a was positioned at a distance of *c.* 8 m south of CT2. Similar to CT2a this

²¹⁸ FB notebook 1960, 9.

²¹⁹ FB notebook 1960, 22–23. The excavator did not discuss the north-east side-channels. Hanell 1962, 310 only mentioned trenches for planting of vines.

²²⁰ FB notebook 1960, 22–23.

²²¹ FB notebook 1960, 6–7.

²²² A note of Roman feet? (0.88–0.89 m) is mentioned in FB notebook 1960, 17.

²²³ On cultivation holes (pits), see further the discussion on WI-5, in ‘Water installations’ section below.



Fig. 79. A pestarola, partially hidden to the right under the vegetation cover of ivy and vines. The press is situated by the Fammilume brook north of the Acropolis and was discovered in the late stage of VAP's survey, looking south-west (photograph by R. Holmgren).

trench was also interrupted by the Stone Platform (P2) and continued in Square M54 east of the platform. The likely further continuation is to be found in Square M58 (CT3b), which lines up with the section in the west (Fig. 75). In the lower stratum (Level II) in CT3b, a deposit of pottery was discovered (on pottery deposit see Table 12). The stratification of the trench was essentially the same, though not as uniform as that of CT1–2.²²⁴

WINE PRESSES (WP)

Features indicating viticulture, such as wine presses, have been located on various plateaus at San Giovenale, for example, on the settlement area and along the Etruscan road on the *Spina*, at the Pietrisco Bridge Complex, as well as on the Porzarago and La Staffa necropoleis.²²⁵ Recently new finds of wine presses have been located by VAP and Tobin-Dodd on the southern side of the Vesca river, not far from the Castellina Camerata necropolis (Fig. 170).²²⁶ *Pestarola*, the Italian word for wine press, is frequently used in Toscana and Lazio,

including Rome. Other dialectal words used are *palmento* and *calcatoro*.²²⁷ In 2006, the VAP survey recorded three new features identified as wine presses (*pestarole*). Wine Press WP1 was found in the Pietrisco valley on Vignale's northern slope, above the southern Bridge 1 abutment, and Wine Press WP2 positioned in the Vesca wetland south of Vignale's promontory (Fig. 27). A third *pestarola* was discovered in the late stage of VAP's research and thus was only photographed and measured briefly. It is not situated on Vignale, but further north-west, in the lowest part of the Fammilume valley. This is north and adjacent of the brook itself, halfway between the medieval castle of di Vico and the eastern access (path) to the Porzarago necropolis (for the approximate location see Fig. 6, though the feature itself is not marked on the map). The *pestarola* consists of two traditional basins, a rectangular upper vat and a semicircular lower vat communicating through a drilled tap hole. The feature itself is a rather low construction compared to the larger block-shaped *pestarole* of WP1 and WP2, see Table 3 below. Without excavation it is difficult to determine if the *pestarola* itself is cut in the bedrock or from a tufa boulder (Fig. 79, Table 3).

²²⁴ FB notebook 1960, 26, 46, 48.

²²⁵ *San Giovenale* V:3; Backe Forsberg 2005, 89–91, 93–94, figs. 34b, 39–40, 44a, 52, 62–63. On the Porzarago wine press (P106), see *San Giovenale* I:5, 13, fig. 1 (plan and section). Berggren & Moretti 1960, pls. 1–2 and the wine press near Tomb 1 in La Staffa necropolis, see *San Giovenale* I:6, fig. 1 and an unpublished drawing by Östenberg from the Archaeological Archive at SIR. The chamber tombs in the necropolis were dated to the 6th century BC. No information is given on the date of the wine press but it may belong to the Roman farm, Villa Sambuco, excavated by the "flying squad" in 1956. A preliminary report was published in Boëthius *et al.* 1962, 313–320, by Östenberg. He reported three storage rooms with several *dolia* sunk into the earth and a lot of *amphorae* with pointed bottoms probably used for wine and oil, indicating a utilitarian use of the crops.

²²⁶ We thank Fredrik Tobin-Dodd for this information.

²²⁷ The most common word for wine press in today's Italy is *pestarola*. The word *palmento* is however, often used in northern and southern Lazio and especially in Campania and Sicily, Botti *et al.* 2011, 25–26; Valleslonga 2012b, 532; Petroselli 1974. On the origin of the words *palmento* (*pavimentum*, *pavire*—to pound), and *palmenti rupestri*, see Thurmond 2016, 22–23. See also the bedrock-cut wine presses called *laccusi* on Sardinia, Loi 2017.

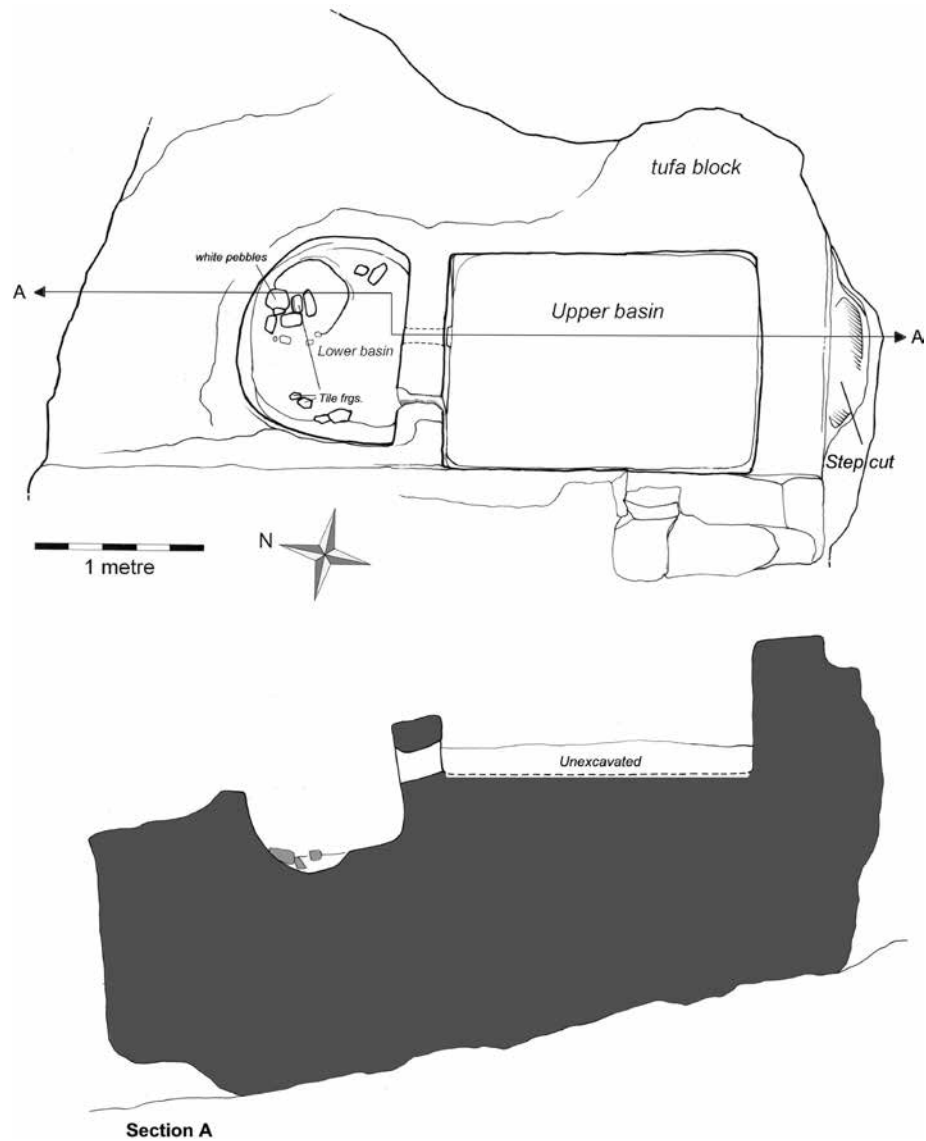


Fig. 81. Wine Press WP1, plan (above) and section (below) drawings (illustrations by R. Holmgren).

Wine Press WP1

Figs. 27, 80–82

Feature: two basins cut in a tufa boulder

Interpretation: wine press (pestarola)

Preliminary date of first construction: 5th century AD

Preliminary date of use: 5th–13th centuries AD or later

Preliminary dating of building material: -

Area: (TS1)

Geographical location: north-west slope of the Vignale tip, c. 30 m south-west of the Bridge 1 foundation

Position: approx. 42°13'25.98"N 12°00'08.85"E

Height ASL (m): approx. 162

Measurements (m): tufa boulder: L 4.25, W 2.70,

H c. 1.80; H upper basin: L 1.80, W 1.2, D 0.2;

lower basin: L 0.7, W 0.9, D 0.3, cavity: 0.2 (diam.);

tap hole: 0.15 (diam.).

Finds: pebbles, Etruscan coarse ware, and tile fragments (inside the lower basin's outlet recess)



Fig. 80. Wine Press WP1 (feature map by VAP).



Fig. 82. Wine Press WP1, south-west of the Bridge Complex (photographs by R. Holmgren/Y. Backe Forsberg).

The tufa boulder, which measured 4.25 m in length, 2.70 m in width, and *c.* 1.80 m in height, was located on a north-south moderate slope south-west of the Bridge Complex. As is common, the wine press cut out on top of the boulder, had two vats, one upper rectangular basin and a lower semicircular cut that communicated via an oblong vertical chiselled tap hole (Figs. 81–82). The lower vat, full of mud and water, contained some white rounded flat pebble stones and a few reused Etruscan tile fragments. These were covering a cavity in the north-east part of the vat, the outlet of which could be seen on the outer northern face of the block. This latter cavity, *c.* 10 cm deep, was probably meant for cleaning and obviously connected to the lower vat (not visible in the illustrations). A step cut in the southern end of the wine press facilitated any climbing up onto the construction. A horizontal crack in the west side of the upper basin, as well as a similar one on the outer side of the tufa block, seemed to result from the weight of the rock itself—caused by insufficient support underneath where the gradient sloped away.

Wine Press WP2

Figs. 27, 68, 83–86, 89

Feature: two basins in a tufa boulder

Interpretation: wine press (pestarola)

Preliminary date of first construction: 5th century AD

Preliminary date of use: 5th–13th centuries AD or later

Preliminary dating of building material: -

Area: -

Geographical location: south-west low-lying land below the Vignale tip

Position: 42°13'20.31"N, 12°00'06.61"E

Height ASL (m): 144

Measurements (m): tufa boulder: L 4.5, W 3.75 H 2.5;

upper basin: L 1.6, W 1.6, D 0.25;

lower basin: L 1.1, W 0.85, D 0.85; cavity: 0.15 (diam.);

tap hole: 0.10 (diam.); lowermost tap hole: 0.10 (diam.)

Finds: adjacent shed with reused Etruscan(?) basins among other structures



Fig. 83. Wine Press WP2 (feature map by VAP).

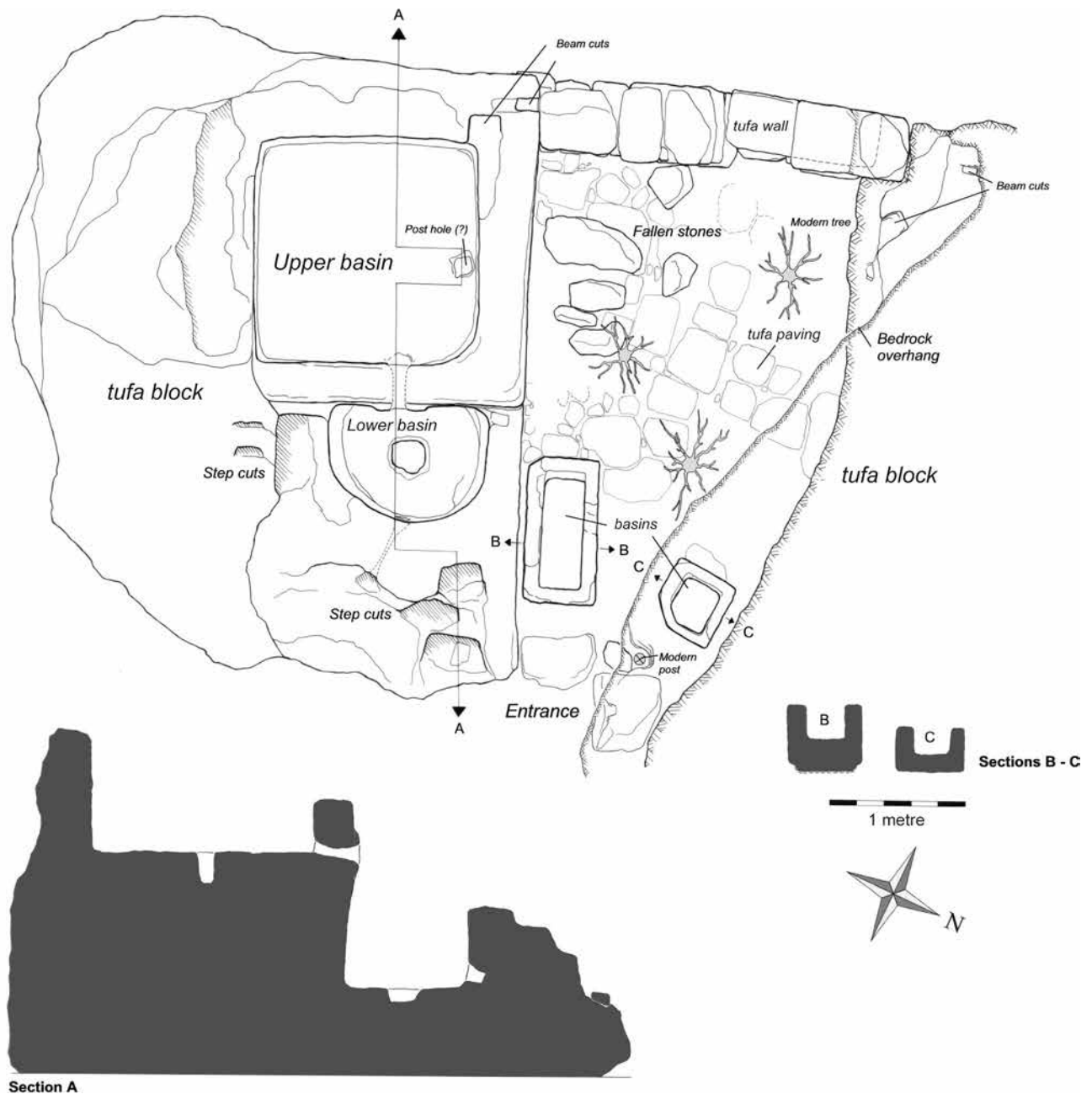


Fig. 84. Wine Press WP2, plan and section drawings (illustration by R. Holmgren).

This wine press, undetectable when standing at ground-level, was carved out on top of a tufa boulder which was 4.5 m long, 3.75 m wide, and 2.5 m high. It consisted of two vats placed axial with the upper square-shaped vat measuring 1.60×1.60 m and the lower semicircular vat measuring 1.10×0.85 m. The vats communicated via a chiselled round tap hole

where the excess was let out through another small tap hole in the rounded side of the lower vat. A small post hole (?) is visible in the upper vat along the northern edge as well as two cuttings, probably meant for beams, situated in the upper part of the basin. At the bottom of the lower vat was a rounded cavity c. 0.15–0.10 m deep, likely a support for a *dolium* receiving



Fig. 85. Wine Press WP2, positioned in the low-lying meadow south of western Vignale (photograph by R. Holmgren).

the grape must from the trampling.²²⁸ Several steps were cut in the eastern side of the boulder in order to facilitate the climb to the upper vat (Figs. 84–85). The tufa boulder, which seems to form part of the terrace wall running along the southern slope, is located c. 100 m from the gated structure in Wall D.

A trapezoidal space was noted between the boulder with the *pestarola* and another boulder to its north. When found by the survey, the narrow entrance from the east to this space was shut closed with a steel wire attached to a wooden pole. The western end was barred with a c. 2-m-long wall of reused Etruscan ashlar blocks in four courses of c. 1 m in height. The floor comprised smaller tufa blocks, fitted together to make a sturdy paved area. Half a metre opposite the entrance and along the northern side of the *pestarola* boulder, a small rectangular tufa basin was situated, measuring 1.20 × 0.50 × 0.30–0.40 m. The block may be a reused basin for watering animals within this small enclosure. Near the basin and under the projecting northern tufa boulder, another small peperin basin, this one square-shaped, was still in position on the paving (Figs. 84, 86).

On the top of the northern boulder, in its western part, there were traces of two cuts corresponding to two beam cuts on Wine Press WP2 on the southern boulder. These indicate

that the space between the two boulders was furnished with a pitched roof. There were no datable finds to provide an exact dating for this shed structure, but interesting similar structures elsewhere will be considered.

DISCUSSION AND PARALLELS—MANUFACTURING FEATURES

In the above section, cultivation trenches and wine presses are described as manufacturing features which are associated with the production of wine. Vignale is a medieval toponymic word meaning an area where viticulture takes place. Today we find vineyards, orchards, and almond and olive groves covering a large area on the eastern part of the plateau (Fig. 9, Table 3).²²⁹ Whether the area was used for cultivation during prehistoric times is uncertain. However, and as we have seen, there is ample archaeological evidence of viticulture on the summit of Vignale—for example, the Late Etruscan cultivation trenches found in the 1960s. On the slopes there is also evidence of wine presses from a later period.

Parallel bedrock cultivation trenches, sometimes with pits inside or in between, have been found at various ancient sites in the surroundings of San Giovenale (Table 2). The chronology of these has been difficult to establish, often due to lack

²²⁸ See the large free-standing vessels or half-buried *dolia* used for collecting the must depicted on Attic black-figure *amphorae*, 6th century BC (Fig. 209), the grape must flowing into smaller vessels as seen on 4th-century AD mosaics (Fig. 194), and the wine symbols on the 4th-century AD sarcophagus in the mausoleum of Santa Costanza in Rome (Fig. 195).

²²⁹ The words *vignolo* and *vigna* have the same meaning, see Bengtsson 2001, 58, n. 33.

of datable archaeological remains.²³⁰ Nevertheless, the literary works of ancient agriculturists have been a very valuable source. Another important indicator is the presence at San Giovenale of pottery used for storing, serving, and drinking wine.²³¹ Here in the discussion and parallels we will expand on the feature descriptions of Vignale's wine presses. Information on its cultivation trenches is presented in *Chapter 5*. At the end of the discussion are *Tables 2* and *3*, which allow for technical comparisons between Vignale's wine installations with nearby sites.

VAP's recently found wine presses are cut into large free-standing tufa boulders (shape 2, see discussion below). These, situated on the slopes of Vignale, differ from those of shape 1 found during the excavations in the 1950s and 1960s (*Table 3*, *Graph 1*).²³² The latter are represented in various contexts such as the one found within the Pietrisco Bridge Complex (north of the Pietrisco brook and hence not discussed at length here), or the wine presses (with cellars) cut into the bedrock on the Borgo. There are also other examples which are cut, either into or adjacent to the necropoleis—for example at Porzarago and La Staffa.²³³

The Vinum Project was initiated in 2004 by the University of Siena in order to locate wild grapes at archaeological sites in Tuscany and Lazio.²³⁴ The project has focused on rock-cut basins (wine presses) indicating wine production at archaeological sites along the Mignone water system among other areas.²³⁵ The researchers have concentrated on inquiries concerning 1) wine-pressing technique, 2) local and regional typology, and 3) chronology.²³⁶ Another project in the Albegna valley, conducted by Phil Perkins, has discussed features of viticulture through wine presses in various environments, pottery used for drinking and storing, and epigraphic evidence.²³⁷

In the following sections we largely intend to follow the outlines of the above-mentioned projects and discuss the function, typology, context, and chronology of San Giovenale's wine presses, also presented in *Table 3*.²³⁸ Besides the function of pressing wine, the rock-cut structures have elsewhere been interpreted as water basins, as well as basins for



Fig. 86. The small enclosure (animal shed) between Wine Press WP2 (on the left) and an adjacent boulder to the north (on the right). At the far end is the wall of reused Etruscan ashlar blocks, looking west (photograph by R. Holmgren).

dyeing and tanning,²³⁹ pressing olives, and for the working of hemp.²⁴⁰ Based on the various findings in the wine production chain (*chaîne opératoire*),²⁴¹ beside that of ritual use and consumption, San Giovenale's presses could be primarily understood in the context of wine production. There might however be exceptions to the features on Vignale with regard to wine pressing—where basins might have been used for dyeing. An example of such an installation is expanded upon in *Appendix 2*. Thus, we are here concerned with a cistern rather than a basin.

It is possible to distinguish two main shapes of wine presses regarding the cutting technique in San Giovenale: shape 1) basins directly cut into the bedrock, and shape 2) basins cut on

²³⁰ See Ahlström 1978, 19–49 on dating wine presses found in Jenin-Megiddo, Israel.

²³¹ *San Giovenale* II:2; II:4; II:5; III:3; IV:1; V:2; Backe Forsberg 2005.

²³² Hanell 1962, 304, 310; Vignale notebooks 1959–1960 (CEÖ, MdC, FB).

²³³ *San Giovenale* I:5, 12–96 (Porzarago); I:6 (La Staffa).

²³⁴ Ciacci & Zifferero 2005, table 1, shows possible research areas, including San Giovenale and Luni sul Mignone. Luni sul Mignone has been investigated by the Vinum Project, see Valleslonga 2012b, and San Giovenale was investigated by VAP in 2007–2012.

²³⁵ *Palmenti* or *pestarole* in Italian dialects.

²³⁶ Masi 2012a, 583; Valleslonga 2012b, 544–545.

²³⁷ Perkins 2012, 415–421, 'Production and commercialization of Etruscan wine in the Albegna valley'. See further in *Chapter 5*.

²³⁸ Ciacci & Zifferero 2005; Perkins 2012.

²³⁹ Colonna di Paolo & Colonna 1978, 63, 101–102, 105, 111, 113, 116.

²⁴⁰ Valleslonga 2012b, 544; Ceci & Zolla 2014; De Minicis 2018, 129–130, fig. 9.

²⁴¹ On the concept of *chaîne opératoire*, see Izzet 2007, 26–27, 36, 89; Perkins 2012; Miller 2017.

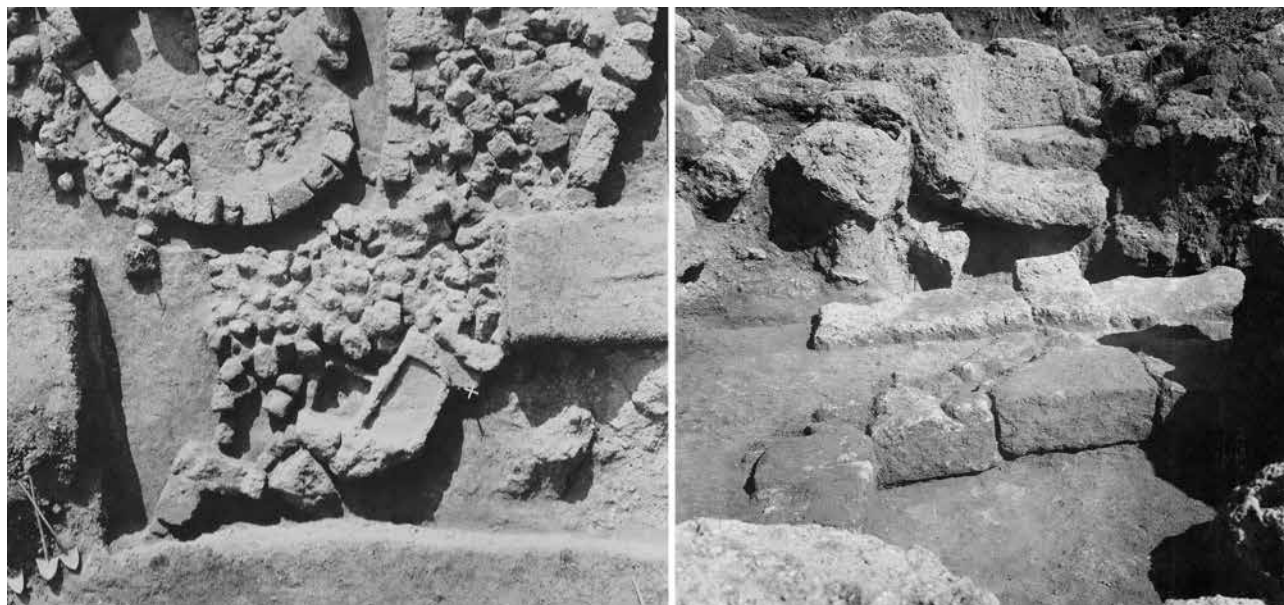


Fig. 87. The wine press found among the house remains of phase 4 (left) and of phases 1–2 (right) on the northern abutment of the Bridge Complex (photographs by B. Blomé, left, and S. Forsberg, right, courtesy of SIR).

top of free-standing tufa boulders.²⁴² Within these two shapes there are generally variations in Italy, where the upper vat (*ara*) is either rectangular, square, or semi-oval. The lower vat varies in shape in being rectangular, triangular, or semi-oval, occasionally with a small cavity in the centre.²⁴³ Most frequently the presses consist of two vats communicating through a tap hole, but presses with just one or with three successive vats are known. Sometimes the lowest vat has a second chiselled hole, likely for cleaning.²⁴⁴ Furthermore, the vats are as a rule placed axially, but exceptions do occur.²⁴⁵

The proportions of the two shapes of wine presses may vary locally and regionally.²⁴⁶ The common size of the upper

rectangular vat is 1.5×1.0 m and the semicircular lower vat is often 1.3×0.8 m (for the proportions of the San Giovenale examples, see *Table 3*).²⁴⁷

The wine presses of Vignale, WP1 and WP2, belong to shape 2 and so does the wine press found in the Pietrisco Bridge Complex, north of the Pietrisco brook (Figs. 84–85, 87).²⁴⁸ The latter is also cut from a tufa boulder, but differs from the other two installations in some particular ways. Firstly, the sizes of WP1 and WP2 are considerable and they are placed fairly remotely from other permanent infrastructure—characteristics that according to the present authors place them in a later period. The press at the Bridge Complex (Bridge 1) has furthermore two rectangular communicating vats which are not placed axially and where the lower vat has a ledge on its short exterior side.²⁴⁹ WP1 and WP2 have semicircular lower vats. These particulars seem to put the smaller press in another typology and likely more related to the six wine presses unearthed during the excavations in the 1950–1960s

²⁴² The wine presses are usually cut out from the easily workable volcanic bedrock or boulders of tufa, nenfro, peperin, or trachite.

²⁴³ The cavity (of various sizes and depth) in the centre of the lower vat collected the skins, pips, and stalks released by the grape trampling undertaken in the upper vat, see, for example, the rounded cavity (diam. 0.35 m, depth 0.06 m) in *palmento* 2 at Grotte Pinza (Tolfa), the cavities (diam. 0.30 m, depth 0.08 m) in *palmenti* 8–10 and *palmento* 15 (diam. 0.32 m, depth 0.13 m) at Costa Lombarda (Tolfa), see Vallelonga 2012b, 568–569, 572–573, figs. 41, 48, 51.

²⁴⁴ According to Cato (*Agr.* 26.68) it was important to clean the press, vessels, and all tools after the pressing and to put them in order. Ahlström 1978 has commented upon the need to clean the presses and the surroundings, and how this cleaning process may have added to the difficulty of dating the presses.

²⁴⁵ See, for example, Fries 1962, 252; Backe Forsberg 2005, fig. 52; Vallelonga 2012b, 551, fig. 17 (Tolfa, Casale Petrische *palmento* 2), 561–563, fig. 34 (Canale Monterano, Pignano *palmento* 6).

²⁴⁶ Vallelonga 2012b.

²⁴⁷ Masi 2005, 84–85.

²⁴⁸ See, for example, Mori Secci 2005; Masi 2005.

²⁴⁹ Backe Forsberg 2005, figs. 39–40, 44a, 52, 62–63. During the investigation in 1999 we tried to locate the wine press in order to confirm the stratigraphy, but due to a 2-m-deep layer of clayey and heavy soil it was impossible to clear the feature in a short period of time. See SF notebook II 1962; the upper vat measured $1.00\text{--}1.25 \times 0.50\text{--}0.65 \times 0.10\text{--}0.30$ m, the lower vat $0.75 \times 0.65 \times 0.15\text{--}0.70$ m, the chiselled hole c. 0.10 m in diam., the ledge c. 0.70×0.70 m situated c. 15 cm below the lower vat. The large boulder was estimated to $2.35 \times 1.75 \times 1.4$ m. No section was drawn of the vats.

(Table 3). These are to be found on the *Spina* summit above the Borgo area, (Fig. 88) and in the necropoleis of La Staffa,²⁵⁰ Porzarago,²⁵¹ and Castellina Camerata, which all have a different cutting technique to the two Vignale examples. All of the former belong to shape 1, either carved directly in the bedrock along the western side of the Dogana (Fig. 30:1), or cut into the bedrock on the plateaus (Table 3, Graph 1).²⁵²

The Vignale Wine Presses WP1 and WP2 are similar in shape, features, and isolated location to the wine press (*palmento*) 2 at Grotte Pinza, a small settlement between Caere-tan and Tarquinian land, dated to the 4th–3rd centuries BC (Table 3). The press itself should, however be placed around the 13th century AD.²⁵³ The Vignale presses are perhaps better compared to wine press (*palmento*) 2, one of the six presses found at Luni sul Mignone.²⁵⁴ This feature has two vats arranged axially, an upper rectangular vat communicating with a lower semicircular vat. Similar to the Vignale presses, it is cut out from a single tufa boulder with four square holes flanking the upper basin—probably post holes for a wooden superstructure (Table 3).²⁵⁵ This is comparable to the post hole found in the north-western corner of Vignale Wine Press WP2's upper vat. Situated near a medieval cave building at Corvi, a *pestarola* with three vats cut into the bedrock has similar features—small post holes, possibly used for a wooden structure.²⁵⁶

Wine presses of various kinds are documented in eight regions in Italy, with a concentration in Tuscany and Lazio.²⁵⁷ Concerning the dating of the wine presses, this is generally a



Fig. 88. Borgo Wine Press WP5 on the *Spina* (Borgo NE), San Giovenale (photograph by R. Holmgren).

difficult task and sometimes even controversial, since datable material is often absent.²⁵⁸ The presses are variously dated from the 7th century BC to medieval times.²⁵⁹ A puzzling question is the dating of the bedrock-cut wine presses discussed in some of the case studies in the Mignone river system and those found on the Borgo in San Giovenale in the 1950s, as well as the press in the Pietrisco Bridge Complex. The Vignale Wine Presses WP1 and WP2, categorized by VAP as shape 2 (see Table 3, Graph 1), will be discussed below.

The bedrock-cut presses with two communicating vats and those cut on top of tufa boulders discovered in the Tolfa area and along the Mignone river, Luni sul Mignone included, are dated to the medieval period (Fig. 5).²⁶⁰ These types of presses have been dealt with differently in scholarly works and some additional clarifications of these features might contribute to the ongoing analysis of similar structures in a wider perspective. Often the kinds of free-standing presses similar to Vignale's shape 2 examples are found outside or in the border area of a settlement. As such they are often isolated from any excavation zone and therefore lack reference finds or structures for relative dating. Furthermore, there are not yet enough typological data to create a relative chronology. Wine presses of this large size are typically visible from the ground and therefore usually documented during any land survey. However, due to their isolated locations it is often not possible to put these presses in context with nearby buried structures. This is the case with the wine presses found during VAP's survey,

²⁵⁰ Rock-cut wine press in La Staffa necropolis near Tomba 1, see drawing by CWW in CEO notebook II, 1958.

²⁵¹ Rock-cut wine press P106 in the Porzarago necropolis in *San Giovenale* I:5, fig. 1, pl. II.

²⁵² Valleslonga 2012b, 569, fig. 41.

²⁵³ Valleslonga 2012b, 566–568, figs. 40–41, shows the location of the eight *pestarole* of various shapes at this area, i.e., north of the habitation. Cisterns/silos, and a drainage *cuniculus* are also registered.

²⁵⁴ The Luni sul Mignone presses are dated to the Byzantine or early medieval period (AD 600–700) based on the chapel built into the Iron Age building in the western part of the plateau, (*Luni sul Mignone* II:2, 99) or from the 11th to the 15th centuries AD (Valleslonga 2012b). The wine presses found in the Farnesina area in 1988 close to Luni sul Mignone were also dated to the medieval period, Bengtsson 1989, 7–8, fig. 2; 2001. See also, for example, Petroselli 1974; Botti *et al.* 2011, 26–27, especially on the modern reuse of the *palmenti*.

²⁵⁵ Valleslonga 2012b, 577, figs. 52, 54. A few holes and cuttings are registered in Wine Press WP2, see Figs. 84–85. The Luni sul Mignone wine press is also shown in a photograph in Santella 1981, fig. 101. Six wine presses are registered, three near the Mignone and Vesca rivers, and one east and two north of the site, near Fosso di Canino. See also *pestarola* at Vignolo in Bengtsson 2019, 26, fig. 8.

²⁵⁶ Di Calisto 2003, 200–201, Cave 13, figs. 20, 22–24, n. 40.

²⁵⁷ Masi 2005, fig. 6. The distribution map in Masi 2012a, 585, fig. 2 is updated with presses in Sardinia and south-western Sicily. See also Loi 2017; 2018 on wine presses in Sardinia. Also new are the presses reported in Campania and in Francavilla di Sicilia by Botti *et al.* 2011.

²⁵⁸ On problems regarding the dating of wine presses found in Israel, see Ahlström 1978.

²⁵⁹ Masi 2005, 90; Giannace 2005, figs. 4–5b.

²⁶⁰ On dating see, Östenberg 1967; Valleslonga 2012b, 573–579. See also comments by Zifferero 2012; Masi 2012a.

which are located along Vignale's periphery. Another question, already touched upon, regards the reuse of wine presses in any period, i.e., an antique press reused by a later society. In such case slight modifications must also be accounted for. This is especially true for the above-ground-level-positioned shape 2 presses with their accessible layout.

An interesting and not previously mentioned parallel to Vignale's Wine Presses WP1 and in particular WP2 is the *palmento* (*pestarola*) of Novi Velia in Campania.²⁶¹ The Novi Velia press has some distinct features that very much resemble those of the Vignale presses, where large isolated boulders host an upper and a lower basin. Similar to the Novi Velia press, Vignale Wine Press WP2 is cut from a single boulder but with deeper and larger basins than the Novi Velia example. WP2 furthermore shares a sloping side towards the east with otherwise steep sides. Steps are also present in both to facilitate climbing of the structure. In this context though, one should note that any boulders prepared in this fashion are likely to resemble each other regardless of their associated time period. Any chronological difference, should rather be determined by the shape and details of the vats. The hewn modifications of the sloping side could in fact be a requirement of the feature itself. That is, when a single boulder is prepared as a wine press, one side has the need of a slope—either modified or as an intentionally selected stone. This is important in order to provide a step-like structure to fit the positioning of an upper vat above the lower one. (Fig. 85, right).

Another factor aiding in the determination of the age of these large and free-standing presses is their proximity to any commercial or functioning road that can be used for dating. In the case of Vignale, the transport infrastructure in close range of the presses, i.e., the northern and southern access to Vignale's western tip, could however cover a period of 2,500 years, albeit reworked. This makes this kind of dating challenging.²⁶² Furthermore, it is difficult to determine how close any wine press had to be to a road. Thus, and considering the infrastructure, Vignale Wine Presses WP1 and WP2 would fit any of the dominant material periods of Vignale, spanning from the Early Iron Age up to the medieval period. There are however some aspects that speak for a later dating of these presses, and the approach to determine this is also raised in the discussion by the authors who published the Novi Velia wine press.²⁶³ That is, where archaeological evidence is lacking, geological stratigraphic evidence might provide some clues. Since excavation has not yet been performed around these structures, perhaps a geological feature might provide a hint in this case. Both wine presses at Vignale are on boulders

that lean at a shallow angle on the ground surface. That their current position is their original one is highly likely, since the drilled holes in the lower vats of Wine Presses WP1 and WP2 are positioned in such a way that any liquid exiting the tap hole was to be collected from below.²⁶⁴ In addition, when further studying Wine Press WP2, one can see that the generally satisfactorily hewn block is not that meticulously sculpted in the area of the tap hole in the lower vat. Here, a narrow and casually drilled hole is placed diagonally in order to find the shortest way through an uneven surface. We should therefore keep in mind that the drillings of the lower vats could be secondary, perhaps post-medieval and therefore departures from the original design. Regardless, Wine Presses WP1 and WP2 should be considered medieval due to their exceptionally elevated positions.

One interesting aspect raised by Anniello Botti *et al.* with regard to the Novi Velia wine press is the question of a possible building attached to it.²⁶⁵ The authors especially point to the remains of the lower segment of a western wall that connects to the press. The circumstances very much echo those of Wine Press WP2, where a wall extends northwards in line with the upper vat. Furthermore, the wall departs from a side where the block has been cut vertically—a situation that can also be seen in the Novi Velia press. At Novi Velia, we also read about the remains of a stone arch that leads the authors to speculate about a roofed room attached next to the press. This is also supported by traces in the vegetation that indicate a building of about 4.3 × 5.5 m. Are these remnants of a Roman *torcularium*, the authors asked, or perhaps a shed where the wine was stored—a *cella vinaria*? The latter can be described as a storeroom where wine or oil was placed into smaller jars. An excavation could possibly resolve this, but most important of all, the authors concluded that the construction could have the potential to provide a date for the press itself.²⁶⁶ The remains of a similar shed are partly preserved in Vignale and as such attached to the Wine Press WP2. Could this represent the remains of a Roman *cella vinaria* or a subsequent equivalent—later modified and reused into modern times for the same or other purposes (Figs. 86, 89)?

When studying the plan drawing of Wine Press WP2 we can see that the large boulder containing the two vats originally seems to have been part of a much larger boulder (Figs. 84, 85). At first sight, it seems that the press has parted from its now northern counterpart: both were once part of the same large boulder that split when it fell from upslope. This apparently natural cause was initially thought to have created an almost vertical side of the boulder—generating an additional

²⁶¹ Botti *et al.* 2011, 21, 25, 29–31, figs. 14, 18–20.

²⁶² See 'Infrastructure—roads, bridges, and ramps' below.

²⁶³ Botti *et al.* 2011, 32–36.

²⁶⁴ See, for example, Botti *et al.* 2011, 26.

²⁶⁵ Botti *et al.* 2011, 30–31, fig. 20.

²⁶⁶ Botti *et al.* 2011, 31, fig. 20.

equivalent on the other boulder. In line with the reasoning by Botti *et al.*, it is clear that the corresponding surface of the Nova Velia press was worked with a chisel and in part plastered. This was done in order to create a flat surface to better fit any abutting complex.²⁶⁷ Bearing this in mind for WP2, it may explain its unusually flush northern side. As this was moss-covered, no clear chisel marks were detected during the documentation—even though these are to be expected considering the similarities to the Nova Velia boulder. Unlike the Nova Velia press, the Wine Press WP2 structure was created by using the space between two boulders, where the northern equivalent lacked any vats or other sculpted details—apart from corresponding cut-outs for roof beams, parallel to the western wall, and a cut to fit this western barrier. Obviously, in the case of Wine Press WP2, the two blocks acted as a southern and northern perimeter where a western wall was added, creating a wedge-shaped space of 3.5×2.5 m (Fig. 84). Less effort was made in making the perimeter of the northern boulder into a vertical face. Smooth and vertical, the latter was obviously already flat enough. The space in between was paved with partly preserved and smooth tufa blocks, supporting two smaller, free-standing stone basins. A post hole for a gateway/door is evident in the eastern part of the open space and was probably associated with the putative building connected to the wine press or the later animal shed. Exactly how much of this space was originally used as a roofed building is unclear, but for a rough calculation for a shed-like structure here that could be provided with a pitched roof, a space of 2.5×2.5 m would make sense (Figs. 84, 89). The argument for a pitched roof can be seen in a similar structure nearby, roughly 100 m east—the so-called “hunting lodge”. This latter structure is a striking parallel to Wine Press WP2, with a roof still in place, although with some smaller modifications in line with the size of its flanking boulders (Figs. 17, 68:3).

As pointed out above, the built space between the Wine Press WP2 boulder and its northern counterpart was used as a modern animal shed—simply reusing a convenient space between an old wine press and a separate boulder. The still-standing “hunting lodge” further east points to a more complicated history, as this shed was also interpreted as a recent construction with its corrugated iron roof sheets.²⁶⁸ Some irregularities concerning its construction were evident though, where new materials seemed to have been both replaced and added to an older structure. Looking at a photograph of the shed in question (Fig. 17), we see that the built front and back tufa walls partly comprise hewn stones. These are somewhat elaborately profiled for this apparently modest purpose, suggesting they



Fig. 89. A reconstruction of Wine Press WP2 and its adjacent wine cellar (?), before being modified to an animal shed in recent times, looking west (illustration by R. Holmgren).

are reused blocks, and these walls are constructed between two larger and vertically cut (?) boulders, analogous to the situation at Wine Press WP2. Furthermore, the western boulder is also worked with cut grooves in order to fit roof-supporting beams—this with a central beam in a high position making it a pitched roof. On the opposite and lower boulder, the lack of height was solved by filling in with masonry at the edge of the boulder. The combination of both modern and medieval tiles, the reuse of seemingly older cut grooves and tufa masonry, plus the fact that it clearly echoes Wine Press WP2 (that in turn is analogous to the Nova Velia press) suggests that we are dealing with shed structures based on old building traditions, perhaps medieval. The latter dating is based on the stratigraphic matters touched upon earlier. An interesting fact is the possibility of the western block of the “hunting lodge” concealing yet another wine press. This part was not accessible during VAP’s fieldwork, since very dense vegetation covered its upper part; nor have aerial remote sensing techniques been able to determine if this is indeed a wine press. In any circumstance, the so-called “hunting lodge” lets us better understand the structure attached to Wine Press WP2 and not the least how hewn blocks could have been placed at the larger boulder’s perimeter to support a well-functioning and tiled roof. Since these free-standing presses are placed apart from any known settlement, the need for a temporary storage facility adjacent to the wine press, for example, during the medieval period, was most likely in accord with common needs of the time. Whether a similar shed structure was connected to Wine Press WP1 on the northern slope of Vignale is yet to be determined. The only indications that this could be the case are the similarities between Wine Press WP1 and Wine Press WP2 in general, and perhaps a particular chiselled groove, south of the upper vat of Wine Press WP1. In the plan drawing this is labelled as a “step cut”, but it could possibly have

²⁶⁷ Botti *et al.* 2011, 30.

²⁶⁸ For a description of the “hunting lodge”, see ‘The Vignale plateau—geologic, topographic, and historical setting’, in *Chapter 2*.

served as a hewn shelf for a beam holder extending westwards (Fig. 81). Such a beam would then have been positioned in a similar manner as the beam over the back wall in the “hunting lodge” and the now-missing beam in Wine Press WP2. One should also point out that the lower vat of Wine Press WP1 contained tile fragments which might have derived from a collapsed roof adjacent to the press itself.

The wine presses of the 6th–3rd centuries BC (in some rare cases even earlier),²⁶⁹ cut into the bedrock and incorporated with adjacent building remnants or infrastructure, are easier to date due to their association with contemporary and datable material. The dating of seemingly early wine presses has however been questioned by several scholars, who instead argue for a medieval date due to contemporary remains present nearby.²⁷⁰ An example of such discussion is the date given to the wine press in the Pietrisco Bridge Complex of the middle of the 6th to the 5th centuries BC. This date has been questioned by several scholars,²⁷¹ and a revision is likely at hand. The present authors argue that it is more plausible to connect the use of the press to the last building phase, where the two vats were incorporated into a later stone paving surrounding the building. In this reinterpretation the wine press can be dated to the Byzantine period, or slightly earlier due to the fitting into the later paving. In this case we must also consider a redating of the apsidal building (House 3). The architecture of the house itself, that is the apsidal shape, is more common in Roman or early Byzantine architecture—the use of a semi-oval plan in Etruscan architecture has been questioned. If this theory is correct, the apsidal building at Vignale’s Bridge Complex could be contemporary with the small chapel west of the di Vico castle. The chapel was in use during two phases, the first from the 7th–9th centuries AD, and probably later in the middle of the 13th century AD. This later period is also connected to the other building projects in the area, such as the construction of the di Vico castle.²⁷² Pottery from the earlier chapel, investigated by Ferracci and Paola Guerrini, yielded a date from the 7th to 9th centuries AD. The chapel site produced glazed green and brown ware (so-called Forum

ware dated to c. AD 600).²⁷³ Medieval pottery, found west of the chapel in Area F, was analysed by David Whitehouse and published by Jenni Hjohlman, who concludes that there are at least two phases of medieval ceramics dated to the 9th and 10th centuries AD, indicating a new settlement on the Acropolis.²⁷⁴ No pottery from this period was found, either among the debris inside or outside House 3, or in or around the wine press. The very fact that no pottery from the medieval period is present around the apsidal house creates a problem. The earliest datable material in this context is from the 1st century AD, which is represented by rim fragments from a red ware *amphora*.²⁷⁵ Therefore we suggest that the wine press slightly predates the erection of the apsidal building, or at least from a time period somewhat before the construction—but still present in the context of later buildings appearing from the 1st century AD onward, due to the presence of pottery from that period.

A second example of an early dating is the rock-cut wine presses (shape 1), cellars, silos, and other cavities on the Borgo NW as well as on Borgo NE and SE (the *Spina*),²⁷⁶ which are dated from the end of the 5th to the 2nd centuries BC (Graph 1).²⁷⁷ In a forthcoming publication (*San Giovenale* V:3, which will be published posthumously), Pohl still argues against a medieval date for the presses. The authors of *San Giovenale* V:1 express a more open-minded opinion in that they may be medieval or even later, referring to a use of the wine presses even into the 20th century AD.²⁷⁸ So, how can we deal with the various types of late wine presses in San Giovenale? The first thing that comes to mind is that the bedrock presses on the *Spina* should rather be connected to the Early Christian activities in the area—that is, a natural continuation of the Roman period. Whether the presses are reused, modified, or established during the time of the

²⁶⁹ Wine presses at Francavilla di Sicilia in Botti *et al.* 2011, 10–11, fig. 2.

²⁷⁰ Backe Forsberg 2005 to the 6th–3rd centuries BC; Pohl 1985 to the 5th–3rd centuries BC; Ahlström 1978, 46 to the Middle Bronze Age (?), Roman-Byzantine. See also discussion on dating below. Walsh & Zorn 1998, Iron Age or earlier; Amato 2012, 345–346, on the Agrigento wine presses, dated to 5th–3rd centuries BC. See also Loi 2017; 2018 regarding dating of the Sardinian presses.

²⁷¹ Backe Forsberg 2005, 88–90, figs. 36, 44a, a wine press dated to the middle of the 6th century BC. This early dating is questioned by Masi 2012a, 587; Ciacci & Zifferero 2007, 264–265; Botti *et al.* 2011, 35, fig. 24.

²⁷² Thordeman 1962; *San Giovenale* VI:4, 7–10, 34–36; Berggren, E. 1984, 83–85 on the chapel at San Giovenale; Brandt 1996 on the chapel at Luni sul Mignone.

²⁷³ See, for example, Hjohlman 2006, on medieval pottery in Area F East. Excavations in Area B in *San Giovenale* II:2, pls. A–B; Berggren, E. 1984, 83–85, mentioned the medieval church and the finds of “mottled ware”, green glazed pottery, and a 12th-century AD coin inside the church, and just beneath the collapsed tile-covered roof a bronze coin with the name of pope Rovere, Giulio (Julius) II. See above on Forum ware dated to 7th–13th centuries AD.

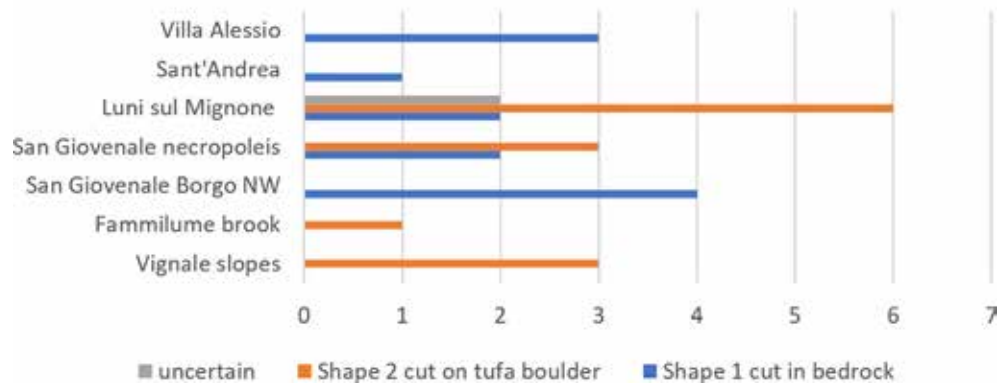
²⁷⁴ Hjohlman 2006, 174.

²⁷⁵ *Appendix 1, no. 65, Fig. 237:65*; Backe Forsberg 2005, fig. 90:32.

²⁷⁶ Fries 1962; Backe Forsberg 2005, chapter 2.3.1; Masi 2005; Valleslonga 2012b; Santella 1981; *San Giovenale* V:1, 148–150, figs. 24, 135; V:3. The cellars measured c. 1.7 × 1.7 m (O1) and 1.3 × 1.3 m (O2), and had a small staircase each. See also Masi 2012a, 583–590; Valleslonga 2012b, 544–582.

²⁷⁷ Pohl 1985, 54–55; 1986; *San Giovenale* V:1, 149–150; V:2, 188–189.

²⁷⁸ The latest finds on the Borgo were two burials dated from the late 6th and early 7th centuries AD, based on a medieval small jug (*San Giovenale* V:2, pl. 101 A:h-1, 69), a grave gift with the two skeletons found on bedrock in the niche Ah and TRe in the habitation quarter, see *San Giovenale* V:1, 149, 153, figs. 11, 128–129, 134; V:2, 68–69, 190–191, fig. 6, pl. 101.



Graph 1. Wine presses of shapes 1–2 in San Giovenale and surrounding.

Christian chapel in its early medieval period and likely in connection with possible hermit dwellings, is difficult to say. A likely dwelling from this period is attested on the southern slope, c. 60 m south-west of the chapel. Here in the outflow of a former *cuniculus*, the space is enlarged to form a room with a column previously standing in its centre (Figs. 73, 102). Analogies to this are found on the slopes of Blera, Barbarano Romano, and Vetralla, all dated to the Byzantine period.²⁷⁹ Further possible Christian dwellings (?) and tombs, or both, are the reused Etruscan chamber tombs (tombs 245–247) in “La Piazzetta” (Fig. 218) along the western end of Casale Vignale. These are incised with crosses above their entrances (Fig. 219).²⁸⁰ Whether these should be regarded as reused tombs for Christian burials or actual dwellings could be debated, but since their floors are level with the ground and not descending, it would make them reasonably dry as shelters.²⁸¹ Other indications are the three Etruscan tombs in the Porzarago necropolis, each containing remains of early medieval sherds and an almost complete jar that is

contemporary with the Byzantine chapel.²⁸² Likely these are the remains of storage vessels in cellars (reused tombs) where the adjacent wine press formed part of the wine production activities.²⁸³ Again, these finds should rather be associated to the period of the *Spina* presses.

The shape 2 presses on the other hand, both visually and in line with their isolated locations, appear different and should rather be connected to the resurgent wine production of the high medieval period—associated to the epoch of the di Vico castle (AD 1261–1268), although the castle itself was left half-finished and probably never inhabited.²⁸⁴ Presses such as Vignale’s Wine Presses WP1 and WP2 could very well have been used into modern times, and their exposed and clean appearance might confirm such a use. As we shall see below, the dating of wine presses in general varies in line with their interpreters, with dating spanning from the Bronze Age to the medieval period.

A wine press of Type 1 which clearly stands out, due to its suggested early dating, is composed of the many bedrock-cut wine presses with two communicating vats of various forms, either with the combination of rectangular/square or rectangular/semicircular shapes. These are found along the Alcantara river near Francavilla (Etna) in Sicily (Fig. 90). The chronology is uncertain, but a very early date has been suggested by Anniello Botti *et al.* for these presses—that is, 9th–8th centuries BC.²⁸⁵ This dating is important to con-

²⁷⁹ On Byzantine rock dwellings in the areas of Blera, Barbarano Romano, and Vetralla, see De Minicis 2003; 2014, 465–469, 476–481; Ferracci & Guerrini 2014, 470–491, esp. 480, fig. 9a–b, on a central column/pillar in a cave in Vetralla.

²⁸⁰ Tobin-Dodd 2015, 55–56, 154–176, figs. 39, 131, three tombs with crosses above the entrance. The chamber tombs, Tombs 3–5, (late 6th–early 5th centuries BC) are situated in “La Piazzetta”, named on an early drawing by Cozza, see Ricciardi 1987a, 20–22.

²⁸¹ On reused tombs as lodgings in the territory of Barbarano Romano (San Giuliano) dated from the 8th–9th centuries AD, see Ferracci & Guerrini 2014, 472–476, figs. 1–5. Incised Early Christian crosses and other funeral graffiti dated to the 4th century AD were found, for example, along the walls of principal roads such as Via Cassia and in tombs and caves at Vetralla, see Ferracci & Guerrini 2014, 478–480. On early medieval (Byzantine, 8th-century AD) cave dwellings/tombs on Fornicchio and Monte Fortino (lokal 73 and 35 and a two-storied chapel probably dated to the 7th century AD found on the western part of the Luni plateau (lokal 73), see Bengtsson 2001, 106–108, nn. 164, 177–178, figs. 84, 95, 97.

²⁸² Tombs P1, P2, P5 in the Porzarago necropolis containing medieval pottery, *San Giovenale* I:5, 27, 31–32, 42, nos. 22, 50, 78–83, pl. II; Tobin-Dodd 2015, 55, n. 312, Tombs 262–264.

²⁸³ The rock-cut wine press (P106) is found c. 42 m north of the tombs P1, P2, and P5. Furthermore, traces of two the cultivation trenches (P115) were found further north-east of the tombs. See *San Giovenale* I:5, pl. II.

²⁸⁴ On dating and history of ownership of the castle, see *San Giovenale* VI:4, 34–51.

²⁸⁵ Botti *et al.* 2011, 10–11, 46–47, figs. 4, 32. At Naxos as well as the area inhabited by *siculi* near the Alcantara valley with its many bedrock-cut wine presses, the Dionysos cult seemed to have been very important.



Fig. 90. A wine press with two communicating vats, clearly visible in the landscape along the Alcantara river near Francavilla (Etna) in Sicily (photograph by K. Göransson).

sider when discussing the wine presses in southern Etruria.²⁸⁶ Presses commonly dated to the 4th–3rd centuries BC have been discovered in Sicily—such as those found at La Montagna di Licata near the Salso river between Agrigento and Gela.²⁸⁷ These presses have many distinctive features which correspond well with some of those found in San Giovenale, Luni sul Mignone, and in other places in the Tolfa Mountains.²⁸⁸

Recently a large number of wine presses, in total 103, have been documented in various places on Sardinia and typologized in five styles based on the number of vats. These are dated from the 1st century BC to the 1st–2nd centuries AD.²⁸⁹ Eight wine presses called *laccusu* (basins for pressing) were located in the area of Riunas. The dating of the presses, either bedrock-cut or cut inside a single block, are problematic; some are dated to Punic and Roman periods whereas others are dated as late as medieval times.²⁹⁰

Coins from 6th–5th centuries BC with pictures of the wine god as well as grape clusters also indicate the importance of viticulture in the area. These presses are not recorded on the distribution map in Masi 2012a, 585, fig. 2.

²⁸⁶ See Zifferero 2012.

²⁸⁷ Amato 2012, 307–348, esp. 307, figs. 1a–c. Licata is listed as no. 37 on the distribution map in Masi 2012a, 585, fig. 2.

²⁸⁸ See Valleslonga 2012b; Masi 2012a, 583–590; Ciacci *et al.* 2012a, 591–599.

²⁸⁹ Loi 2017, 320–321, figs. 1–5.

²⁹⁰ Loi 2018. See Ahlström 1978 on the problematic dating of 117 bedrock-cut wine presses mostly of types 1 and 2, found during the Jenin-Megiddo survey in Israel in 1969.

Table 2. *Parallels to cultivation trenches with or without pits on Vignale.*

Context and references	Feature	Number trench/pit	Width	Depth	Length	Orientation	Trench interval	Dating
Vignale ⁱ	trenches, pits? CT1a-d, CT2a-b, CT3a-b	6	0.80–0.90 m	0.20–0.40 m	24–32 m	east–west	8 m	4th century BC
Porzago ⁱⁱ	trenches	2	0.80–1.00 m	0.25–0.65 m	-	east–west	5 m	Roman or medieval
Pian de Crette/Le Pozze ⁱⁱⁱ	trenches	3	0.80 m	0.80 m	-	east–west	7 m	c. 350–281 BC
Pian de Crette/Le Pozze ^{iv}	trenches	3	0.80 m?	?	-	north–south	7 m (?)	280–119/95 BC
Luni sul Mignone ^v	trenches	9	0.80 m	0.20–0.30 m	30–50 m (?)	north–south	5 m	Roman/medieval, 12th–13th centuries AD
Pian Conserva zone B ^{vi}	trenches	4, rectangular profile	0.70 m	0.20 m	6–7.5 m	-	1.30–1.80 m	Roman villa 4th–2nd centuries BC
Acquarossa Zone F ^{vii}	trenches, pits	7–8	0.90 × 1.0 × 1.0 m	1 m	5–9 m	north–south	3.6 m	2nd century BC or later
Magliano in Toscana: Cancellone ^{viii}	trenches, pits	?/2	0.55–0.60 m, 0.84–0.90 m, 1.00–1.20 m, 1.00 × 0.40 m	0.37–0.50 m, 0.67–0.80 m, 0.20 m, 0.08–0.16 m	6 m	north–east–south–east	2.80–3.40 m, 7.5 m	2nd–1st centuries BC, pottery from 6th–2nd centuries BC
“Tomba Etrusca” ^{ix}	trenches, pits	5	1.0 × 1.0 m	0.05–0.20 m	15–65 m	north–east–south–west	5–7.5 m	2nd–1st centuries BC, pottery from 6th–2nd centuries BC
Centocelle ^x	trenches, pits, channels	9 groups of trenches	0.80–0.90 m, 1.50–2.0 m	0.30–0.50 m	-	-	4.0–18.0 m, 56.0–90.0 m	<i>terminus ante quem</i> 3rd–2nd centuries BC
Acqua Accetosa Laurentina ^{xi}	trenches	several	0.90–1.0 m	-	-	-	5–10 m	Republican?
Tor Pagnotta ^{xii}	trenches, pits, channels	several	0.70–0.80 m	-	-	-	3.70 m	3rd century BC
Veii, Piazza d’Armi ^{xiii} Via delle Vigne Nuove	trenches, channels	-	c. 0.60 m, c. 0.55–0.60 m	c. 0.50 m	-	-	1.1 m	Roman; <i>Vitis arbutiva</i> or “maritata”

ⁱ Pohl 1985; Zifferero 2012.

ⁱⁱ Petroselli 1974, 67, n. 55. See also possible trenches on plan of the necropolis of Porzago, *San Givendale* 1:5, test pits, 19, pl. 2. See also P113, P115. The trenches have been interpreted as quarries but may also be remnants of cultivation trenches. A wine press (P106) was found south of the so-called quarries. Five parallel plough marks were documented near test trench P115.

ⁱⁱⁱ Ricciardi 1990a, 154–158, figs. 14–18; Tron 1990; Incitri 1990. The Le Pozze villa rustica, mentioned in Böthius *et al.* 1962, 205 (aerial photograph F6), was named Pian de Crette by Hemphill 2000, 38.

^{iv} Ricciardi 1990a, 154–158, figs. 16–17; Incitri 1990; Tron 1990.

^v Östernberg 1961, 112, fig. 13; 1962, figs. 296, 299; Bengtsson 2001, 11–12, 39–40, nn. 47–48, 237, figs. 2–3. See also Bengtsson 2017, 20–21.

^{vi} Vallelonga 2007, 228–231, figs. 1–2 dates similar trenches found in Pian Conserva in the Tofia region to the middle of the 4th century BC; Masi 2005.

^{vii} Strandberg Olofsson 1984, 31–33, fig. 8; Petroselli 1974, 67, n. 55; Thornberg 1996, 18, fig. 1; Wikander 1986, 91, 159, fig. 84; Columella Rust. 3–4.

^{viii} Marianelli 2011, 39–42, figs. 2–4; Marianelli & Rendini 2012, 403–411, figs. 1–2, 8.

^{ix} Marianelli 2011, 39–42, figs. 2–4; Marianelli & Rendini 2012, figs. 1, 6–7.

^x Volpe 2009, 374, fig. 5; Santangeli Valenzani & Volpe 2007, 50, fig. 3; 2012, figs. 2, 4; Armellini *et al.* 2004, 220, fig. 2.

^{xi} Volpe 2009, 374, tables 1–2, figs. 2, 5; Santangeli Valenzani & Volpe 2012, 61–69, figs. 2–3.

^{xii} Volpe 2009, table 1, fig. 2.

^{xiii} Bartoloni & Pulcinelli 2016, 42–43, figs 6–7.

Table 3. Context, orientation, shape, and measurements of wine presses at San Giovenale and its surroundings (see also Graph 1).

Context	Orientation	Shape	Var 1 (upper)	Var 2 (lower)	Measurements	Remarks/date
Vignale north slope (WP1), near road and bridge	west-east	2	1.20 × 0.90 × 0.20 m	0.70 × 0.90 × 0.30 m, cavity 0.20 m	boulder 4.25 × 2.70 × 1.80 m	tap holes 15 cm; axial vats
Vignale south slope (WP2), near road and brook	north-south	2	1.60 × 1.60 × 0.25 m	1.10 × 0.85 × 0.85 m; cavity 0.15 m	boulder 4.50 × 3.75 × 2.25 m	tap holes 10 cm; axial vats
Bridge Complex, at road and building ("sacellum") ⁱ	north-south	2	rectangular/slightly curved in the northern part with rounded corners 1.00–1.25 × 0.50–0.65 × 0.10 (0.30) m	rectangular 0.75 × 0.65 × 0.15–(0.70) m cavity?	boulder 2.35 × 1.75 × 1.40 m	tap hole; vats not axial. A ledge 0.70 × 0.70 m, c. 15 cm below vat 2; 5th–3rd centuries BC (?)
Borgo NE (<i>Spina</i>) wine press 1, ⁱⁱ close to principal road	north-east-south-west	1	rectangular 1.70 × 1.50 m	square 1.30 × 1.50 m, cavity 0.20 m?	-	tap hole; axial vats
Borgo NE (<i>Spina</i>) wine press 2 (Fig. 88)	north-west-south-east	1	rectangular 1.50 × 1.70 m	square 1 × 1 m, cavity 0.30 m	-	tap hole; axial vats
Borgo NE (<i>Spina</i>) wine press 3 ⁱⁱⁱ	north-east-south-west	1	rectangular 1.0 × 0.80 m	trapezoidal 0.60 × 0.70 m, cavity diam. 0.20 m	-	tap hole; axial vats
Central part of Borgo, ^{iv} two wine presses	east-west	2	rectangular	semicircular	-	tap hole; situated near Erruscan road in a yard?
Porzago (P106), necropolis, near funeral street ^v	west-north-west-east-south-east	1	rectangular 1.90 × 2.20 m	0.80 × 1.20 × 0.60 m, cavity 0.20 × 0.20 × 0.10 m	-	tap hole 9–11 cm; axial vats
La Staffa necropolis near river ^{vi}	-	1	rectangular?	square; cavity	boulder (?)	tap holes; axial vats
Fammilume, north side of the brook ^{vii}	north-east-south-west	1/2 (?)	rectangular 1.57 × 1.20 m, depth 0.35 m	trapezoidal; H 0.98; diam. east-west 1.22 m, diam. north-south 1.06 m; cavity	H 1.22 m, diam. 1.22 m, east-west 1.22 m, north-south 1.06 m	monumentally built, tap hole 12 × 9 cm; axial vats; date uncertain Late Erruscan/Roman (?).
Castellina Camerata ^{viii}	north-east-south-east	1	rectangular 1.50 × 2.00 m	rectangular 0.80 × 1.20 m	-	tap hole 10 cm
Castellina Camerata, ^{xix} three wine presses along the brook	-	2	rectangular	rounded	-	wine presses located by Tobin-Dodd and VAP
Luni sul Mignone, ^x wine press/ <i>palmento</i> 1, Tre Erici ^{xi}	south-east-north-west	2	1.85 × 1.60 × 0.18–0.62 m	1.50 × 0.90 × 0.43–0.65 m	-	tap hole diam. 10 cm; medieval/late medieval

ⁱ Finds of Hellenistic wine presses in the sanctuary of Volterra indicated ritual pressing of grapes and the numerous *kylikes* for pouring libations to the chthonic deities, Bonamici 2003, 56–64; Iozzo 2004, 68; Edlund-Berry 2011, 11.

ⁱⁱ *San Giovenale* V:1, fig. 24: three wine presses (Borgo WP1–WP3) and two wine cellars (O3–O4) with stairs from the *Spina* area will be published in *San Giovenale* V:3.

ⁱⁱⁱ *San Giovenale* V:3.

^{iv} Hanell 1962, 281, fig. 250 and photograph App0001.jpg (courtesy of SIR Archaeological Archive, BI. Diaries vol. 8 and photographs BII. vol. 9). Cf. also G. Rundquist notebooks II–III 1957; B. Blomé notebook I 1959; K. Blomé notebook I 1961. The two presses are similar in shape to those found at Pontoni (Manziana, RM), Masi 2012a, 583–584, fig. 1. On chronology see, for example, Masi 2012a, 589–590.

^v The workers' old relatives commented on the *pestarola* found in the necropolis of Porzago as being in use during their life-time, *San Giovenale* I:6, 13, n. 5.

^{vi} CEÖ notebook II 1958, drawing by C.W. Welin.

^{vii} Wine press located by VAP in 2015.

^{viii} *San Giovenale* I:7, fig. 1, the wine press situated in the north-east part of the area on the edge of the plateau partly above an unexcavated chamber tomb is only shown in a plan over tumuli and chamber tombs, see also drawing no. 31 by J. Asplund in November 1959, found in the SIR attic in 2018. Nothing is mentioned regarding the wine press in the publication.

^{ix} Found by the VAP members and Tobin-Dodd.

^x Valleslonga 2012b, 573–579; Bengtsson 1989, 2001, 7–8, fig. 9 (the Farnesiana Project 1987–1988, 1989–1990, 1992 the survey area, north-west and east of the Luni plateau to the San Giovenale plateau).

^{xi} The word *palmento* is frequently used by the Vinum Project, see Masi 2005; 2012a for Luni sul Mignone and Tofia; Luni *palmento* 1, Valleslonga 2012b, 573–577, figs. 52–53. See also Bengtsson 2017, 20–21, figs. 2, 8. See comments on the use of *palmenti rupestri* in Thurmond 2016, 22–23.

Table 3 continued.

Context	Orientation	Shape	Vat 1 (upper)	Vat 2 (lower)	Measurements	Remarks/date
Wine press/ <i>palmento</i> 2 ^{xii}	north-east–south-west	2	2.30 × 1.50 × 0.46–0.52 m	2.00 × 1.46 × 0.60 m	-	tap hole diam. 10 cm, 4 post holes (1 outside the block); medieval
Wine press/ <i>palmento</i> 3 ^{xiii}	east/north-east–west/south-west	2	1.40 × 0.27–0.39 × 0.12 m	1.12 × 0.62 × 0.25 m	-	semicircle vat; medieval
Wine press/ <i>palmento</i> 4 ^{xiv}	north-east	2	0.60 × 0.76 × 0.15 m	rectangular? 0.68 × 0.39 × 0.15 m	-	tap hole 11 cm, hole in the second vat; medieval
Wine press/ <i>palmento</i> 5 ^{xv}	east–west	2	1.72 × 1.20 × 0.25 m	1.00 × 0.90 × 0.27 m	-	tap hole 11 cm; medieval
Wine press/ <i>palmento</i> 6 ^{xvi}	north/north-west–south/south-east, north-east–south-west	2?	rectangular, 0.60 × 0.34 × 0.15 m	oval 0.62 × 0.32 × 0.20 m	-	only tap hole 8 cm from inside and out, rectangular and oval vats, vats not axial
Wine press/ <i>palmento</i> 7 on Vignolo ^{xvii}	-	?	-	-	-	medieval 12–13th centuries AD?
Wine press Fornicchio ^{xviii}	north-west	1/2 (?)	rectangular	semicircular and irregular quadrant	-	2 tap holes; medieval 12–13th centuries AD?
two wine presses on Vignolo (NW) ^{xix}	north-west	1	squarish and rectangular	trapezoidal and rounded	-	tap hole in the first and a channel in the second; c. 10 cm apart; medieval, 12–13th centuries AD?
two wine presses on Fornicchio ^{xx}	-	2	-	-	-	Large, well kept; <i>lokal</i> 36, <i>lokal</i> 37, c. 50 m north of <i>lokal</i> 36; medieval, 12–13th centuries AD?
Villa Alessio ^{xxi} Wine press 1	north-west–south-east	1	2.70–2.70 × 1.95–1.97 × 0.47–0.50 m	1.41–1.59 × 1.25–1.22 × 1.02 m	c. 5 m	tap hole 15 cm; 2 steps into vat 2; dated to 4th century BC–2nd century AD
Villa Alessio Wine press 2	north-west–south-east	1	2.65 × 1.98 × 0.45 m	1.24 × 1.36 × 0.91 m	-	tap hole; 2 steps into vat 2; dated to 4th century BC–2nd century AD
Villa Alessio Wine press 3	north-west–south-east	1	-	-	-	tap hole; 2 steps into vat 2; dated to 4th century BC–2nd century AD
Sant'Andrea Acropolis? Wine press	-	1	-	-	-	According to J. Bengtsson found in a field; date unknown

^{xii} Valledonga 2012b, 576–577, figs. 52, 54, three beam cuts measured 0.2–0.5 × 0.33–0.39 m, and a fourth 0.17–0.20 × 0.52 m on top of the press clearly visible on plan and photograph, probably for a wooden cover. See also Santella 1981, 90, fig. 101.

^{xiii} Valledonga 2012b, 576–577, figs. 52, 55, hole 0.39 × 0.27 × 0.12 m in the bottom of the lower vat.

^{xiv} Valledonga 2012b, 577–578, fig. 52.

^{xv} Valledonga 2012b, 576–579, figs. 52, 56.

^{xvi} Valledonga 2012b, 576–579, figs. 52, 57.

^{xvii} Valledonga 2012b, 576, fig. 52, no. 7 on Vignolo. See also Wetter 1962, 206, aerial photograph F7. The wine press may be the same as that in Bengtsson 2001, figs. 9:14.

^{xviii} Bengtsson 2001, 65, figs. 9:14, fig. 52 (*lokal* 14 on Fornicchio, one wine press).

^{xix} Bengtsson 2001, 57, figs. 9:1, 42 (*lokal* 1 on Vignolo, two wine presses 10 m apart).

^{xx} Bengtsson 2001, 71, figs. 9:36–37, the two *lokaler* may be the same as *palmenti* 2 and 4, see also Bengtsson 2017, 20–21, fig. 2.

^{xxi} Three bedrock-cut wine presses situated on the eastern tip of Monte Alessio plateau near Veiano. A few fragments of coarse ware, possibly of wine *amphorae*, were found nearby, as well as modern glazed fragments. The Roman *villa rustica* (32.5 × 13 m) was excavated on the south-west slope of Monte Alessio, quite near the presses. Coarse ware pottery, Arretine and terra sigillata wares together with a terracotta lamp, iron nails, and a millstone and small finds were discovered outside the villa and dated from the 4th century BC to the 2nd century AD. The wine presses may be dated to the same periods based on the nearby finds. Drawing by J. Asplund 1959 in SIR Archaeological Archive; CEO note-book II 1959, 3–11.

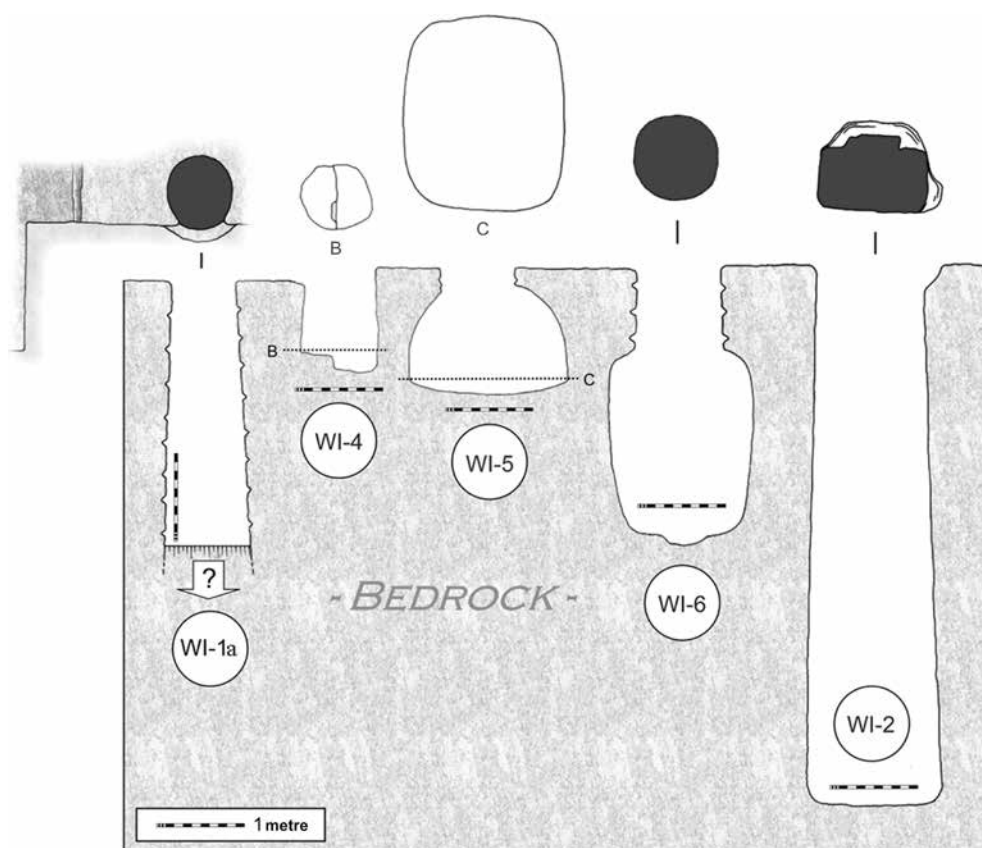


Fig. 91. Selected cross sections and plan views of cisterns WI-1, WI-2, WI-4, WI-5, and WI-6 documented on Vignale (illustration by R. Holmgren after notebooks from 1959–1960).

Water installations (WI)

Settlements on steep tufa hills, with rivers in the ravines far below, needed a safe and reliable water source near the houses. This required digging deep into the rock, in some cases down to the conglomerate, before the water level was reached. These wells were often lined with small and large tufa blocks, supporting the interior against the sometimes unstable bedrock. Another option for collecting water was to dig cisterns of moderate sizes and line them with waterproof plaster for collecting rainwater during the autumn and winter seasons. In case of too much water, underground drainage channels (*cuniculi*) were constructed either to collect, divert, or remove water from a site.²⁹¹ Basins that receive a constant flow of water are called reservoirs. Unlike cisterns, reservoirs often form part of aqueducts and fountains.²⁹²

In his study of water and risk in ancient Greece, Patrik Klingborg has classified cisterns into three main groups based on their underground construction, namely cavity cisterns, built cisterns, and a mixed technique of the two. The first group was divided into four shapes according to their physical aspects—flask, pear, shaft, and roofed.²⁹³ Two of the surface features of a cistern were the capstone covering the mouth and the *puteal* (a “wellhead” built around the access opening of a well or a cistern) made of stone, bricks, or terracotta.²⁹⁴ The sub-ground-surface structures/features could include the mouth, inflow, overflow, and climbing holes in the neck (foot-holes) and at the bottom a depression (silt catcher). The lining of the cistern is crucial in order to make the wall watertight.²⁹⁵

VAP has used Klingborg’s classification and terminology since his study on shape and function of wells and cisterns is based on practical principles. The constructions described by

²⁹¹ Izzet 2007, 195–197; Angelakis *et al.* 2013.

²⁹² Klingborg 2017, 4. Thomson de Grummond 2017, 13–14, discusses the terminology of wells and cisterns based on two wells (from Cetamura del Chianti), where she concludes that the word “cistern” does not fit for the water installations dated to c. 300 BC—Well #1 with a depth of 32.42 m and Well #2 with a depth of 8.32 m. Thomson de Grummond *et al.* 2017, 43–50 on stratigraphy and chronology, figs. 1, 4–5, charts 1–2.

²⁹³ Klingborg 2017, 40, figs. 1, 22–24.

²⁹⁴ Klingborg 2017, 15–16, fig. 1.

²⁹⁵ Klingborg 2017, 16–18, 43–46, 48–50. However, there are cisterns without lining due to the soil type. Of all the cisterns investigated by Klingborg, only 20% are equipped with climbing holes. Almost 25% have a bottom depression.

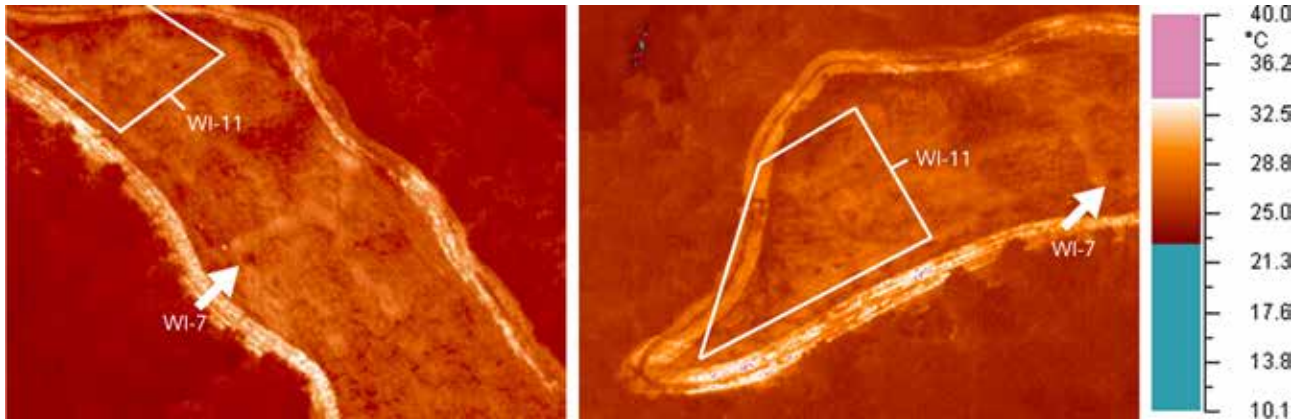


Fig. 92. Remote-sensing images taken over the western point of Vignale, using infrared thermography (IRT). The images identify possible water installations as distinct cold spots. The ancient wells or cisterns within marking WI-11 seem to be organized in a geometrical pattern, likely indicating the plan of adjacent houses. Note also the distinct rectangular cold spot of cistern WI-7, described elsewhere. Left: an oblique image of the area with the darker cold spots in the upper left (WI-11), facing north-west. Right: vertical image of the same area. All water installations are also presented in Fig. 27 (photograph by R. Holmgren with processing and interpretation by N. Masini [CNR/IBAM] and R. Lasaponara [CNR/IMAA]).

Klingborg are commonly found in the San Giovenale locality and thus the present authors find it convincing to compare San Giovenale's water installations with examples included in Klingborg's study on Greek equivalents. His distinctive treatise on the difference between wells and cisterns is furthermore significant for the interpretation of the Vignale remains.

Unfortunately the Vignale surveyors and excavators during the 1950s and 1960s did not define the exact meaning ascribed to features then labelled as wells or cisterns. In the notebooks they mentioned that ten wells and cisterns were located with a probe (*spillo*) (Fig. 29) on the western tip of the Vignale plateau, which were marked on a sketch in the notebook of 1959.²⁹⁶ Some of these features are now renamed by VAP as water installations (WI) (Fig. 91). In order to create a numerical overview and allow for a more flexible interpretation, these are renamed as WI-1a–b to WI-11 (Fig. 27, Table 12). The cisterns and wells (*pozzi*) which were not excavated but mentioned on a pencil drawing by Jerker Asplund in 1959 will not be further studied by the authors, since these lack essential information.

One aim of VAP's survey was to relocate the wells and the trial trenches made in 1959–1960. However, due to sludgy soil, ploughing, and cultivation on the summit it was almost impossible to trace any of those features. The wells and cisterns that were reinvestigated are defined below in separate feature descriptions. We have decided to use the term *well* for the fresh-water structures with a straight, cylindrical form or

one with straight walls that widens slightly in circumference with depth, and with a rounded mouth. *Cisterns* on the other hand, are defined as waterproof structures with a circular or rectangular mouth but with a flask-, pear- or shaft-shaped body. Sometimes these have a vaulted superstructure and occasionally a central bottom depression, following Klingborg's terminology.²⁹⁷

On the remote-sensing images, embracing NIR, infrared thermography (IRT), and conventional colour photography and taken during the aerial surveys in 2007 and 2009, VAP discovered traces of an additional *c.* 35 previously unidentified water installations (identified through IRT as distinct cold spots). These ancient wells or cisterns seem to be placed in a geometrical pattern indicating an arrangement of possible and adjacent unexcavated houses (Figs. 27, 92).

The Etruscan cisterns present in San Giovenale differ in shape and construction from those of the Early Roman period in general. The former are dug into the tufa rock and with oval or rounded mouths, while according to Klingborg, the Roman cisterns in general are rather large rectangular- or square-shaped features with one or several chambers, a vaulted roof, and often constructed in concrete. These can be defined as roofed cisterns according to the same author.²⁹⁸ No signs of

²⁹⁷ Klingborg 2017, 20, 22.

²⁹⁸ Klingborg 2017, 22, figs. 9–10. Many concrete cisterns in the vicinity of San Giovenale and Civitella Cesi, in close connection to aristocratic Roman *villae rusticae*, have been listed in Hemphill 2000, 142–143, see also Villa Ara della Trecca (Hemphill 2000, 26–27): the cistern at Villa Sambuco, 2nd century BC to the 1st century AD (Östenberg 1962, 313–320), Roman villa at Casale Vignale, 4th/3rd centuries BC to the second half of the 5th century AD (Hemphill 2000, 45–47), Pian de Crette/Le

²⁹⁶ CEÖ notebook II 1959, 53, 69. The probe (*spillo*) is a slender iron tool, 1.2 m long, used to locate cavities such as tombs and wells: see Fig. 29.

concrete cisterns have so far been found on Vignale, but the situation with the large and rectangular cistern of WI-10 is enigmatic. The cistern is cut into the tufa bedrock and is currently dated to the Etruscan period due to its specific, detailed characteristics.

Nancy Thomson de Grummond *et al.* have listed and discussed ways in which a large amount of various items found in a rock-cut well (Well #1) should be dated. The stratigraphy is divided into eight chronological groups in order to “create a framework for dating.”²⁹⁹ Thomson de Grummond also describes well-filling actions such as discarding, dumping, falling, dropping, collapsing, and the depositing of votives.³⁰⁰ On Vignale the contents of the documented wells and cisterns have proved vital for the understanding of the area, since we generally lack surface remains—due to insufficient excavations. To understand the abandonment of cisterns and wells, the maxim “as below, so above,” might be applicable. Although created for a different context, this aphorism is important because water installations such as wells and cisterns actually reflect the organization of the now-missing daily life above. These buried water installations in fact often conserve and mirror material that can no longer be traced above ground. On Vignale the dominant filling material, in almost every well or cistern, results from the first two actions in Thomson de Grummond’s list above. This accounts for discarded building material that further made the water installations in question completely unusable. The striking thing about these types of features is the labour-intensive effort of digging out the bedrock, displaying genuine craftsmanship.³⁰¹ With this background in mind, it leads us to the unavoidable question—why would such a long-term investment and high construction costs just be discarded?³⁰²

Pozze, 1st century BC (Ricciardi 1990a, 156–157), the vaulted cistern at Villa Selvasecca, AD 370–380 (Klynne, A. 2006–2007, 34, 43, 54–55; Hemphill 2000, 29–31), villa with cistern at Casentile (Hemphill 2000, 34–35), villa with cistern at Valle Vergine, 2nd century BC to 6th or 7th centuries AD (Hemphill 2000, 40–42), Casentile/Petrola (Hemphill 2000, 54–63), and Villa Giuinzone, 1st century BC to 5th century AD (Hemphill 2000, 111–112). See also *Table 13*.

²⁹⁹ Thomson de Grummond *et al.* 2015, 24–26, figs. 1–2. The finds from Well #1 comprised coins, bronze buckets, iron objects, iron slag, ceramics, textile implements, and wooden objects, faunal and floral remains (including waterlogged grape pips), astragali, and other offerings, etc. Well #1 was dated to 300 BC–AD 68 and then used continuously into the 12th century AD. On the dating of the eight groups, see pp. 24–26. See also Thomson de Grummond 2018, 30, chart 1.

³⁰⁰ Thomson de Grummond 2017, 15.

³⁰¹ Torelli 1991, 19–28, tables 1–2, on the Etruscan view of water as being holy and important, and the celebration of the various gods and spirits connected to different kinds of water at special feasts in July, August, and October, mentioned in the calendar of Numa Pompilius, Angelakis *et al.* 2013.

³⁰² Klingborg 2017, 92–93.

One could argue that neglected maintenance was the reason for abandoning the water installations. In some cases this is true, but it is hardly the situation where the wells were abandoned as a result of the destructive powers unleashed by the 550/530 BC earthquake, which is also reflected in the water installations’ stratigraphical phasing. This is treated in the discussion following the various water installation features below. In fact, there are no traces of a slow decline on Vignale—or rather, signs of repairs are not that easy to trace. If a well or a cistern went out of use and was later reused, such signs would not be that easy to detect in the construction itself.³⁰³ Often, there are simply no clear phases within a “hole” in the bedrock to determine such processes. On the other hand, it is easier to distinguish a complete abandonment since any accumulated debris inside the well or the cistern represents the last phase and the time thereafter—usually preserved right up to the time of any archaeological venture. This is quite evident on Vignale and in this case, we are certainly talking about the complete destruction of the private/public houses and any manufacturing activities already discussed. Any gradual transformation of the society would certainly be reflected in the water installations on Vignale—such as periods when the site gradually became uninhabited for various reasons. The signs of abandonment in the wells and cisterns on Vignale are, on the contrary, more abrupt. Debris from fallen buildings and artefacts were dumped into the cavities, and this rubble and material culture provide evidence for the early settlement on the plateau. Not only does this physical evidence provide hints about the appearance and types of the once-standing structures, but also the very fact that they existed—as below, so above.

The great number of different types of water installations on Vignale, predominantly cisterns, is an important indication of the types of structures that were involved in collecting water there (for example, the roofs of buildings), and that once these buildings were absent, the cisterns did not function as intended. Evidence of tufa buildings is present in the form of scattered fragments, construction details on the bedrock, and rubble in wells and cisterns.

One important aspect to acknowledge is the use of the Italian terminology “*pozzo*”—which translates to a well—a construction for accessing groundwater in underground aquifers. The meaning of this is important and sometimes causes confusion. Archaeologically this word is often used indiscreetly to describe both wells and cisterns. It is therefore easy to mistakenly ascribe any deep construction in the bedrock as a “*pozzo*”. When well acquainted with the main difference between a water installation for collecting water from below, rather than above, the terminology becomes significant. This is essential for tracing and understanding the specific function

³⁰³ Wells dried up due to low ground water levels.

of adjacent buildings and the use of the water installation itself. Without assigning any misinterpretations to a specific author or an archaeological text, it is obvious that many labelled wells (*pozzi*) are in fact cisterns. One should note though, that the great depth and the difficulty in reaching the bottoms of many water installations have prevented the excavators from providing a satisfactory analysis of their interiors. Many similar constructions have therefore not been studied in full detail, and as a result it could be even harder to determine a well/*pozzo* from a cistern.³⁰⁴

THE WATER SUPPLY ON VIGNALE

In this section all features are positioned on a simple map at the beginning of each feature description summarised in *Table 8*. Note that *Pozzi 4, 5, 7, 9*, as well as some cisterns, all of which are marked on a pencil sketch by Jerker Asplund in 1959, are not described in detail due to non-existent information (*Fig. 27*). The content of each feature will be described in a catalogue, and in tables and graphs, followed by a comment on accompanying finds.³⁰⁵

The finds from all investigated water installations were recorded.³⁰⁶ A small representative sample has been selected for the catalogue, presented after each feature to show a variety of forms, fabrics, and decorations, as well as other significant items useful for dating.³⁰⁷ The catalogues will mainly focus on items which may illustrate functions and activities, and thus illuminating the settlement character—starting with the pottery and continuing with terracotta objects and small artefacts. Thus, emphasis will be on distinct features, the similarities and dissimilarities of table wares of different fabrics, and both locally produced and imported wares, as well as

household wares found in the water installations. Due to the workflow of adding and renaming the *pozzi* and cisterns that were already documented in 1959–1960, the Water Installations WI-1–11 below are not presented in numerical order.

WI-2 CISTERN

Figs. 27, 74–75, 91, 93–96, 115, 156, 159

Feature: cistern

Original label 1959–1960: Pozzo 3/cistern Tr V.1-59

Interpretation: cistern

Shape: shaft

Subsurface features: climbing holes

Preliminary date of first construction: 7th century BC

Preliminary date of use: 7th–6th centuries BC

Preliminary dating of building material: 7th century BC

Area: (TS2)

Geographical location: 5 m west of the Stone Platform

Position: N42°13'23.04" E12°00'15.56"

Height ASL (m): 172

Measurements (m): diam. mouth: 0.70 × 1.25,

diam. bottom: 1.55, *depth:* 6.35

Finds: pottery, tiles, metal



Fig. 93. Cistern WI-2 (feature map by VAP).

Cistern WI-2 was described as a *pozzo* by the excavators, although later and probably rightly so, redefined by them as a cistern.³⁰⁸ It is positioned on the highest point on the Vignale plateau and as a cistern it doesn't need to reach any aquifer. In being a shaft cistern of more than 6 m depth, its rectangular mouth is unique among similar constructions in the area. The internal form of the cistern becomes more rounded immediately below the rectangular mouth and the entire bedrock

³⁰⁴ A similar case regarding the identification of 'wells' can be seen at Acquarossa. The field architect at Acquarossa, Claes Persson, has described the wells (*pozzi*) found in various zones, for example, the three wells and one silo in Zone B, two in Zones F and C. According to Persson, these functioned as wells or silos, Persson 1994, 293–300, figs. 5–6. Östenberg 1975, 41, 68–75 clearly expressed that the wells/*pozzi* at Acquarossa were collecting rainwater from gutters and rock-cut or tiled water channels. Therefore, this suggests more cisterns than proper wells.

³⁰⁵ Cistern WI-7 was partly investigated in 1959, but no further information is available, CEO notebook II 1959, 69.

³⁰⁶ The finds were stored in wooden boxes at SIR until spring 2009, when the whole collection was moved to two new storerooms in the town of Blera, except for selected items from the contents of the water installations WI-2, WI-3, and WI-6. These are on display in the San Giovenale and Acquarossa exhibition in the Museo Nazionale Etrusco Rocca Alborno in Viterbo (*Fig. 152*). Since the remains were studied very briefly during the excavations, a new thorough examination of the finds was required. The finds were examined, marked with inventory numbers, registered, counted, dated, drawn, photographed, and classified. The type and quantity of finds from various contexts are listed in *Tables 9, 11–13, 23*.

³⁰⁷ The finds listed in the catalogues are illustrated either by a drawing, a photograph, or both, all by Richard Holmgren.

³⁰⁸ MdC notebook 1959, 43, 50–51, 53–54, 57–58, 65.

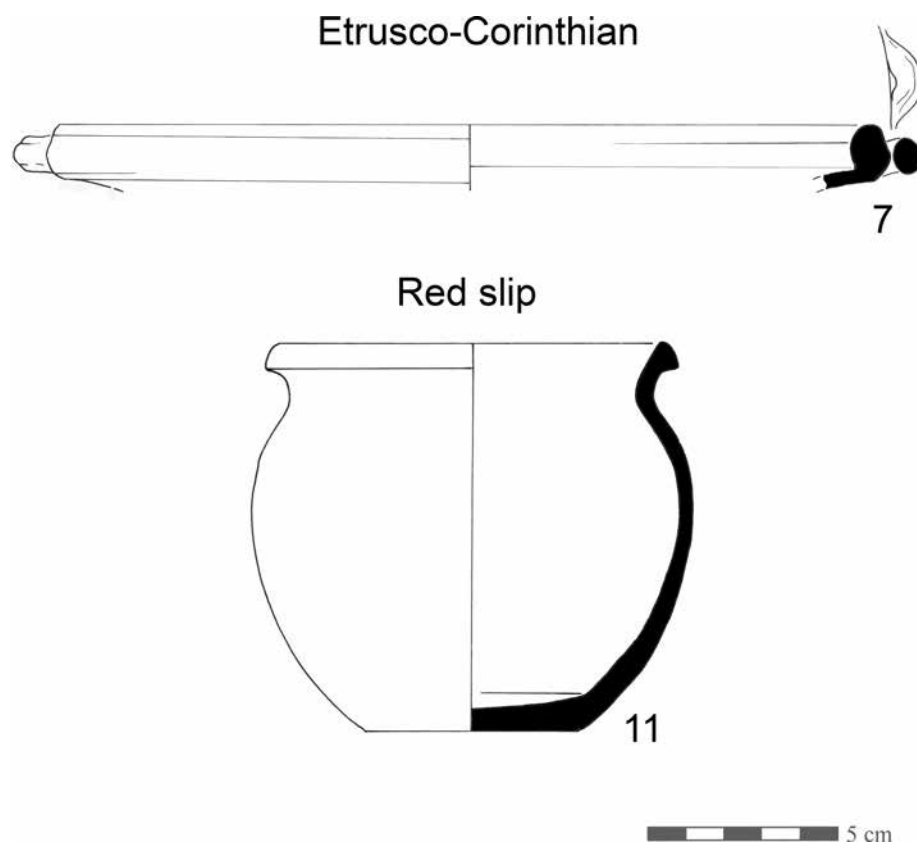


Fig. 94. Finds in cistern WI-2 (Cat. nos. 7, 11) (drawings by R. Holmgren, courtesy of SIR).

construction has a conical shape as it widens with depth.³⁰⁹ Seven notched climbing holes are visible in its western face, where the first cut for a climbing hole is visible in the plan view of the cistern at surface level—as can be seen in *Figs. 75, 91*. The opposite face of the shaft has deteriorated, thereby leaving no discernible climbing holes.

There are no visible channels or gutters leading into the cistern itself and its high position suggests that whatever brought water to this spot must have come from a now-absent structure presumably nearby. Positioned only a few metres east of WI-2 is the enigmatic Stone Platform, that might very well be associated with the cistern itself (*Figs. 75, 159*). The fairly substantial volume of WI-2 suggests that an abundance of water could be collected and that it was important for this specific area. There seems, however, to be a necessity for various cisterns in general in this elevated area. Water installations that can be identified as cisterns are found east of the Stone Platform (WI-1a and WI-9 in *Fig. 27*) and to the north-west of the Stone Platform, where WI-8 is situated some metres north-west of WI-2 (*Figs. 27, 101*).

When found, the content of cistern WI-2 very much resembled that of any other water installation on Vignale—that is, rubble from destroyed houses or other monumental buildings. The fill of WI-2 is characterized by large fragments of damaged tufa blocks of which one is L-shaped,³¹⁰ flat tiles, and pottery—mostly red-slip ware from about twelve various vessels (see *Tables 9, 11*). Altogether, the nature of the fill testifies to a clean-up after the earthquake of 550/530 BC. No finds or sherds from within the fill of WI-2 can be dated to later than 530 BC. An important detail is the L-shaped block within the destruction layer in the cistern. The very same kind of blocks can be seen in the lower course among the ashlar of the Stone Platform P1–P2 within the Quarry (see *Figs. 75, 159*). These L-shaped blocks are clearly reused in this structure and this very fact is also stressed by the excavator in 1959.³¹¹ This indicates that the filling and abandonment of the cistern was completed at the same time as the filling of the Quarry, using the debris of monumental buildings destroyed by the earthquake. Likely, this structure was near or on the actual position of WI-2 and the Stone Platform made later. One should also

³⁰⁹ MdC notebook 1959, 43.

³¹⁰ MdC notebook 1959, 51.

³¹¹ MdC notebook 1959, 46.



Fig. 95. Fragments of red impasto dolium (Cat. no. 9) from cistern WI-2 (photograph by R. Holmgren, courtesy of SIR).

stress the presence of a complete red-slip *oinochoe*, situated near the bottom of the cistern (Fig. 96). This trefoil-mouthed jug, dated to the middle of the 6th century BC, must have been both crafted and used shortly before the time of discard. The jug, together with the scattered debris, was positioned beneath a complete tufa block—as if deliberately put there to seal the setting. Perhaps the jug can be interpreted as a ritual deposition in the context of the earthquake, a rare and life-shattering episode—or simply lost in the sediments before the filling of the earthquake rubble.

Cat. nos. 7–15: cistern WI-2

Figs. 94–96, 115

Etrusco-Corinthian

Cat. no. 7. (Fig. 94). Plate with rope handles. Rim fragment with small pierced knob-handle; thickened inturned rim. Est. diam., handles included, 24.5 cm. pres. H 1.7 cm (inv. no. 59/60-219a).³¹²

³¹² This kind of plate is also well represented in the settlement on the Borgo NW slope, see *San Giovenale* V:2, pls. 3–5. See also the discussion of these plates within the Pietrisco Bridge Complex (Backe Forsberg 2005, 197–198, fig. 79:1, 3–5), as well as in the tombs surrounding San Giovenale, i.e., Valle Vesca (*San Giovenale* I:8, fig. 19:60–61, p. 31, fig. 29:68, p. 47, fig. 34:127, p. 57), Castellina Camerata (*San Giovenale* I:7:36, p. 13), Porzarago (*San Giovenale* I:5, pls. 25:60, 37:15), La Staffa (*San Giovenale* I:6, fig. 5:9), Casale Vignale tomb 1 (Fuglesang

Bucchero

Cat. no. 8. Jar/jug/*oinochoe*. Thin black bucchero body fragment from the bottom of cistern WI-2. The bucchero fragment is important for the dating of the cistern's filling episode. Dated to the 6th century BC (inv. no. 59-10).

Red impasto/red-slip

Cat. no. 9. (Fig. 95). *Dolia*. Five body fragments of three vertical, ribbed *dolia* with horizontal grooves near the base (inv. nos. 59-506, 59-490, 59-491). See also the ribbed *dolia* fragments found in cistern WI-8 (Cat. no. 23). On the shape, cf. vessels found in the settlement on the main Acropolis, *San Giovenale* IV:1, pl. 14, the red-slip impasto jar; in the Borgo NW settlement, *San Giovenale* V:2, pl. 42:A:d-2-4-24; on *dolia* found in tombs, see *San Giovenale* I:8, fig. 18:24, red impasto; *San Giovenale* I:5, pl. 17:8, p. 39, fig. 16. Similar finds are found in the settlement at Tarquinia, Bonghi Jovino 2001b, pl. 71:7/99, 200/2, 220/2. See also the *dolia* found in the sacred buildings α , β , γ at Pyrgi, Pieraccini 2016b.

1997–1998, 72, fig. 10:25). See further Bonghi Jovino & Chiesa 2005, pls. 130:11, 132:16, 135:7; *Caere* 3:1, figs. 320–322. On plates from Vulci, see the recently opened exhibition (Poggio Buco) in the Museo Nazionale Etrusco di Villa Giulia in Rome. Plates dated to the beginning of the 6th century BC.

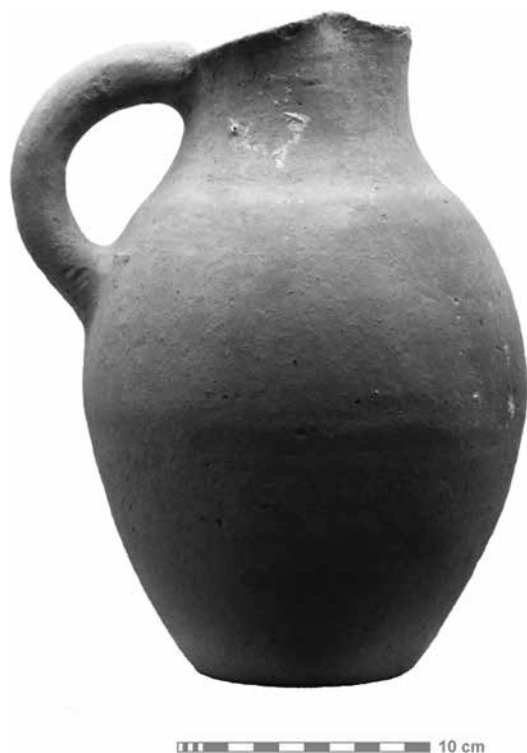


Fig. 96. Complete red slip oinochoe (Cat. no. 10) from cistern WI-2 (photograph by R. Holmgren, courtesy of SIR).

Red slip

Cat. no. 10. (Fig. 96). Jug/oinochoe. Trefoil-mouthed with ovoid body, flat base, and vertical rounded handle (complete); H 25 cm. W including handle 20 cm. Diam. of base 9 cm. Found at the bottom of the cistern.³¹³ Cf. *San Giovenale* V:2, pls. 44–45, Red-slip jugs P2-1 and P2-3. Buff clay slightly gritty.³¹⁴ Dated to the middle of the 6th century BC (inv. no. 59-102).

Cat. no. 11. (Fig. 94). Jar. Small, globular, flat base; three rim and-body fragments; almost complete with possible remains of content on bottom and on one side. A part of the jar seems to have a secondary burning. Diam. of rim 10.5; diam. of base 6 cm; H 10.5 cm (inv. no. 59-495a).

Cat. no. 12. Brazier. Bottom fragment with circular grooves, Pohl type 1c, cf. Pohl 1982, tav. II, bottom of brazier. Th. 2 cm; pres. L 9 cm (inv. no. 59-318); a rim fragment of a brazier was found in cistern WI-6.³¹⁵ See also *San Giovenale* V:2, pl. 48, R-235, B/C:c-16, C:a-b-2-3-46 and 48; *San Giovenale* I:5,

pl. 52, tomb P.S.1, right chamber 1; Backe Forsberg 2005, 100–101, red-slip braziers, figs. 82, 85:1; Bonghi Jovino 2001b, pl. 74, group C; Pohl 1982; *San Giovenale* II:5, pl. 17 (cistern II); V:2, 216, pls. 57, 65; see also Pieraccini 2003; *San Giovenale* IV:1, 131–132, pl. 15:83, fig. 103. Dated to the middle of the 6th century BC.

Tile

Cat. no. 13. (Fig. 115). Cover tile. Bottom edge of lower right corner. Pres. L 31 cm; H 7.5 cm; th. 1.1–1.5 cm; W 12–14 cm. Wikander 1986, type 1, fig. 1. Orange buff clay with mica and lots of white and black grits. Red brown slip. Dated to the 6th century BC (inv. no. 59-495b).

Metal

Cat. no. 14. Bronze pin. Corroded, slightly curved and tapering. L 3.5 cm; th. 0.3–0.5 cm (inv. no. 59-497). Cf. the bronze fragment found the Quarry (Cat. no. 153b) in Squares M53/M54, level 2. On metalworking and smithing, see Backe Forsberg 2005, 81–82, 102–103, 117, fig. 95; Guidi *et al.* 2005, 73, 75, tables 1–2 concluded that “... Etruscan San Giovenale is of particular importance in the field of archaeometallurgical studies: also in view of its position, close to the metalliferous layers of the Tolfa Mountains.” Klingspor Rotstein & Kwiatkowski 2013, 169–170, 173–174, figs. 136, 149a; *San Giovenale* V:2, 191, 223, pl. 106B, table 87.

Cat. no. 15. Bronze pendant/adjunct perhaps to a collar. W 3.5 × L 5.5 cm; th. 0.4–0.2 cm.³¹⁶ Found at the bottom of the cistern. See references in Cat. no. 14. Dated to the 6th century BC (inv. no. 59-103).

WI-7 CISTERN

Figs. 27, 92, 97

Feature: cistern

Original label 1959–1960: cistern 1

Interpretation: cistern

Shape: square (?)

Substructure features: vaulted roof

Preliminary date of first construction: 6th century BC (?)

Preliminary use: 6th–3rd centuries BC (?)

Preliminary dating of building material: -

Area: (TS2)

Geographical location: c. 95 m west of the Stone Platform

Position: N42°13'23.63" E12°00'12.29"

Height ASL (m): 169

³¹³ The oinochoe is now exhibited in the Vignale showcase in the Museo Nazionale Etrusco Rocca Alborno in Viterbo, see Fig. 152.

³¹⁴ MdC notebook 1959, 58 (Find 7).

³¹⁵ The brazier rim fragment from WI-6 lacks an inv. no.

³¹⁶ MdC notebook 1959, 58 (Find 8, missing).

Measurements (m): diagonal: 2.30, depth: dug to 2.0
 Finds: -



Fig. 97. Cistern WI-7 (feature map by VAP).

Cistern WI-7, marked as “cistern 1” on a sketch by Asplund, was documented during the investigation by the “flying squad” in 1959 (Fig. 27). It was located by using a probe (*spillo*) and only partly excavated. The feature has a diagonal plan measurement of 2.30 m and shows remains of a run-up to a vaulted roof, cut from the rock. It was excavated to a depth of 2.0 m, at which point the water level was reached. Unfortunately, there is no information whatsoever on the material or stratigraphical content.³¹⁷ The cistern was relocated in 2009 by infrared thermography (IRT), where a distinct signature of a quadrangular cold spot was evident that matched the marking on Asplund’s sketch. The cistern’s position is possibly in a courtyard, sharing this space with WI-4.³¹⁸ The clear indication of WI-7 being a cistern furthermore supports the idea that the similar WI-8, with its somewhat unclear purpose, is in fact a cistern. The partly excavated WI-7 yielded no finds according to the excavator.³¹⁹

WI-4 CISTERN/VAT

Figs. 27, 91, 98–99

Feature: cistern/vat

Interpretation: cistern/vat

Original label 1959–1960: Pozzo 1

Shape: shallow shaft

Subsurface features: two levelled bottoms, gutter

Preliminary date of first construction: 6th century BC

Preliminary date of use: 6th–4th centuries BC

Preliminary dating of building material: 6th century BC

Area: (TS2)

Geographical location: east of Wall C

Position: N42°13'23.78" E12°00'13.06 (±10 m)

Height ASL (m): 170

Measurements (m): diam. mouth: 0.85, bottom: 1.08, depth: 1.25

Finds: pottery



Fig. 98. Cistern/vat WI-4 (feature map by VAP).

Cistern WI-4 has a slightly irregular oval mouth, and half of its circular bottom is part-lowered about 0.2 m, creating a part-raised area of indeterminate function (Fig. 91).³²⁰ The cistern is not very deep, only 1.25 m at its maximum depth. This limited depth of the construction rather suggests that its primary use was that of a small cistern or a vat. Equally, the feature seems to have an inflow that is cut into the bedrock in the form of a shallow gutter. The deeper semicircular cut part of the bottom mentioned above forms a small basin in itself—perhaps for collecting some sort of fluid (initially suggested for water).³²¹ If not used as a cistern for storing, the whole container-like feature could also have served any form of manufacturing purpose, for example, uses within the domain of dyeing. This could be interesting when considering bedrock installations in context with various artefacts pointing to textile production. Worth noting is that coloured textiles were a very important commodity, of which today we have very few conserved remains.³²² For a discussion of the unique prerequisites for textile coloration, mordants, and the question

³¹⁷ CEÖ notebook II 1959, 53, 63.

³¹⁸ See the feature description of ‘House remains on the western promontory—a possible courtyard complex (atrium house)?’ below.

³¹⁹ CEÖ notebook II 1959, 63.

³²⁰ Cistern WI-4 was designated *pozzo 1* by the early excavators, CEÖ notebook II 1959, 53.

³²¹ CEÖ notebook II 1959, 53, 55–56.

³²² Gleba 2014.

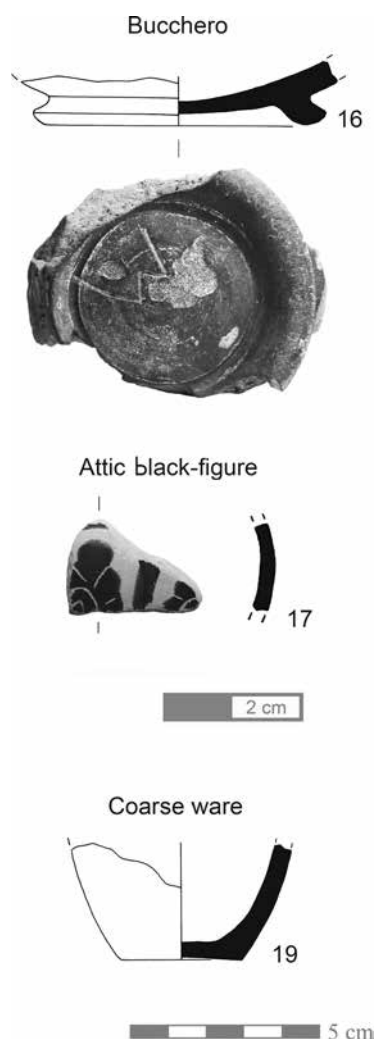


Fig. 99. Finds from cistern/vat WI-4 (Cat. nos. 16–17, 19) (drawings and photographs by R. Holmgren).

of whether the Etruscans extracted alunite in the Tolfa Mountains, see *Appendix 2*.³²³

Perhaps associated with WI-4 are some other water installations that were only briefly described in the 1959 documentation, including one smaller cistern and a “Pozzo 5” (Fig. 27). Most noticeable is perhaps the so-called cistern 1 (WI-7). If where WI-7 is located is indeed a larger building complex with a central courtyard, then WI-4 could share the same enclosure with the larger cistern. Both cisterns in this regard are built next to possible house foundations, perhaps for gathering water as part of the same contextual activities. Another possible indication of WI-4 belonging to this building complex, interpreted as postdating the 550/530 BC earthquake,

concerns the dating of WI-4’s finds assemblage. The pottery present belongs to the transitional period between the 6th and 5th centuries BC. One particular Attic black-figure sherd, found near the bottom, is dated to 490/480 BC (see *Cat. no. 17, Fig. 99*). This suggests a later dating, although it could be intrusive given the shallowness of the cistern.

Cat. nos. 16–19: selected finds from cistern/vat WI-4

Fig. 99

Bucchero

Cat. no. 16. (Fig. 99). Bowl/cup. Ring-base with incised Etruscan letter M (§) on underside of base. Ordinary bucchero. Dark brownish-black clay and surface. Grey core; micaceous. Diam. of base 11.5 cm; pres. H 2.5 cm. For incised inscriptions on bucchero cups and bowls from the Pietrisco Bridge Complex, see Colonna & Backe Forsberg 1999; Backe Forsberg 2005, figs. 91–92. Found at the bottom of the cistern. Dated to the 6th–5th centuries BC (inv. no. 59-30).³²⁴

Attic black-figure ware

Cat. no. 17. (Fig. 99). *Kylix*. Floral band cup. Small body fragment decorated with two palmettes separated by a small branch. Pres. L 2 cm; H 1.2 cm. Found at the bottom of the cistern/vat WI-4. Dated to the beginning of the 5th century BC (inv. no. 59-517).³²⁵ Cf. Backe Forsberg 2005, fig. 89:3; Barbieri 2002, 37, 47, 56, figs. 41, 59, 71; Brocato 2000, *tomba* 36, fig. 389:8.

Red slip

Cat. no. 18. Jar. Flat base. Diam. 16 cm; th. 0.7 cm. Well fired, reddish inside with a reddish-beige slip outside, micaceous, black grits (inv. no. 59-512).

Coarse ware

Cat. no. 19. (Fig. 99). Miniature jar. Flat base. Dark brown-black clay with large white inclusions. Grey interior and smoothed greyish-black exterior. Diam. of base 3 cm; H 2 cm (inv. no. 59-516).

³²³ Holmgren 2000.

³²⁴ CEÖ notebook II 1959, 56 (Find 2). For comments on the Etruscan letter *M*, see Maras 2019, 141–142, fig. 15.2. The *M* sign is mentioned in the Veian alphabet B.

³²⁵ CEÖ notebook II 1959, 55–56, drawing scale 1:1, fragment missing.

WI-8 CISTERN WITH TUNNEL

Figs. 27, 100–101, 104–105, Tables 4, 8–9, 11

Feature: cistern with tunnel-like structure

Original label 1959–1960: house foundation with cellar

Interpretation: cistern with blind tunnel

Shape: square with narrow passage

Substructure features: levelled bottom

Tunnel: slightly curved vaulted structure

Preliminary date of first construction: late 6th century BC

Preliminary use: end of the 6th to the end of the 4th centuries BC

Preliminary dating of building material: late 6th century BC

Area: (TS2)

Geographical location: north-west of Stone Platform

Position: N42°13'23.70" E12°00'15.01" (±15 m)

Height ASL (m): 173

Measurements (m): cistern: 1.5 × 1.5, depth: 1.65,

tunnel: 2.5 × 0.5–0.75, depth: 1.80

Finds: pottery, glass, weaving implements, metal



Fig. 100. Cistern with tunnel WI-8 (feature map by VAP).

The excavator described the remains of this feature as a house foundation. The cut in the bedrock forms a small rectangular space with a depth of about 1.65 m. A slightly curved tunnel-like structure (originally described as a cellar) is 2.5 m in length and has a depth of 1.65–1.80 m. It unites with the rectangular space and together with the tunnel the feature has a length of 3.9 m diagonally. The floor was somewhat deeper in the eastern part of the tunnel and a vaulted ceiling probably covered this particular segment. The assumption of a vaulted ceiling was based on the slightly curved fallen tufa blocks found within the tunnel itself. This was also indicated in the bedrock perimeter walls with an upper curvature. Whether the entire feature of WI-8 was part of a larger building is uncertain. The space was filled with earth, tufa blocks, tile fragments, and remains of ribbed *pithoi* (Figs. 27, 101 and Table 6). The tunnel-



Fig. 101. Feature WI-8, an original cistern provided with an additional blind tunnel—likely an extension of the cistern in order to expand its volume (photograph by C.E. Östenberg, courtesy of SIR).

like structure, 0.5–0.75 m wide and 2.5 m long, leads away from the north-east corner of the structure. WI-8, as well as the so-called house foundation with a cistern (WI-9 and WI-1a), were interpreted as building remains in the excavation diaries from 1959–1960.³²⁶ At the time, these were marked on a large sketch covering the whole area of investigation on Vignale. In the sketch we can see three other house foundations with “*pozzi*” (Fig. 27). Likely, these were not excavated since they are not further mentioned in the diaries; these features were also interpreted as house foundations, as they appear as such in, for example, the book *Etruscan culture*.³²⁷

In line with the discussion neighbouring WI-9 and WI-1a, it may furthermore be somewhat challenging to associate the structure of WI-8 with a house foundation. Its rather small size is more like a cistern and since the tunnel-like structure is associated with the rectangular feature, it further suggests the function was related to water. In fact, the narrow width of the tunnel-like structure, its height, and the remains of vaulted blocks within, some still *in situ* on the top, more resembles a blind tunnel.³²⁸

A blind tunnel could in fact be an extension of a rectangular cistern, created in order to expand the volume of the

³²⁶ CEO notebook II 1959; MdC notebook 1959.

³²⁷ Hanell 1962, 304.

³²⁸ Klingborg 2017, 26.



Fig. 102. A photograph from the 1960s showing the outflow of the cuniculus on the southern Acropolis in San Giovenale, facing north. It was found in connection with a later cave habitation from the Byzantine period, both of which are depicted in Fig. 73, far left (photograph by M. Lindgren, courtesy of SIR).

associated cistern. Klingborg discusses this phenomenon and although his treatise focuses on deep cisterns, one can postulate that the same solution would be applied to a rectangular cistern when space was limited.³²⁹ A parallel to this structure's building technique, both in section and somewhat in plan, could perhaps be the so-called *Fossa cuniculo* found in the Acropolis Area B, near the Etruscan moat.³³⁰

The occurrence of underground channels is also documented in House K on the southern edge of the Acropolis (Figs. 73, 102–103).³³¹ It may therefore be natural to ask the question if there is a similar water system on the western part of Vignale. We can expect those to be present, but in the case

³²⁹ Klingborg 2017, 26; Klingborg & Finné 2018.

³³⁰ *San Giovenale* II:2, 22–23, 40–43, 54–56, figs. 17, 19, pls. 33–37, general plan A. *San Giovenale* II:5. The *Fossa cuniculo*, which ran in an east–west alignment, measured H 1.68 m, W 0.60 m, L 5 m, ending in the bottom of a circular well, and contained pottery and textile implements dating from the Sub-Appennine period to the 4th–3rd centuries BC.

³³¹ Two tunnels running north–west–south–east opened onto the southern slope near House K, the Etruscan building excavated by King Gustav VI Adolf, Prof. Margareta Lindgren, and Dr Lars-Olof Gezelius in 1960–1963, *San Giovenale* II:5; Hanell 1962, 302–305, figs. 275–276. See also Alyasin 2020 on an analysis of House K. This Etruscan *cuniculus* to the left of House K (Fig. 103) may have been rebuilt into a cave habitation during the Byzantine period similar to other *cuniculi* in the region, see, for example, Ferracci 2001, 37–38, n. 26; Ferracci & Guerrini 2014.



Fig. 103. Another cuniculus documented on the San Giovenale Acropolis, east of House K, facing north. (photograph by B. Blomé, courtesy of SIR).

of WI-8's tunnel-like structure, it should simply be treated as a solution to increase the volume of the adjacent cistern. For more documented *cuniculi* in the area, see the ones recognized at Civitella Cesi and Luni sul Mignone.³³²

Cat. nos. 20–40: selected finds from cistern with tunnel WI-8

Figs. 104–105, Tables 4, 9, 11

Bucchero

Cat. no. 20. (Fig. 104). Cup. One ring-base. Diam. of base 8 cm; pres. H 1.9 cm. Three short straight marks impressed on edge of the ring-base. Ordinary bucchero. Greyish-black clay with mica. Similar to Rasmussen 1979, type 3i. Dated to 6th–5th centuries BC (inv. no. 59-452).

Cat. no. 21. (Fig. 104). Bowl, miniature, trumpet-shaped ring-base; slightly everted rim, lip missing. Est. diam. of base 5.5 cm, pres. H 5 cm. Grey clay, worn and abraded surface. Miniature bowl of Rasmussen 1979, type beaker. Dated to 6th–5th centuries BC (inv. no. 59-455).

Cat. no. 22. Spindle whorl.³³³ Black bucchero. Conical shape. Diam. 3 cm. H 1.8 cm; missing. Dated to 6th century BC (inv. no. 59-32).

³³² Hemphill 2000, Casentile/Petrolane of Vignale, fig. 53, Casentile/Petrola pp. 54–63, *cuniculi*, figs. 82–85. A grotto and a subterranean tunnel system (*cuniculi*) with wells were found in connection with a *villa rustica* at the Pianarola, south-east of the Luni plateau. The farm was dated to the first half of the 2nd century AD and from the mid-5th to 6th centuries AD in Bengtsson 2001, 59–61, fig. 45 (*lokal* 4).

³³³ CEÖ notebook II 1959, 54 (Find 4, missing).

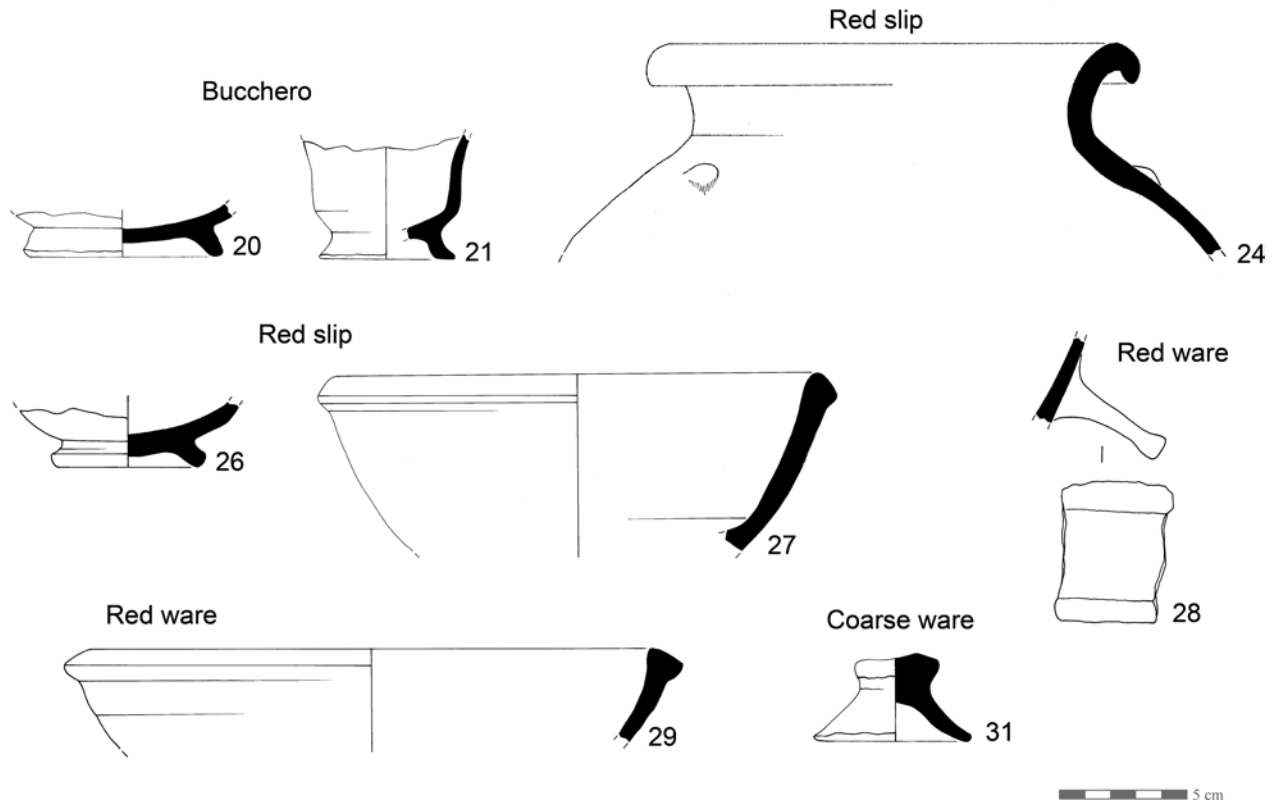


Fig. 104. Finds in cistern with tunnel WI-8 (Cat. nos. 20–21, 24, 26–29, 31) (drawings by R. Holmgren).

Red slip

Cat. no. 23. *Dolia*. Shoulder, body, and base fragments (63 shoulder and body fragments, some joining, and one base fragment) of at least two *dolia* with ovoid shape and vertical narrow ribs, framed by two or three horizontal ribs on shoulder and the lower parts towards the flat base. Flat base; coarse fabric with brownish-red slip, very worn. Some fragments still have red colour. Th. of body 0.8–1.1 cm, th. of base 1.5 cm (inv. nos. 59-505a, 59-493). See, for example, Barbieri 1987, 167–168, figs. 55–56, red impasto *dolia* produced in Cerveteri for storing food, probably cereals, and dated from the end of the 7th–the middle of the 6th centuries BC. These are frequently found in Caeretan tombs.

Fragments of ribbed *dolia* have also been identified in cistern WI-2 (Cat. no. 9, Fig. 95). Furthermore, ribbed *dolia* have been reported from habitation areas at San Giovenale such as on Borgo NW, *San Giovenale* V:2, 47, 90, pl. 42: A:d-2-4-243, pl. 38:Bc-mix-14, and from House II on the Acropolis a fragmentary ribbed (fluted) red-slip globular jar (*pithos*) with a figured relief band on the shoulder, *San Giovenale* IV:1, 74, cat. no. 73, figs. 97–98, pl. 14. This stamped vessel is unique for San Giovenale, since most of the ribbed *pithoi* found in tombs and in habitation areas are ribbed on the body, framed

by two or three horizontal grooves/ribs on the shoulder and above the flat base. Karlsson in *San Giovenale* IV:1, 74, fig. 97 has attributed the jar to a Caeretan workshop. These ribbed *dolia* (storage jars) have also been deposited in many tombs from various necropoleis surrounding San Giovenale: for example, the vessels in tumulus P4 from the Porzarago necropolis dated between 575 and 525 BC, especially fragments of large vertical ribbed *dolia* on and between the benches, *San Giovenale* I:5, 34–40, 60–67, 97–126, fig. 16, pl. 17:8. See also ribbed vessels from the tombs P9, P11–P14 from Porzarago, the tombs G.T. 1–2 from Grotte Tufarina, the tombs P.S.1 and P.P. 1 from the Montevangone necropolis. Welin 1962, fig. 249, tomb P9.

The lower ribbed fragments framed by two or three horizontal encircling ribs near the flat base are very similar to the lower fragments of the two *dolia* from the tunnel-like structure. The many examples of vertical narrow ribbed *dolia* framed by horizontal encircling two or three ribs at the shoulder and the base from the tombs at San Giovenale are pertinent for the assumption of a local production of *dolia*, brazier, and sarcophagi; see also the complete *dolia* in the *Tomba dei Dolii* from Cerveteri in Boëthius 1962, fig. 76. The production centre at Tolfa seems to have produced stamped

Ware/form/object	Cup	Plate	Bowl/lid	Basin	Lid	Jar	Jug	Dolium/ pithos	Object	Total
Bucchero	5		1							6
Red slip			2	1	2	10	1	7		23
Coarse ware-internal red slip						1				1
Coarse ware			1		1	5				7
Etruscan black-figure/red-figure/Campana C black-glaze	3									3
Red ware			2			2				4
Arretine ware (?)		1								1
Arretine terra sigillata (?)		1								1
Glass paste									1	1
Bucchero spindle whorl									1	1
Terracotta loom weight									1	1
Grinding stone									1	1
Total	8	2	6	1	3	18	1	7	4	50

Table 4. Ceramic wares and forms in cistern with tunnel WI-8, including items not catalogued.

dolia, while the potter at San Giovenale made more simple vessels with horizontal encircling grooves on the shoulder and base. The ribbed *dolia* are often found together with stamped braziers either produced locally, or at Caere, see Pohl 1982; Pieraccini 2003; 2016b; Serra Ridgeway 2010.

Cat. no. 24. (Fig. 104). Jar, ovoid globular. Two rim, neck, and body fragments. Below neck, a small applied clay boss. Thick undercut rim with pointed lip. Est. diam. 19.5 cm; pres. H 8.5 cm (inv. no. 59-460a). Rather similar to *San Giovenale* V:2, pl. 41, R-185, pl. 43, A:d-2-4-255. See also, for example, Murray Threipland & Torelli 1970, fig. 33, large coarse ware jars with bosses. On jars with bosses, see *Satricum* VI, pls. 4:4.1, 84.2, n. 49; Cecchini & Pisu 2004, 35, fig. 8, *tomba* 1, 1–2 (a tumulus in a necropolis dated to 7th–5th centuries BC); Brocato 2000, 214, *tomba* 16, fig. 189:1 red impasto jar, dated to 630–580 BC. The tomb also contained vessels dated to the end of the 6th and beginning of the 5th centuries BC.

Cat. no. 25. *Amphora*/jug. One rim and neck fragment. Est. diam. 8 cm; pres. H 5 cm (inv. no. 59-514).

Cat. no. 26. (Fig. 104). Bowl. One fragment of ring-base. Orange fabric with red slip. Diam. of base 6.1 cm (inv. no. 59-478). Cf. *San Giovenale* IV:1, pl. 15:77; Backe Forsberg 2005, fig. 84:12–13.

Cat. no. 27. (Fig. 104). Bowl, internal red slip; two rim and body fragments. Slightly rounded form; thickened angular lip. Est. diam. 21 cm; pres. H 7.5 cm (inv. no. 59-458). On the form see *San Giovenale* V:2, pl. 54, internal red-slip ware A:d-6-11, pl. 72, variously slipped ware R-376, pl. 88, kitchen ware Bc-4-6.

Red ware

Cat. no. 28. (Fig. 104). Bowl/*skyphos* (Roman *clibanarius*?). Obliquely protruding horizontal band-handle; fragment of handle and body, handle 4 cm. Very worn. No slip left. Date uncertain, late 2nd century BC? (inv. no. 59-484).

Cat. no. 29. (Fig. 104). Bowl. Out-turned T-shaped rim with thickened lip. Orange red clay with buff slip. Est. diam. 25 cm. Uncertain date (inv. no. 59-480).

Cat. no. 30. Jug. Unglazed tubular spout not attached to rim. Fine orange red clay with buff slip. Diam. of mouth 2.6 cm; L 4.5 cm. For close parallels, see *San Giovenale* V:2, pl. 101, Sp. 16; Hjohlman 2006, 171, fig. 299. Dated to the medieval period (8th–9th centuries AD) (inv. no. 59-485).

Coarse ware

Cat. no. 31. (Fig. 104). Lid. Small broad knob. Diam. of rim 6.4 cm; diam. of knob 3.4 cm; H 3.3 cm. Reddish-buff clay with lots of mica and black grits (inv. no. 59-477). Cf. *San Giovenale* V:2, pl. 88, A:d-2-4-518, and pl. 89, R-468; Backe Forsberg 2005, the same form but in red slip, cf. figs. 84:6, 90:17–19.

Cat. no. 32. Miniature jar. Ovoid body, flat base; black outside, lots of white inclusions. Diam. of base 3.5 cm; pres. H 3 cm (inv. no. 59-516).

Cat. no. 33. Cup. Small handmade trumpet-shaped foot. Diam. of foot 5 cm, pres. H 2.5 cm (inv. no. 60-231). Uncertain date.

Etruscan red-figure

Cat. no. 34. Small cup. Rounded rim fragment. Inside of rim reserved thin band on rim; outside two reserved rounded inci-

sions (part of figure or flower decoration?). Too small for est. of diam. Dated to the 5th century BC (inv. no. 59-13).

Etrusco-Campanian black-glaze/Campana C ware

Cat. no. 35. Cup. Base ring, trumpet shaped, black gloss on both sides. Too small for est. of diam. (inv. no. 59-11).

Cat. no. 36. Black gloss body sherd of closed shape, black gloss outside. Dated to 5th century BC (?) (inv. no. 59-12).

*Terracotta loom weight*³³⁴

Cat. no. 37. Loom weight. More than half of truncated pyramidal-shaped weight, one side damaged. Quadrangular base and top, use-wear with slightly rounded edges of base; perforated hole diam. 1.5 cm *c.* 2 cm below top; H 11.5 cm; base 6 × 6 cm; top 4 × 4 cm; W 7.6 cm; calculated weight 610 g.³³⁵ Small hole on top 0.8 cm deep; similar to Backe Forsberg 2005, fig. 94a:1; cf. also *San Giovenale* V:2, pl. 104a. Pinkish-red clay, very gritty, slightly micaceous with white and black grits.³³⁶ Dated to 6th–5th centuries BC (inv. no. 59-33).³³⁷

Arretine terra sigillata (?)

Cat. no. 38. Plate, small flat bottom fragment of plate, red glazed on both sides, probably dated to 1st century BC or later (inv. no. 59-489).

Glass paste

Cat. no. 39. *Amphoriskos/aryballos/skyphos*. Body fragment of glass paste W 2.2 × L 2.7 cm; multi-coloured, blue, yellow and green in horizontal zigzag lines.³³⁸ Dated from late 5th century BC or earlier (inv. no. 59-31). See, for example, Santoro 2006, figs. 3–4, Poggio Sommavilla 7th century BC one glass paste *amphoriskos* and *aryballos* probably originated from Rhodes; see also *amphoriskoi* in Jehasse & Jehasse 1973, 37, 420, 422, pl. 164:1648, tomb 87 dated 400–375 BC. The body fragment seems to derive from a small *skyphos* comparable to the glass paste *skyphos* found in tomb XI, Colle del Forno, Santoro 2006, fig. 3. Dated to the 6th or end of 5th centuries BC? See also a glass paste *alabastron* found in the *Sorgente e della Paura* tomb



Fig. 105. Oval grinding stone (Cat. no. 40) from cistern with tunnel WI-8 (photograph by Y. Backe Forsberg, processed by R. Holmgren).

(dated to the end of the 4th to the beginning of the 3rd centuries BC) in Località Greppo Cenale, San Giuliano.³³⁹

Glass and faience objects have been found at burials³⁴⁰ and settlements of various dates at San Giovenale, for example, objects found at the Bridge Complex dated to 675–650 BC,³⁴¹ on the Acropolis in Area F East,³⁴² and in the east part of Area B.³⁴³

Grinding stone

Cat. no. 40. (Fig. 105) Oval grinding stone (peperin?) L 7.8 cm; W 6.5 cm; th. 5.1 cm; weight 258 g (inv. no. 59-16).³⁴⁴ Well-shaped for the hand and probably used for grinding herbs or minerals both for colouring wool.³⁴⁵

WI-6 CISTERN

Figs. 27, 91, 106–107, 109–115, 152, Tables 5, 8–9, 11, Graph 2

Feature: cistern

Original label 1959–1960: Pozzo 6/cistern

Interpretation: cistern

Shape: flask-shaped

³³⁴ We thank Hedvig Landenius Enegren for information on the loom weights. She is currently working on a project concerning textile implements from the excavations at San Giovenale and Acquarossa from 1956–1975.

³³⁵ On the function of a loom weight and the importance of measuring weight and thickness, see, for example, Landenius Enegren 2015, 124–125, 128–129, 132, fig. 1, tables 1–3. On decoration and various motifs, see Landenius Enegren 2015 133 and figs. 21, 24–26, 28–30.

³³⁶ CEÖ notebook II 1959, 54.

³³⁷ CEÖ notebook II 1959, 54 (Find 5).

³³⁸ CEÖ notebook II 1959, 54 (Find 3, 59–31). Unfortunately, the fragment is currently missing.

³³⁹ Steingraber 2009, 95–96.

³⁴⁰ *San Giovenale* I:5, 32 (inv. no. P.2:106), 60, pl. 56 (inv. no. P.8:95), 70 (inv. no. P.10:23), 93, pl. 56, 104 (inv. no. G.T.1:134), 125 (inv. no. P.S. 1:123); I:6, 9:11, 25, 10:41, fig. 12; I:7, 6–7, fig. 6 (CC1:14, 22); I:8, 32:93, 55, figs. 20, 33 (VV1:94, VV3:136).

³⁴¹ Backe Forsberg 2005, 82, fig. 94a:16–17.

³⁴² *San Giovenale* IV:1, 136.

³⁴³ *San Giovenale* II:5, 39, 46–47, 50, figs. 1, 3–4, 22. Cistern II was dated to the 6th–4th centuries BC, see *San Giovenale* II:4, fig. 1, plan over the long trench in Area B west of the di Vico castle. *San Giovenale* II:2, 44, figs. 7–8, 10–12, 16, plans A–B, pl. 40. The date of the fragments is uncertain, likely Roman or medieval.

³⁴⁴ Many thanks to Hedvig Landenius Enegren for the measurements.

³⁴⁵ See Gleba & Mannering 2012, 20, on stone tools such as grinders, pestles, mortars, and pounders used by dyers when preparing raw materials.

Subsurface features: neck with climbing holes, bottom depression

Preliminary date of first construction: 7th century BC

Preliminary date of use: 7th to the middle of the 6th centuries BC

Preliminary dating of building material: 7th century BC

Area: (TS2)

Geographical location: centrally positioned on the plateau, east of Wall C

Position: N42°13'24.19" E12°00'13.17" (± 10 m)

Height ASL (m): 169

Measurements (m): diam. mouth: 1.00, bottom: 1.30, depth: 3.10

Finds: pottery, tiles, terracotta objects



Fig. 106. Cistern WI-6 (feature map by VAP).

Of all the water installations documented on Vignale, the perhaps most noteworthy is the flask-shaped cistern WI-6 and its contents.³⁴⁶ It differs from the shaft-shaped cisterns in that it extends in a characteristic bulb shape below its neck (Fig. 91).³⁴⁷ WI-6 has a neck diameter of 1 m, which expands into the bulb shape at a depth of c. 1.30 m. In the neck area, notched climbing holes are visible with c. 0.30 m intervals on opposite sides. The cistern was located east of and near the visible end of Wall C, in its far northern part (Fig. 27). It was first excavated by the “flying squad” to a depth of c. 1.10 m and then cleared by del Chiaro down to a depth of 3.10 m, at

which depth its bottom was encountered.³⁴⁸ Its greatest width is 1.65 m and it has a bottom depression. Although not mentioned in the notebook, the bottom depression is clearly seen in the drawing record (Fig. 91).

The nature of WI-6’s fill and material remains is indicative of a clean-up after an earthquake, presumably that of 550/530 BC. Overall, the material accumulated within the cistern is rather homogeneous, and the great number of similar items and relatively complete vessels suggests that these originate from the same context and were deposited in the cistern at the same time. We can assume that nearby, or at least in the direct vicinity of the cistern, was originally a building that is now missing. The cistern contained an uncommonly large number of pantiles and cover tiles—which suggest that these were the material remains from a large roof structure. Mixed within we also find the scattered remains of red-slip large basins with four crosswise-placed lug feet (*teglie*), of which one is almost complete. As we shall see the find material might have had a ceremonial function, and consequently this may also apply to the destroyed building itself. For example, the vessels have been associated with ritual remains, where these containers served for preparing and cooking meat and bread.³⁴⁹ Aside from these, we also find remains of several bucchero vessels with graffiti accompanied by jugs (*oinochoes*)—likely in the context of wine. Cistern WI-6 is furthermore the find-spot of the ram’s head; the overall shape and details of this terracotta animal protome might have had a function that chimes with the suggested ritual context. The material remains, having a possible ritual overtone, are thoroughly examined in the section below, and are further touched upon in Chapter 5.

Cat. nos. 41–79: selected finds from cistern WI-6

Figs. 107–116, 152, Tables 5, 9, 11, Graph 2

Primitive impasto

Cat. no. 41. (Figs. 107–108). Carinated bowl/*kyathos*. Rim and body fragment; above carination a circular row of oval-shaped impressions. Handmade. Dark reddish-brown clay with silver mica. Burnished grey with black patches outside. Fired grey with dull interior surface. Base missing, probably flat or rounded with a dimple in the middle. Inside grey burnished. Diam. of rim 9 cm; pres. H 5.5 cm. Found 2–3 m below the surface. The bowl can possibly be dated to the Final Bronze Age 1–2/Proto-Villanovan period (inv. no. 59-401). Cf. *San Giovenale* IV:1, pl. 10:210 (advanced impasto);³⁵⁰

³⁴⁶ CEÖ notebook II 1959, 53; MdC notebook 1959, 39, 41–44, 49–50, 62.

³⁴⁷ WI-6 was initially named *pozzo* 6, but later changed when it was re-defined as a cistern, according to del Chiaro in MdC notebook 1959. At the time many cisterns were labelled as *pozzi* (wells), which was likely an umbrella term for deep cavities intended to hold water. Already in 1959 there was an attempt to classify *pozzi* as cisterns.

³⁴⁸ MdC notebook 1959, 41–50. There is no information on the excavation of *pozzo* 6 in CEÖ notebook II 1959.

³⁴⁹ Zifferero 2000; 2004.

³⁵⁰ According to J. Bengtsson (pers. comm.), this is an unusual form, possibly Final Bronze Age III. See also Östenberg 1967, 255–256, on

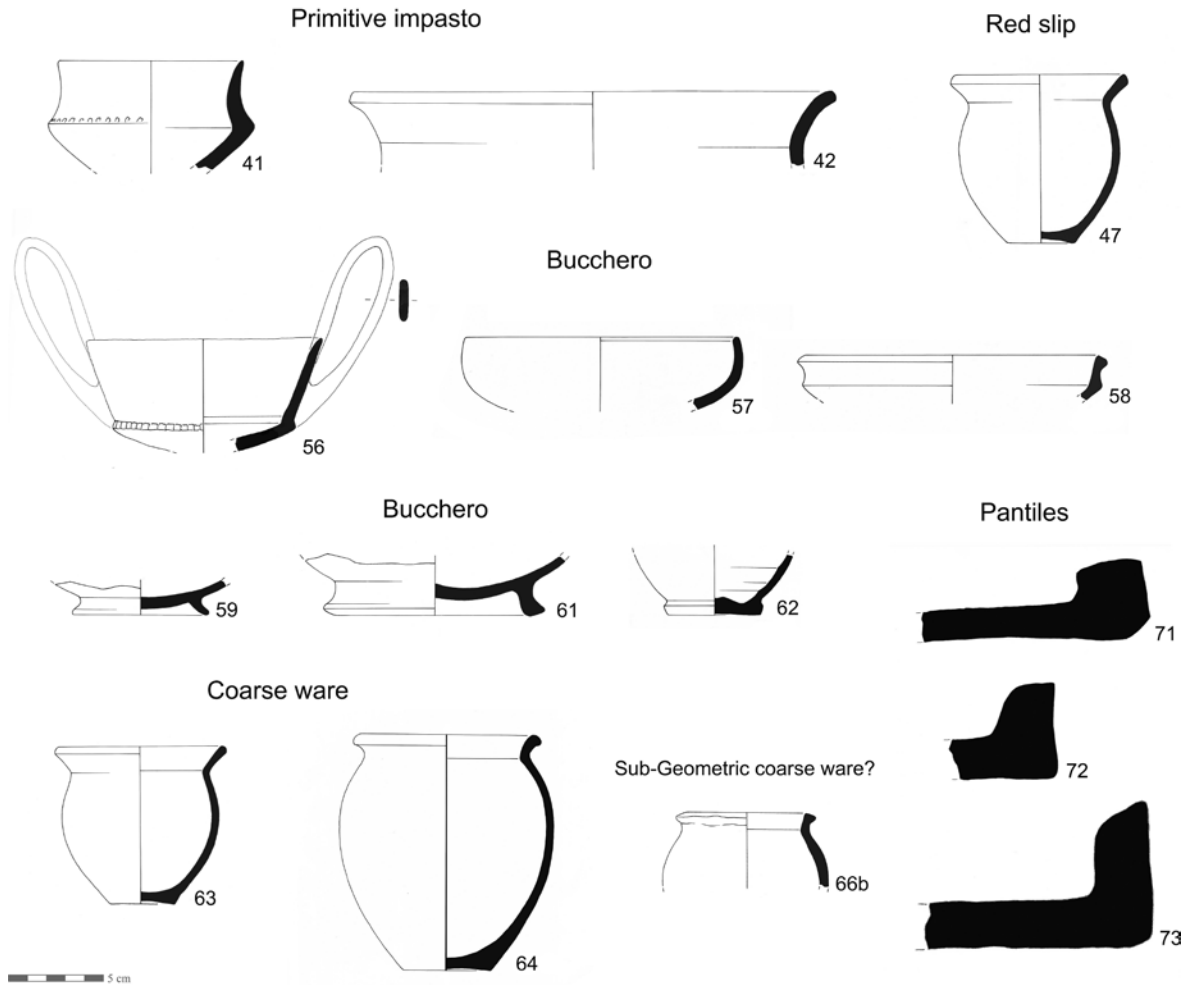


Fig. 107. Finds in cistern WI-6 (Cat. nos. 41–42, 47, 56–59, 61–64, 66b, 71–73) (drawings by R. Holmgren).

see also *Luni sul Mignone* II:2, 14–17, cat. nos. 11, 13, 150, pls. 16, 20, 64, 70 fragments from str. 12 dated to the Tolfa culture with some intrusive Bronze Age fragments.

Cat. no. 42. (Fig. 107). Biconical jar/oval cylindrical jar, one rim fragment. Out-turned rim, angular lip. Dark brown-red-dish clay; very micaceous with some white inclusions. Red burnished inside. Handmade. The diam. could not be est. H 4.5 cm; W 5 cm. Found 2–3 m below surface. Dated to the Final Bronze Age III/Proto-Villanovan; 8th century BC (inv. no. 59-402a). Marcus 1984, figs. 22:7; 23:11; *San Giovenale* IV:1, pls. 2–3; III:3, pl. 2; Backe Forsberg 2005, fig. 75:5.

Cat. no. 43. Brown impasto. Cup/kyathos with raised handle. One fragment of small rim, body and flattened handle. Fine



Fig. 108. A primitive impasto carinated bowl/kyathos (Cat. no. 41) found in cistern WI-6 (photograph by F. Tobin-Dodd, processed by R. Holmgren).

Luni capanna B (II?), Tolfa Final Bronze Age 1–2 and Bengtsson 2017, 19, fig. 1.



Fig. 109. Two red slip jars (left, Cat. no. 47; middle, Cat. no. 46) and one red impasto oinochoe (right, Cat. no. 44) found in cistern WI-6 (photograph by R. Holmgren).

dark brown clay with dark brown dull surface. Handmade. Similar to *San Giovenale* IV:1, pl. 10:207. Dated to the 8th century BC (inv. no. 59-402c).

Red impasto

Cat. no. 44. (Fig. 109). Jug/*oinochoe*. Trefoiled mouth, rounded vertical handle, ovoid-globular body, flat base, fragmentary, restored. Slightly burnished dark red slip. Diam. of base 9.5 cm; H 25 cm. On form cf. *San Giovenale* II:5; V:2, pl. 45, P-2-2; V:3, and also the red-slip jug in *cistern* WI-2 (Cat. no. 8, inv. no. 59-10). Dated to 7th–6th centuries BC (inv. no. 59-319).

Cat. no. 45. Jar/*dolium*. Ovoid; rim fragment, slightly everted rim with rounded lip, short neck. Est. diam. 27.5 cm; pres. H 4.5 cm (inv. no. 59-402b).

Red slip

Cat. no. 46. (Fig. 109). Jar. Ovoid-globular, out-turned rim, short carinated neck, flat base fragments (now restored). Two horizontal faintly painted white(?) narrow bands, one on upper part of body and one on the thickest part of body (white-on-red?); H 15 cm; diam. of mouth 15 cm; diam. of base 8.5 cm. Cf. *San Giovenale* V:2, 42, A:i-18. Dated to the beginning of the 6th century BC (inv. no. 59-333).

Cat. no. 47. (Figs. 107, 109). Jar, ovoid-globular, flat base, out-turned rim, short neck, fragments. Now restored. Diam. of rim 10.5 cm; diam. of base 5.5 cm; H 8.5 cm. On form cf. *San Giovenale* V:2, internal red slip, R-238. Dated to 7th–6th centuries BC (inv. no. 59-329).

Cat. no. 48. (Fig. 110). Basin with four small crosswise-placed lug feet. Out-turned wall with thickened rim, flat bottom, part of it missing and with four small lug feet bent upwards, concave exterior and interior of each foot; fragments (now restored).

The feet hold the bottom a couple of centimetres above the ground. Diam. of rim 50.5–51.0 cm; diam. of base 30 cm; th. of wall 1.0–1.5 cm; H 16.5–19.5 cm. The weight was unfortunately not recorded, but has been est. to c. 6 kg.³⁵¹ Dated to the 6th century BC. Joining fragments were found 2–3 m below surface and at depth of 3.10 m (inv. no. 59-315a).

Cf. other types of bowls with four lug feet in various fabrics in *San Giovenale* V:2, for example, internal red slip, pls. 56, 66, red slip pl. 46, kitchen ware pls. 89, 91. *San Giovenale* II:4, handmade impasto, pl. 24:540; III:3, pl. 10, Fl. 2.22. Cf. also below, Fig. 164, Cat. no. 157. For a general discussion on this type of basin, see *San Giovenale* V:2, 216–218. Cf. also the brown impasto feet belonging to similar basins in Backe Forsberg 2005, fig. 76:12–16. Lug-feet basins have also been found at Tarquinia, see Bonghi Jovino 2001a, pl. 73C:202/5 and at Veii, in Pit 2, Murray Threipland 1963, 52, fig. 12:2. The excavator called this vessel a large dish, and dated it to between the middle of the 7th century to the beginning of the 5th century BC, with the lug feet flush with the bottom. On various shapes of this vessel form and their function, esp. possible ritual function as cooking-bells (*testi da pane*), cf. Zifferero 2000, 152–157, fig. 16.6. See, for example, Murray Threipland & Torelli 1970, 81, 85, fig. 26. Heavy bowls with lug feet flush with the bottom are found in the semi-subterranean building at Casale Pian Roseto. This site was earlier considered to be an Etruscan farm, but has now possibly been re-evaluated as a sanctuary dedicated to Mater Matuta, the Roman goddess, see Torelli 1998. The large bowls/basins are found in various contexts and dated from the 7th to 4th cen-

³⁵¹ The basin is displayed in showcase 4 in the Museo Nazionale Etrusco Rocca Alborno in Viterbo (see Fig. 152).

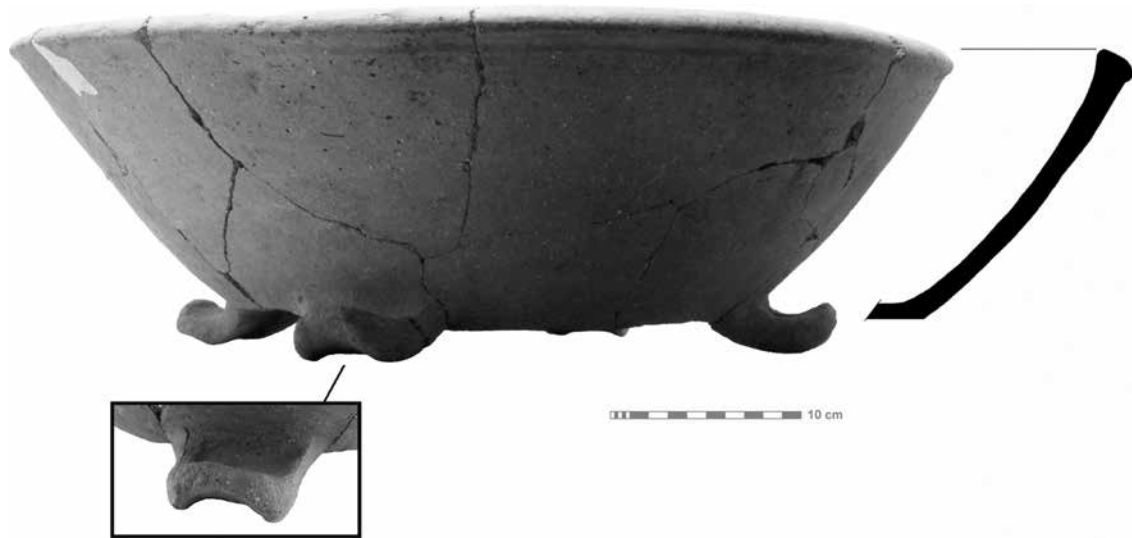


Fig. 110. A red slip basin with four crosswise-placed lug feet (Cat. no. 48) found in cistern WI-6 (photograph by R. Holmgren).

turies BC. Various types find close parallels in Pyrgi (Colonna 1992); in Veii see Acconcia *et al.* 2009, 53, fig. 32:1-3, “*testo da pane*”; *teglie* in the large cistern at Piazza d’Armi, Bartoloni *et al.* 2005; Acconcia 2009a, 258, fig. 28; Sant’Omobono, Colonna 1963-1964; Satricum type II, Bouma 1996b, pls. 104-109; 1996a, 376-378 (type 1); Pyrgi (*testi da pane*), Beelli Marchesini 2015, 118, n. 311; Ficana, *Ficana* III, 104, 106, cat. nos. 193-194, fig. 62; rim and lug feet of basins type C in the rounded *hypogeum* under the temple of Victoria on the Palatine, D’Alessio 2001, 200-202, 204-206, 208, pl. 42:171 type II:11 rim and feet of pl. 42:172-175; see Bartistelli 2001, 83, fig. 30 a general plan on the Palatine and fig. 37 a plan of the Archaic period features. See also Pensabene 2001, fig. 1:S the circular *hypogea*, T (Archaic cistern) and U (Archaic *pozzo* below the *pronaos* of the Vittoria temple), Pensabene 2009, 9-10, fig. 1; Falzone 2001, figs. 3-7, 16.

Cat. no. 49. Basin probably with four crosswise-placed lug feet; rim fragment with thickened, in-turning rim. Pres. H 13.5 cm; th. of wall 0.5-2.0 cm; est. diam. 40 cm. Red-brown internal slip. Rim and upper part of the interior red slipped, which turns reddish-brown towards bottom. Outside greyish-red slip. Dated to the 6th century BC (inv. nos. 59-315b, 59-315c).

Cat. no. 50. Basin with four crosswise-placed lug feet; one small rectangular lug foot, L 4.0-4.5 cm; th. 2 cm attached to flat bottom plate, slightly raised from bottom (inv. no. 59-316).

Cat. no. 51. Basin with four crosswise-placed lug feet; one triangular lug foot pointing upwards L 7 cm; th. 2.5-6.0 cm long. On date, see *Cat. no. 49* above (inv. no. 59-317).



Fig. 111. Two bucchero cups (chalice and kantharos) with Etruscan letter N (left, Cat. no. 53) and graffito/letter X (right, Cat. no. 52) found in cistern WI-6 (photograph by R. Holmgren).

Bucchero

Cat. no. 52. (Fig. 111). Stemmed cup (*chalice/kantharos*), high torus foot and bottom fragment, small cross (X), graffito or letter, incised inside cup. Est. diam. of foot c. 6 cm; pres. H 3 cm. Cf. incised crosses in Colonna & Backe Forsberg 1999, figs. 6-10. Rasmussen 1979, type 3e. Dated to the first half of the 6th century BC (inv. no. 59-396a).

Cat. no. 53. (Fig. 111). Carinated *chalice*, base fragment with the Etruscan letter N incised on tondo. Diam. of base 7.5 cm. See Colonna & Backe Forsberg 1999, figs. 6:26, 7:26; Rasmussen 1979, type 4b. Dated to the 6th century BC (inv. no. 59-396b).



Fig. 112. Stemmed bucchero kantharos with perforated bottom (Cat. no. 55) from cistern WI-6 (photograph by R. Holmgren).

Cat. no. 54. Carinated *kantharos*. Low foot with graffito/letter (H?) incised interior in the centre of the foot. Dated to 6th century BC (inv. no. 59-59).³⁵²

Cat. no. 55. (Fig. 112). Stemmed carinated *kantharos*. Two body fragments and base of flat band-handle; a horizontal row of dented marks above carination; a drilled perforation (0.5 cm) in the bottom. Foot missing. Diam. 14 cm; pres. H 9 cm. Rasmussen 1979, *kantharos* type 3e; similar cups were found in the necropoleis surrounding the two settlement plateaus, Fuglesang 1997–1998, figs. 5–7; *San Giovenale* I:8. On holes in bottoms of open shapes, see Backe Forsberg 2005, 102, 144–145, fig. 90:11 and *Caere* 3:2, fig. 512, Kc 1.17, fig. 516, Kc 26.8, Kc 26.5, fig. 517, Kc 30.4, 12. Dated from the end of the 7th to the mid-6th centuries BC (inv. no. 59-385a).

Cat. no. 56. (Fig. 107). Stemmed carinated *kantharos*. Two joining rim and handle fragments. Diamond-shaped carination. Ordinary bucchero; greyish-black and micaceous clay. Stem missing. Rasmussen 1979, *kantharos* type 3e. Est. diam. 12 cm; pres. H 6 cm; th. of handle 0.5 cm (inv. nos. 59-384a–b).

Cat. no. 57. (Fig. 107). Bowl, rounded. Rim fragment with rounded slightly inturned rim. Ordinary bucchero; greyish-black micaceous clay. Est. diam. 14 cm; pres. H 4 cm (inv. no. 59-364). In form, similar to black-glaze bowl in Chiaramonte Treré 1997, pl. 71:8.

Cat. no. 58. (Fig. 107). Carinated bowl. Three rim fragments with thickened out-turned rim. Est. diam. 15 cm; pres.

H 3.5 cm. Greyish-black clay, micaceous (inv. nos. 59-375 and 59-376). Similar bowls are numerous in the Bridge Complex; cf. Backe Forsberg 2005, fig. 80:17. Rasmussen 1979, type 1. Dated from the end of the 7th century to mid-6th century BC. See Bartoloni *et al.* 2005, Veii, Piazza d'Armi, fig. 23:11 dated to the first quarter of the 6th century BC. For distribution of this form, see Acconcia *et al.* 2009, 43, fig. 23:11 and n. 159; *Caere* 3:1, 159, E 41.1–6, dated between the first half of the 6th to the beginning of the 5th centuries BC. Very common in settlement areas as well as in necropoleis at San Giovenale; see *San Giovenale* V:2, pl. 24 from Period I str., 650–530 BC, pls. 30–31, from Period II str., 530/500–430 BC, *San Giovenale* I:5, pls. 6:29–31, 28:15, 37:7, 40:26, 45:92, 53: 9–10, 20, 57: 3–6, 8; I:6, fig. 4:10; I:8, figs. 22:13, 27:28–29.

Cat. no. 59. (Fig. 107). Bowl. Ring-base with part of bottom; diam. of base 7.5 cm; pres. H 2 cm. Rasmussen 1979, type 1 (inv. no. 59-378). See Backe Forsberg 2005, fig. 80:18; *San Giovenale* V:2, pl. 29 from Period II str. (530/500–430 BC).

Cat. no. 60. Miniature *pyxis*. Three joining neck and body fragments. Biconical thin-walled body. Black bucchero. Pres. H 4 cm. For parallels, see Palombi 1981, p. 143, C49; Rizzo 1990, p. 153, no. 8, fig. 329. Some *pyxides* were found in Vulcian tombs, i.e., no. 24, fig. 267, p. 129. An imitation of a lentoid *pyxis* of Greco-oriental production; very rare in Etruria. Dated to the first to second quarter of the 6th century BC (inv. no. 59-377). See also the two Ionic *pyxides* in bucchero, Rizzo 1990, fig. 225, nos. 14–15, the Ionic *pyxis* from tomb 171 in the Osteria necropolis, no. 4, fig. 325, p. 152 dated to the first quarter of the 6th century BC, and the lentoid *pyxis* of probable Greco-oriental production, p. 134, fig. 286. The tomb 31 in the Osteria necropolis at Vulci is dated to the end of the 7th to the beginning of the

³⁵² MdC notebook 1959, 44 (Find 5, missing). The letter/symbol is described as a small vertical rectangle. The *kantharos* can be compared to *chalice/kantharoi* Cat. nos. 52–53, with the letters X and N respectively inside the vessel.

6th centuries BC. Cf. also a *pyxis* of Ionic or Rhodian origin dated from the end of the 7th to the middle of the 6th centuries BC diffused in Etruria, especially at Vulci; see Sgubini Moretti 2001, 209–210, fig. III.B.3.6.

Cat. no. 61. (Fig. 107). Jug/*oinochoe*. Ring-base with part of body; Diam. of ring-base 12 cm. Greyish-black clay; mica-ceous. Rasmussen 1979, type 7a. Dated to the first half of the 6th century BC (inv. no. 59-386).

Cat. no. 62. (Fig. 107). Jug. Two body fragments with raised handle, torus-shaped base with almost flat bottom. Diam. of base 6 cm; pres. H 5.5 cm with raised handle. Dark grey-black clay. Greyish-black outside; Rasmussen 1979, type 2. Dated to the last quarter of the 6th century BC (inv. no. 59-399).

Coarse ware

Cat. no. 63. (Fig. 107). Jar. Small, ovoid; three rim fragments, out-turned rim, angular lip; slightly raised bottom. Diam. of rim 9.5 cm; diam. of base 3.6 cm; H 9.3 cm (inv. no. 59-350).

Cat. no. 64. (Fig. 107). Jar. Ovoid-globular, short neck, out-turned and thickened rim, slightly concave bottom. Diam. of rim 11.7 cm; diam. of base 5.5 cm; H 14.8 cm (inv. no. 59-335 and 59-336).

Cat. no. 65. Bowl, coarse ware, ring-base, with an incised cross on the exterior of the ring-base; H 5.2 cm; diam. 14 cm. Found in the cistern at the lower level, 2–3 m below the mouth (inv. no. 59-56).³⁵³

Sub-Geometric coarse ware?

Cat. no. 66. (Fig. 107). Jar. Rim fragment of small globular-shaped jar, very short neck with thickened triangular lip. Hand-made. Coarse cream, very gritty clay, thick pink slip, very flaky. Diam. of rim 8.5 cm; pres. H 4.5 cm (inv. no. 59-340).

Terracotta protome—sculpture in the round

Cat. no. 67. (Fig. 113). Protome of ram. Twelve joining fragments of 3/4 of head with one dented horn, rounded open mouth, two oval cavities for the eyes and large rounded holes inside the horns at the spot where the ears are located; small hole on top of the head. Pres. W 18 cm; pres. L 20 cm; diam. of horn 11 cm; th. 0.6–1.0 cm. Rather gritty buff-cream clay. Restored and displayed in the Museo Nazionale Etrusco Rocca Alborno in Viterbo (Fig. 152). Fragments found in the cistern at the lower level, 2–3 m below the mouth. Proposed date to the middle of the 6th century BC (inv. nos. 59-363a). Two ram's head protomes have been found on the Borgo NW and in a trial trench on the main Acropolis plateau.³⁵⁴

³⁵³ MdC notebook 1959, 56 (Find 4).

³⁵⁴ *San Giovenale* V:2, 191, fig. 15, pl. 104; II:5, 11–12, fig. 1.

Terracotta loom weights

Cat. no. 68. Loom weight. Complete. Truncated pyramidal shape with quadrangular base (6 × 6 cm) and top (4 × 4 cm); red slip worn off; use-wear lower corner rounded; transversal hole c. 1.1–1.5 cm; H 8 cm; W 6.3 cm; th. 5.2; weight 312 g. Decorated with impressed dotted circle on both faces without hole. Found in the cistern at the lower level, 2–3 m below the mouth. Dated to 6th century BC (inv. no. 59-55).³⁵⁵

Cat. no. 69. Loom weight. Truncated pyramidal shape; H 9 cm; base 5.5 × 5.5 cm. Found at bottom level 3.10 m. Dated to 6th century BC (inv. no. 59-58).³⁵⁶

Terracotta object—fire dog/cooking support/alare?

Cat. no. 70. (Fig. 114). Fire dog/cooking support/*alare*? Two large joining fragments, rather fine beige clay with pinkish core, traces of red slip, worn, smoothed on almost all sides but one rough surface. H 15–19 cm; W 7.5–12.0 cm; th. 6–8 cm. Dated to 6th century BC (inv. nos. 59-363b).³⁵⁷

Tiles

Cat. no. 71. (Figs. 107, 115). Pantile. Part of lower left corner with indentation. Square form of border. Pres. L 12.3 cm; th. of plate 1.8 cm; H of edge 4.5 cm, bevelled; th. of edge 3.5 cm. Reddish-light brown clay with white and black inclusions. Red slipped on front side; Wikander 1986, type II, fig. 1. Dated to the end of the 6th century BC (inv. no. 59-404).

Cat. no. 72. (Fig. 107). Pantile. Part of border and plate. Triangular gently sloping form of border. Th. of plate 2.2 cm; pres. L 5.8 cm; H of border 5.4 cm; th. of border 2.5 cm (inv. no. 59-411); Wikander 1986, type I, fig. 1.

Cat. no. 73. (Fig. 107). Pantile. Part of triangular border. H of border 4.5 cm; th. of border 1.7 cm; pres. L 7 cm; th. of plate 1.5 cm (inv. no. 59-410). Wikander 1986, type 1, fig. 1.

Cat. no. 74. (Figs. 107, 115). Pantile. Right upper corner with part of short side, bevelled; Wikander 1986, type I, fig. 1. Red slip blackened probably due to secondary burning. Pres. L 13.5 cm; pres. W 16 cm; th. 2.5 cm; H of border 5 cm (inv. no. 59-407).

Cat. no. 75. (Fig. 115). Pantile. Left upper corner with part of short side, Wikander 1986, type I, fig. 1. Thick dark red slip. Coarse very gritty greyish-brown clay. Pres. L 11.5 cm;

³⁵⁵ MdC notebook 1959, 44 (Find 3). Registered in SIR Finds catalogue 1959. Missing. A loom weight with a similar impressed rosette with a height of 88 mm was found in SGAV (on the Acropolis), find no. 4, 23.10 1959, see SIR Finds catalogue 1959.

³⁵⁶ MdC notebook 1959, 50 (Find 6). Registered in SIR Finds catalogue 1959. Missing.

³⁵⁷ Many thanks go to Dr Elisabetta Foddai for identifying and drawing the fragments of the impasto fire dog (*alare*), see Foddai 2021, cat. SG101 classified as *Tipo* 2d, 384, fig. 21.

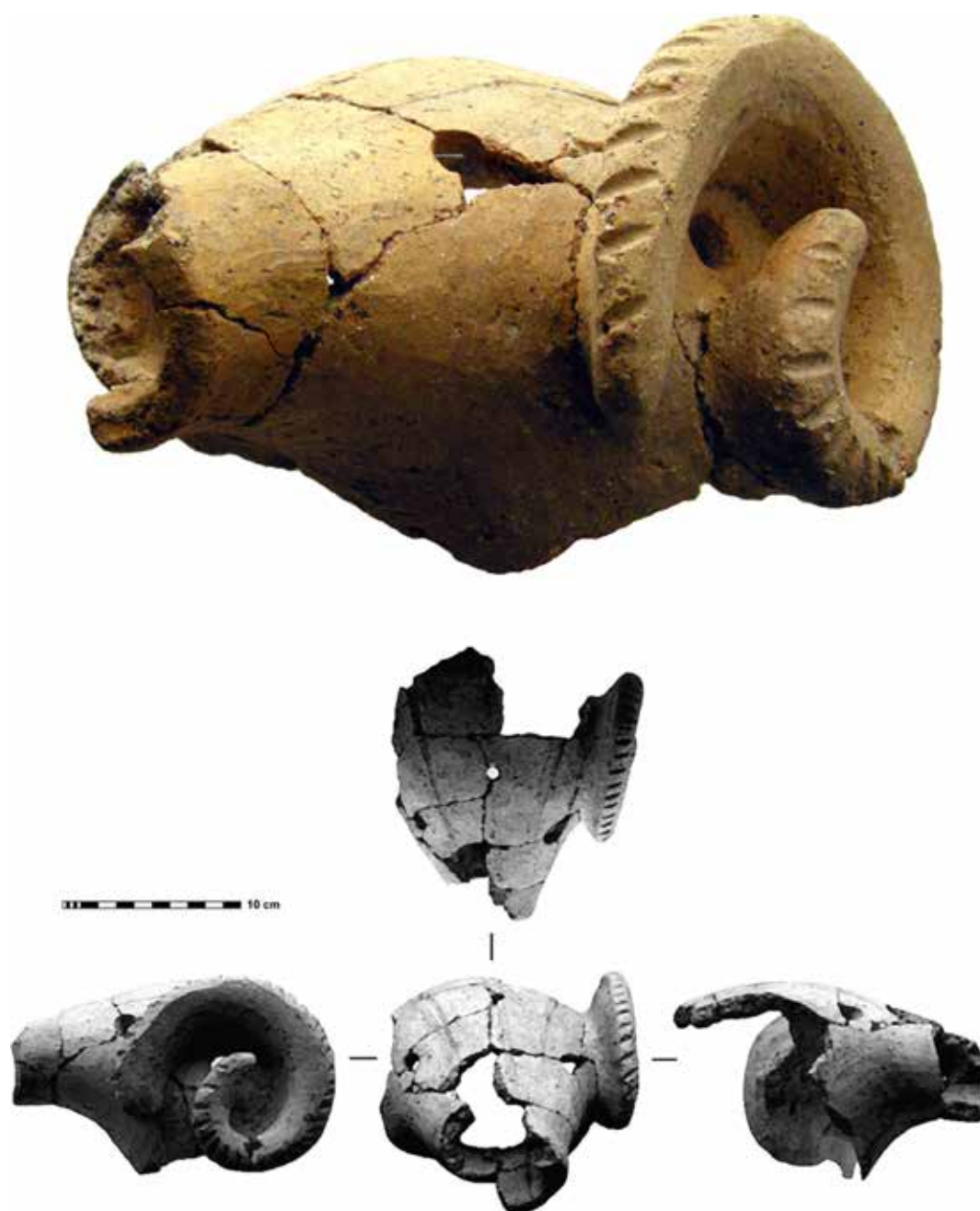


Fig. 113. Ram's head—a terracotta protome sculpture (Cat. no. 67) from cistern WT-6 (photograph by R. Holmgren).

pres. W 7.5 cm; th. of border 4.5 cm; th. of plate 2.5 cm (inv. no. 59-418).

Cat. no. 76. (Fig. 115). Pantile. Part of left or right raised border, Wikander 1986, type I, fig. 1. A broad vertical band of white paint; orange-red slip. Pres. L 13.5 cm; pres. W 7 cm; th. 1.5 cm of plate; th. of border 4.5 cm (inv. no. 59-414).

Cat. no. 77. (Fig. 115). Pantile. Lower part of left side with rounded raised and tapering border towards the end of the

tile. Coarse reddish clay with reddish-brown slip; grey core, large white grits, slightly micaceous. Pres. L 15 cm; th. of plate 2.2–2.7 cm; H of border 4.5 cm (inv. no. 59-413b). Wikander 1986, type I, fig. 1.

Cat. no. 78. (Figs. 115, 116). Cover tile. Bottom edge. Greyish-brown, very gritty clay with lots of white inclusions. Red slip worn off. Pres. L 26 cm; W 11 cm; H 4.5 cm; th. 1–1.8 cm (inv. no. 59-403); Wikander 1986, type I, fig. 1.

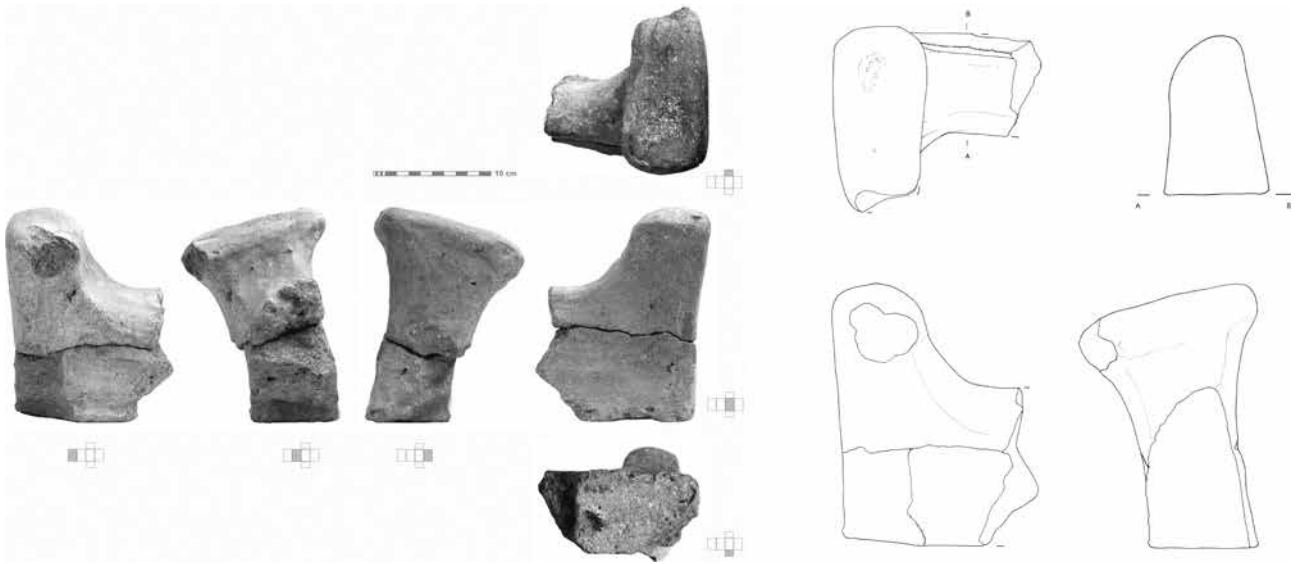


Fig. 114. The two joining fragments of an impasto alare, found in cistern WI-6, Cat. no. 70 (above: photograph and illustration by R. Holmgren, left; drawing by E. Foddai, courtesy of SIR).

Animal bones and teeth

Cat. no. 79. Bone and teeth fragments of sheep/goat, and pig.³⁵⁸ Nine bones and five teeth (inv. no. 59–417).

Comments on finds in cistern WI-6

Table 5, Graph 2

One reason for paying attention to distinctive pottery shapes and fabrics, as well as terracotta objects related to cooking, heating, illumination, and vessels for drinking, serving and cooking, is the authors' hypothesis that this cistern may have been used as a ritual deposit—that it contains pottery and terracotta objects used in sacred rituals. We will here argue in favour of this hypothesis by using comparisons from sanctuaries, temples, and votive deposits in Etruria and Latium.³⁵⁹

One can conclude that the content of cistern WI-6 in some respect differs from the other cisterns and wells on Vignale, both in stratigraphy, the large number of objects as well as the different types and the function of these (in all 142 items including animal bones and teeth, see Table 5). In the catalogue there are listed 111 identified vessels, albeit fragmentary, seven roof tiles (both pantiles, *tegulae*, and cover tiles, *imbrices*) and five terracotta objects. The vessels date from the Final Bronze Age III, through the Proto-Villanovan periods down to the

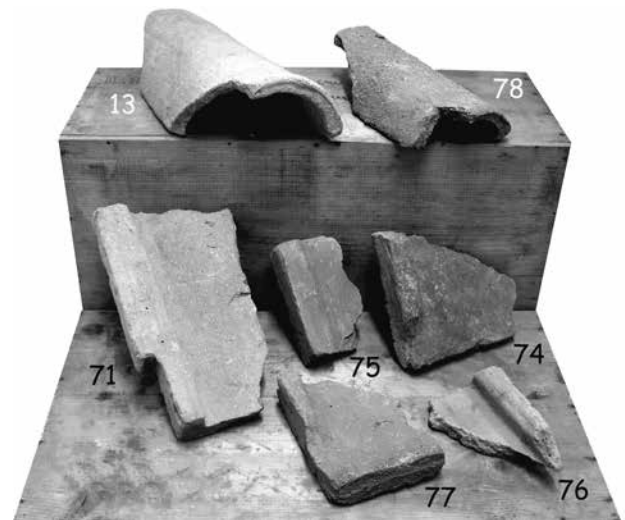


Fig. 115. Examples of Archaic roof tiles found in cisterns WI-2 and WI-6. Upper row with two cover tiles (from left to right, Cat. nos. 13, 78), and the lower section from left to right showing one pantile of type II (Cat. no. 71) and four pantiles of type I (Cat. nos. 74–77) (photograph by R. Holmgren).



Fig. 116. Fragmentary roof tiles (left to right, Cat. nos. 71–73, 78) from cistern WI-6 (photograph by R. Holmgren).

³⁵⁸ Analysed by osteologist M.D. Eva Wahlberg Sandberg, 23 April 2004.

³⁵⁹ Of interest are the fragmentary black bucchero *oinochoes* of various sizes, a red impasto jug, and a large jar (*dolium*) (Cat. nos. 8, 10, 44–45) found in the cistern, which seem to be a set of vessels similar to the set of votive vessels found in Satricum and Tarquinia. See *Satricum VI*; Bouma 1996a; Bonghi Jovino & Bagnasco Gianni 2012.

Ware/form/object	Cup	Plate	Bowl	Basin	Lid/bowl	Jar	Jug	Uncertain jug/jar	Dolium/pitbos	Object	Architectural terracotta	Total
Final Bronze Age/Proto-Villanovan			2			1						3
Etrusco-Corinthian							1					1
Bucchero	10	2	4			1	13	5				35
Brown impasto	1											1
Red impasto								1				1
Red slip			3	6		18	5	4	5			41
Coarse ware-internal red slip				1								1
Coarse ware			2	1	3	13		2				21
Red impasto Brazier										1		1
Terracotta loom weight										2		2
Terracotta ram's head										1		1
Terracotta fire dog/ cooking support/alare?										1		1
Tile											19	19
Animal bones & teeth										14		14
Total	11	2	11	8	3	33	19	12	5	19	19	142

Table S. Archaeological remains in cistern WI-6, including items not catalogued.

6th century BC. Two primitive impasto pots, one carinated bowl (*Cat. nos. 41–42*) and one brown impasto biconical jar/*dolium* (*Cat. no. 45*) were found at the lower level, 2–3 m below the mouth. Otherwise, WI-6 predominantly contained household equipment of Archaic red-slip and coarse ware jars, such as jugs and basins used for preparing, cooking, and storing. The red-slip basins were of various sizes and types, but a large basin with crosswise-placed lug feet was of particular interest and will be discussed in detail below. The tableware in bucchero comprised drinking cups, bowls, jugs, and serving vessels as well as a few jars.

The discussion below begins with the terracotta protome of a ram's head (*Cat. no. 67*) alongside a terracotta fire dog (*Cat. no. 70*) and will continue with vases of various fabrics such as red impasto/red slip.

Ram's head—a terracotta protome sculpture (*Cat. no. 67*)

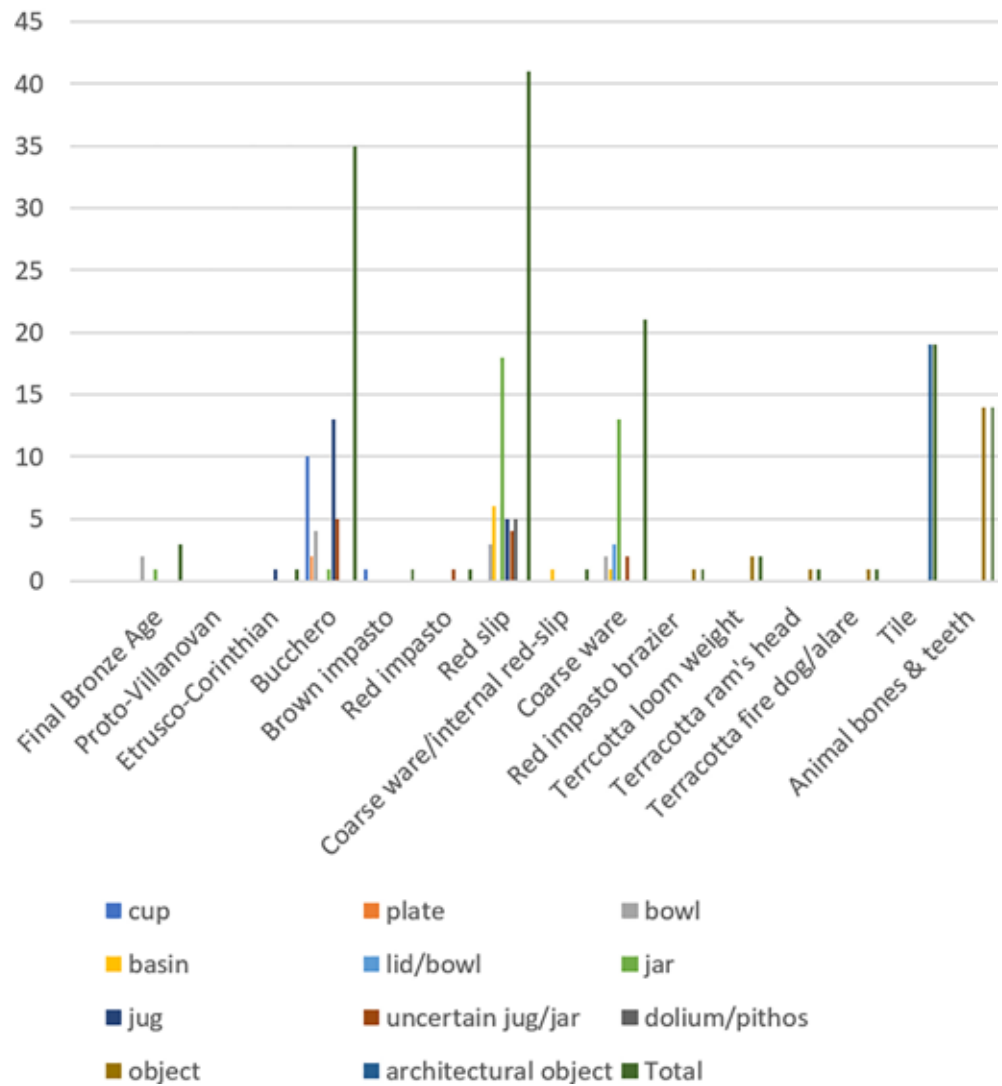
The buff-cream-coloured, rather thin and coarse fragments of the terracotta sculpture, twelve in number, were scattered in the lower level of cistern WI-6. When glued together, these gritty fragments formed an almost complete ram's head (*Cat. no. 67, Fig. 113*). The left side with its one and only preserved horn, decorated with a hatched pattern, was provided with a central hole, possibly representing an ear. Two round holes furthermore represent the eyes. The forehead has an-

other small piercing. The latter was likely used as a nail-hole, which may indicate that it was mounted as a headpiece decoration.

Two parallel grooves on the forehead ran down towards the muzzle where they converged slightly. The head is hollow and the muzzle spout-shaped. An odd feature is the left horn, which has been slightly misplaced by the Etruscan craftsman. As such this is sculptured stylistically and does not mimic the anatomically correct curl of a ram's horn. The coiled horn is rather attached to the outside of the head instead of “growing” out of it (*Fig. 113*). For the modern artistic cook, a perhaps unorthodox comparison, is found in the way of adding a curled tail to a marzipan pig. Compared to the elegantly sculpted ram's head used as a lateral sima on the Portonaccio temple at Veii, dated to 510–500 BC (*Fig. 117*),³⁶⁰ the Vignale head may look unrefined to a contemporary viewer. As noted above, the protome from Vignale is dated to the first quarter of the 6th century BC, based on the pottery found in WI-6 cistern.³⁶¹

³⁶⁰ Naso 1996, 302, 313.

³⁶¹ The ram's head from Vignale is exhibited in the San Giovenale room, showcase 4, in the Museo Nazionale Etrusco Rocca Alborno in Viterbo (*Fig. 152*).



Graph 2. Archaeological remains from cistern WI-6.

Terracotta heads of this type are rare objects in habitations and necropoleis. However, the head of a terracotta ram protome was found in the upper layers of the Borgo NW area, near well P1, and possibly derived from a public or sacred building on top of the *Spina* (Fig. 118).³⁶² This ram's head differs in several aspects from the Vignale head, for example, in shape, clay, and size. Several other fragments have been discovered at San Giovenale: a part of a ram's head protome in an Acropolis trial trench, west of the di Vico castle, and another small and worn fragment of a ram's head in cistern I in the

same trench.³⁶³ A possibly comparable object is the already mentioned ram's head from the Portonaccio temple at Veii—at least in its function. This was used as an end tile, a *protome/ tegole terminale* (Fig. 117),³⁶⁴ and is currently exhibited in the Museo Nazionale Etrusco di Villa Giulia (Veii room, showcase 19). This head differs from the Vignale ram in fabrication, the nail-hole on the top of the head, and holes for the ears and the eyes—the Veian version has distinctly sculpted and painted eyes. The horns are painted in red, whereas the

³⁶² Berggren & Moretti 1960, 4, fig. 2; *San Giovenale* V:1, 34, fig. 15; V:2, 191, fig. 15, pl. 104. The ram's head from the *Spina* is displayed in the San Giovenale room, showcase 2, in the Museo Nazionale Etrusco Rocca Alborno in Viterbo.

³⁶³ *San Giovenale* II:5, 12, 50, figs. 1–2.

³⁶⁴ Aversa 1997, 3–10, inv. no. 2268. Archaic eaves (*gronda*) found at Cume were suggested to have been placed on a sacred building, Borriello 2006, fig. 28.1, see also Stopponi 1997; Carlucci 2011, fig. 6; Maras 2011, figs. 2b, 4, on the terminal tile on the Portonaccio temple at Veii, dedicated to Apollo.



Fig. 117. A sculpted ram's head from the Portonaccio temple at Veii dated to 510–500 BC (© courtesy of Museo Nazionale Etrusco di Villa Giulia. Archivio fotografico).



Fig. 118. A ram's head of a terracotta protome (height 17 cm), found in the upper layers of the Borgo NW area, likely deriving from a public or sacred building on top of the Spina (photograph by Y. Backe Forsberg, courtesy of SIR).

Vignale head lacks any traces of colour. The Vignale head is moreover larger and cruder in its appearance compared to the Veii version, which is obviously more naturalistically executed.

Another ram protome found at Falerii and dated to the Archaic period was interpreted as an architectural terracotta.³⁶⁵ An additional architectural comparison is found in Acquarossa, where the lateral sima with its several rams' heads are placed over the waterspouts on a building in Area F.³⁶⁶ A terracotta ram's head, now displayed in the museum at Colleferro, was discovered in the Archaic settlement of Muracci di Crepadosso (Artena)—it dates to the end of the 7th to the beginning of the 6th centuries BC. As in Zone F in Acquarossa, this was used as a waterspout on a *sima laterale*, belonging to a building—probably sacred.³⁶⁷

The function of the animal protome from Vignale is enigmatic. There may be several practical ways of using a terracotta ram's head and therefore several functions have been proposed for the Vignale protome. The head could have served as a waterspout projecting water from a roof or a fountain, perhaps a protome on a cover tile, or as an end tile on a building

(*protome/tegole terminale*, Fig. 118).³⁶⁸ Since the back of the head is missing, it is difficult to reconstruct how the head was originally attached. The small rounded hole on the forehead, made before firing, is also difficult to interpret. Since the hole was not a later addition, it should likely be associated to the original function of the piece—perhaps for attaching the head under a wooden beam (*columen*).

Ram's head as an architectural terracotta

After having examined the terracotta head from Vignale, Nancy Anne Winter dismisses the idea of an architectural terracotta after noting the following pros and cons:³⁶⁹

Pros: the size is similar to already known architectural terracottas of ram's heads. However, the working of the interior is compatible with some later architectural terracottas. The infilling of the cistern was supposedly made shortly after the earthquake of 550/530 BC.

Cons: the Vignale ram's head is hollow whereas other early heads used in architectural decoration are mainly solid.

Alessandro Naso, on the other hand, suggests another architectural function and position for the ram's head. In an email he suggested that wall paintings in a chamber tomb in

³⁶⁵ A crude terracotta ram with head and body found near the sanctuary at Celle. Poster information in the Museo Nazionale Etrusco di Villa Giulia, Rome in 2009.

³⁶⁶ Wikander 1986, figs. 77–78.

³⁶⁷ Enzi *et al.* 1990, 56, pl. 13.

³⁶⁸ See the example discussed above, the end tile of the Portonaccio temple at Veii, dedicated to Apollo, Maras 2011, fig. 1; Carlucci 2011, figs. 2b, 4.

³⁶⁹ We thank Prof. Nancy Anne Winter for valuable discussions on the Vignale ram's head (email 13 July 2015).

Fig. 119. An interpretation of the terracotta ram's head, found in cistern WI-6, is suggested by A. Naso as the physical expression of a painted decoration: a painting of a *sostegno del columen* of type 3 (roof support) in Tomba dei Tori, Tarquinia (photograph by L. Berggren, processed by R. Holmgren; © courtesy of Soprintendenza Archeologia Belle Arti e Paesaggio per la provincia di Viterbo e per l'Etruria meridionale).

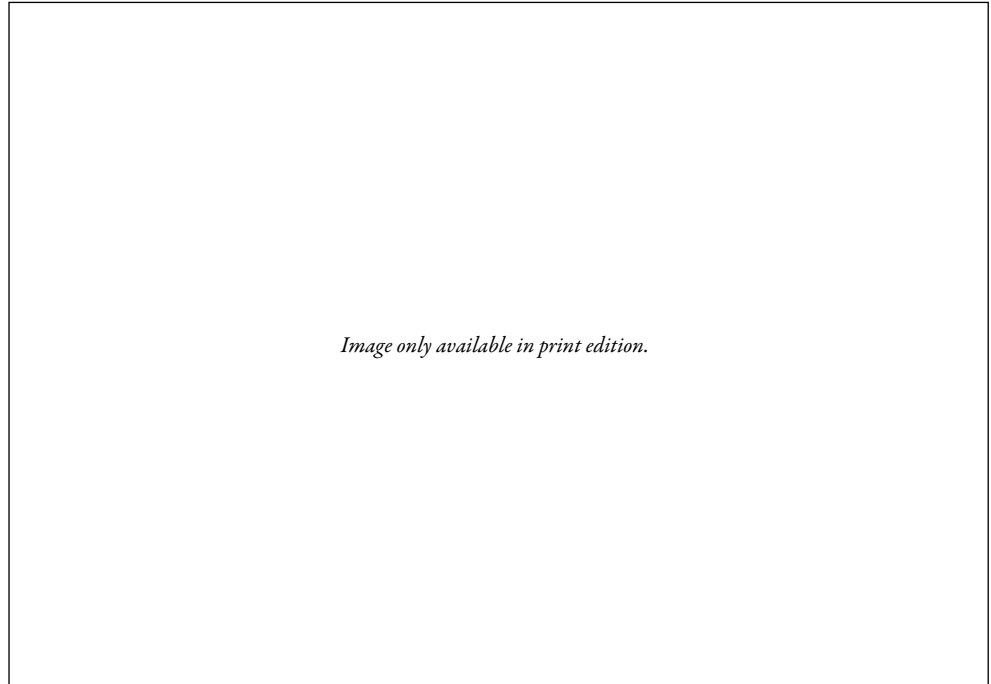


Image only available in print edition.

Tarquinia could provide a good example of how protomes such as the Vignale ram's head were used in contemporary architecture. He was referring to the painted decoration of the four ram's heads on the *columen* support of type 3 (roof support) in the *Tomba dei Tori* (Fig. 119),³⁷⁰ and suggested a similar function for the Vignale ram's head. Four protruding ram's heads were painted in the tomb, which is dated to 540–530 BC.³⁷¹ More specifically, Naso has described the painting as representing the four corners of a *sostegno del columen* in the atrium of *Tomba dei Tori* and suggested that the position of the four heads indicates their use as waterspouts, whereas the horns represent the upper volutes of the actual support.³⁷² Naso then continues by saying that if we accept that the Vignale ram's head may be part of a decoration on a beam support, it would be the first surviving evidence of a decoration from an Etruscan atrium. The small hole on top of the Vignale head may furthermore indicate that it was placed directly under a wooden item. Naso uses the definition *columen*, or the more broad term “roof support”. When referring to the same architectural feature, Johann Rasmus Brandt, on the other hand, uses the terminology “ridge pole”.³⁷³ To specify the ex-

act position of this architectural detail, a more modern term is “king post”.

Ram's head as a fire dog

Elisabetta Foddai has suggested another function of the Vignale ram's head. In her doctoral thesis, *L'instrumentum da focolare in Etruria. Alari d'impasto, alari e spiedi di metallo dal bronzo finale al V sec. a.C.*, and in her article ‘Alari fittili nell'Etruria Centro-Meridionale in contesti abitativi, santuari ed di ambito rituale’, she discusses various shapes of large and small terracotta fire dogs in the shape of rams' heads—mainly used in rituals. Foddai drew our attention to the hollow terracotta animal heads interpreted as parts of fire dogs. These ornate wolf and ram statuettes measure 60 cm in height and were found in Oderzo (Treviso), and are dated from the late 6th to the beginning of 4th centuries BC.³⁷⁴ The cavities of the eyes and ears, as well as the small hole on top of the head, speak in favour of interpreting the Vignale ram's head as a fire dog, where the holes allowed for attaching skewers.

³⁷⁰ Naso 1996, 185, 198–199, 379–380, figs. 146.10. 149–150, 280.

³⁷¹ Naso 1996, figs. 279.9–280. See, for example, Cecchini *et al.* 2012, pl. 74 for a detail of one of the ram's heads in Tarquinia.

³⁷² Naso 1996, 380, see, for example, bases of marble funeral cippi with ram's heads from Pisa on p. 281, and nn. 616–617.

³⁷³ Brandt 2014, 48, fig. 1.

³⁷⁴ We thank Elisabetta Foddai for this information (pers. comm.); Foddai 2007–2008; 2021; Ruta Serafini 1992, 159, figs. 7–9; Busana 1995, 34, fig. 13, *tav.* 3.1; Tasca 1996a, 119, cat. nos. 93–94, fig. 12b (probably used in a ritual ceremonial context). The terracotta animals are displayed in showcase 4 in the Museo Civico Archeologico “Eno Bellis”, Oderzo. See also Bonghi Jovino 1993, 50–51, n. 33, fig. 15, on a small ariete protome from Capua interpreted as a possible fire dog.



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Fig. 120. An artistic interpretation and reconstruction of the Vignale ram's head as a fire dog. The illustration is based on the zoomorphic terracotta sculptures found in Oderzo (illustration by R. Holmgren).

Based on the fire dogs from Oderzo, an artistic reconstruction of the ram's head from Vignale can be seen in Fig. 120.

Zoomorphic terracotta animals in shape of rams, donkeys, and horses, similar in design and size of those found in Oderzo, were also discovered at Bologna and interpreted as fire dogs. These are however dated to the 8th–7th centuries BC.³⁷⁵ Several miniature zoomorphic fire dogs of various fabrics, dates, and contexts have been discovered. Some early impasto zoomorphic objects decorated with incised Geometric patterns were found in a well in the settlement of Veii, and dated to the Villanovan period. Other impasto fire dogs andirons have been found in a well located on the Pianoro Sommitale in Veii.³⁷⁶ A later example is the one recovered at Montereale Valcellina (Pordenone), dated from the end of the 6th to the end of the 5th centuries BC.³⁷⁷ Several miniature bucchero ram figures, including one with a hollow interior and slightly open oval mouth, were surface finds near Piazzia D'Armi at

Veii. The function of these is unclear, but their possible use as fire dogs has been suggested by one scholar.³⁷⁸ Fire dogs were also found in the temples of Apollo at Veii and at Tarquinia.³⁷⁹

Fire dogs are usually made of iron and often located in tombs, for example, the Tomb of the *alari* at Cerveteri.³⁸⁰ But some items are produced in terracotta—such as the two large joining pieces of a red-slip (?) impasto object (*Cat. no. 70, Fig. 114*) unearthed in cistern WI-6 on Vignale, which was interpreted as a fire dog by Foddai.³⁸¹

Ram's head as a decoration on altars and ceramics

If ram's heads were used as decorations on other features, such as altars made in more brittle and perishable material than the usual stone, the Vignale head could have been part of such an installation. To the authors' knowledge, no wooden or terracotta altars with details of ram's heads have yet been recorded. We know, however, that Roman marble altars were often decorated with two or four rams' heads.³⁸² In Etruscan culture the ram was an important political, economic, and religious symbol and is therefore often seen as decorative plastic motifs on ceramics including cooking stands.³⁸³ Cooking stands of Scheffer's type II B and a semi-cylindrical stand dated to

³⁷⁸ The ram figures were surface finds. Similar objects have also been found at Capena. Murray Threipland 1963, 71–73, figs. 25–26, pls. 12–13.

³⁷⁹ For Veii, see Beilelli Marchesini 2013, 14, 21, 26, figs. I.B.16, I.C.10–11, I.D.7; 2009c, 110, fig. 36. On bucchero fire dog from the Portonaccio temple, see Colonna 2001, tables 44:345–346, 48:433.

³⁸⁰ *Tomba Doli e degli Alari*, dated to the 7th century BC, was found in a tumulus in the Banditaccia necropolis at Cerveteri, Naso 1996, 302, 313.

³⁸¹ Pers. comm. by Elisabetta Foddai in 2006; unpublished thesis by Foddai 2007–2008. The fragments may also be interpreted as a cooking support or a cooking stand of a variant of Scheffer type II, see Scheffer 1981, 76–78.

³⁸² Marble ram's heads are also found on an altar in the sanctuary of Atessa, Fabbriotti 1997, 74–75, fig. 1. See, for example, the altar with ram's heads in the entrance hall in the Crypta Balbi Museum in Rome and other examples in Sapelli *et al.* 1988–1995. Marble ash urns as wells as sarcophagi and small funeral altars decorated with Asia Minor-inspired ram's head in each corner are found at Ostia, see Bianchi & Bonanno Aravantinos 1991, 1–32, figs. 1–3, 20–22, 26–28. For various other installations with rams' heads, see Naso 1996, 380–381, nn. 619–620, fig. 281.

³⁸³ Late Bronze Age and Iron Age carinated cups and bowls with vertical handles ending in ram's protomes have been discovered in a few settlement areas at San Giovenale. One example was found in the Iron Age habitations in Area E on the Acropolis, *San Giovenale* III:3, 86, pl. 11:Sp4. Others were found in Area D, in the oval huts 1A–B, Malcus 1984, 42–43, 45, cat. nos. 37–38, figs. 27, 31. A Sub-Apennine impasto carinated cup with a projection shaped like a ram's head was found in Test pit D in Area E, *San Giovenale* II:2, 26, pl. 6:21. Further projections with ram's head were discovered in Test pits M–N, pp. 37–38, pl. 27:79–81 and in *Fossa* 58, pp. 40, 52, pl. 32:22. Naso 1996, 380–381, n. 618 pointed also to the large Faliscan impasto *kantharoi* with high vertical handles ending in two rams' protomes, vessels often used for banqueting. Several drinking cups are displayed in the Faliscan department in the Museo Nazionale Etrusco di Villa Giulia. Impasto ash urns decorated with plastic ram protomes were also found in Archaic cremation burials (*tomba* 8, “*Tomba dei Cavalli*”) in Via Tiepolo (Padua), Chieco Bianchi

³⁷⁵ Taglioni 1999, 53–59, figs. 26–28, 32–34, 58, nn. 86–89.

³⁷⁶ Beilelli Marchesini 2009c, 110, figs. 36, 42:2.

³⁷⁷ Tasca 1996b, 439, cat. no. 69, fig. 18.



Fig. 121. I.M.B. Wiman and Y. Backe Forsberg with medieval tile fragments found on the northern part of the Vignale plateau (photograph by R. Holmgren).

the beginning of the 6th century BC have been reported from various zones at Acquarossa.³⁸⁴ Similar cooking stands of type IIB are likewise reported from San Giovenale dated from the 7th century to the early 5th centuries BC, but without the ram's head decoration.³⁸⁵

Other architectural terracottas

Apart from the 19 fragments of Archaic roof tiles (pantiles and cover tiles) found in cistern WI-6, there were also a few roof tiles discovered in the filling of other cisterns excavated at Vignale (Fig. 115, Tables 5, 11). Only those tiles that retain a distinct profile have been listed in the catalogues.³⁸⁶ During the survey of the plateau in 2006 we observed tile fragments of various fabrics and dates scattered over the whole plateau, presumably due to the annual ploughing. A concentration of tile fragments was noted in the summit area and on the western part of the plateau (Fig. 28). The Archaic tiles, dated to 640–520 BC, are often fired to a reddish-brown or dark brown colour, whilst after 510 BC they are light brown.³⁸⁷ Örjan

Wikander has previously commented upon the tiles from San Giovenale and recently in his publication, *Roof-tiles and tile-roofs at Poggio Civitate (Murlo)*, discussed fabric, firing, and colours of tiles. Wikander describes the San Giovenale Type II pantiles as of “a very compact, greenish-grey-white clay with a pink core”.³⁸⁸ This indicates that they should be dated to the 4th century BC or later. Pohl has confirmed the same conditions in the Borgo settlement.³⁸⁹ During the survey in 2006 VAP noted many pantile fragments with a greenish-grey colour and a pink core scattered on the surface of the Vignale plateau—mostly in the westernmost area. These seem to belong to the 4th or 3rd centuries BC. The pale yellow ones found in the northern part of the plateau should be dated to the medieval period, considering their shape and small size (Fig. 121).

Basins/bowls with crosswise-placed lug feet and their qualities

A particular type of basin found in WI-6 is worth exploring further. These are the large basins with four crosswise-placed lug feet, with or without a vent hole, and made in various fabrics such as brown impasto, red impasto/red-slip or coarse ware. Such basins have been discovered elsewhere in both sacred and secular contexts. Firstly, one of the four examples found at the bottom of cistern WI-6 will be scrutinized.³⁹⁰

1976, 283–290, pls. 1, 71–74. These examples seem to point to the ram's symbolic importance in Etruscan-era funerary contexts.

³⁸⁴ Scheffer 1981, 43–47, figs. 2–4; 1982, 15–32, 48–51, figs. 4, 46–47, 79–80, 82, and 84, with ram's head at the end of the rim, found in Building E in Zone F at Acquarossa.

³⁸⁵ *San Giovenale* V:2, 222.

³⁸⁶ On roof tiles from various areas at San Giovenale, see Wikander 1981; 2013.

³⁸⁷ Winter 2009, 524–525.

³⁸⁸ Wikander 2017, 130, 142, nn. 12, 127–128.

³⁸⁹ Wikander 2017, n. 128; *San Giovenale* V:2, 50.

³⁹⁰ *Cat. nos.* 48–51.

This large basin was assembled from several fragments to an almost complete vessel, except for its flat base (*Cat. no. 48, Fig. 110*). It is rather unusual to find an almost complete vessel with an intact profile and with all four feet preserved,³⁹¹ and this discovery has made it easier to identify similar rim fragments belonging to this kind of vessel in other areas of San Giovenale. The almost complete basin measured 50.5–51.0 cm in diameter with a base of 30 cm in diameter. The slightly out-curving wall with its thickened rim was undecorated and attached to the small four crosswise-placed lug feet, which allowed the flat base to be raised above the ground. The height was measured at 16.5–19.5 cm, but the weight of the vessel was unfortunately not recorded. However, based on rim diameter and height, it has been estimated to *c.* 6 kg. The plain lower part of the basin does not have a vent hole.

Terminology

In archaeological reports and monographs we find various terms in English and Italian for the crosswise-placed lug-foot vessel, such as *bacino*, *teglie*, *testi*, and *clibani* (cooking-bells).³⁹² Giovanni Colonna, who first found the impasto basins in the temple area in the Forum Boarium, termed the vessels “S. Omobono C” basins.³⁹³ Other scholars also named them *bacino*/basins.³⁹⁴ Pohl used the English phrase “large bowls with four crosswise placed lug-feet”,³⁹⁵ while the excavators of the sanctuary at Satricum used the word *teglia*.³⁹⁶ Recently the basins have been reinterpreted as portable furnaces for baking bread (*testi* or *sub testi*).³⁹⁷ Alessandro Zifferero used the term “*testi da pane*”, indicating a function as a form of cover/lid.³⁹⁸ *Testa* and *clibani* are two words used by ancient writers, and Anthony L. Cubberley assumed that the two words pointed to the same vessel, i.e., a domestic flanged baking cover used

mainly during the Roman Late Republican to Late Imperial time or even later.³⁹⁹

Typology

The specific Vignale vessel discussed above (*Cat. no. 48*), has been classified as a basin of S. Omobono type C1.⁴⁰⁰ Colonna was the first to categorize the basins at Sant’Omobono into types A–C. Types B and C1–2 comprise basins with either one or several cordons below the rim or sometimes with a plain wall. Some of the basins have a small perforation (vent hole) made before firing close to the bottom or further up on the body.⁴⁰¹

However, there are slight dissimilarities between the basins found in Sant’Omobono and the Vignale basin (*Cat. no. 48*) discovered in San Giovenale; the latter has a curvilinear wall and the base is mostly flat but raised above the ground on its four feet. Given that this kind of vessel was used as a baking cover, the Vignale basin *Cat. no. 48* as well as similar shapes found elsewhere in San Giovenale would belong to one or two of the four types that Zifferero used, for example; (A) curvilinear feet which elevate the vessel slightly,⁴⁰² (B) tongue feet/handles (*complanare di fondo*), (C) triangular handles attached to the bottom, and (D) lug feet flush to the bottom with a vent hole above one of lug feet/handles.⁴⁰³ The feet/handles are attached directly to the flat bottom and are more tongue-shaped (*linguetta di pesi*), while others are curvilinear and are raised from the bottom. On the other hand Jette Bouma has divided the basins found in votive deposits near the Mater Matuta temple at Satricum into five types, where type I has a cordon just below the rim and type II is plain,⁴⁰⁴—similar to Colonna’s type C. But the almost complete Vignale basin *Cat. no. 48* lacks the vent hole above one of the lug feet as in the examples found in sanctuaries which are categorized by Colonna as S. Omobono type C2, by Zifferero 2004 as

³⁹¹ A single lug foot is the part which is mostly found. Almost complete basins, however, have been found in Veii, see Acconcia 2009b, and in Lat-era, Berlingò 1995, 161–169, figs. 8–9; Zifferero 2004, fig. 6.

³⁹² Pohl published several impasto lids, rather large truncated conical examples with a flat top and a bridging handle, from the Iron Age hut settlement in Area E on the Acropolis, *San Giovenale* III:3, 54, 68, 82, 87, figs. 47–48, 60, 68, pl. 18. The lids seem to have been common in the Tolfa Hills. A similar lid is also reported from the Iron Age huts in Area D, Malcus 1984, 41, fig. 24:21. These lids differ in shape from the baking covers called *clibani* in Zifferero 2000. On bread-baking using domed-shaped lids (cooking-bells) and their terminology, see Scheffer 1981, 107–108, 110–111, fig. 88.

³⁹³ Colonna 1963–1964, 24–28.

³⁹⁴ Quilici & Quilici Gigli 1993, 65; Rossi Diana & Clementini 1988, 67–68; Zifferero 2000 152, fig. 16.6–7.

³⁹⁵ *San Giovenale* V:2, 216.

³⁹⁶ Bouma 1996a, 377.

³⁹⁷ Cubberley *et al.* 1988; Zifferero 2000, 152; Scheffer 1981, 107–111.

³⁹⁸ Zifferero 2000, 152, fig. 16.6–7; 2004, fig. 3.

³⁹⁹ Cubberley *et al.* 1988, 110, 115–116. On Late Republic and Early Imperial shape of baking covers, see figs. 1–2.

⁴⁰⁰ Colonna 1963–1964, 23–32. See also baking covers, “*testa e clibani*”, dated to Late Republican (2nd and 1st centuries BC to Late Imperial (late 4th and 5th centuries AD) and their find-spots in Cubberley *et al.* 1988, 89–119, figs. 1–3.

⁴⁰¹ Colonna 1963–1964, figs. 13–15, 17–18.

⁴⁰² Zifferero 2000, 155–157, fig. 16.6; 2004, 259–265, figs. 3, 6, 8.

⁴⁰³ Zifferero 2000, fig. 16.6. Zifferero’s type (B) has also been found on the Borgo NW, as well as on the Vignale plateau: *Cat. no. 157* found in the Quarry fill, level 1. See also Zifferero 2004.

⁴⁰⁴ Bouma 1996a, chapter 3, 115–116, fig. 2c. See also Republican votive deposit II south-west of the temple, fig. 2, Bouma 1996b, 58–59, 83–84, 112, 114, 116, 122, 234–237, fig. 44, appendix A, catalogue of finds, pls. CIV–CIX, type I lugged decorated basin (*teglia*) type Ia with a perforation, type II lugged plain basin, and type IIa with a perforation just above the base, cf. pls. CIV–CIX. For types 3–5, see pls. CIX (T27)–CXII.

type (D), and by Bouma as type IIa.⁴⁰⁵ Since in these examples there are four lug feet but only one foot has a perforation in the body above, if only a single foot without a vent hole is available it is impossible to conclude to which type it belongs. Thus, we have an obscurity in the classification of types here.

Since Zifferero listed the find-spots of various types of *teg-lie* with or without vent holes in his article of 2000, several new items have been either fully published or briefly mentioned, *viz.* from San Giovenale,⁴⁰⁶ Fornicchio (Luni sul Mignone),⁴⁰⁷ Veii,⁴⁰⁸ Pyrgi,⁴⁰⁹ Montetosto along the Caere–Pyrgi road,⁴¹⁰ Tarquinia,⁴¹¹ Acquarossa,⁴¹² Rofalco,⁴¹³ Artena,⁴¹⁴ Ficana,⁴¹⁵

Satricum,⁴¹⁶ Pontecagnano,⁴¹⁷ Gabii,⁴¹⁸ the Forum Romanum, and the Capitoline Hill.⁴¹⁹

Context and function

The discussion on context and function will start with basins found in the habitation areas at San Giovenale and its surroundings, followed by specimens in votive deposits, sanctuaries, temples, and lastly in tombs. In the archaeological reports complete specimens are rare, but fortunately there are a few complete examples from Satricum, Poggio Evangelista, Veii, and Sant’Omobono in Rome.⁴²⁰ The almost complete basin from Vignale is the one found in cistern WI-6 (*Cat. no. 48*). Another two lug feet were found in cistern WI-6 (*Cat. nos. 50–51*), which are very similar to the feet of *Cat. no. 48*, and the rim *Cat. no. 49* was also found in cistern WI-6. A third, large and quite different coarse ware lug foot was found in the Quarry fill, Level 1 (see below, *Cat. no. 157*).⁴²¹

An abundance of basins with four crosswise-placed lug feet of the same type as the Vignale basin *Cat. no. 48* were found in San Giovenale’s habitation areas.⁴²² The oldest handmade impasto basin with four crosswise-placed lug feet is found in the Iron Age hut settlement in Area E on the Acropolis, dated

⁴⁰⁵ Colonna 1963–1964; Zifferero 2000; 2004; Bouma 1996a, 376; 1996b, pl. CVII.

⁴⁰⁶ Backe Forsberg 2005, brown and distinct shaped tongue feet of *teglie*, 64, table 8, fig. 76:12–16, coarse wares, pp. 73–75, table 21. See also examples in *San Giovenale* IV:1; V:2; V:3.

⁴⁰⁷ One Etruscan lug foot/handle with part of the body and with a perforation (vent) made before firing was discovered in a box from the 1958–1960 excavations at Fornicchio close to Luni sul Mignone, and classified as belonging to a basin with four crosswise-placed feet. Johnny Bengtsson has dated the lug foot to the 4th century BC. If the date is correct, the vessel belongs to Zifferero’s type (D), dated from the middle of the 5th to the 3rd centuries BC. Zifferero 2000, 152–157, fig. 16.6–7.

⁴⁰⁸ Acconcia 2009b, 52–53, figs. 28:1–3, 32:1–3, nn. 167–168, 222, *testi da pane* found in a cistern, dated to middle of the 7th to middle of the 6th centuries BC; Acconcia *et al.* 2009, 37, fig. 21:5–6, n. 115, found in structure A at Piazza d’Armi. Other examples are found in a cistern (3.40 × 2.50 × 1.60 m with a staircase) in Area V p. 25, figs. 9–10, 53, n. 222, fig. 32:1–3. The cistern is located near a rectangular building, fig. 10. This building is compared with the building and the well at the Pitriscio Bridge Complex and interpreted as an *hestiatorion*, n. 52, in Backe Forsberg 2005, 126, 159, figs. 34b, 36, 44a, 53, tables 39–40.

⁴⁰⁹ Colonna 1992, 287–288, fig. 253:8, red-brown impasto basin with vent hole.

⁴¹⁰ Only one fragment of a basin/cover (*testi da pane*) was found in the sanctuary, Beilelli Marchesini 2015, 118, n. 311.

⁴¹¹ Mordegia 2001, 157, pl. 73c:202/5.

⁴¹² Zone G will be published by Brita Alroth and Zone H by Leni Wendt and Eva Rystedt. Red-slip and coarse ware feet of basins with four lug feet are also found in Zones G and H as well as a few trial trenches. We thank the authors for the information. See, for example, a unique type of this basin in Scheffer 1986, 124, fig. 137 (*scheda 276*). See also Scheffer 1987.

⁴¹³ Rofalco was a Late Etruscan fortress c. 20 km north of Vulci, see Cerasuolo 2010; 2014.

⁴¹⁴ De Waele & Lambrechts 1989, 46–47; De Waele 1989, 68–69, 72, no. 21, p. 74, no. 21, a rather small basin with a vent only 29 cm in diam. and 12 cm H dated to the end of the 4th–beginning of the 3rd centuries BC and found in cistern 2.

⁴¹⁵ *Ficana* IV, fig. 79:353–356 (type II with flat bottom and vent hole).

⁴¹⁶ *Satricum* VI, 89, 188, 193, pl. 46, figs. 4:45–47, 12:126, nn. 227–228, an almost intact basin with four lug feet and with an intentional perforation (*cat. no. 45*, fig. 4) together with some other *teglie* found in the dump str. in a Late Archaic road, Maaskant-Kleibrink 1992, 29, 171, 252, fig. 5, impasto basins a few with raised lugs, flat bottom type II, *cat. nos. 1533–1535*, 2823–2829, in votive deposit II, south-west of the temple area. Maaskant-Kleibrink 1987, 112, 117, pl. XLIXc, *teglie* in settlement phase I–II (pottery types of the Latial Iron Age) dated to the 8th–6th centuries BC. Maaskant-Kleibrink 1992, 56, *Satricum* hut feature VI (8th century BC) with two fragments of *teglie*, no. 1622, with a diam. of 46 cm, and no. 1634, with a diam. of 32–36 cm.

⁴¹⁷ Berlingò 1995, 161–169.

⁴¹⁸ Mancini & Pilo 2006, 97, spec. fig. 7 in a votive deposit (*clibani*, cooking-bell for cooking meat, baking bread and sweets).

⁴¹⁹ *Early Rome* III, 190–201, fig. 125, a votive deposit on the Capitoline Hill with miniature pottery and miniature terracotta discs imitating votive focaccia cakes (*liba votiva*), libation tablets similar to findings in a votive deposit at Santa Maria della Vittoria on the Quirinal, Rome, dated to the 6th–5th centuries BC, and the Comitium on the Forum Romanum, Rome, see *Early Rome* III, 145–146, 160, 196–199, 236, 252, 255, figs. 101, 147, see also Sciortino & Segala 1990.

⁴²⁰ For the basin dated to middle of the 6th–5th centuries BC at Poggio Evangelista (Latera), see Berlingò 1995, 161–169, figs. 8–9 and Zifferero 2004, fig. 6. For Veii, see Di Sarcina 2012a, 201–202, 217–218, fig. 5.9; Bousquet & Zampini 2012, 282–284, fig. 5.83. For Sant’Omobono, see Colonna 1963–1964; *Satricum* VI, 79–81, n. 202, 89, nn. 227–228, 95, pl. 46, 188, 233, fig. 4:45–47.

⁴²¹ The lug foot probably belongs to a large basin of Zifferero 2000, type 4 with lug feet flush to the bottom.

⁴²² *San Giovenale* V:2, 216, 218, pls. 46, 66, internal red-slip ware from Period 2 str. (530/500–430 BC), pl. 71. Various slipped ware from Period 1 str., pl. 46, red slip from Periods 1 and 2, pl. 89, Period 2 str., pl. 91, kitchen ware from Period 1 str.

to the local branch of the Tolfa-Allumiere culture of the 9th century BC.⁴²³ Two basins with lug feet were also found in a well dated to the 6th century BC on the Acropolis, west of the medieval di Vico castle.⁴²⁴ The basins with four crosswise-placed lug feet produced in various coarse fabrics dated to the 6th century BC are common and numerous in the settlement area on the Borgo NW and NE,⁴²⁵ as well as in the settlement on the Acropolis.⁴²⁶ Compared to the large number of basins found in the Etruscan settlement areas in San Giovenale, there are surprisingly few lugs found in the various zones at Acquarossa.⁴²⁷ In the latter case a slightly different basin with four vertical feet/handles was found in a courtyard, in Zone L.⁴²⁸

There have been a few hypotheses regarding the function/s of basins/*teglie* since their first discovery in the Mater Matuta temples in the Sant'Omobono area and at Satricum, where they were proposed as being used in rituals to the goddess.⁴²⁹ These are also a common form used for preparing food and for baking found in settlements in Latium and in southern Etruria. Daniela Rossi Diana and Marina Clementini have listed all types of basins of *augitic* fabric including the basin with lug handles, and their contexts.⁴³⁰ Recently this shape and its functions have been scrutinized and new theories have been suggested.⁴³¹ In *Ceramica pre-romana e sistemi alimentari: elementi per una ricerca*, Zifferero argued for a function as a baking cover for unleavened bread (*testi da pane*). He listed and mapped various find-spots, especially those found in domestic

and sacred contexts north and south of the Tiber⁴³²—see also his tables of the various shapes of this vessel form and their function, and especially his hypothesis of a ritual function for cooking-bells (*testi da pane*).⁴³³

Other proposals for the function are a) covers (*testum*) for cooking meat, vegetables, and sweets,⁴³⁴ b) vessels for making grape juice, due to the perforation near the bottom,⁴³⁵ c) vessels for collecting the blood of the sacrificed animals with the vessels eventually crushed after being used in the ritual⁴³⁶ (which would explain the fragmentary state of the examples found in, for example, the Bridge Complex and in cistern WI-6, *Cat. no. 48*),⁴³⁷ d) cooking meat (especially pork) to be used in food offerings,⁴³⁸ e) vessels connected to milk processing, i.e., cheese production,⁴³⁹ and f) a container for embers.⁴⁴⁰

Basins of Satricum type IIa may have been used for food in a way similar to modern use of the Italian word “*marmitta*”, i.e., vessel for meat.⁴⁴¹ These are often found in votive deposits together with a small jar covered with a lid or a lid-bowl, such as in Satricum.⁴⁴² In his article of 2004, Zifferero argued for a change in people's diet in the centre of the Italian peninsula, especially in Rome, during the reign of the Etruscan kings and the Early Republic. Some vessel forms disappeared and new ones were introduced. The change may have resulted from a modification required when changing from spelt flour to that of wheat, when baking bread to obtain leavened bread.⁴⁴³

A noteworthy example is the published fragments of a coarse handmade impasto bowl/basin with four projecting feet. It derived from a deposit near the so-called Spring Sanc-

⁴²³ *San Giovenale* III:3, pl. 10:AOHI:44, Fl. 2:22a–b, p. 77. Two fragments of basin with four projecting feet of Iron Age impasto, diam. of bottom c. 25 cm, diam. of rim c. 45 cm. Coarse handmade impasto.

⁴²⁴ *San Giovenale* II:5, pl. 23:42–43.

⁴²⁵ *San Giovenale* V:2, pl. 56, internal red slip, WA-1066, 1067–1068, B:c-1-4-4, pl. 66 internal red slip esp. B:c-2-4, A:d-2-4-423, pl. 71, WA-1149–1151, red slip pl. 46, K:a-1-4, pl. 56, WA-1066–1068, kitchen ware pl. 89, F1-24, pl. 91, K:a-2-76, WA-1530; *San Giovenale* III:3, pl. 10:Fl. 2-22. For a general discussion on this type of basin including dating and production, see *San Giovenale* V:2, 216–219; V:3.

⁴²⁶ *San Giovenale* IV:1, 59, 76, fig. 102:80, the author has interpreted the coarse red-slip impasto base fragments with four lug feet as a brazier/basin due to traces of fire inside, but in the present authors' opinion it is part of a basin with four crosswise-placed lug feet, similar to those found, for example, in the Borgo NW settlement (*San Giovenale* V:2), and in Areas E and B on the Acropolis (*San Giovenale* III:3, pl. 10; II:4, pl. 24). A few lug feet similar to the Vignale type were registered in BM notebook 1 1960, now stored at SIR. Cf. also the lug foot (*Cat. no. 157*) found in the Quarry fill, Level 1, on Vignale.

⁴²⁷ Pers. comm. by Eva Rystedt.

⁴²⁸ Scheffer 1986, 124, fig. 137, *scheda* n. 276.

⁴²⁹ Colonna 1963–1964, 4, 24–32, type C, figs. 13–15, 17–18; Bouma 1996a, 104–105, 115–116, figs. 1, 2c, *teglie* of types 1–2. See also *teglie* from the Mater Matuta temple on the Palatine, in Colazingari 2009, figs. 8:211, 10:244–245, 12:256–259.

⁴³⁰ Cf. Rossi Diana & Clementini 1988, figs. 2–3, types A–L, 46–66, and for type M fig. 1, pp. 66–68. On the two techniques of making bread either in the fire or directly on hot ashes or “in an enclosed container”, see Cubberley *et al.* 1988, 100–102.

⁴³¹ Cubberley *et al.* 1988, 98–119; Zifferero 2000; 2004; *Ficana* IV, 119.

⁴³² Zifferero 2004, see also Zifferero 1998; 2000.

⁴³³ Zifferero 2000, 152–157, fig. 16.6; 2004.

⁴³⁴ Frayn 1978; Cubberley *et al.* 1988; Zifferero 2004.

⁴³⁵ Bouma 1996a, 378; Mancini & Pilo 2006, 97, especially fig. 7.

⁴³⁶ Bouma 1996b, 52–53, fig. 36.

⁴³⁷ Backe Forsberg 2005, fig. 76:12–16 brown and advanced impasto lugs of *teglie*, see also *Cat. no. 48*, the red impasto basin, almost complete, with a shape which slightly differs in shape from the types from Sant'Omobono mentioned in Colonna 1963–1964 and from Satricum in Bouma 1996a, 116, fig. 2c.

⁴³⁸ Bouma 1996a, 377, n. 686.

⁴³⁹ Rossi Diana & Clementini 1988, 39–40, 43, 67, fig. 2 red impasto basin/*teglia* with four crossed feet (*a quattro prese*) type M, at p. 67 a list of places with type M. For examples from various areas at San Giovenale see *San Giovenale* II:4, 5:2, and *Cat. no. 48* in this volume. See, for example, the reconstruction of a *teglia/testa* from Rofalco by Cerasuolo 2014. However, Backe Forsberg, one of the current authors, is not convinced of the vessel being a lid/cover and prefers for the time being to interpret it as a basin.

⁴⁴⁰ Bouma 1996a, 125, 377, n. 683; 1996c, 16, n. 79, 147.

⁴⁴¹ Bouma 1996a, 377–378, n. 687. According to Bouma the function of a hole in the wall is still obscure, see type IIa, and pl. CLXIII:T5a, with a ventilation hole in the wall.

⁴⁴² Bouma 1996a, 105–106, 108–109, fig. 1. The basins are categorized as vessels for food processing, see also pp. 115–116, fig. 2c and Bouma 1996b, 58–59, fig. 44 a *teglia in situ* with other votive pottery.

⁴⁴³ Zifferero 2004, 255.

tuary, which is the semi-subterranean building in Area B on the Acropolis in San Giovenale (dated from the 8th century to the first quarter of the 7th century BC).⁴⁴⁴ The goddess venerated at this spring may be Astarte due to the large amount of deer bones and tools of deer antlers found in cisterns near the Spring Building.⁴⁴⁵ Examples of brown impasto basins with four lug feet have also been found in the “*sacellum*” at the Bridge Complex.⁴⁴⁶ Lug-feet basins with the lugs flush with the bottom have also been recorded in a spring near a sanctuary at Tarquinia. In this context plenty of pottery was recorded among domestic vessels of *teglia*, *tegami*, and *clibani*.⁴⁴⁷ The same distribution of pottery was found in the suburban sanctuary of Pontecagnano dated from the 6th to the 3rd centuries BC.⁴⁴⁸

Basins with a ventilation hole and interpreted as used in rituals have been recorded in the Pyrgi temple B,⁴⁴⁹ Piazzia D’Armi, and Casale Pian Roseto.⁴⁵⁰ Heavy lug-based bowls (basins) flush with the bottoms were found in the semi-subterranean building at Casale Pian Roseto in Veii.⁴⁵¹ The basins referred to above were discovered in habitations and sacred contexts, but they are also discovered in funeral settings such as the one located in a chamber tomb at San Giuliano (Grepco Cenale),⁴⁵² with another example in the aristocratic Tomb HH11-12 in the Quattro Fontanili necropolis at Veii (dated to the 8th century BC)—interpreted by Zifferero as a social status marker.⁴⁵³

The use of domestic and sacred four-lugged baking covers?

As mentioned above the vessels have been reinterpreted as baking covers for making unleavened bread, such as focaccia,

using *puls* (faro/wheat).⁴⁵⁴ The unleavened bread (focaccia cakes) was made for the feast Matralia in Rome on the 12th of June, in honour of Mater Matuta and possibly also in honour of Demeter and Jupiter on the Capitolium, perhaps using coarse ware basins with four lug feet.⁴⁵⁵ Joan Frayn has identified several baking methods in the ancient literature.⁴⁵⁶ The basin, for which the Latin word may be *testum*, was used upside down as a lid and the bread, *libum testuacium*, was baked according to ancient textual sources “*sub testu*”.⁴⁵⁷

The finds of basins/covers and miniature terracotta discs with impressions or concavities found in the two temples venerated to Mater Matuta and Fortuna at Sant’Omobono in the Forum Boarium in Rome are of interest. Basins and votive cakes (*liba votiva*) were also discovered in a votive deposit below a wall on the Capitoline Hill near the temple of Jupiter⁴⁵⁸ and on the Palatine as well as the Quirinal.⁴⁵⁹ Votive deposits containing miniature cakes⁴⁶⁰ and libation trays were also found in the Comitium on the Forum Romanum⁴⁶¹ as well as in a votive moat (*fossa*) at Acquoria (Tivoli) dated from Archaic to Late Republican periods.⁴⁶² Similar fragments were discarded in the well in the House of the Vestals after a fire dated to the 575–550 BC.⁴⁶³

Is it perhaps possible to relate the *testi da pane* with the miniature terracotta discs in shape of focaccia bread, with the basins/baking covers—as suggested by Zifferero in his article

⁴⁴⁴ *San Giovenale* II:4, 46, 75, pl. 24:540; Chellini 2002, 39–41.

⁴⁴⁵ *San Giovenale* II:4, 51, 80–83, figs. 1–6, pl. 30, 460 deer bones and 285 deer antlers from the dump placed in cistern 1 near the Spring Building.

⁴⁴⁶ Backe Forsberg 2005, fig. 76:12–16. A few brown impasto lug feet and many rim fragments found in the debris in the Bridge Complex probably belong to this vessel type.

⁴⁴⁷ The basins were dated from middle of 7th to beginning of 5th centuries BC. See Bonghi Jovino & Bagnasco Gianni 2012, 373 in sacred contexts, pl. 105:Ab6/43, Ac57/33, pl. 106:765/15. Bailo Modesti *et al.* 2005b, fig. 1:5, 8, pl. III. For domestic contexts, see Bonghi Jovino 2001a, pl. 73:202/5.

⁴⁴⁸ Bailo Modesti *et al.* 2005b, 44–45. Cf. the distribution between these vessels in tables 2 and 6, nn. 47 and 49, on *teglia*, pl. 3:5 and *clibani* pl. 3:8.

⁴⁴⁹ Colonna 1992, 159, fig. 253:8, a red-brown impasto basin with a vent hole found near temple B at Pyrgi.

⁴⁵⁰ Murray Threipland & Torelli 1970; Torelli 1998.

⁴⁵¹ Murray Threipland & Torelli 1970, 111, fig. 26; Torelli 1998; Accornia 2009b, 53–54, “*testo da pane*”, fig. 32:1–3; Murray Threipland 1963, 52, fig. 12:2. These basins are also found in other places at Veii, for example in a pit near the North-West Gate, Bartoloni *et al.* 2006, 236, 258, fig. 17:5–6.

⁴⁵² Brocato 1997, *Tomba III*, pl. 104:GCIII 1.

⁴⁵³ Zifferero 2000, 157; 2004, 260–261.

⁴⁵⁴ Cubberley *et al.* 1988, 100–102; Zifferero 2000, 157.

⁴⁵⁵ Votive deposit on the Capitoline, *Early Rome* III, 195–199, figs. 123, 125. See also the votive focaccia in red-brown impasto (*liba votiva*) found in the *hypogeum* below the temple of Victoria on the Palatine, Rome, Scordia 2001, 217–218, table 55.226. Zifferero 2004, 259 on the Matralia, a feast held in June, in honour of Mater Matuta. See also Varro, *Ling.* 5.106; Cato, *Agr.* 75; Varro, *Rust.* 1.2.28; Angelelli 2001, 62–63 mentioned the *factores* who according to Varro, *Ling.* 7, 44, baked *liba* cakes in large basins (*mortaria*) which were used by the priests in the sacrifices to the goddess Vesta. On a *mortarium*, see Zifferero 2004, fig. 7, a man working with his hands in a large basin (maybe preparing a dough) pictured on a wall painting in the *Tomba Golini* 1 at Orvieto.

⁴⁵⁶ Frayn 1978, 28–33; Cubberley *et al.* 1988, 98–117, 119, for literary evidence. See also Scheffer’s comments on the making of bread, Scheffer 1981, 107–108.

⁴⁵⁷ See Zifferero 2000, 157; 2004, 260.

⁴⁵⁸ *Early Rome* III, 190–201, figs. 121–125; IV:2, 377, 381, 450–451, fig. 124:1, 3–6, terracotta votive cakes and libation trays with concavities. See also Bouma 1996a, 275–277, fig. 12a–i, on libation trays and votive cakes from Satricum, Tivoli (Acquoria), and Veii.

⁴⁵⁹ Colazingari 2009, 17–22, figs. 8:211, 10:245, 12:256–259. Santa Maria della Vittoria, *Early Rome* III, 145, 156, 196, fig. 101:4–10; IV:2, 376–377. As already noted, see also the votive focaccia found in the *hypogeum* below the temple of Victoria on the Palatine, Rome, Scordia 2001.

⁴⁶⁰ *Early Rome* IV:2, 379.

⁴⁶¹ *Early Rome* III, 223, 236, fig. 147:10–15; Carafa 1995.

⁴⁶² Antonielli 1927, 233–236, figs. 12–14. The miniature finds from Acquoria are now on display in Villa Poniatowski, Rome, on the second floor.

⁴⁶³ *Early Rome* III, 367, 372–374, fig. 239:5; Bartoli 1961, col. 52. N. 99, fig. 16; Fioravanti 1963, 428–429.

from 2004?⁴⁶⁴ Einar Gjerstad has analysed the finds and concluded that they are of two types: some are cakes with depressions, and others are small plates or trays (libation trays) with deep depressions for containing oil and used in offerings—a conclusion drawn because some of them show traces of soot.⁴⁶⁵ If Gjerstad linked the *teglie*/basins to the votive cakes is however unknown. Bouma suggested that *teglie* of types I–II, found near the Mater Matuta temple at Satricum, formed part of a set of vessels consisting of a basin, jar, bowl, and a lid,⁴⁶⁶ mainly used for processing food, i.e., for bread baking and meat offerings.⁴⁶⁷ Such sets were found in abundance in votive deposits/assemblages in various layers dated from 490/480 to 375 BC.⁴⁶⁸ *Teglie* containing embers were also found at Veii.⁴⁶⁹

The reinterpretation of the basins to being only covers is still an open question. Perhaps there is still reason to believe that the covers could serve multiple functions, including that of a container such as a bowl. The basins without a vent hole might have had two functions, similar to the coarse ware bowls/lids of various sizes, often seen in publications discussed as containers partly used as lids.

Production and dating

As mentioned above, Zifferero has proposed a hypothesis suggesting that some pre-Roman ceramics used in food processing were markers of socio-economic processes; the so-called *testi da pane* being one of them.⁴⁷⁰ He also discussed various production centres especially for the types with a vent hole, which seemed to have been distributed from Rome and Latium up to the Sabine and Faliscan areas.⁴⁷¹

The number of basins/*teglie* in the habitation areas may suggest a local production, as argued for by Bouma and Pohl—this despite the lack of any kilns in the so-far explored areas.⁴⁷² Caeretan and Veian hinterlands have been mentioned as production centres.⁴⁷³ San Giovenale, being a frontier place along the Vesca river, might be one such centre. Pohl has published

an abundance of basins of various fabrics, mostly internal red-slipped ware dated to the 6th century BC, which may indicate a local production in the settlement area on the Borgo NW.⁴⁷⁴ One example is the proposed workshop of “Caeretan” braziers, *dolia*, and terracotta coffins cylinder-stamp-signed by the itinerant potter *Larice Crepu*, a freeborn slave of the Roman family *Creppus*, who moved to Caere and founded his workshop there.⁴⁷⁵

In the sanctuary at Satricum, especially in votive deposit II south of the temple, several impasto *teglie* of types 1–5 with slightly concave or flat bottoms were discovered. These could be dated from the 6th to the 3rd centuries BC.⁴⁷⁶ An interesting notion is that some *teglie* and jars containing charcoal and faunal remains, found in votive assemblages at Satricum dating from c. 440/430 to c. 375 BC, had been crushed—probably deliberately. One *teglia* found in stratum 3 was dated to 490/460–c. 450 BC.⁴⁷⁷ A few fragments of this type of coarse ware basin with four feet were also recorded from the temple of Castor and Pollux at Forum Romanum and dated from the 7th to the 5th centuries BC.⁴⁷⁸

The vessels, found in various contexts, were in general produced from the late 7th to early 3rd centuries BC (the Roman Late Republican Age).⁴⁷⁹ In his article Zifferero has listed basins/*teglie* from various places dated from 650–450 BC and 450–375 BC.⁴⁸⁰ The rather small cooking-bells dated to the Iron Age are of the same kind as those ascribed later dates.⁴⁸¹ Even today inhabitants in the Molise region in Italy use them, as do Iraqi bedouins; in Morocco the *tajine* functions as the ancient cooking-bell.⁴⁸² Several of the Roman basins found in sacred contexts dated to the 6th and 5th centuries BC differ

⁴⁷⁴ *San Giovenale* V:2, pls. 46, 56, 65–66, 71, 89, 91.

⁴⁷⁵ Pohl 1982, 95, n. 9, pl. IV:n.1; *San Giovenale* V:2, n. 222, ‘local produced Caeretan braziers’, p. 216 local production of basins with four lug feet at San Giovenale. See Colonna 1997, 61–67, on ‘Larices Crepu il vasaio a San Giovenale’; Pieraccini 2003, 145–146, fig. 95 on the *Crepu* cylinder.

⁴⁷⁶ Maaskant-Kleibrink 1992, 29–33, fig. 5 (large bowls).

⁴⁷⁷ Bouma 1996b, 48, 74, 81, 83–86, 88–89, 97, 100, 112, 114, figs. 76, 86–87, 89, 91, pls. CIV–CIX.

⁴⁷⁸ Cullhed *et al.* 2008, 13–17, B-18–19, pl. 4:2–3, see also the rim of basin on pl. 3:3, which is very similar to the rim of the Vignale basin, *Cat. no.* 48. Compare also basins on pl. 3:2–3 with the rims of basins on the Borgo, *San Giovenale* V:2, pls. 56, 66, 71 (lug feet).

⁴⁷⁹ Bouma 1996a, 377. Cf. also Zifferero 2004 *testi da pane* from the Orientalizing period to Late Archaic (second half of the 7th to first half of the 5th centuries BC [fig. 3]). Cf. also fig. 6. On types at Satricum, see Bouma 1996a, chapter VII:5.2.5, 376–377, type 1 lugged decorated *teglia*, type II lugged plain *teglia*. Republican votive material, *teglie* pls. CIV–CIX, type 1–II.

⁴⁸⁰ Zifferero 2000, fig. 16.6–7.

⁴⁸¹ Cubberley *et al.* 1988, figs. 1–3; Zifferero 2000, 153–157. On the dating of *clibanus/testum* from 2nd–1st centuries BC to late 4th–5th centuries AD, see Cubberley *et al.* 1988, 110–113.

⁴⁸² Cubberley *et al.* 1988, 99, 110.

⁴⁶⁴ Zifferero 2004, 259, 265.

⁴⁶⁵ *Early Rome* III, 199.

⁴⁶⁶ See Bouma 1996a, 109. *Teglia* or tray with lugs of types 1–2, decorated or plain, fig. 2c, 376–377. Types 3–4 do not occur with types 1–2, see Bouma 1996a, 376–378.

⁴⁶⁷ On functions, cf. Bouma 1996a, 375–378. On votive contexts, see Bouma 1996b, 297, pls. CIV–CIX.

⁴⁶⁸ Bouma 1996b, for example, 297, Assemblage 8 in str. 3, fig. 44, dated to 490/480–450 BC, Assemblage 3 in str. 5 dated to 450–440/430 BC, Assemblage South T37 str. 6, and a votive deposit in str. 8 dated to 440/430–375 BC.

⁴⁶⁹ Bouma 1996a, 376–377 & n. 682.

⁴⁷⁰ Zifferero 2000, 148, braziers and cooking stands are also commented upon.

⁴⁷¹ Zifferero 2000.

⁴⁷² See Bouma 1996a, 375–380, for typology and ware. *San Giovenale* V:2, 218.

⁴⁷³ Zifferero 2000, 156–157.

in shape from those found in 6th-century BC settlement contexts from the Etruscan area. According to Zifferero the basins were diffused from Latium to other parts of Etruria.⁴⁸³

Vessels with perforated bases

Other items connected to sacred contexts and votive deposits are perforated ceramic bases. The bucchero-stemmed *kantharos* found in cistern WI-6 had a drilled perforation of 0.5 cm in the centre of the bottom, made after firing (*Cat. no. 55*). A late cream ware bowl found in well/cistern WI-3 had a 2 cm-diameter perforated hole in the centre (see below, *Cat. no. 119*). Vessels with perforations have been found in the debris of the “*sacellum*” in the Bridge Complex⁴⁸⁴ as well as in other sanctuaries and votive deposits. Perforation in the bottoms of cups, bowls, and jars in various fabrics, either made before firing or after, are related to libations to the chthonic gods and spirits.

Textile implements

Two truncated pyramidal-shaped terracotta loom weights were found in cistern WI-6, one of them at the bottom (*Cat. no. 69*). The other loom weight from WI-6, which is now missing, had impressed rosettes on two sides (*Cat. no. 68*). In all, six examples of textile tools, all being of Archaic type, were discovered in the Vignale cisterns: the two above-mentioned from WI-6; a bucchero spindle whorl (*Cat. no. 22*) and a loom weight (*Cat. no. 37*) in cistern WI-8; and two loom weights (*Cat. nos. 105–106*) in cistern WI-5. Several loom weights have patterns either impressed or incised on the top or on one or two sides, similar to those found in the settlement areas on the Acropolis, the Borgo, and in the “*sacellum*” at the Bridge Complex.⁴⁸⁵ Textile implements are often found in cisterns and wells and have been interpreted as gifts to a divinity, and consequently the cisterns have been considered as containers for votive deposits.⁴⁸⁶ Originally, the loom weights may have been used in a warp-weighted loom,⁴⁸⁷ an interpretation supported by the set of 16 loom weights found *in situ* in House A, Zone B at Acquarossa.⁴⁸⁸

WI-1A CISTERN/WELL (?) AND WI-9 RECTANGULAR CISTERN⁴⁸⁹

For convenience, the features of WI-1a and WI-9 are here described and discussed together. In order not to confuse their respective data, their individual feature descriptions are given separately.

WI-1a cistern/well (?)

Figs. 74–75, 91, 122–124, 126, Tables 8–9, 11

Feature: cistern/well (?)

Original label 1959–1960: Pozzo 2

Interpretation: cistern or well in association with a rectangular cistern, WI-9

Shape: shaft

Subsurface features: overflow conduit, climbing holes

Preliminary date of first construction: 7th century BC

Preliminary date of use: middle of the 7th–6th centuries BC

Preliminary dating of building material: 7th century BC

Area: (TS2), Square L54/M54

Geographical location: east of Stone Platform

Position: N42°13'22.95" E12°00'15.99 (±5 m)

Height ASL (m): 172

Measurements (m): diam. mouth: 0.7, bottom: 1.2, excavation depth: 3.15

Finds: pottery, tiles

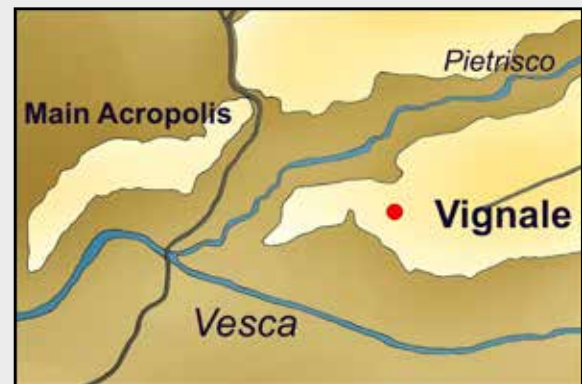


Fig. 122. Cistern/well (?) WI-1a, rectangular cistern WI-9, and well/cistern WI-1b (feature map by VAP).

⁴⁸³ Zifferero 2004, 255–268, figs. 3, 8. The Vignale basin (*Cat. no. 48*) has a similar rim shape as the basins found in the ritual *pozzi* at the Comitium in the Forum Romanum, Rome, dated to the 6th century BC, and in Crustumium (Lazio) as well as in other places in Etruria, Carafa 1995, 242–243.

⁴⁸⁴ Backe Forsberg 2005, 80, 102, n. 583, 144–145, fig. 106.

⁴⁸⁵ *San Giovenale* V:2, 223, tables 89–90 pl. 106 (esp. A. A:d-2-4-659); IV:1, 134–135, fig. 263, table a; II:2, 42–43, pls. 36–37; Backe Forsberg 2005, 80, figs. 94a, 84:18, table 25.

⁴⁸⁶ Gleba 2009, 69–74, table 1: votive deposits with textile implements. See also Gleba 2016.

⁴⁸⁷ Gleba & Mannering 2012, 14–16, figs. 0.20–0.21.

⁴⁸⁸ Östenberg 1975, 11–12, 78–81.

⁴⁸⁹ CEO notebook II 1959, 60, 65–67, plan and section.



Fig. 123. Features cistern/well (?) WI-1a and rectangular cistern WI-9 (photograph by C.E. Östenberg, courtesy of SIR).

WI-9 rectangular cistern

Figs. 74–75, 122, 125, 133, Tables 8–9, 11

Feature: cistern

Original label 1959–1960: house foundation

Interpretation: cistern

Shape: rectangular

Subsurface features: connecting channel and shaft cistern (WI-1a)

Preliminary date of first construction: 7th century BC

Preliminary date of use: middle of the 7th–6th centuries BC

Preliminary dating of building material: 7th century BC

Area: (TS2), Square L54/M54

Geographical location: east of Stone Platform

Position: N42°13'22.95" E12°00'15.99 (±5 m)

Height ASL (m): 172

Measurements (m): c. L ?, W ?, D 0.75

Finds: pottery, cooking stand, tiles

During the survey in 1959, four structures were discovered on the western summit of Vignale. These were marked on a sketch and some were interpreted as house foundations with *pozzo* and cellar. Taken into consideration that two of these

were hastily excavated and documented, it may be necessary to review the old interpretations. One can consider an alternative explanation that more closely ties the interpreted house foundations with assorted water installations. WI-1a, initially interpreted as a *pozzo* (well), forms part of a rectangular cut in the bedrock (WI-9), which at the time of excavation was interpreted as a house foundation (Fig. 123). A further inspection reveals that this latter construction appears to be fed by a small channel that discharges into the rectangular cut, c. 50 cm above its floor. Furthermore, the bottom of the *pozzo* (WI-1a) was not reached during the excavation and the removal of its contents stopped at a depth of approximately 3 m. The upper part of WI-1a very much resembles the shape of the well construction that is associated with the Bridge Complex. This latter structure expands downwards to a depth of 6 m with equally spaced climbing holes or *pedarole* (Fig. 91).⁴⁹⁰ Although WI-1a resembles a well, one should keep in mind that an interpretation of a cistern might be preferred due to some indications presented below: after all, we only have information about the upper interior part of WI-1a.

⁴⁹⁰ Backe Forsberg 2005, 56–60, figs. 36, 41, 53; Klingborg 2017, 45–46.

As mentioned, these installations were interpreted as house foundations with wells in the original notebooks. As such, the constructions were described as evidence for a settlement on the western summit of the Vignale hill.⁴⁹¹ As discussed elsewhere in the notebooks, there is ample evidence for habitation remains in this area, but it is worth considering some of these features as alternative structures. They may instead be directly connected to activities involving various uses of water. Obviously this does not contradict the possibility of a settlement; in fact, quite the contrary. An alternative interpretation for WI-9, in connection to the WI-1a installation, is that of a cistern where WI-9 constitutes the main feature. The full extent of the so-called house foundation WI-9 (i.e., cistern) was not established by the original sounding, and therefore we can only speculate that the installation in fact represents a cistern—which the photographs of the time suggest. The defined cut in the bedrock itself and the mouth of the channel that discharges into WI-9 are both credible indications of this. The semicircular partitioning wall of the associated *pozzo* WI-1a, separates this feature from the rectangular cistern (Fig. 123). This suggests that the rectangular cistern WI-9 may rather have been added as a settling tank for the water collected in WI-1a. In such a case, the water arriving through the channel into the cistern could be cleansed before slowly flowing into the shaft of the deep water container. The suggested interpretations of the WI-1a/WI-9 compound may therefore be that of accumulating water, with the rectangular cistern (WI-9) functioning as a settling tank before “filtered” water flowed into the deeper cistern (WI-1a). If the channel and WI-1a, on the other hand, provided the rectangular cistern with water, we could assume some sort of manufacturing feature, where a water supply could serve the need for whatever was prepared or processed inside the rectangular cistern. In this case we must assume that WI-1a is a well or a cistern with yet another and possibly still-hidden inflow of water.

Further excavation is needed throughout this area to understand the original use of the interconnected features WI-1a and WI-9. A note in the notebooks from the first sounding in the area suggests that the outer surface of the partitioning wall between WI-1a and WI-9 had a rough surface facing WI-9. This could mean that the partition wall was not meant to be a free-standing structure between the cisterns, but belongs primarily to WI-1a. In such a case, this implies that WI-9 was not in use and probably filled with debris while the WI-1a was still operating. Such a scenario complicates things further; clearly additional excavation is needed in order to clarify matters.

WI-1a itself had a conical shape and the 3 m of excavation depth revealed a fill of tufa blocks (Fig. 91). The top surface

of this fill was *c.* 1 m below WI-1a’s mouth.⁴⁹² Whether or not WI-1a went out of use after the 6th-century BC earthquake and was later filled with the debris from damaged buildings is uncertain since the unit was not excavated to its lowest level. The tufa fill could very well be of a later date, with the bottom of the deep cistern containing a separate assemblage of material that was accumulated earlier. There are tiles represented in the fill which, in combination with tufa blocks, would suggest building debris—again a reminder of buildings that originally surrounded the water installations, although it should be emphasized that WI-9 is not associated with a house foundation itself. The tiles represented are however only of the *imbrex* type and might therefore be connected with water installations—such as the channel constructions (gutters) seen on the main Acropolis.⁴⁹³ The pottery represented inside the cisterns points to an early abandonment of the constructions themselves—most probably in connection with the devastating earthquake of the 6th century BC.⁴⁹⁴

Cat. nos. 80–89: cistern/well (?) WI-1a

Fig. 124, Tables 9, 11⁴⁹⁵

Brown impasto

Cat. no. 80. (Fig. 124). Jar. One out-turned rim fragment with gentle rounded rim, L 4.6 cm, th. 0.7 cm, too small for est. of diam. Handmade dark brown burnished exterior and light brown burnished interior and rim (inv. no. 59-448).

Bucchero

Cat. no. 81. (Fig. 124). Cup. Small, body and vertical handle fragment (inv. no. 59-445).

Cat. no. 82. Bowl. Two base fragments. Too small for est. of diam. (inv. no. 59-444).

Red slip

Cat. no. 83. (Fig. 124). Jug/*oinochoe*. Small rim fragment of trefoil mouth. Red-slipped surface (inv. no. 59-450).

Cat. no. 84. (Fig. 124). Cooking stand. Plain, slightly thickened flat rim fragment with rear tongue-like support and slightly pointing downwards; a small stand with a rounded protruding support Scheffer type IIA, see Scheffer 1981, 15, 36, figs. 2, 69–70. The support is more pointed than the fragments of type IIA found at Acquarossa. Buff to reddish coarse clay with white and black inclusions. Worn surface. Pres. H 6 cm; pres. L 15 cm, L of support including rim 7 cm,

⁴⁹² FB notebook 1960, 33.

⁴⁹³ *San Giovenale* IV:1, fig. 9; II:5, figs. 6–7.

⁴⁹⁴ Blomé *et al.* 1996; Blomé & Nylander 2001; *San Giovenale* V:1, 138–142.

⁴⁹⁵ CEÖ notebook II 1959, 60, 65, 67.

⁴⁹¹ Hanell 1962, 304; Pohl 1985, 54–55.



Fig. 124. Photograph of finds in cistern/well (?) WI-1a. Upper left to right: Cat. no. 80 brown impasto jar; Cat. no. 81 bucchero cup, Cat. no. 83 red-slip oinochoe. Lower left to right: Cat. no. 84 red-slip cooking stand, Cat. no. 85 coarse ware bowl, Cat. no. 89 imbrex (photograph by G. Alyasin, processed by R. Holmgren, courtesy of SIR).

th. of rim 2 cm (inv. no. 59-435). Similar stands of type IIA were found at San Giovenale (Find nos. 62-159d, 63-114, 63-141 and 62-182b) with a pres. diam. of 34.5 cm, see Scheffer 1981, 43–44, figs. 111–113. Six stands of type IIA are also registered from the Bridge Complex on the northern side of the Pietrisco brook and one from the southern side, for example, at the bottom of the ravine on the northern slope of Vignale,⁴⁹⁶ cf. Backe Forsberg 2005, 80, table 26. Dated to 7th–6th centuries BC. Stands of Type IIA were also discovered at Pyrgi, Santa Severa, dated to the 6th century BC, see Scheffer 1981, 45, fig. 15.

Coarse ware

Cat. no. 85. (Fig. 124). Bowl. Base fragment of dark grey gritty clay, diam. 6.7 cm (inv. no. 59-449).

Cat. no. 86. *Dolium*. Rim- and body fragment; out-turned rim, slightly rounded, th. of body 4.5 cm, th. of rim 5 cm; too small for est. of diam. (inv. no. 59-440).

Cat. no. 87. *Dolium*. Rim- and body fragment. Out-turned rim, slightly rounded, reddish-brown clay with blackish gritty core, th. of body 2.2 cm, th. of rim 3.8 cm, est. diam. 31 cm (inv. no. 59-441).

Tiles

Cat. no. 88. *Imbrex*. One large fragment of cover tile. Light orange clay, pres. L 31 cm, W 13.5 cm, H 5.5, th. 1.2 cm (inv. no. 59-438a).⁴⁹⁷

Cat. no. 89. (Fig. 124). *Imbrex*. Small rim fragment of cover tile. Reddish-brown clay with dark gritty core; pres. L 4.6 cm, th. 1.1–1.6 cm (inv. no. 59-438b).

Cat. nos. 90–95: WI-9 rectangular cistern

Fig. 125, Tables 9, 11

Etrusco-Corinthian ware

Cat. no. 90. (Fig. 125). Jar/jug? Ring-base with slightly concave bottom. Diam. of ring-base 6.7 cm, pres. H 1.1 cm. Fine, depurated light beige clay with reddish-brown paint on body and base. Below base alternating light and dark brown and purple painted broad encircling bands (inv. no. 59-442). See also *San Giovenale* I:7, figs. 6:18, 14:11.

Cat. no. 91. Plate. Rim fragment with applied rope handle. Diam. could not be est. Yellowish-buff well-depurated clay (inv. no. 60-443a). Similar to *Cat. no. 136* (inv. no. 59/60-219b). See *San Giovenale* V:2, pls. 3–5 where the same form is named bowls with or without rope-handles. See also the form made in bucchero (see below, *Cat. no. 147*). The plates/bowls

⁴⁹⁶ See App 1, no. 77.

⁴⁹⁷ Drawing in CEO notebook II 1959, 66 (scale 1:2).

are also found in tumulus tombs, see *San Giovenale* I:5, 49, 79, pls. 25:60, 38:15; I:6, 5, fig. 5:9; I:8, 31, figs. 19:60–61, 29:68 and in the Bridge Complex, Backe Forsberg 2005, fig. 79. The plates date from the end of the 7th to the beginning of the 6th centuries BC; many examples of the bowl or plate with rope handles as well as with false rope handles have been found in the Borgo NW habitation area, see *San Giovenale* V:2, 197–198, pls. 3–6.

Cat. no. 92. Plate with applied rope handles. One small knob handle; buff well-depurated clay, similar to plates found in cistern WI-2, *Cat. no. 7* and on the Stone Platform, *Cat. nos. 136–137* (inv. no. 59-443b).

Bucchero

Cat. no. 93. Cup. Two fragments of ring-base. Too small to est. diam. (inv. no. 59-444).

Cat. no. 94. Cup. Small cup with vertical handle, body and vertical handle fragment (inv. no. 59-445).

Slipped ware

Cat. no. 95. Jar. Flat base. Dark brown clay with dark core. Buff slip; diam. of base 8 cm (inv. no. 59-438c).

Comments on finds in cistern/well (?) WI-1a and rectangular cistern WI-9

Tables 9, 11

Cistern/well (?) WI-1a associated with the rectangular cistern WI-9 was situated between the large tufa Stone Platform and the Quarry (Fig. 75). It contains 13 fragmentary and worn pottery vessels of both table ware and coarse wares. The brown impasto jar and the bucchero cups, bowl, and jug represented drinking, eating, and serving functions. The fragment of a cooking stand of Scheffer 1981 type IIA, dated 7th–6th centuries BC⁴⁹⁸, is similar to the cooking stands of Scheffer 1981 type IIA identified on the Borgo, the Acropolis, and in the “*sacellum*” at the Pietrisco Bridge Complex.⁴⁹⁹ Only two Archaic cover tiles were recorded, one of them quite long and well preserved.

The pottery in cistern WI-9 yielded 16 very worn fragments of mostly jars of various fabrics; four Etrusco-Corinthian table wares, plates and jars and one red-slip jug, all for serving and eating. The coarse ware jars and *dolia/pithoi* were most probably used for storing food and may be dated to the mid-6th century BC.

⁴⁹⁸ The cooking stand was earlier interpreted as a fragment of a brazier, CEÖ notebook II 1959.

⁴⁹⁹ On cooking stands, see Backe Forsberg 2005, 80–81, 101, figs. 85, 86a–b; *San Giovenale* V:2, 222, pl. 102, table 86b; II:5, 49, pl. 13:269.

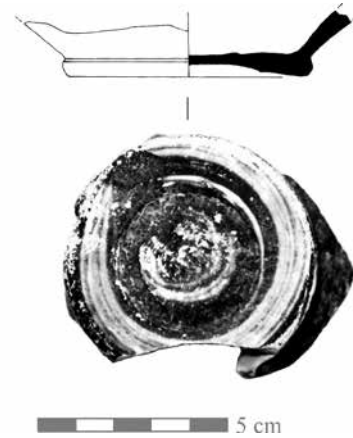


Fig. 125. Etrusco-Corinthian jug (Cat. no. 90) found in rectangular cistern WI-9 (drawing and photograph by R. Holmgren).

WI-1B WELL/CISTERN

Figs. 27, 74, 122, 126, Table 8 (for feature map see Fig. 122)

Feature: well/cistern?

Original label 1960: pozzo

Interpretation: well or cistern

Shape: shaft

Subsurface features: mouth partly lined with tufa blocks

Preliminary date of first construction: 7th century BC

Preliminary date of use: middle of the 7th–6th centuries BC

Preliminary dating of building material: 7th century BC

Area: (TS2), Square L53/M54

Geographical location: east of Stone Platform, north of and in line with cistern/well (?) WI-1a

Position: N42°13'22.95" E12°00'15.99 (±5 m)

Height ASL (m): 172

Measurements (m): diam. mouth: 1.0, excavation depth: c. 1.0 down to water level

Finds: tufa blocks

Well/cistern WI-1b, excavated by Brown in 1960, was found a few metres east of the Stone Platform and somewhat north of cistern/well (?) WI-1a (former *Pozzo* 2; Square L53–M54) (Figs. 27, 75, 126).⁵⁰⁰ This led the excavators to name these two water installations “twin *pozzi*”, although nothing connects them except for being similar in construction and positioned close together. In the diary Brown mentioned only briefly this *pozzo* as being filled with tufa blocks from its mouth down to c. 1 m (at which level the excavation ceased), and no specific finds were mentioned. On the

⁵⁰⁰ FB notebook 1960, 27.

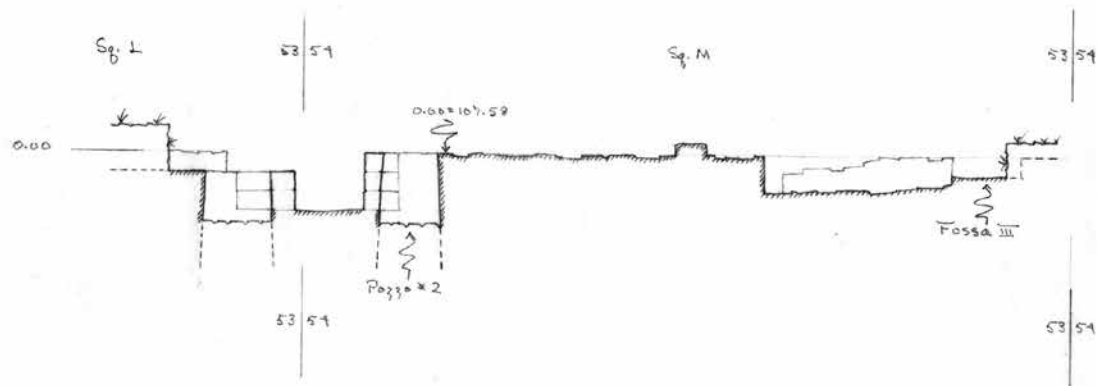


Fig. 126. Photograph of well/cistern WT-1b, in the right foreground. It was found a couple of metres north of cistern/well (?) WT-1a, left foreground (former Pozzo 2; Square LS3/MS4). An original pencil drawing from 1960 of the section, taken directly from the archive at SIR, shows the relation of the same water installations seen from the east, with WT-1b furthest to the right (north), looking south-west (photograph and drawing by F. Brown, courtesy of SIR).

photograph taken in 1960 by Brown, the well/cistern has a clearly defined circular mouth with two rows of tufa blocks in one side, similar to cistern/well (?) WI-1a.⁵⁰¹

WI-5 CISTERN

Figs. 27, 74–75, 91, 127–130, Tables 6, 8

Feature: cistern

Original label 1959–1960: cesspool

Interpretation: cesspool/cistern

Shape: flask-shaped

Subsurface features: climbing holes, bottom depression

Preliminary date of first construction: 7th century BC

Preliminary date of use: late 7th–6th centuries BC

Preliminary dating of building material: 7th century BC

Area: (TS2), Square L58/Level II

Geographical location: within Cultivation Trench CT2b, c. 45 m east of the Stone Platform

Position: N42°13'22.48" E12°00'17.83" (±5 m)

Height ASL (m): 171

Measurements (m): diam. mouth: 0.85,

diam. bottom: 1.80, depth: 1.45

Findings: organic fibres, pottery, tiles, loom weights



Fig. 127. Cistern WI-5 (feature map by VAP).

Cistern WI-5 has a rounded rectangular shape in plan with a roughly flask-shaped profile. The walls and its vault bore clear oblique marks from the strokes of a mason's pick (Fig. 91). The recorded stratigraphy reveals a deposit of broken pottery that was dumped into the cesspool/cistern before it was filled.⁵⁰² This dump contained two loom weights, one of which had two grooves on the top in form of a diagonal cross. The bucchero and other fine wares suggest a slightly later date than the filling of the adjacent Quarry (containing the Stone Platform), which dates from the 6th to the late 5th centuries BC (Table 6).⁵⁰³ The early excavators described cistern WI-5 as a "cesspool". Descriptions of this feature in the early journals and the results of the aerial and land surveys on Vignale did not aid VAP in establishing the time period during which the cistern was constructed. The phasing in line with its adjacent constructions, such as the cultivation trenches, proved to be challenging in that WI-5 seemed to form part of the cultivation trench itself (CT2). The feature was positioned centrally in the trench and a relation between these two features suggested that the opening of WI-5 was actually cut by the trench—Cultivation Trench CT2b, that is (Figs. 74–75). In this way, the upper part of the cistern's neck was actually cut away when constructing the cultivation trench. This is also supported by the upper neck of the cistern which is uneven horizontally. This suggests that its orifice was cut obliquely when the cultivation trench, with its slightly sloping position, cut straight through the mouth of the cistern. It should also be noted that an older cistern ending up in the middle of a later cultivation trench is not that surprising in a place that is basically littered with such features. The practicality of constructing a cistern or a cesspool within a cultivation trench is furthermore not very likely.

Water Installation WI-5 was discussed in terms of phasing and content in the 1960s, but the claim of the feature being a cesspool was not debated and explained further. This needs some further inquiry. A cesspool, or a *cesspit*, is a conservancy tank, a pit or a covered cistern which can be used for sewage or refuse. Traditionally the feature was a deep cylindrical chamber dug into the ground, having the approximate dimensions of 1 m in diameter and 2–3 m deep.⁵⁰⁴ When reviewing WI-5, VAP rather prefers to use the term cistern since there is no information about channels leading water in or out of the cavity. Pohl has furthermore questioned the interpretation of a *pozzo*/cesspool and instead suggested a function of a silo, viz. a below-ground container for storing grain. This was based

⁵⁰¹ In March 2018, 19 colour slides taken by Brown were discovered in a cupboard in the SIR attic together with a few original pencil drawings. One of these drawings, a north–south section, was unfortunately not enclosed in FB notebook 1960. This omission led to an earlier misinterpretation by the current authors, regarding the word "well" which was interpreted as "wall" in the hard-to-read notebook. The newly found section drawing revealed the mistake, which led to the discovery of a second well/cistern, now with the name WI-1b.

⁵⁰² FB notebook 1960, 19 (Find context Square L58, Level II).

⁵⁰³ According to Brown the remains found could not be dated later than the 4th century BC. In the FB notebook 1960, Pohl states that she could not see any 4th-century BC material among the finds in this *pozzo*, and the present authors agree with her; cf. the contents of cisterns WI-2 and WI-6.

⁵⁰⁴ On cesspool, see *Cambridge English Dictionary* 2022.

on the measurements given in the diary of 1960, suggesting a bell-shaped form.⁵⁰⁵ As mentioned above, a cesspool serves as a reservoir for the sediment of a drain or for receiving the sewage from, for example, a house. The cistern itself must in this case have had a trench or a gutter connected to it. Any water that passed through, or was settled in the cistern, must then have filled the cesspool through any such structures. Since the trench that cuts the opening of the cistern is a later cultivation trench, we must assume that the original connecting channel is no longer traceable. Since the purpose of the intersecting Cultivation Trench (CT2) was not brought into discussion during the excavations in the early 1960s, it must anyhow been the presumption that the cesspool was dependant on the trench itself, otherwise there is no reason to identify WI-5 as a cesspool.

In any case, we can assume that WI-5 was already in position when the cultivation trenches were constructed—and again, that the neatly fitting position of the cistern inside the trench must be regarded as a mere coincidence. One can also argue that the position of the intersecting cultivation trench was deliberate, in order to reuse the cistern as a pit for planting a vine-support tree, (discussed later in the text, but so far not introduced).⁵⁰⁶ The indication of the cistern predating the trench can perhaps most clearly be seen in the time gap between the cultivation trenches and the dating of the pottery constituting the fill which, as explained above, dates to the end of the 6th to the late 5th centuries BC.⁵⁰⁷

Any interpretation suggesting a cesspool, should therefore only be considered if we assume that a gutter from an early period is missing—either having been made of a perishable material or a now-dispersed tiled construction, or, if the construction of the cultivation trench simply erased any traces of earlier installations in the bedrock. WI-5 had been filled with both intact and broken tufa blocks, as well as shattered roof tiles. Near the bottom these were accumulated in a dense, muddy black deposit and just above the rock bottom, traces of a fibre mat were documented (Figs. 91, 130). Inside the black deposit above the mat to a height of 0.45–0.50 m above the bedrock, a number of broken cooking and storage vessels were found, together with some finer wares such as bucchero and unglazed thin ware. This pottery-rich layer seemed to be separate deposit, most likely accumulated before the cistern was completely filled.⁵⁰⁸ The first layer of accumulation could give us a hint of the actual use of the cistern—at least the so-far unidentified material of the fibre mat could reveal a more precise use. It is however likely that the tufa block filling represents the

accumulated debris from the destruction phase belonging to the 6th century BC. The debris-filled cistern then went out of use until it was reused as a possible planting hole. During this later reuse pottery dating from the 5th century BC could have been disturbed from the fill of the cistern and incorporated in the fill of a planting hole as residual sherds. It is however also likely that water inside the cultivation trenches helped direct small rubble into the loose filling of WI-5 (Figs. 74–75).⁵⁰⁹

Cat. nos. 96–107: cistern WI-5

Figs. 128–130, Tables 6, 9, 11

Sub-Geometric ware (coarse cream ware?)

Cat. no. 96. (Fig. 128). Basin. Out-turning rim fragment with broad thickened lip. Buff-pinkish clay with grey core; lots of golden mica, black and white grits. Orange red slip inside. Worn. Est. diam. 40 cm; pres. H 7.3 cm (inv. no. 60-9). See *San Giovenale* V:2, pl. 64, AP-51.

Bucchero

Cat. no. 97. (Fig. 128). Lid. Three joining rim fragments of ordinary bucchero. A small flange inside, inturned thickened rim. Est. diam. 17 cm; pres. H 2 cm. On various forms of bucchero lids type 1–3, see Backe Forsberg 2005, fig. 87:9–16. Cf. also a bucchero lid from a *pozzo* on Piano di Comunità in Belevi Marchesini 2009a, 100, fig. 27:9, and nn. 340–341. Dated to 6th century BC (inv. no. 60-11a).

Cat. no. 98. Ionian cup/*kylix*. Rounded inturned rim, four rim fragments of black bucchero; diam. c. 20 cm (inv. no. 60-11b).

Cat. no. 99. (Fig. 129). Ionian cup/*kylix*. Two handles, body and neck fragments; black bucchero. Very brittle and lime covered. Decorated with a closed horizontal fan with four imprinted rays in the handle zone above four thin impressed lines. Rasmussen 1979, cup type 1b, plates 37:207.49, 3/526. Dated to the last quarter of the 7th century to the beginning of the 6th century BC (inv. no. 60-49). On fan design, see Regter 2003, 23, 33, 117, no. 10, cup APM 10720, 176, no. 69, cup W 45, nos. 129–130, cup W2021–2022; Camporeale 2003, 13–14, fig. 1; *San Giovenale* IV:1, 70, 130, fig. 91, pl. 12:60. See also *Cat. no. 100*.

Cat. no. 100. (Fig. 129). Cup, *kantharos/kyathos*. Thin rim and body fragment of black bucchero. Traces of a horizontal closed fan with six rays. On fan design, see comparisons in *Cat. no. 99*. Dated to the last quarter of the 7th century to the beginning of the 6th century BC (inv. no. 60-50).

⁵⁰⁵ FB notebook 1960, 17–18; Pohl 1985, 54–55.

⁵⁰⁶ See 'The vineyards—wild vine versus cultivated vine' in *Chapter 5*.

⁵⁰⁷ Similar to the pottery at the Borgo NW dated to building Period 2 (c. 530/500–430 BC). See Backe Forsberg 2009a, 227.

⁵⁰⁸ FB notebook 1960, 18 (Find context Square L58, Level II).

⁵⁰⁹ See, for example, the argumentation on cisterns in Foxhall 2007, 235–242; Klingborg 2017, 100, n. 680. On the definition of *kopron* as a "pit used for collection of organic and inorganic debris, the contents of which would be carried out to gardens and fields as fertilizer", see Ault 2005, 145; 1999, 549–559. We thank Patrik Klingborg for these references.

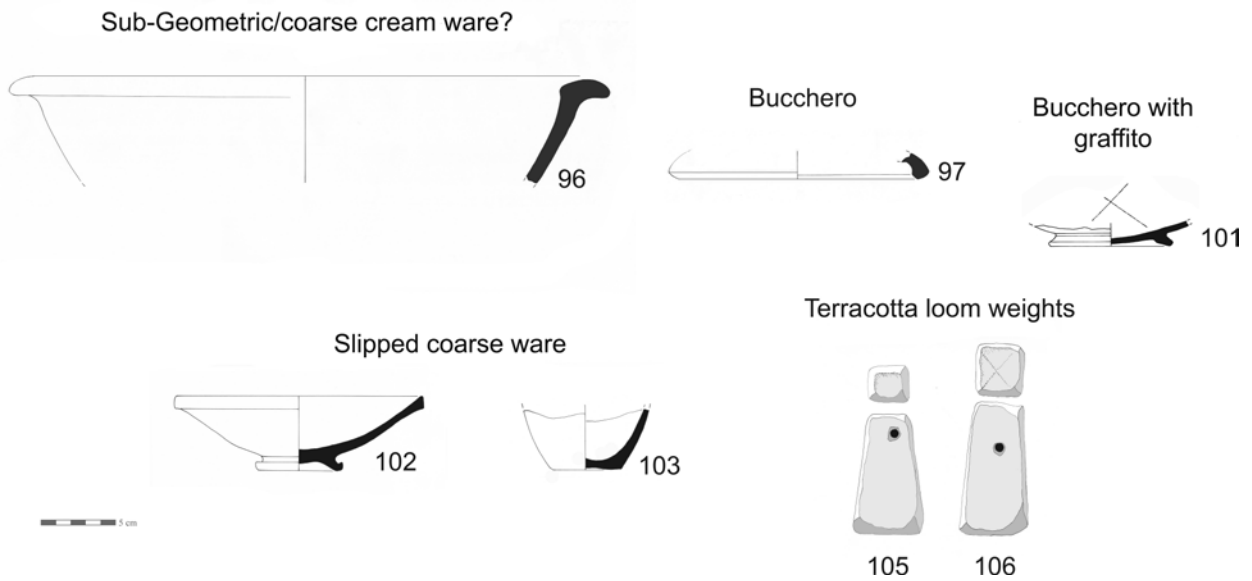


Fig. 128. Finds in cistern WI-5 (Cat. nos. 96–97, 101–103, 105–106) (drawings by R. Holmgren).

Fig. 129. Two bucchero cups with imprinted horizontal closed fans found in cistern WI-5 (left, Cat. no. 100, right, Cat. no. 99) (photograph by Y. Backe Forsberg, courtesy of SIR).



Cat. no. 101. (Fig. 128). Cup/bowl. Ring-base with an incised large cross on interior of base. Greyish-black clay. Est. diam. 8 cm; pres. H 1.5 cm (inv. no. 60-11c). See Colonna & Backe Forsberg 1999, figs. 4–5:18, 19b, figs. 8, 10:45–46. *San Giovenale* V:2, pls. 31, A:d 2-4-171, 32, A:d 2-4, 167. Dated to the 6th–5th centuries BC.

Slipped coarse ware

Cat. no. 102. (Fig. 128). Bowl/lid. Complete. Out-turned rim with thickened angular lip with ring-base, upturned edge. Dark brown clay, white grits, micaceous; grey and pinkish red slip on rim both outside and inside and on ring-base. Diam. of rim 16.5 cm; H 4.9 cm; diam. of ring-base 5.8 cm (inv. no. 60-3). Backe Forsberg 2005, fig. 87:1–4; *San Giovenale* V:2, pl. 88, A:d 2-4-548-550; Murray Threipland & Torelli 1970,

fig. 24:1–7; Chiaramonte Treré 1997, pl. 29:3. Dated from the last quarter of the 6th century to the beginning of the 5th century BC.

Cat. no. 103. (Fig. 128). Small jug/jar. One flat base and body fragment of small ovoid jar/jug. Brownish-black clay, micaceous, black grits; greyish slip outside. Diam. of base 4.5 cm; pres. H 4.3 cm (inv. no. 60-17).

Attic black-glaze

Cat. no. 104. Bowl. Attic black-glaze (?). Six rim fragments, four base fragments, six body fragments. Diam. 20 cm; diam. of base 9; th. of body 0.3–0.4 cm. Slightly thickened out-turned rim. Glaze totally worn off. Red-orange clay. Dated to the 5th century BC (inv. no. 60-1).



Fig. 130. An organic sample of the fibre mat (top and under sides) (Cat. no. 107), deposited on the bottom of WI-5 cistern. 1 euro coin for scale (diam. 23.25 mm) (photographs/illustration by F. Tobin-Dodd and R. Holmgren, courtesy of SIR).

Table 6. Archaeological remains from cistern WI-5, including items not catalogued.

Ware/form/object	Cup	Bowl/basin	Lid/bowl	Jar	Jug	Object	Architectural terracotta	Total
Sub-Geometric		1						1
Bucchero	2	3	1					6
Attic black-glaze	1							1
Red slip	1	4	1	9	1		1	17
Coarse ware			2	6				8
Red ware	1							1
Tile							1	1
Terracotta loom weight						2		2
Vegetable fibres						1		1
Wall plaster						1		1
Total	5	8	4	15	1	4	2	39

Terracotta objects

Cat. no. 105. (Figs. 128). Loom weight. Complete. Truncated pyramidal shape; reddish-brown clay with coarse sand grog; rounded impressed undefined mark on top; quadrangular base and top; transversal hole (1 cm in diam.) 1 cm below top; H 7.9 cm; th. 4.8 cm, W 5.0 cm, weight 220 g.⁵¹⁰ Clear use-wear on both sides of hole. Similar to Backe Forsberg 2005, fig. 94a:5. Found at c. 0.45 m above the bottom of the cistern. Dated to the 6th–5th centuries BC (inv. no. 60-1).

Cat. no. 106. (Fig. 128). Loom weight. Almost complete, small fragments missing. Truncated pyramidal shape; reddish-brown clay with coarse sand grog; impressed dots in shape of a large diagonal cross on top, similar to *San Giovenale* V:2, pl. 106A, A:d-2-4-646, motif f, pl. 59, the cross, W 3.4 cm is a

St Andrew's cross.⁵¹¹ See also Backe Forsberg 2005, fig. 94a:3, transversal hole (diam. 0.9 cm) 3 cm below top, H 8.7 cm, th. 4.7 cm, W 4.8 cm, weight 239 g (calculated original weight 245 g). Use-wear at lower corner.⁵¹² Found at c. 0.45 cm above the bottom of the cistern. Dated to the 6th–5th centuries BC (inv. no. 60-2).

Organic fibres

Cat. no. 107. (Fig. 130). One lump of reddish-brown vegetable fibres, 8 × 5 cm, originated from a fibre mat on the bottom of cistern WI-5 (inv. no. 60-11). Looking closer at the lump, several layers of fibres, seemingly folded, can be distinguished. It may consist of roots and twigs from plants, perhaps vines finding their way into the cistern, since Cultivation Trench CT2b had cut the opening of the cistern itself (Fig. 91). On the underside of the lump there is a thin whitish calcified crust of unknown substance. On new methods of fibre investigation in the FIBRE Project (Textile Fibre in Italy Before Roman Empire), see Gleba 2012, 325–335.

Comments on finds in cistern WI-5

Tables 6, 11

Of the 39 listed finds uncovered in cistern WI-5, red-slip and coarse ware jars formed the bulk of the ceramics. These were in turn complemented by an ordinary bucchero lid and two Ionic black bucchero cups with closed fan decorations. The only imported item was an Attic black-glaze bowl/cup. Only one roof pantile and a fragment of wall plaster represented the architectural members. The wall plaster is listed in Table 6 but not mentioned in the catalogue.

A pair of terracotta loom weights indicate textile production activities. The most interesting and unique remain was a layer of vegetable fibres found on the bottom of the cistern which unfortunately have not yet been analysed (Cat. no. 107). Nearly all of the remains may be dated from

⁵¹⁰ See Landenius Enegren's textile project at San Giovenale, and Acquarossa, forthcoming.

⁵¹¹ We thank Hedvig Landenius Enegren for this reference.

⁵¹² Gleba *et al.* 2018, 38–41, 45–46, figs. 10–12, table 3.

the 6th to the early 5th centuries BC (in accordance with the estimation made by the excavator), except for the bucchero cups with fan decoration, which are dated to the last quarter of the 7th century BC. The red ware cup or bowl fragment, seems however to be of a much later date.⁵¹³

WI-3 “POZZO PACCHIAROTTI”

Figs. 131–142, 152, Tables 7–8, 11

Feature: well/cistern?

Interpretation: well/cistern?

Original label 1959–1960: “Pozzo Pacchiarotti”

Shape: unknown

Substructure features: unknown

Preliminary date of first construction: 7th century BC?

Preliminary date of use: 7th century BC? to 3rd century BC?

Preliminary dating of building material: uncertain

Area: between TS2 and TS3

Geographical location: 430 m west of the modern Blera–Civitella Cesi road

Position: N42°13'27.49" E12°00'37.32" (±15 m)

Height ASL (m): 181

Measurements (m): diam. mouth: c. 1

Finds: pottery



Fig. 131. Pozzo WI-3 on the Pacchiarotti property (feature map by VAP).

In 1959 Mr Pacchiarotti allegedly found pottery in a *pozzo* (well/cistern?) on his property. He handed over the contents to the Swedish Institute of Classical Studies in Rome for examination.⁵¹⁴ Mr Pacchiarotti was then advised to stop further digging in the *pozzo*. Unfortunately, there was no information whatsoever on the exact location of the *pozzo* in the note-

books from the 1960s, nor did the Institute make further inquiries at the time. This became apparent in 2009 when VAP spoke to the sons of the late Mr Pacchiarotti and it turned out that the *pozzo* was situated in the vicinity of the Fosso del Pietrisco necropolis, which contains Hellenistic tombs. The current knowledge of the exact position of WI-3 is based on a recent visit to the site where the mouth of the construction could be discerned in the dense vegetation. Similar to the nearby rectangular cistern (WI-10), “Pozzo Pacchiarotti” was dug into the bedrock, and together the installations may have functioned in association. The position of these water installations can be seen in VAP’s aerial photographs taken in 2009 (Fig. 132).⁵¹⁵

The ceramics, which yielded mostly fine wares from the Hellenistic period, could be reconstructed into complete specimens. This indicates that the bulk of pottery allegedly deriving from the *pozzo* was the probable result of a deliberate deposition of complete vessels. Since no previous investigation or description of the construction has been undertaken, there is no information about any possible ritual deposition or clean-up activity in line with the Etruscan post-earthquake activities. The comparatively late dating of the pottery inside WI-3, however, indicates that the material is not associated with the earthquake of 550/530 BC. What we do know is that the *pozzo* is located close to the Fosso del Pietrisco necropolis, and that the vessels found in the *pozzo* match the dating of those from the necropolis’ chamber tombs—for example, the pottery from the *pozzo* very much resembles the Hellenistic ware found in Tomb FP4. This tomb was examined in the early years while investigating the Fosso del Pietrisco burials, but was considered of lesser interest since it did not yield any information regarding the older settlements in San Giovenale.⁵¹⁶ This might suggest that WI-3 was filled with material from one or several of the nearby disturbed Hellenistic tombs. It could be that any inadvertently disturbed tomb had its contents ceremonially reburied. Additional potential tombs from the Hellenistic period, albeit not provided with any exact dating, have been identified in this area by Tobin-Dodd.⁵¹⁷ Since we do not have any detailed information on the *pozzo* itself, we must assume that the discernable mouth of the construction is indeed an ancient one, and that the *pozzo* must have been emptied in order to recover the pottery within. The given account of the recovered material could otherwise not be accurate—unless an ancient water installation was emptied in order to reclaim its function as a water supply. In any case, the vessels seem to have been either put there or taken from the

⁵¹⁵ CEÖ notebook IV 1959, 28. We are very grateful to Mario and Raniero Pacchiarotti for sharing this information.

⁵¹⁶ *San Giovenale* I:8, 14–17, figs. 2, 9–10.

⁵¹⁷ Tobin-Dodd 2015, 67–68, fig. 46.

⁵¹³ FB notebook 1960.

⁵¹⁴ SIR Finds catalogue 1959, find nos. 276–285.

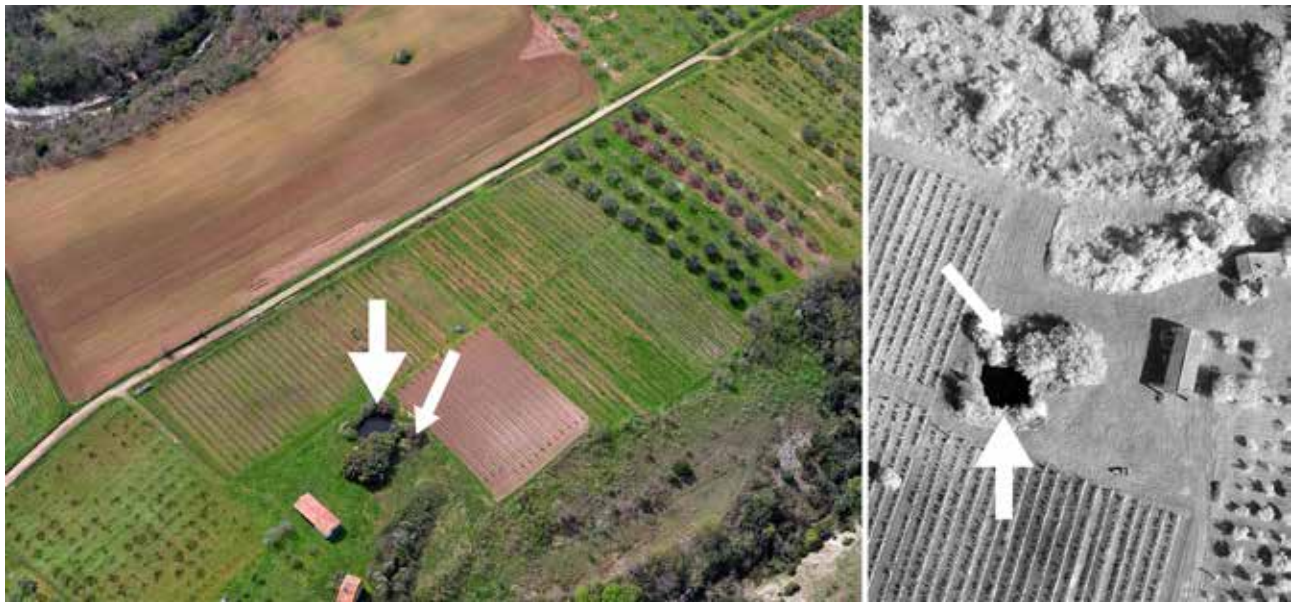


Fig. 132. “Pozzo Pacchiarotti” WI-3 (small arrow) and Pacchiarotti cistern WI-10 (large arrow), here seen under the vegetation cover of the Vignale plateau. Both features are located on the Pacchiarotti property, east of the excavated settlement. Left, an aerial photographic view looking south-west; right, using near-infrared (NIR) imaging (photographs by H. Kuisma and R. Holmgren).

pozzo by individuals with no intention to benefit from their commercial value. Certain rather sharp-edged sherds moreover suggest that some of the six or seven almost complete vessels were broken in recent times (Fig. 133).

As will be touched upon when discussing the Pacchiarotti cistern (WI-10), the material inside WI-3 is both physically and topographically related to the situation that occurs between the Late Etruscan Southwestern necropolis and the settlement remains nearby (Figs. 132, 170). Like these two locations, the vessels in WI-3 provide us with an indirect picture of the perhaps less obvious period of Vignale’s habitation—the evidence of the Late Etruscan activities on Vignale’s promontory (Cat. nos. 132–133). If indeed “Pozzo Pacchiarotti” was filled with vessels from the 4th to the 3rd centuries BC, these were most likely placed there after the abandonment of the Late Etruscan settlement and conceivably associated with a reorganization, destruction, or abandonment.

Cat. nos. 108–131: selected finds from “Pozzo Pacchiarotti” WI-3

Figs. 133–142, 152, Tables 7, 11

Etruscan red-figure ware with superimposed colour

Cat. no. 108. (Fig. 134). Cup/*skyphos*. Four joining fragments forming a complete profile. Almost complete vase. Bell-shaped body with one horizontal ring-handle, and ring-base. Fine brownish-red clay. Diam. of rim 10 cm, 16 cm with

handles included; diam. of base 5 cm; H 9.8 cm. Now restored and exhibited in the Museo Nazionale Etrusco Rocca Albornoz in Viterbo. Black-glazed exterior and interior, except for the edge of the interior of the ring-base, where the glaze may have worn off. Decorated on either side of the cup with a red-figured owl standing on a red horizontal line on the lower end of the cup. The owl on one side has a black dotted body with large distinct black eyes and a beak. It is framed by two olive branches painted in white. For one owl, the lower body and the feet have broken off. For the second owl the lower body, including two feet, is still visible, while almost the whole head is missing. Dated to 400–395 BC (inv. no. 59-284a).⁵¹⁸ On form and date, see Poulsen 2008, 53–59; *Satricum* VI, figs. 17, 178.1; Ambrosini 2001, 82; Niro Giangiulio 2002; Johnson 1955, 119–124, pls. 35–38; Pianu 1982, 55–62; Scott Ryberg 1940, 106–107, pl. 25, fig. 130d, dated to the 4th century BC. On form, see Sabattini 2000, 47–65, figs. 1, 7–8, *skyphoi* from *tomba* 893, inv. nos. 26060, 26062; the form is dated to the first quarter of the 4th century BC.

Cat. no. 109. (Fig. 135). Cup/*skyphos*. One fragment with complete profile, horizontal lines on upper part with stylized palmette motif lying on three horizontal dark red and white lines and framed by a metope pattern. The cup has a shiny black glaze on both exterior and interior. No glaze on edge of ring-base and under base. The palmetto leaves were

⁵¹⁸ CEÖ notebook IV 1959, 30, 32 (Find 9, drawing scale 1:2).



10 cm

Fig. 133. Almost complete bowls and stemmed plate of fine cream ware/late cream ware, from top to bottom: Cat. nos. 118, 120, 122–123, found in “Pozzo Pacchiarotti” WI-3 (photograph by R. Holmgren).



10 cm

Fig. 134. Etruscan red-figure owl skyphos with superimposed colour (Cat. no. 108) from “Pozzo Pacchiarotti” WI-3 (photograph by R. Holmgren).



Fig. 135. Etruscan red-figure skyphos with superimposed colour and palmette motif (Cat. no. 109) from "Pozzo Pacchiarotti" WI-3 (photograph by R. Holmgren).

painted dark red and the lines in white colour. Diam. of rim 9 cm; diam. of base 6 cm; H 9 cm. Scott Ryberg 1940, 89, 103, pls. 21, 24, figs. 110, 127. Dated to the late 4th century BC (inv. nos. 59-284b and 59-284c).

Etruscan black-glaze pre-Campanian

Cat. no. 110. (Fig. 136). Bowl. Shallow wall and convex-concave profile on a low foot; inturned rim, restored from eight fragments of rim, body, and ring-base, almost complete but for a few bottom and rim fragments. Decorated interior with incised and stamped palmette board, band of horseshoe-shaped pattern and four isolated palmettes. Reddish-brown clay with lustrous black glaze inside and outside. Black glaze has peeled off on outside. Diam. of rim 19.5 cm; diam. of base 10 cm; H 6.3 cm (inv. no. 59-279).⁵¹⁹ Similar to Morel form 2931a 1, see Morel 1981; on close parallel of form, see *Agora* XII, bowls 809 and 814 in fig. 8. The impressed and incised patterns are very similar to the pre-Campanian impressed and incised pottery dated from the end of the 4th to the beginning of the 3rd centuries BC, an imitation of the Athenian black-glazed pottery, cf. Chiaramonte Treré 1997 and *Agora* XII, pl. 32:813; Palombi 1981, D93, p. 203.

Etrusco-Campanian black-glaze ware

Cat. no. 111. (Fig. 137). Cup/*kylix*. Bell-shaped, out-turned rim, column-shaped ring-base of Morel 1981, form 4253b.

Two visible stamped palmettes on tondo, probably originally a set of four palmettes. The stamps belong to the *L'atelier des petites estampilles* but there is no exact parallel found in the lists of stamps, Morel 1969, figs. 5–6. Black-glazed exterior and interior. Diam. of rim 13 cm; diam. of base 5.5 cm; H 5 cm (inv. no. 59-285a).⁵²⁰ See also Slej 1991; 2008, fig. 107, J-325, stamps of uncertain production. A close parallel in Palombi 1981, *kylix* D91, p. 203, dated to the 4th century BC. For form, Jehasse & Jehasse 1973, pl. 127: 172, 781, 1343. For palmette, Bouma 1996a, 415, fig. 4:7. Pottery with similar stamped decoration could have been produced locally or in a workshop in the surroundings of Rome. The workshop using this kind of stamp was active between 300–265 BC, see Morel 1969.

Cat. no. 112. (Fig. 138). Bowl/cup. High vertical wall, metallic black glaze on exterior and interior, except under base; Etruscan incision of two letters *il* (?) under base. Diam. of rim 12; diam. of base 7.5 cm; H 5.5 cm (inv. no. 59-282).⁵²¹ Cf. Morel 1969 form 96. Cf. cup D 96, from *Heroon di Enea*, Palombi 1981, 203–204; *Satricum* VI, fig. 17. Dated to the 4th–3rd centuries BC.

Cat. no. 113. (Figs. 139, 140). Bowl. Two joining fragments of ring-base. Fine greyish clay. Lustrous black glaze on interior of base and on ring-base, except under the base. Diam. of base 5.5 cm; pres. H 1.5 cm. Four U-shaped marks impressed interior (inv. no. 59-435); similar to *L'atelier des petites estampilles*, Morel 1969, 60–103, figs. 6:38–39, 26, Morel 1969 form 4253. Dated to the end of the 4th and beginning of the 3rd centuries BC. See similar Campanian or proto-Campanian bowls from tombs 69, 86, 99 in Jehasse & Jehasse 1973, 360, 419, pls. 121, 132, 182:1286.

Cat. no. 114. (Fig. 139). Small bowl. Ring-base with part of wall. Buff clay. Brownish-black glaze on interior of bowl and sparsely on base. Diam. 5.5 cm; pres. H 3.7 cm (inv. no. 59-437).

Cat. no. 115. (Fig. 139). Bowl. Twelve rim fragments with slightly inturned rim (two joining rim fragments and ten body fragments not joining). Reddish-buff clay; lustrous black glaze inside. Reserved on top of rim. Est. diam. of rim 19.5 cm; pres. H 4 cm (inv. no. 59-432).

Cat. no. 116. (Fig. 139). Bowl. Four not-joining rim fragments and one body fragment; rounded body with pointed lip. Reddish-brown clay; lustrous black glaze on some fragments, while on others the glaze has peeled off. Est. diam. of rim 18 cm, pres. H 4 cm (inv. no. 59-434).

⁵¹⁹ CEÖ notebook IV 1959, 30–31 (Find 4, drawing scale 1:2).

⁵²⁰ CEÖ notebook IV 1959, 32 (Find 10, drawing scale 1:2).

⁵²¹ CEÖ notebook IV 1959, 30–31 (Find 7, drawing scale 1:2).



Fig. 136. Etruscan black-glaze pre-Campanian bowl with palmette and horseshoe-shaped patterns (Cat. no. 110) from "Pozzo Pacchiarotti" WI-3 (photograph by R. Holmgren).

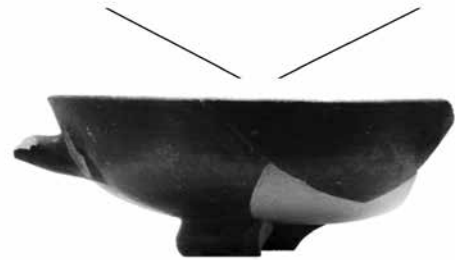


Fig. 137. Etrusco-Campanian black-glaze cup with stamped palmettes on tondo (Cat. no. 111, L'atelier des petites estampilles) from "Pozzo Pacchiarotti" WI-3 (photograph by R. Holmgren).



Fig. 138. Etrusco-Campanian black-glaze bowl/cup with two incised Etruscan letters il on base (Cat. no. 112) found in "Pozzo Pacchiarotti" WI-3 (photograph by R. Holmgren).

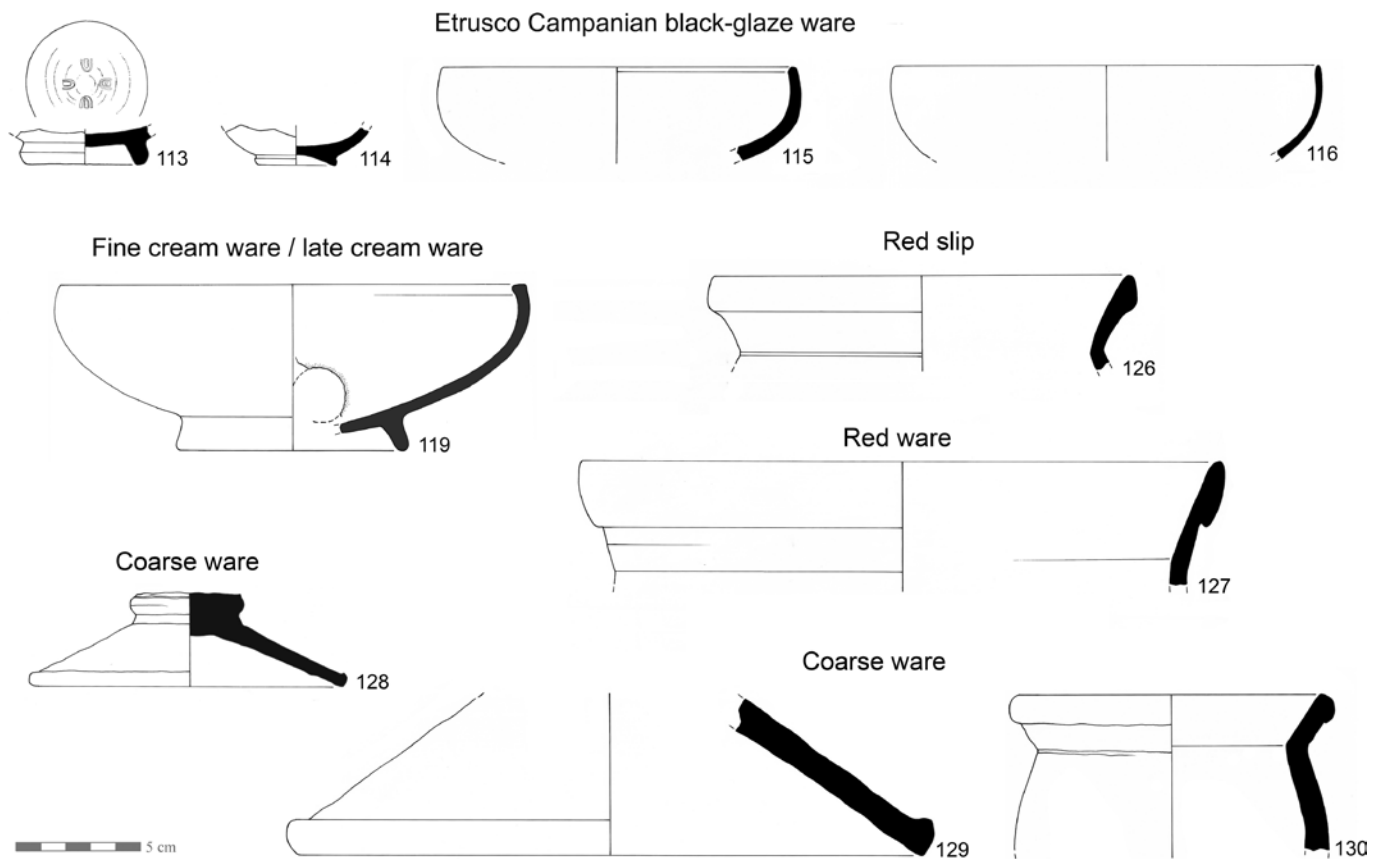


Fig. 139. Selected finds from "Pozzo Pacchiarotti" WI-3 (Cat. nos. 113–116, 119, 126–130) (drawings by R. Holmgren).

Fine cream ware/late cream ware

The fabric is fine cream buff clay with cream buff slip on outside. On dating of fine cream ware/late cream ware, cf. Fuglesang 1997–1998, 87.

Cat. no. 117. (Figs. 133, 141). Miniature bowl. Rounded body, slightly inturned rounded rim. Flat base. Diam. of rim 6.4 cm; diam. of base 3.5 cm; H 3.3 cm (inv. no. 59-280).⁵²²

Cat. no. 118. (Figs. 133, 141). Small bowl. Slightly rounded, flat rim, ring-base. Diam. of rim 8 cm; diam. of base 4.5 cm; H 3.4 cm. Cf. Fuglesang 1997–1998, figs. 30:21–22, 32 (inv. no. 59-276).⁵²³

Cat. no. 119. (Figs. 133, 139, 141). Bowl. Rounded body with slightly inturned rim, flat lip, torus-like foot. Est. diam. of rim c. 16 cm; diam. of base 6 cm. A drilled hole in base c. 2 cm in diam. (inv. no. 59-277d).

Cat. no. 120. (Figs. 133, 141). Bowl. White-slipped, rounded body; slightly inturned rim with rounded lip; ring-base.

Diam. of rim 13 cm; diam. of base 6 cm; H 4.5 cm. (inv. no. 59-283).⁵²⁴

Cat. no. 121. (Figs. 133, 141). Stemmed bowl. Rounded body with inturned rim and rounded lip, low stem with ring-base. Diam. of rim 14.5 cm; diam. of base 6.8 cm; H 8 cm (inv. no. 59-278).⁵²⁵

Cat. no. 122. (Figs. 133, 141). Bowl. Ring-base with rounded body. Diam. of rim 19 cm; diam. of base 8.3 cm; H 6.8 cm. Cf. Fuglesang 1997–1998 (inv. no. 59-277a).⁵²⁶

Cat. no. 123. Bowl. Ring-base with rounded body. Diam. of rim 19 cm; diam. of base 8.5 cm; H 6.8 cm. Cf. Fuglesang 1997–1998, figs. 24–30. (inv. no. 59-277c).

Cat. no. 124. Plate. Two joining fragments of rim, and body and ring-base. Inturned rim. Diam. of rim 18.5 cm; diam. of base 8.5 cm; H 7.0 cm (inv. no. 59-277b). Cf. Fuglesang 1997–1998, figs. 24–30.

⁵²² CEÖ notebook IV 1959, 30–31 (Find 5, drawing scale 1:2).

⁵²³ CEÖ notebook IV 1959, 29 (Find 1, drawing scale 1:2).

⁵²⁴ CEÖ notebook IV 1959, 30–31 (Find 8, drawing scale 1:2).

⁵²⁵ CEÖ notebook IV 1959, 28, 30 (Find 3, drawing scale 1:2).

⁵²⁶ CEÖ notebook IV 1959, 28–29 (Find 2, drawing scale 1:2).



Fig. 140. Etrusco Campanian black-glaze bowl with four U-shaped impressions on tondo (Cat. no. 113, L'atelier des petites estampilles) found in "Pozzo Pacchiarotti" WI-3 (photograph by R. Holmgren).

Cat. no. 125. (Figs. 133, 141). Stemmed plate. Broad out-turned rim rounded lip, low stem with ring-base. Diam. of rim 14 cm; est. diam. of base c. 7 cm; H 5.5 cm (inv. no. 59-281a).⁵²⁷ Cf. late cream ware in Fuglesang 1997–1998, 87, figs. 24–30; *San Giovenale* I:8, tomb FP IV, fig. 10:10–12; Carandini 1985, fig. 126, no. 1.

Red-slip ware

Cat. no. 126. (Fig. 139). Jar. Ovoid-cylindrical; rim fragment, out-turned almond-shaped rim, angular thickened lip, short distinctly marked neck. Est. diam. 17.5 cm, pres. H of rim 4 cm. See Murray Threipland & Torelli 1970, fig. 32:7; Ambrosini *et al.* 2009b, 84, fig. 14:2 (inv. no. 59-425). Dated to the 4th–3rd centuries BC.

Red ware

Cat. no. 127. (Fig. 139). Jar/*dolium*. Fine orange-red clay with black, white, and golden mica; well fired. Slightly out-turned almond-shaped rim. Est. diam. 27 cm, pres. H of rim 5.5 cm (inv. no. 59-424). Cf. Backe Forsberg 2005, fig. 90:17–19. Cf. *San Giovenale* V:2, kitchen ware pl. 88, A:d-2-4-518, 546, R-450.

Coarse ware

Cat. no. 128. (Fig. 139). Lid. Slightly everted thickened rim with large knob. Coarse grey clay with black inclusions. Black mottled. Diam. of rim 12.8 cm; H 3.8 cm; diam. of knob 4.5 cm (inv. no. 59-420). Ambrosini *et al.* 2009b, fig. 12:2, found in the *pozzo*. See also Serra 1970, fig. 389:4, 7.



Fig. 141. Bowls and a stemmed plate of fine cream ware/late cream ware, from top to bottom: Cat. nos. 117–122, 125, found in "Pozzo Pacchiarotti" WI-3 (photograph by R. Holmgren).

Cat. no. 129. (Fig. 139). Lid. Rim fragment, slightly everted thickened rim; knob missing. Est. diam. of rim 27 cm; pres. H 6 cm (inv. no. 59-422). See Ambrosini *et al.* 2009b, 81, fig. 12:3.

Cat. no. 130. (Fig. 139). Jar, ovoid-cylindrical, one rim fragment, out-turned almond-shaped rim, rounded thickened lip, distinctly marked neck. Dark grey gritty clay, white inclusions, slightly micaceous. Est. diam. of rim 13.5 cm; pres. H 6.7 cm (inv. no. 59-423). On shape, see Murray Threipland

⁵²⁷ CEÖ notebook IV 1959, 30–31 (Find 6a, drawing scale 1:2).



Fig. 142. Small coarse ware cylindrical jar with a boss just below rim (Cat. no. 131) found in “Pozzo Pacchiarotti” WI-3 (photograph by R. Holmgren).

& Torelli 1970, figs. 31:1–2, 32:5; Ambrosini *et al.* 2009b, 83–84, fig. 14:1, nn. 128, 133, used for food, dated to the end of the 3rd century BC. This type of jar was frequently found in the Veii–Casale Pian Roseto area, although dated to the 4th century BC; *San Giovenale* V:2, pl. 60:A:b-1-42 internal red slip, Period 2 str.; *Caere* 3.2, fig. 510, kb 16.1–4.

Cat. no. 131. (Fig. 142). Jar, small cylindrical, one rim fragment, slightly marked rounded rim, no neck, reddish gritty micaceous clay, thin wall, a large boss a few cm below rim, pres. H 12 cm, th. of wall 0.4 cm (inv. no. 59-426). Uncertain date.

Comments on finds in “Pozzo Pacchiarotti” WI-3

Tables 7, 11

WI-3, situated on the Pacchiarotti property in the eastern part of the plateau, is the only water installation on Vignale that produced complete artefacts dated to the Hellenistic period (4th–3rd centuries BC). The content of the *pozzo*, which was handed over to the Swedish archaeologists in 1959 by the landowner Mr Pacchiarotti, is rather homogenous. Of the 32 identified vessels, 24 are catalogued and photographed, and some also illustrated. The table ware comprised 17 pots, nine bowls, two plates, and three cups of various fabrics, whereas the household ware comprised two bowls, three lids, and four jars of red ware and coarse ware (Table 7). Among the table ware one could recognize an Etrusco black-glaze pre-Campanian bowl (Cat. no. 110) and two Etruscan red-figure cups with superimposed colour, *viz.* one owl *skyphos* and one *skyphos* with various palmette motifs (Cat. nos. 108–109). Also represented are six Etrusco-Campanian black-glaze bowls, of which several had stamped decoration (Cat. nos. 111–116).

Table 7. Ceramic wares and forms in “Pozzo Pacchiarotti” WI-3, including items not catalogued.

Ware/form	Cup	Plate	<i>Skyphos</i>	Bowl	Lid	Lid/bowl	Jar	Total
Etruscan black-glaze				6				6
Etruscan red-figure Campanian ware with superimposed colour			3					3
Etrusco-Campanian black-glaze	1							1
Fine cream ware/late cream ware		2		6				8
Red ware					1		4	5
Coarse ware				2	2	1	4	9
Total	1	2	3	14	3	1	8	32

Etruscan red-figure Campanian ware with superimposed colour

Two *skyphoi* can be referred to the “Group of Ferrara T585, group A”, identified by Sir John D. Beazley and attributed to two different workshops at Falerii Veteres and probably Volterra due to colour and decoration. The second *skyphos* belongs to the “Group of Ferrara T585, group B”.⁵²⁸ The Etruscan red-figured owl *skyphos* covered with white paint (Cat. no. 108) with owls depicted one on each side, was produced by a workshop specializing in cups with superimposed paint. The *skyphos* (Cat. no. 109) decorated with a stylized palmette motif placed on three horizontal dark red and white lines framed by a metope⁵²⁹ was designed by “Group of Ferrara T585, group B”.⁵³⁰ Yet another rim fragment of the *skyphos* was designed by the same group (Cat. no. 108).

⁵²⁸ Morel 1969, type 4373a. See, for example, Ambrosini *et al.* 2009a, 29, 38, 91–92, 94, fig. 13, pl. 25:107, a black-glaze *skyphos* with superimposed colour attributed to “Gruppo di Ferrara T585 meridionale” found in a cistern in the Portonaccio sanctuary in Veii, dated from the end of the 4th to the beginning of the 3rd centuries BC.

⁵²⁹ Poulsen 2008, 55–58, figs. 97–98 Lc-5-Lc-6, pl. 10-2, dated to second half of 4th century BC. Cf. also a similar *skyphos* 18 from Civita di Oricola, Morel type 4343a, Morel 1994, pl. 129; Pizzoferrato 2004, 139–140, *skyphos* 18. See, for example, the black-glaze pottery in Fosso del Pietrisco chamber tomb FP4 dated to the 3rd century BC. However, the Casale Vignale tomb 2 (CVII) was assigned to the end of the 4th to early 3rd centuries BC by Fuglesang who published the tombs. Consequently, the Fosso Pietrisco tomb FP4 should be dated to the same period. See Pyrgi 1970, 474, fig. 377:1, 3; Fuglesang 1997–1998; Maggiani 1979, 57, pl. 6:100, fig. 13:100, dated to the end of the 4th to the beginning of the 3rd centuries BC. Jehasse & Jehasse 1973, 273 on a Palmetto *skyphos* of the Gruppo di Ferrara T585, pl. 107:771, form 43A from Tomb 53, dated to 320–280 BC. See also Melucco Vaccaro 1970, 468–504, figs. 371, 377–378, 380, 382–383.

⁵³⁰ Pizzoferrato 2004, 139–140, *skyphos* 18.

Etruscan black-glaze pre-Campanian

A large bowl (*Cat. no. 110*) has been interpreted as an Etruscan black-glaze pre-Campanian bowl, decorated with an incised and stamped palmette fringe, a band of horseshoe-shaped patterning, and four isolated palmettes in the centre of the vessel. The bowl can be dated from the end of the 4th to the beginning of the 3rd centuries BC. The bowl in question has a convex-concave profile that was copied and frequently used in South Italian workshops. It is well known from the end of the 5th century BC, and therefore it is hard to distinguish between the Attic and the South Italian versions. However, the inturned rim of the bowl indicates a date from the 4th century BC.⁵³¹

Etrusco-Campanian black-glaze (Campana C ware?)

Five Etruscan black-glaze (gloss) bowls of different sizes from miniature to smaller and larger specimens were identified among the vessels from WI-3, together with one *kylix*. Due to the stamps inside the *kylix* and one bowl (*Cat. nos. 111–112*) these have been attributed to *L'atelier des petites estampilles*, a workshop active between 300–265 BC.⁵³² These vessels are quite similar to the two surface finds of Etruscan black-glaze bowls from the western part of the plateau in 2006 (*Cat. nos. 132–133*). The Etruscan black-glaze bowl/cup (*Cat. no. 112*) has two Etruscan letters (*il* transl.) impressed on the underside of the base before firing. Examples of Etrusco-Campanian black-glaze (Campana C ware?) were also found in the debris on the southern side of the Pietrisco Bridge Complex: a *lekane* (*App. 1, no. 22*) and a ring-base of a *lekane* or a bowl (*App. 1, no. 43*) are possibly fragments from the same vessel. A plate or shallow bowl (*App. 1, no. 113*) similar to Morel 1981 type 17162 is dated to 280–220 BC.

Fine cream ware or late cream ware

The fine cream ware is a fabric noted by Daniel Fuglesang in his 1997–1998 article.⁵³³ He also introduced his own term, “late cream ware”, in his Ph.D. thesis manuscript on the Late Etruscan period at San Giovenale. Since Daniel Fuglesang died before he could finish his thesis, the manuscript is now held in the archive of the Swedish Institute of Classical Studies in Rome. He considered the fabric, which he analysed, to be of local production—consisting mainly of forms such as bowls and short-stemmed plates. Two plates and six bowls of vari-

ous sizes (one miniature) of this light-coloured cream ware, often slipped, were identified in “Pozzo Pacchiarotti” WI-3. The bowls and stemmed plates are concordant to similar vessels found in a tomb (FP4) in the Fosso del Pietrisco necropolis and a tomb in the Casale Vignale necropolis (*Fig. 170*).⁵³⁴ These also occurred among the remains found in the trenches dug on the southern side of the Pietrisco Bridge Complex—such as fragments of a *patera* (see below, *App. 1, no. 89*), a plate (*App. 1, no. 90*), and an *amphora* (*App. 1, no. 92*), and fragments of a fine cream ware bowl/lid. Besides late cream ware, various forms of black-glazed and fine cream ware show very clearly the existence of the Late Etruscan period on the Acropolis—that is from the Late Etruscan House V, the cistern and the well found in Area F, and the underground room east of the *fossa*.⁵³⁵

Coarse ware

Oval jars, bowls, and lids of coarse ware and a red ware *dolium* were also registered from well/cistern? WI-3. Similar coarse ware jars of various sizes, as well as lids, have been found in, for example, votive deposits together with remains of meat offerings in the Mater Matuta sanctuary at Satricum.⁵³⁶ The assemblage of the vessels from WI-3 is similar to the content of many votive deposits, *viz.* cups, plates, bowls of various sizes, and lids (*Table 11*).⁵³⁷ Whether the contents of the well are part of a votive deposit,⁵³⁸ or vessels from looted Hellenistic tombs found in the Fosso del Pietrisco necropolis nearby, is impossible to establish.⁵³⁹ The pottery belonged to a period which is rarely discussed in the settlement areas of San Giovenale. A significant number of chamber tombs in the Casale Vignale necropolis are dated to the Late Etruscan/Hellenistic period. Unfortunately, only a few of those have been examined and published.⁵⁴⁰

The chamber tomb FP4, excavated in 1959, was dated by the excavator to the early 3rd century BC and was paralleled to the two graves in the Casale Vignale necropolis excavated in 1958.⁵⁴¹ However, the Casale Vignale tomb 2 was assigned to the end of the 4th to early 3rd centuries BC by Fuglesang,

⁵³¹ *Agora* XII, 130–131. For decoration, see Jehasse & Jehasse 1973, 519, pl. 117:2165, tomb 100, F21, dated to the 4th century BC. For a parallel to the form and the decoration, see Jehasse & Jehasse 1973, 372 (tomb 72), pl. 113:1361. Form F22 is dated to 300–275 BC.

⁵³² On the diffusion of the vases in central Italy, see Morel 1969, 94–100, 103–105, fig. 26.

⁵³³ Fuglesang 1997–1998. See also *San Giovenale* II:5, 46–47 on the fine cream ware fabric.

⁵³⁴ *San Giovenale* I:8, 14–17, the fabric is here named plain ware, cf. also Fuglesang 1997–1998.

⁵³⁵ Fuglesang unpublished.

⁵³⁶ Bouma 1996a, 119–220, 224, 226, 228 on jars and bowls, both full-sized and miniature, as traditional containers for animal entrails and meat offerings.

⁵³⁷ Bailo Modesti *et al.* 2005a, pl. 8:a, ‘*deposito dell’ambiente D: i servizi all’interno del dolio*’: a deposit of four pottery sets in a *dolium*, each containing one *skyphos*, one cup/plate, one lid, black gloss *skyphoi*, and various sizes of bowls and plates. See also Mancusi 2005.

⁵³⁸ See Bagnasco Gianni 2005, 351–358.

⁵³⁹ *San Giovenale* I:8; Tobin-Dodd 2015.

⁵⁴⁰ Fuglesang 1997–1998.

⁵⁴¹ *San Giovenale* I:8, 17.

who published the tomb.⁵⁴² Consequently tomb FP4 should be dated to the same period.⁵⁴³

Similar types of pottery as the material mentioned above have been reported from a Hellenistic well in the sanctuary of Portonaccio at Veii.⁵⁴⁴ This kind of pottery was also excavated in the sanctuary of Pyrgi, in temples A and B and from the piazza.⁵⁴⁵

WI-10 PACCHIAROTTI CISTERN

Figs. 132, 143, Table 8

Feature: cistern

Original label: -

Interpretation: roofed cistern (?)

Shape: rectangular

Substructure features: a set of steps

Preliminary date of first construction: 7th century BC (?)

Preliminary date of use: 7th century BC (?) to modern time

Preliminary dating of building material: uncertain

Area: between TS2 and TS3

Geographical location: south of "Pozzo Pacchiarotti" WI-3

Position: N42°13'27.01" E12°00'37.48"

Height ASL (m): 182

Measurements (m): c. 15 × 12, depth unknown

Finds: -

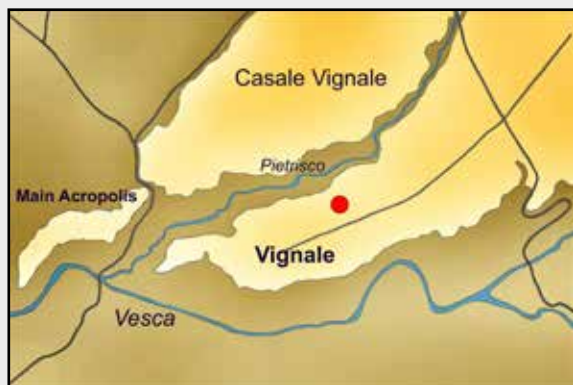


Fig. 143. Pacchiarotti cistern WI-10 (feature map by VAP).

Some metres south of and close to WI-3 on the Pacchiarotti property, a large rectangular cistern is clearly visible on aerial

photographs (Fig. 132).⁵⁴⁶ The cistern was harder to discern from the ground, because it was partly covered by dense vegetation. A brief on-site inspection showed that the cistern appears to be provided with steps in the north-west corner, in a similar manner to the cistern or cellar found on the Borgo.⁵⁴⁷ Cistern WI-10, along with WI-3 which contained 4th–3rd century BC pottery, may indicate the existence of working activities nearby. It is difficult to establish the eastern boundaries of the plateau's habitation remains, that are likely to have had a wide-spread distribution from the 7th century BC onwards. Was it perhaps here that the working quarters were situated? Future inquiries may establish that small-scale industrial activities outside the core settlements on Vignale may indeed have been located in this area. This would be analogous to the relationship between the Borgo and the Acropolis, where the former showed traces of metalworks and larger water installations both before and after the large earthquake (Period 1–3).⁵⁴⁸ The proximity of the Vignale plateau's tombs to any such quarters during the Late Etruscan period would then be comparable to the Southwestern necropolis where tombs were positioned in close proximity to the domestic areas. Due to the lack of more physical remains around the cistern, this is however just speculation at present.

WI-11 EVIDENCE OF PREVIOUSLY UNRECORDED WELLS/CISTERNS ON VIGNALE

WI-11 concentration of wells/cisterns

Figs. 25, 27, 92, 144–145, Table 8

Feature: wells and/or cisterns

Original label 2009: wells and cisterns

Interpretation: concentration of evenly distributed wells/cisterns

Preliminary date of first construction: 7th century BC

Preliminary use: 7th–4th centuries BC

Preliminary dating of building material: 7th–4th centuries BC

Area: (TS2)

⁵⁴⁶ The cistern was identified from the digital aerial photographs taken by VAP in 2009, situated near "Pozzo Pacchiarotti" WI-3 and the Fosso del Pietrisco Archaic and Hellenistic necropolis. Unfortunately, no further information is available, either on finds or date.

⁵⁴⁷ *San Giovenale* V:3. See discussion on roofed cisterns, often with several steps in one corner, dated to 5th–4th centuries BC in Klingborg 2017, 22, 32, 46, figs. 9–10, 15, 26–27, see also cat. nos. 358–359, 362, 368, 370–373, 375. See also Acconcia 2019, 13–14, who refers to "a square hollow carved in the bedrock" filled with ceramics, tiles, architectural terracottas, and bones. The feature probably earlier functioned as foundations.

⁵⁴⁸ *San Giovenale* V:1, 152–153.

⁵⁴² Fuglesang 1997–1998.

⁵⁴³ *Pyrgi* 1970, 474, fig. 377:1, 3.

⁵⁴⁴ Ambrosini *et al.* 2009a, 38–42, 91–92, 95–98.

⁵⁴⁵ Colonna 1970, 17–47, figs. 1–6. See also Melucco Vaccaro 1970.

Geographical location: western tip of the Vignale plateau
Position: N42°13'23.75" E12°00'09.01" (central position)
Height ASL (m): 163
Measurements (m): roughly circular area c. 80 m diam.
Finds: -



Fig. 144. Concentration of wells/cisterns WI-11 (feature map by VAP).

Feature WI-11, or rather features, differs from the more distinct wells and cisterns on Vignale in two major ways. Firstly, it is simply an estimation of c. 20 features that may indicate the presence of numerous water installations (Fig. 27). Secondly, none of these putative wells or cisterns have been verified by excavation or soundings. The only well in this area known to exist for certain is *Pozzo 9* (PZ9), established by probe and documented by the “flying squad” in the late 1950s, however not excavated.⁵⁴⁹ This well is also marked on a sketch from the time, and is shown in Fig. 27.⁵⁵⁰ The “flying squad” mentioned several possible wells near the position of PZ9, located by probe (*spillo*), their preferred method of identifying cavities beneath the surface. Ten possible wells were reported by the flying squad, although only PZ9 was given an alphanumeric designation.

VAP’s interest in the Vignale promontory, and the strong likelihood of finding a defended settlement in this location, led our team of 2009 to investigate further. By using infrared thermographic imaging (IRT) over this specific area, any deep and well-defined cavities filled with loose soil would show up as cold spots.⁵⁵¹ Such results were indeed achieved—even though it is at this stage impossible to determine the exact type of features represented. Nevertheless, no other area on Vignale showed this type of clear anomalies, even at places



Fig. 145. The cold spots identified when using IRT (Fig. 92) could also be identified through surveys on the ground, as the high tistles and the yellow flowers shown in the photograph above, looking west. Only the cold spots that could be verified with strong/high vegetation growth in the form of crop-marks were documented as possible wells or cisterns in the collection of features here called WI-11 (photograph by Y. Backe Forsberg).

where the existence of several wells or cisterns have been documented earlier, such as in the case of *Pozzo 9* (PZ9) (Fig. 27). The probability that there are yet more cavities in between the ones already indicated in the thermographic images on Vignale’s promontory is therefore highly probable. What then can we conclude from the heat signatures provided?

In Figs. 27 and 92, we have attempted to indicate those specific cold spots that stand out more than others. The method is subjective, but could provide us with an initial idea of possible wells/cisterns and their distribution. The actual spots were furthermore identified through surveys on the ground, where distinct areas of richer vegetation coincided with the location of some of the aerial heat signatures (Fig. 145). This lush vegetation further indicated the presence of a damper environment caused by less dense soil underground. Only the IRT cold spots that could be verified through lush vegetation growth (crop-marks), were pinpointed as possible wells or cisterns (see Fig. 27). These tended to be arranged in a north-west–south-east alignment arranged in a cross pattern, very much following the physical contours of the Vignale promon-

⁵⁴⁹ CEÖ notebook II 1959, 53.

⁵⁵⁰ Original sketch by J. Asplund in 1959, new drawing by R. Holmgren in 2019.

⁵⁵¹ Backe Forsberg *et al.* 2008a; 2008b; Lasaponara *et al.* 2012.

tory. The evenly distributed marks could indicate some sort of structural arrangement corresponding with the traces of a 7th–3rd centuries BC habitation in this area.⁵⁵² Another interesting aspect that is worth mentioning is the possible later use of this zone for cultivation, as manifested by the cultivation trenches located further east. The apparent arrangement of linear cultivation trenches could in fact indicate the presence of post-habitation and cross-arranged cultivation trenches with evenly distributed planting holes (reused cisterns?). The latter could also explain how grooves in the bedrock could still carry water into the still-considerably damp cavities.

DISCUSSION—WATER INSTALLATIONS

Water installations and the question of a settlement—distribution, phasing, and chronology

Cisterns and wells are not only important indicators of activities on Vignale in general, but a stratigraphic analysis of their content could furthermore provide good indications of ancient building activities yet to be excavated. Almost all of the water installations were excavated 65 years ago (see *Table 8*), and so an understanding of the early interpretations is therefore not always without errors.

The development of Etruscology and new excavations in the area could provide new interpretations and understandings. All of the studied contents of the water installations positioned in the central area of the Vignale promontory seem to share one important and common feature. Almost all these wells and cisterns show signs of two distinct stratigraphic events—of which the first deposition sometimes has stratigraphic sub-layers. The latter strata are extremely difficult to use for further evaluation, since the now-old field journals do not provide any final analysis. However, the dating of pottery and terracotta objects can still be verified, as the artefacts are still available for analysis. The chronological documentation of pottery in combination with the two distinct depositional layers show a clear picture of pre- and post-earthquake activities, that is, before and after 550/530 BC.⁵⁵³ In general the first accumulated layers, found at the bottom of cisterns and wells, demonstrate signs of ordinary daily use. Thus, most water installations were kept clean of larger debris and only normal sedimentation of some centimetres in depth was present. The layer deposited directly above is, on the other hand, usually a sizeable dump of sometimes several metres of shattered building debris. Here we find damaged tufa blocks, as well as fre-

quent ashlar, along with broken roof tiles. If any larger pieces or complete vessels were recovered from the depths, these were likely deposited well before the filling of any building debris. These fragmented vessels are however not necessarily pre-earthquake. In some cases one cannot rule out any kind of ritual purpose, where this material could rather be interpreted as having a ceremonial purpose.

Let us sum up in what ways the water installations can provide a general chronology of the Vignale plateau. It would be safe to assume that during the initial phase of the Etruscan occupation, the building activities stretched from an unspecified point in the east, through the excavated area and to the western point of Vignale. These Etruscan remains are attested through scattered building material and through remote sensing of heat/cold signatures (IRT). Even though there are indicators of a Late Etruscan settlement on the promontory, this occupation likely developed on earlier foundations—it would simply make no sense to avoid the easiest-protected part of the Vignale plateau. Therefore, we can assume that all direct and indirect remains of water installations provide us with a picture of where Vignale's most elaborate building activities were initiated in the 7th century BC. During this period, also discussed elsewhere, remains of defensive walls are present along the southern ridge and possibly further east as well (*Table 10*).

The devastating earthquake of 550/530 BC seems to have resulted in a much more limited settlement on Vignale, where most of the wells and cisterns were filled with rubble from structures damaged by the earthquake. The pottery within the rubble clearly shows a predominance of pieces of pre-earthquake date. Some later disturbances are present, but during the initial excavations of the 1950s and the 1960s the knowledge regarding this major earthquake was limited, and therefore a more in-depth analysis of any “rubble stratigraphy” was largely not considered. An awareness of this could have identified if any pottery disturbance came from the upper layers of the earthquake debris, and as such constituted a contamination from above.

Nevertheless, and as can be seen from VAP's pottery analyses, a clear picture has emerged, where the rubble fillings indicate a rupture point at 550/530 BC. The existence of the Late Etruscan burial street of the Southwestern necropolis, as well as an abundance of shallow-depth building debris and pottery, suggest that the settlement on Vignale after the earthquake was limited within the possible defensive Wall C and westwards. A comprehensive stratigraphic analysis of the unexcavated possible wells/cisterns of WI-11, so far unachieved, could provide more information on this matter. An interesting quality of these clearly discernable putative water installations is their fairly equally spaced distribution of between 5–10 m. It is tempting to interpret this phenomenon as a result of houses, workshops, or property distribution. This can however only be verified through excavation or use of probes

⁵⁵² On soil-marks/vegetation marks, see Ravelli & Howarth 1984, fig. 3.

⁵⁵³ On earthquakes in the San Giovenale area, see Blomé & Nylander 2001; Blomé *et al.* 1996; *San Giovenale* V:1, 138–142.

Table 8. Water installations on the Vignale plateau.

Reference	Feature	Shape	Measurements	Remarks	Dating
WI-1a	cistern/well (?) in association with cistern WI-9	shaft-shaped (Fig. 91)	diam. of mouth: 0.70 m, bottom: 1.20 m, depth: excavated to 3.15 m	foot-holds	7th–mid 6th centuries BC
WI-1b ⁱ	well/cistern	shaft-shaped?	excavated to c. 1 m	filled with blocks	7th–mid-6th centuries BC
WI-2	cistern	shaft-shaped (Fig. 91)	diam. of mouth: 0.70 × 1.25 m, rectangular bottom: 1.55 m; depth: 6.35 m	foot-holds on eastern side	6th century BC
WI-3 ⁱⁱ	well/cistern?	unknown	diam. of mouth c. 1 m	?	end of the 4th–the middle of the 3rd centuries BC based on pottery finds
WI-4	cistern/vat	shaft?-shaped (Fig. 91)	diam. of mouth: 0.85 m; bottom: 1.08 m; depth: 1.20 m	-	6th–4th centuries BC?
WI-5	cistern	bottle-shaped (Fig. 91)	diam. of mouth: 0.85 m; bottom: 1.80 m; depth: 1.45 m	cesspool/silo?	7th–6th centuries BC
WI-6	cistern	bottle-shaped (Fig. 91)	diam. of mouth: 1.00 m; bottom: 1.30 m; depth: 3.10 m	foot-holds in the neck; bowl at the bottom	7th–6th centuries BC; intrusive Proto-Villanovan fragments, 10th–9th centuries BC
WI-7	cistern	with vaulted roof?	diam. 2.30 m; depth: dug to 2.0 m	-	6th–3rd centuries BC
WI-8	cistern with tunnel	square with connecting small vaulted passage	cistern: 1.5 × 1.5 m; depth 1.65 m; <i>cuniculus</i> /cellar: 2.5 × 0.50–0.75 m; depth 1.80 m.	cellar/ <i>cuniculus</i> vaulted roof ⁱⁱⁱ	5th–1st centuries BC
WI-9	cistern with <i>Pozzo</i> WI-1a	rectangular (Fig. 123)	see feature	see feature	with <i>Pozzo</i> WI-1a
WI-10	Pacchiarotti cistern	squarish/rectangular with roof	L and W approx. 15 × 12 m; depth ?	a few steps in one corner	late 5th century BC or later
WI-11	c. 20 wells/cisterns	-	-	indication of water installations from thermographic pictures	not yet excavated
<i>Pozzi</i> 4–5, 7–9 at house foundation	<i>pozzi</i> (wells)	no information	-	Fig. 27	-
Cistern	cistern	no information	-	Fig. 27	-

ⁱ This cistern/well, which was drawn in a north–south section by Brown in 1960, was not known to the authors until the original pencil section drawing was found in a box in the SIR attic in March 2018. It is now included in the text as WI-1b since Brown had named it the twin *pozzi* together with the nearby WI-1a.

ⁱⁱ See Fig. 132, aerial photograph from 2009.

ⁱⁱⁱ See the bedrock-cut room with an arched door in one wall at Vigna Parrochiale at Caere, below the temple area, in E7III σ 15 and 20, no entrance found, Cristofani 2003, 175, figs. 2, 90–91.

as in the case of *Pozzo* 9 (PZ9) within the WI-11 concentration. The feature in question was however never excavated and therefore only mentioned briefly during the initial studies.⁵⁵⁴

Returning to the question of earlier and later habitation remains, one should also note that the dense area of wells/cisterns

seems to peter out quite significantly towards the east. A large gap becomes apparent when reaching a broader wet area—a limited depression of about 25 m wide, running north–south across the Vignale promontory (Figs. 146–147). During spring-time this area is usually dotted with tall thistles. East of the depression, a less dense distribution of wells/cisterns reappears closer to the interpreted defensive perimeter wall (Wall C). The wet area is probably the result of accumulated water on the plateau that has found its way to this lower area, before empty-

⁵⁵⁴ Backe Forsberg *et al.* 2008a; 2008b; Lasaponara *et al.* 2012; Backe Forsberg & Holmgren 2017.

Table 9. Small finds and inscriptions/graffiti from the Vignale water installations.

Context/finds	WI-1a cistern/well (?)	WI-2 cistern/well	WI-4 cistern/vat	WI-5 cistern	WI-6 cistern	WI-8 cistern with tunnel	WI-9 rectangular cistern	Total
Tile	2	5		1	19		2	29
Wall plaster				1				1
Terracotta brazier					1			1
Terracotta cooking stand	1						1	1
Terracotta loom weight				2	2	1		5
Terracotta whorl						1		1
Terracotta fire dog					1			1
Terracotta ram's head					1			1
Etruscan graffiti			1	1	5			7
Glass paste						1		1
Vegetable fibres				1				1
Bronze object		2						2
Grinding stone						1		1
Animal remains					14			14
Total	3	7	1	6	43	4	3	64

ing onto the southern and northern slopes. In the south this is demonstrated by frequently damp cliffs above the funeral street (Fig. 148) and to the north, an ancient gutter can still be seen installed across the road that leads from the Bridge Complex to the Vignale plateau. One can argue that the damp area may conceal further traces of wells that are unidentifiable by thermal methods, but the hydrological situation is most likely not a new one. These damp conditions would probably have constrained any building activities in this lower area. An interesting option to consider is the interpretation of the wet area as the remnants of an installation functioning as a kind of moat during the Etruscan period. The possible moat's poorly defined and seemingly rather wide depression could alternatively be the result of ploughing activities over the last centuries. Whether this concealed feature is to be considered a man-made trench or rather a utilized natural feature (or a combination of the two) is still to be verified. In any such case this may explain the seemingly separated activities demonstrated on Vignale's easternmost headland, a circumstance that is also apparent in the abandoning of wells and cisterns in the east and the apparently continuation of the settlement in the west. The latter is not only indicated by the WI-11 concentration of putative water installations, but also supported by the tufa building stones, tiles, and river cobbles found among the Late Etruscan pottery. Further-

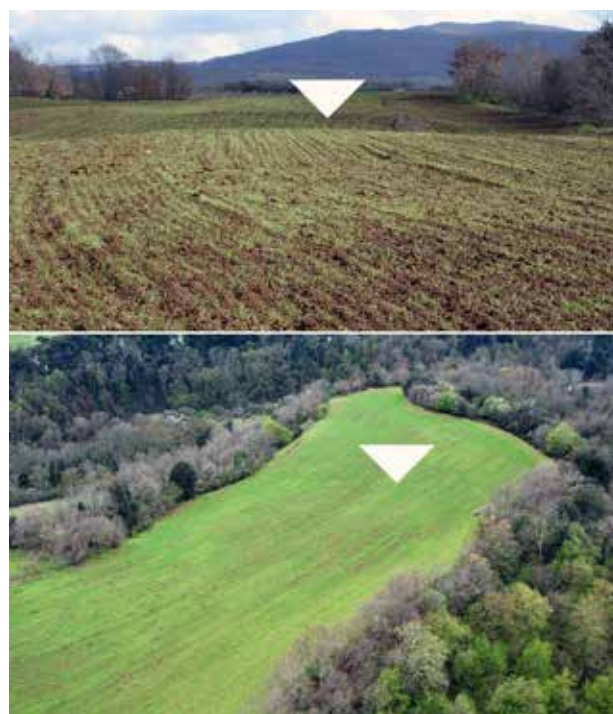


Fig. 146. The large depression of about 25 m width, running north–south across the Vignale promontory. The upper photograph looking east and the lower photograph looking south-west (photographs by Y. Backe Forsberg and R. Holmgren).

more, the river cobbles present in the area could derive from a laid pathway crossing the wet depression (Fig. 28). A heat signature resembling a laid passageway, crossing the colder wet depression, can be seen in Fig. 92, in between the markings for WI-11 and WI-7.

Since cistern WI-6 was the water installation with the most spectacular finds, these are commented on in greater detail above. Cistern WI-6 contained a large amount of Archaic coarse ware pottery and fine table wares as well as terracotta objects of various kinds. As discussed at length above, the fill of the cistern differed from the other water installations. In all, it is tempting to see the content of cistern WI-6 as a deposit of possible ritual items placed here after the devastating earthquake of 550/530 BC.⁵⁵⁵ The numerous water installations excavated in San Giovenale and its surroundings are listed in Table 10 and will be commented upon below and compared with those found on Vignale.⁵⁵⁶

⁵⁵⁵ On the definition of a votive object and a votive deposit, see Nagy 2016, 262–271.

⁵⁵⁶ Pohl 1985; *San Giovenale* V:3; II:5; IV:1.



Fig. 147. Dense vegetation with thistles covering the permanently damp depression that runs across the Vignale plateau, looking south-west (photograph by Y. Backe Forsberg).

Other water installations in San Giovenale and further afield

The WI-1a cistern/well (?) on Vignale (Fig. 91) can partially be compared to the shaft-shaped well found in the Bridge Complex (Fig. 149). This well was dug 6 m into the conglomerate layer and was furnished with climbing holes. The upper inner part was dressed with small tufa blocks, the lower part with smaller tufa stones. In this respect the construction differed from all the other wells and cisterns found at San Giovenale. It was filled from the bottom to the mouth with soil, ashlar, tufa blocks, smaller stones, and pebbles mixed with tiles, pottery, and fragments of animal bones.⁵⁵⁷ It is unclear when the well went out of use as a source for potable water. The remains of a human skeleton and bones from a dog, found almost at the bottom, must have made the water undrinkable. The dating of the well is based on the finds found at the bottom, that is, to the first building period (6th century BC or earlier).

⁵⁵⁷ Backe Forsberg 2005, 55–56, 59, figs. 34b, 36, 41, 44a, 52–53, 61b, 96–97.



Fig. 148. An occasional outflow of water can be seen on the south-western edge of the Vignale plateau (above the Southwestern necropolis), where the outflow is in line with the depression seen in Fig. 146, looking north-east. It should not be excluded that a man-made trench across the plateau, serving as a moat, could have secured an Etruscan habitation on the Vignale's headland. A faint hint of a cut in the tufa bedrock can be seen on either side of the wet area in the photograph (photograph by Y. Backe Forsberg).

Other comparable wells and cisterns were also found in the habitation Area F East, on the Acropolis hill.⁵⁵⁸ Pozzo 1 (likely a cistern) was discovered in the south-western corner of House I (Table 10). This 1.06 m deep feature with an oval-shaped mouth, contained roof tiles and ceramics (Attic, Etruscan-Archaic, bucchero, late black-glaze, and red-slip wares) was dated from the end of the 6th century BC, with a possible

⁵⁵⁸ *San Giovenale* IV:1, fig. 290.

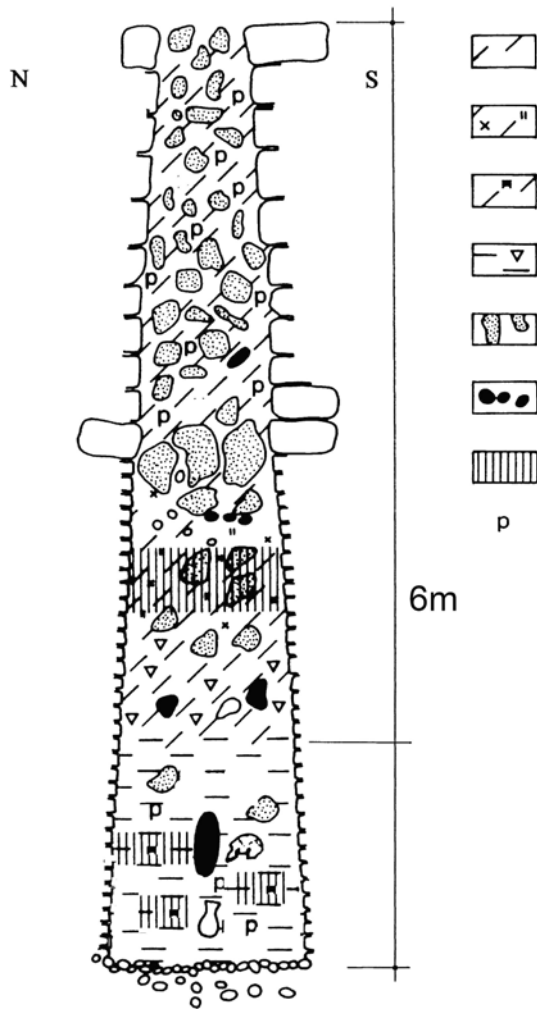


Fig. 149. Section of a well with tapering cylindrical shaft excavated in the Bridge Complex. Based on drawing in SF notebook II, 1962 (see Backe Forsberg 2005, fig. 53) (illustration by A. Grenberger, courtesy of SIR).

intrusive black-glaze bowl from the 5th century BC.⁵⁵⁹ The filling of the *pozzo* seems to have occurred at the end of the 6th or early 5th centuries BC, for example, period 4 (550/530 to c. 275 BC).⁵⁶⁰

Two wells (*Pozzi* 3 and 4) were uncovered on Court A, in Area F East, on the Acropolis.⁵⁶¹ *Pozzo* 3 was 17.14 m deep and 0.95 m in diameter with the upper levels furnished with ashlar blocks—similar to the well found in the Bridge Complex (Fig. 149). The cylindrical shaft of *Pozzo* 3 was dug into the bedrock and furnished with climbing holes, initially cut

into the southern side and further down on the northern side.⁵⁶² The remains found in the well consisted of late roof tiles, depurated ware, and one broken lava stone/grinding stone. It may have been in use down to the 4th century BC.⁵⁶³

Returning to the Area F East on the Acropolis, *Pozzo* 4 with a trapezoidal shaft was excavated down to 1.10 m without reaching the bottom and dated to Period 3 (625–550/530 BC). The rock-cut mouth, originally 1.15 m in diameter, was surrounded by flagstones. The water installation was thought to have first been used as a “fresh-water well” (one step was found cut into the wall) but in a later period turned into a basin for collecting rainwater from House I—a conclusion based on the water conduit leading into the container.⁵⁶⁴ The archaeological remains in the *pozzo* were dated to the 6th century BC.⁵⁶⁵ One can argue that cisterns became more common when the houses were roofed with tiles, which made it possible to collect rainwater through gutters and paved courtyards.⁵⁶⁶

Another well found on the Acropolis, excavated to a depth of 1.70 m but not bottomed, was located on Court D, in Area F East, just beside the entrance to House III. The mouth, c. 0.6 m in diameter was built with two layers of rounded ashlar blocks. Climbing holes were visible at c. 1.20 m as in *Pozzo* 3. The filling of the well consisted of tile fragments, *dolia*, and late black-glaze vessels. Nothing was dated later than the 4th century BC. Consequently, the well could have been functioning down to that date.⁵⁶⁷ The late date of the filling in the *pozzi* from Area F East is interesting in relation to a late and contemporary settlement on Vignale. The frequent occurrence of later tiles (Hellenistic) and the surface fragments of stamped black-glaze bowls of Morel type 27 (dated to the 4th–3rd centuries BC)⁵⁶⁸ demonstrate late activities on the Vignale promontory (see *Cat. nos.* 132–133).⁵⁶⁹ The pottery content of the well and the cistern in the vicinity of the Late Etruscan House V in Area F on the Acropolis also points to a date from the middle of the 4th century to the 3rd century BC. Fabrics like black-glazed ware, fine cream ware, late cream ware, red-slip

⁵⁶² *San Giovenale* IV:1, 34, fig. 17, fold-out plans 2–3. The well was not bottomed.

⁵⁶³ *San Giovenale* IV:1, 73, 136.

⁵⁶⁴ *San Giovenale* IV:1, 36, 155–156, fig. 290, fold-out plan 3.

⁵⁶⁵ *San Giovenale* IV:1, 73, 155.

⁵⁶⁶ On the volume of rainwater from tiled roofs, Klingborg 2017, 77–83, fig. 32, tables 2–3. See also Klingborg & Finné 2018.

⁵⁶⁷ *San Giovenale* IV:1, 43, 114, 164, fig. 25, fold-out plan 3.

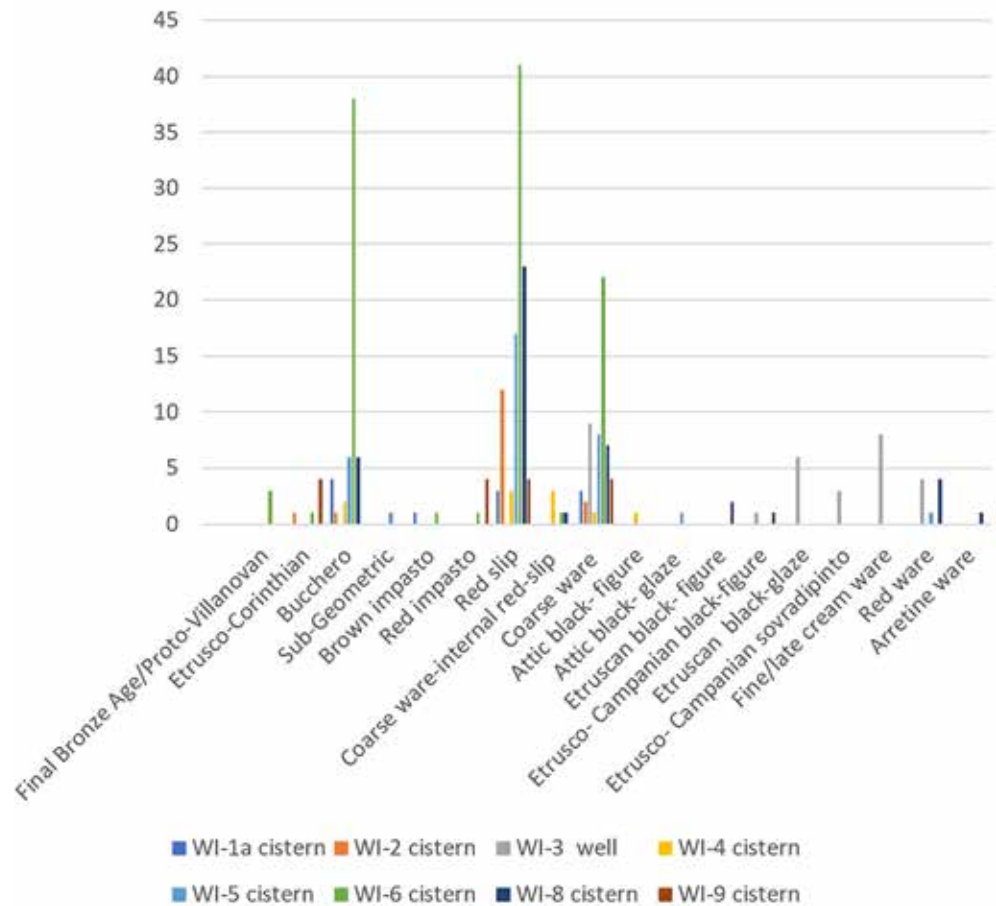
⁵⁶⁸ Morel 1969, figs. 2, 26, 103, dated to 4th–3rd centuries BC.

⁵⁶⁹ We thank Prof. Giovanni Colonna for interpreting the letters. His hypothesis is that these letters may be short for *aiser* meaning “to the gods”, see Colonna 2007. See, for example, the pottery marked with the Etruscan letter *A* from wells at Cetamura del Chianti, interpreted as *aiser* “to the gods”, Holland 2017, 55.

⁵⁵⁹ *San Giovenale* IV:1, 31, 45, 58–60, fig. 10, fold-out plan 3.

⁵⁶⁰ *San Giovenale* IV:1, 164.

⁵⁶¹ *San Giovenale* IV:1, 34, 36, fold-out plan 3.



Graph 3. Summary of ceramics in water installations WI-1–6, 8–9.

ware, as well as coarse ware, are represented both as table and household wares.⁵⁷⁰ In addition, the underground room in Area C, west of the di Vico castle, contained a number of bowls and plates of late cream ware as well as coarse ware dated from the 4th to the 3rd centuries BC.⁵⁷¹

Also listed in *Table 10* are a few water installations at Hellenistic–Roman villas and farmsteads found in the surroundings of San Giovenale, which were examined by archaeologists from the Swedish Institute of Classical Studies in Rome. These include Selvasecca, Le Pozze, Luni sul Mignone, and Civitella Cesi.

Further afield, many wells with conical shafts and stone-furnished walls were investigated at Marzabotto and Perugia, as well as in the temple areas at Pyrgi, Vigna Parrochiale, in the sanctuary of Valle della Mola, and at San'Antonio at

Caere.⁵⁷² Other forms of wells and cisterns have been explored at Cetamura del Chianti,⁵⁷³ and further examples are the *pozzo* at Piano di Comunità at Veii⁵⁷⁴ and the large rectangular cistern with steps on Piazza d'Armi at Veii dated to the beginning of the 7th century BC.⁵⁷⁵ Cisterns are also common at Marzabotto.⁵⁷⁶

⁵⁷² Angelakis *et al.* 2013, 975–980, figs. 2, 4–5. See also the two wells outside the temples at Pyrgi, Colonna 1992, 14; Fiorini & Torelli 2010, 29, fig. 2. The well at Piano di Comunità at Veii, Beelli Marchesini 2009b, 65–71. Vigna Parrochiale, *Caere* 3:1, fig. 1. Valle della Mola, Nardi 2001, 157. San'Antonio in Maggiani & Rizzo 2001, 144; Rizzo 2001, 49 wells at Marzabotto, Sassatelli 1991, 190–207, figs. 127–128, 130–153. On a large cistern in Perugia, see Feruglio 1991; Stopponi 1991, 209–216, figs. 186–197.

⁵⁷³ Holland 2017.

⁵⁷⁴ See Beelli Marchesini 2009b, 65–71, figs. 3.1–2, 4.1–2, 5–45 on a well (5.80 m deep) containing a number of finds of various types and located close to a *domus* at Piano di Comunità, Veii.

⁵⁷⁵ Acconcia *et al.* 2009, 25–26, figs. 9–10, for the material in the cistern, see figs. 22–33.

⁵⁷⁶ Sassatelli 1991, 179–207; Stopponi 1991.

⁵⁷⁰ Fuglesang unpublished.

⁵⁷¹ Fuglesang unpublished.

Table 10. Water installations at San Giovenale and its surroundings.

Context and reference	Feature/VAP's interpretation	Shape	Measurements	Remarks	Dating
Borgo NW Central Area B House B–C ⁱ	well P1/cistern?	bottle-shaped ⁱⁱ	depth 9.80 m; diam. 1.90 m, above ground 1.40 m with inside concave-cut blocks	no blocks inside. Marks for well covering and a lifting system	Period 3 (530–c. 400 BC), ⁱⁱⁱ Yard C
Borgo NW Central Area B ^{iv}	drain P1a	drainage channel from Well P1 running in a northern direction	L c. 1 m	-	Periods 3–4 (late 6th–5th centuries BC) ^v
Borgo NW Area D ^{vi}	well P/cistern	?	-	not fully excavated, climbing holds	Period 3 (late 6th century–c. 400 BC) ^{vii}
Borgo NW Area A ^{viii}	drain L	-	Wall N1, L 4.5, depth 1.20–1.30 m, half covered with 25 blocks; two side walls 11 and 13 m long	east–west	Period 1 (late 7th century–c. 575 BC)
Borgo NW Area A ^{ix}	cistern Ae	rectangular	L 2.5 × W 0.85–1.0 × depth 1.10 m	probably wooden cover, rainwater volume 1,200–2,500 litres	Periods 1 & 2/3 (c. 580–400 BC)
Borgo SW & Spina ^x	well P3/cistern	shaft-shaped with bottom depression	depth 12.5 m; small bottom bowl, well-head	rock-cut steps, hand and climbing holds, with an ante room cellar and with three steps	Period 2 (530/500–430 BC)
Borgo SW & Spina	well P4	-	-	well-head, squared, concave blocks; diam. c. 1 m	dated from 6th to late 5th centuries BC
Borgo SW & Spina	well P5/cistern?	shaft-shaped with bottom depression	depth 10.4 m; diam. of mouth 0.93 m	hand and climbing holds 0.15 m from each other, larger towards bottom; bottom depression 0.40 m depth × 0.10 m; no kerbing-stone left	dated from 6th to late 5th centuries BC
Borgo SW & Spina House G ^{xi}	well P6	-	well-mouth of ashlar blocks	placed in wall; not excavated; close to vein of water	-
Borgo SW & Spina House H ^{xii}	well P7/cistern	conical shaft-shaped with bottom depression	depth 11.45 m; diam. of mouth 0.95 m; widens to 1.21 m at the bottom, kerb-stones	bottom depression W 1.11 m and D 0.75 m; hand and climbing holds 0.15 m from each other; placed inside wall near entrance; close to vein of water	-
Borgo SW & Spina House K ^{xiii}	well P8/cistern	conical shaft-shaped with bottom depression	depth 13.70 m; diam. of mouth 0.75 m	bottom depression 0.20 × 0.05 m; square foot and hand holds W 0.16 m, 0.30 m from each other; placed in courtyard	-

ⁱ *San Giovenale* V:1, 120–121, figs. 101, 105, 116–119, 128, pls. 2–3; Hanell 1962, fig. 272.

ⁱⁱ The term “flask-shaped” is used in Klingborg 2017, 22, fig. 5.

ⁱⁱⁱ *San Giovenale* V:1, 12, 54, 152–153.

^{iv} *San Giovenale* V:1, 120, 123, figs. 33–34, 101, 106–107, 116.

^v *San Giovenale* V:1, 12, 54, 153.

^{vi} *San Giovenale* V:1, 133, figs. 121–122, pls. 2–3.

^{vii} *San Giovenale* V:1, 54.

^{viii} *San Giovenale* V:1, 50, 54, 74–75, 81–85, figs. 33, 62, 66, 69–72, 80, 97, 101, 106–107, pls. 2–3, 29–31.

^{ix} *San Giovenale* V:1, 99–100, figs. 62, 66, 80, 83, 91, 96.

^x *San Giovenale* V:1, fig. 24. On the wells in Houses G, H, L, K on the *Spina*, see *San Giovenale* V:3; Persson 1986, figs. 13:1, 18; Hanell 1962, 299–300, figs. 267–268; Welin 1962, fig. 250.

^{xi} Vidén 1986, 50, 53, fig. 26:11.

^{xii} Vidén 1986, 53, fig. 26:12.

^{xiii} *San Giovenale* V:3.

Table 10 continued.

Context and reference	Feature/VAP's interpretation	Shape	Measurements	Remarks	Dating
Borgo SW & Spina House L ^{xiv}	well P9	-	dug to 1.50 m	-	tile fragments, rubble; late finds Etruscan Archaic black-figured pottery
Acropolis Area F Court A ^{xv}	<i>pozzo</i> 1/cistern	oval	depth 1.06 m; oval mouth 1.65 × 0.95 m, L 1.7 m, W 1.5 m near bottom	covered with two blocks on east side	probably filled up at the end of the 6th or early in the 5th century BC, pottery, tiles
Acropolis Area F Court A ^{xvi}	<i>pozzo</i> 3 fresh water	shaft-shaped	depth 17.14 m; diam. of mouth 0.95 m	a set of steps on south side	two periods, late roof tiles, probably functioning to the 4th century BC
Acropolis Area F Court A ^{xvii}	<i>pozzo</i> 4 rainwater/cistern	trapezoidal shaft-shaped	diam. of mouth 1.15 m, covered with large ashlar blocks; mouth reduced to W 0.55–0.58 m; dug to 1.1 m without reaching bottom, W 1.60 m	-	interpreted as a collecting basin in Periods 3–4. Probably filled up at the end of the 6th or early in the 5th century BC
Acropolis Area F Court A ^{xviii}	water conduit collecting rainwater	horizontal	W 0.45 m; L 4.4 m, two rows of cut blocks with a channel W 0.12 m	-	empties into <i>Pozzo</i> 4
Acropolis Area F House II B ^{xix}	water conduit collecting rainwater	horizontal	L 3.2 m	-	tile-covered with <i>imbrices</i> , emptied out into <i>Pozzo</i> 4
Acropolis Area F Court D outside House III ^{xx}	<i>pozzo</i> fresh water/cistern?	shaft-shaped	excavated depth 1.70 m; two layers of rectangular blocks; diam. of mouth 0.6 m	steps in the vertical shaft starting at 1.2 m below mouth. Well-mouth of two layers of rounded ashlar blocks	probably functioning to the 4th century BC
Acropolis Area F Court D outside House III ^{xxi}	water conduit	horizontal	-	several cover stones along the conduit	emptied out into <i>pozzo</i> on Court D
Acropolis Area B ^{xxii}	cistern I	rectangular, with vaulted roof	2 × 1 m at top; 2.5 × 1.5 m at bottom; depth 2.3 m	-	-
Acropolis Area B ^{xxiii}	cistern II	squarish, with vaulted roof	2 × 1.5 m at top; 2 × 2 m at bottom; depth 1.73–1.80 m	-	-
Acropolis Area B ^{xxiv}	cistern, “underground room”	squarish, with vaulted roof	-	a set of four steps	-
Acropolis Area B ^{xxv}	well with water conduit	drainage channel, drainage well	diam. 1 m; depth 3.35 m, rock-cut head c. 0.25 m wide	-	4th–3rd centuries BC
Acropolis Area B ^{xxvi}	<i>Fossa anticolo</i>	rectangular with rounded upper part, shape C ^{xxvii}	H 1.68 m, W 0.6 m, L 5 m; straight east–west to 2.63 m, gentle curving to 4.78 m; ended in a circular well, see above	-	-

xiv *San Giovenale* V:3.xv *San Giovenale* IV:1, 31, 45, 58–60, 155, 161, 164, fig. 10, fold-out plans 1, 3–4.xvi *San Giovenale* IV:1, 34, 49, 73, 155, 164, figs. 17, 25, fold-out plans 1–4.xvii *San Giovenale* IV:1, 34, 36, 49, 73, 155, 164, figs. 9, 290, fold-out plans 1, 3–4.xviii *San Giovenale* IV:1, 36, 38, figs. 9, 18, 290, fold-out plans 1–4.xix *San Giovenale* IV:1, figs. 9, 18, 290, fold-out plans 1, 3–4.xx *San Giovenale* IV:1, 43, 114, 164, figs. 9, 25, fold-out plans 1, 3–4.xxi *San Giovenale* IV:1, 44, figs. 9, 25, fold-out plans 1, 3–4.xxii *San Giovenale* II:5, 13, 17–31, figs. 2–3, 10, pls. 1–13; II:4, fig. 1-C1; II:2, general plan (A).xxiii *San Giovenale* II:5, 13, 31–40, figs. 3–4, 22, pls. 13–19; II:4, fig. 1-CII.xxiv *Fuglesang* unpublished; *San Giovenale* II:4, fig. 1-C.xxv *San Giovenale* II:5, 13–15, 40–43, 50–51, figs. 4–9, 27, pls. 20–22.xxvi *San Giovenale* II:2, 22–23, fig. 17.

xxvii Ravelli & Howarth 1984, fig. 8.

Table 10 continued.

Context and reference	Feature/VAP's interpretation	Shape	Measurements	Remarks	Dating
Acropolis Area F, House V	well?	-	-	-	-
Casale Vignale ^{xxxviii}	cistern	rectangular	20 × 5 m	remains of brick-faced concrete, cut stones	4th/3rd century BC–2nd half of 5th century AD
Pietrisco Bridge Complex, “ <i>sacellum</i> ” ^{xxxix}	well	shaft-shaped	depth 6 m; diam. of mouth 0.50 m; diam. at bottom 1.20 m	well-kerb of two layers of concave-cut ashlar blocks; c. 0.90 m H; walls dressed with tufa stones	6th–5th centuries BC
Selvasecca ^{xxx}	cistern	rectangular	7 × 4 m	vaulted cistern with one chamber in <i>opus caementicium</i> interior lined with <i>cocciopesto</i>	Deposit 2 Errusco-Roman villa; suggested date of cistern AD 370–380
Selvasecca ^{xxxi}	cistern/well	bottle-shaped	depth 4.5 m (water level); diam. 3 m(?)	dressed with stones c. 0.25 m	Deposit 3; north corner of the courtyard of the Roman villa; suggested date: 1st century AD for early finds; 5th century AD for later finds
Selvasecca ^{xxxii}	cistern/“tile-kiln”	roughly circular	15 × 15 m	north-west of the villa; vein of water at bottom; floor of entrance way of mortar and stone	Deposit 1; sacred water pond?; similar to the large cistern in Veii and the one in Satricum
Selvasecca ^{xxxiii}	drainage channel	horizontal	5–6 vertical positioned erected lime-stone slabs running east–west outside the villa	-	-
Pian de Crette/Le Pozze ^{xxxiv}	<i>pozza</i> /silos/cistern?	-	-	foot-holds; terracotta cover, diam. 0.73 m. Two <i>cuniculi</i> mouthed into the feature	second habitation <i>terminus ante quem</i> 119–93/92 BC
Pian de Crette/Le Pozze ^{xxxv}	<i>pozza</i> / <i>vasca</i> / <i>cuniculi</i>	rectangular	depth 9 m until water level	see cistern/well (?) W1-1a	350–280 BC
Luni sul Mignone ^{xxxvi}	three cisterns/rock-cut pits	circular?	-	-	Erruscan? contents; medieval pottery 9th–13th centuries AD
Pianarola, south-east of Luni sul Mignone ^{xxxvii}	<i>pozzi</i> /wells, and two of systems <i>cuniculi</i> , one mouthed in a cave; cistern	-	-	-	farmhouse (<i>villa rustica</i>) on the plateau. Uncertain date, Late Republican/Early Imperial period forward

xxxviii Hemphill 2000, 45–47, fig. 39.

xxxix Backe Forsberg 2005, 55–57, figs. 36, 44a, 53, 61b, 96–97, table 33.

xxx Hemphill 2000, 29–30, figs. 15–17; Klynne, A. 2006–2007, 34, 43, 54–55. On pottery from cistern (Deposit 2), see Hayes 2006–2007, 59–60, 64–70, figs. 6–8.

xxxi Klynne, A. 2006–2007, 34, 43, figs. 1, 3, 30. On the content of well (Deposit 3), earlier and later finds, see Hayes 2006–2007, 70–76, figs. 9–11.

xxxii Klynne, A. 2006–2007, 32, 34–35, 43, 48–49, 54–55, figs. 2–3; Hayes 2006–2007, 62–64, figs. 4–5.

xxxiii Klynne, A. 2006–2007, 38, 42, figs. 15–16. According to Klynne “there might have been several *pozzi*, drainage channels, postholes and foundation trenches which were not detected” inside the villa and in its surroundings.

xxxiv Ricciardi 1990a, 156–157, figs. 16–17; Tron 1990; Incitri 1990, 159–160, fig. 16G.

xxxv Ricciardi 1990a, 156–158, figs. 16–17.

xxxvi Östenberg 1967, 29, fig. 2; Whitehouse 1985, 143–148, figs. 1–2; Bengtsson 1996, 203–206.

xxxvii Bengtsson 2001, 59–61, fig. 45 (*lokal* 4).

Table 10 continued.

Context and reference	Feature/VAP's interpretation	Shape	Measurements	Remarks	Dating
Luni sul Mignone's surroundings/Macchia di Blera ^{xxxviii}	cistern	rectangular	L 12 m; W 5.80 m; vaulted roof	<i>opus caementicium</i>	1st–2nd centuries AD. Found on a Roman farm
Civitella Cesi ^{xxxix}	<i>cuniculi</i>	-	-	-	-

^{xxxviii} Bengtsson 2001, 81, *lokal* 70, fig. 82.
^{xxxix} A large number of cisterns and *cuniculi* and a few fountains are listed in the Civitella Cesi Survey, Hemphill 2000, see general index.

Ware/context	WT-1a–b cistern/well (z)	(a)/and well/cistern (b)	WT-2 cistern	WT-3 well/cistern? "Pozzo Pacchiarotti"	WT-4 cistern/vat	WT-5 cistern	WT-6 cistern	WT-8 cistern with tunnel	WT-9 rectangular cistern	Total
Final Bronze Age/Proto-Villanovan							3			3
Etrusco-Corinthian			1				1		4	6
Bucchero	4	4	1		2	6	38	6		57
Sub-Geometric						1				1
Brown impasto	1						1			2
Red impasto							1		4	5
Red slip	3	12			3	17	41	23	4	103
Coarse ware, internal red slip					3		1	1		5
Coarse ware	3	2		9	1	8	22	7	4	56
Attic black-figure					1					1
Attic black-glaze						1				1
Etruscan black-figure								2		2
Etrusco-Campanian black-figure			1	1				1		2
Etruscan black-glaze				6						6
Etruscan red-figure Campanian ware with superimposed colour				3						3
Fine/late cream ware				8						8
Red ware				4		1		4		9
Arretine ware								1		1
Terra sigillata								1		1
Total	11	16		31	10	34	108	46	16	272

Table 11. Summary of pottery from various periods in the Vignale water installations WT-1a, WT-1b, WT-2, WT-3 ("Pozzo Pacchiarotti"), WT-4, WT-5, WT-6, WT-8, WT-9 (the number represents fragment/s of one item and includes items not catalogued above), see also Graph 3.

House remains on the western promontory—a possible courtyard complex (atrium house)?

Figs. 28, 150–151, 153

Feature: indication of house-like constructions enclosing a rectilinear space

Interpretation: Late Etruscan courtyard house/Roman villa?

Preliminary date of first construction: 6th century BC (?)

Preliminary date of use: 6th–4th centuries BC (?)

Preliminary dating of building material: -

Area: (TS2)

Geographical location: west of the documented part of Wall C

Position: N42°13'23.70" E12°00'12.26" (central position)

Height ASL (m): c. 174

Measurements (m): c. 35 × 40 (north–south × east–west)

Finds: cisterns, fragmented tufa blocks, tile fragments



Fig. 150. House remains on the western promontory—a possible courtyard complex (atrium house)? (feature map by VAP).

No thorough excavation has yet been performed on the Vignale promontory, or in the area perhaps better defined as the Vignale tip (west of Wall C). From this area we only have some surviving sketches made by Asplund in 1959, based on various dispersed soundings—but unfortunately the sketches lack essential details (Fig. 27).⁵⁷⁷ A provisional land division, made in order to separate the various areas of Vignale's western part, can be described as a nowadays-invisible line between an eastern and a western area of the promontory. This line defines the border between the best defensible position on the plateau, with its steep gradients, and the eastern and more-easily approachable area. This is also the location of the now-missing

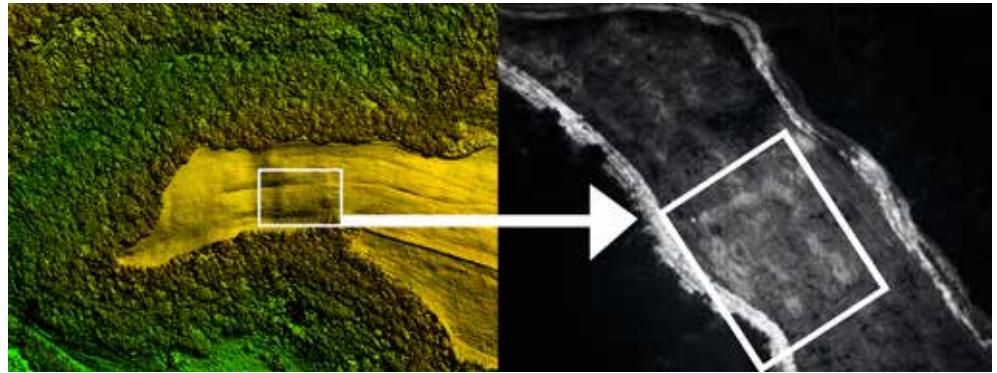
wall, named Wall C by VAP, which was documented and first described in the 1950s (Figs. 65–66). From here on, moving westwards, we can assume that the plateau was intensively occupied during the 6th century BC, with a decline from that point in time onwards. As discussed elsewhere, scattered material remains as well as many located but not yet investigated putative cisterns (WI-11) support this assumption (Fig. 92). The Etruscan remains found elsewhere on Vignale also support this hypothesis: it simply wouldn't have made sense to occupy large areas of the plateau and exclude the western tip. So, what can we expect to find in this specific area, and what gathered evidence can we use to make sensible speculations? Evidence suggests that there are also remains of a courtyard house in this area. How can we make such a bold assumption from the limited material currently available?

During the land survey by VAP in early spring of 2006, surface finds of two Etrusco-Campanian black-glazed bowls (late 4th to 3rd centuries BC, *Cat. nos.* 132–133) were collected after heavy rains near Pozzo 9 (PZ9, Fig. 27)—the latter is included in the water installations of WI-11 at the westernmost tip of Vignale (Fig. 92). In the same area were also noticed a large amount of scattered *tuffetti*, fragmentary roof tiles and white rounded flat river stones, which were not sampled. The latter can be clearly seen as white dots covering the field (Fig. 28) and are restricted to the western tip, although evenly dispersed as a result of modern ploughing.

Immediately west of Wall C are two slightly raised areas—stretching all the way between the northern and southern edges of the plateau. In the west these are limited by the broad ditch-like and slightly damper stretch of land, likewise stretching north–south across the plateau (Fig. 146). It is the southernmost elevated space that gave interesting readings from VAP's aerial survey when using thermographic photography (IRT). As can be seen in Fig. 151, a heat signature (right image) can here be compared to a more comprehensive LiDAR image (left image) with an enhanced outline of a possible larger structure. The entire complex, presumably composed of material debris and substructures of a denser material, is slightly raised compared to the surrounding moist earth. It should be noted that the soil depth overall in this area is not expected to be more than approximately 40 cm. The entire complex measures around 35 × 40 m (perhaps slightly longer in the east–west alignment), leaving a vacant space on the plateau of about 10 m in the south and 30 m in the north. The eastern limit is somewhat vague and could have been disturbed by ploughing. As already explained, the western limit of the structure is defined by the ditch-like strip stretching across the plateau. Across this ditch, a heat signature is evident in its central part—stretching all the way across in an east–west direction. Seemingly, it connects the concealed compound with the area further west, where thermographic imagery shows indications of a second larger area with several possible substructures. As

⁵⁷⁷ Sketches by Asplund in 1959 stored in the SIR Archaeological Archive.

Fig. 151. A possible larger structure on the western promontory of Vignale? On the left is a vertical LiDAR image compared to an oblique IRT image, right. The presumed building of c. 35×40 m is within the white rectangle (data of LiDAR image acquisition from Geocart srl with processing by N. Masini [CNR/IBAM] and R. Lasaponara [CNR/IMAA], IRT image processed by N. Masini and photograph by R. Holmgren).



described, these are in turn mixed with a large number of putative buried cisterns, described above as WI-11 (Fig. 92).

The 35×40 m potential structure could very well conceal a larger compound with rooms or separate buildings arranged to enclose a central open area or possibly an atrium within a building compound. Two brief soundings were performed on this spot in the 1950s, and by chance they happened to be positioned within the central open area of the possible building complex over the cisterns WI-4 and WI-7, of which the latter constitutes a rectangular cistern (Fig. 27).⁵⁷⁸ In the case of a courtyard or an atrium, cistern WI-7 would have stood in the south-western corner with cistern WI-4 positioned next to the eastern inner wall(?) within the same space. Furthermore, but hard to locate to an exact position, a rough plan from the first soundings depicts a possible house foundation in this area.⁵⁷⁹ It appears to align with the south-eastern perimeter wall of the presumed courtyard complex. Unfortunately this feature is only cursorily marked without any further elaboration.

CHRONOLOGY AND RELATION TO CULTIVATION TRENCHES CT1–3 AND CISTERN WI-6

What then is the period context of such a complex and how would it compare in size to similar and already studied structures in the area? Furthermore, could any of the datable material found on Vignale's western promontory provide hints for further identification? Firstly, it should be stressed that the thermographic imaging results, together with physical remains such as the cisterns and other scattered stray finds, are only indicative. Our effort is merely to present a plausible interpretation that can be used as the basis of a hypothesis and possibly be verified in future ventures. With such scanty material remains it is also problematic to determine the type

of structure involved—Roman, Late Etruscan, or possibly earlier. Even if a date for the structure could be presented, one always has to consider various building phases that might have changed the character and use of any such structure over time. Another important factor to consider is the extent of building material present in this area. The possible building complex could very much form part of a larger habitation or adjacent buildings further west or elsewhere in the vast area of the plateau—even extending eastwards. This question cannot be answered with certainty, except for the fact that the area with the exposed vine cultivation trenches CT1–3 (east of the possible building) show no signs of reoccupation due to the cisterns left unused as a means of water supply after the 6th century BC earthquake (Fig. 74). Let us therefore focus on what's available—that is, a discernible structure comprising a larger complex of approximately 35×40 m with an inner open space, provided with cisterns. Another indicative factor is the presence of the stamped pottery fragments mentioned above (*Cat. nos. 132–13, Figs. 28, 153*), dating to the late 4th to the middle of the 3rd centuries BC. How does this compare to the available material of already documented *villa rusticae* found in the vicinity?

The perhaps most interesting and important comparison that comes to mind is that with Villa Selvasecca, located a few kilometres north-west of San Giovenale. It is comparable in some distinctive aspects. Firstly, the villa itself almost identically matches the plan roughly outlined on Vignale—a central open space within a complex of about 35×35 m. In Villa Selvasecca too there is a cistern placed in the corner of the courtyard. The structure is furthermore built from tufa blocks, which is an important factor for identifying this particular type of villa (Table 10). Allan Klynne states regarding the villa's tufa ashlar, that it "... has something Archaic about it",—even though the principal phase of Villa Selvasecca should be dated to the early 3rd century BC.⁵⁸⁰ The Villa Selvasecca is also notable for smaller terracottas, perhaps intended for the

⁵⁷⁸ CEÖ notebook II 1959, 69. See the position and the discussion of the Archaic well/cistern in the yard in the courtyard complex at Poggio Civitate (Murlo), in MacIntosh Turfa & Steinmayer 2002, 14, n. 17, fig. 1.

⁵⁷⁹ Sketch by Asplund 1959, stored in SIR Archaeological Archive.

⁵⁸⁰ Klynne, A. 2006–2007, 44.

villa itself as a private dwelling, rather than the larger versions usually associated with temple architecture. Klynne discusses this and refers to Martin Söderlind who suggested that the motifs of sileni and grapes could very well be associated with wine production and as such demonstrate the status of the villa's owner.⁵⁸¹ Klynne further mentions the villa in a larger context—this within the general understanding of the rural boom that occurred in the territory in the 6th and 5th centuries BC.⁵⁸² Perhaps it is in this context we should understand the remains of a larger structure in association with agricultural activities on/near Vignale—starting in at least the 5th century BC, eventually developing into the wine production present from the 4th century BC on the plateau.⁵⁸³ In his article Klynne also refers to Hemphill, whose surveys south-east of Villa Selvasecca are of utmost importance for tracing activities in this era that involved the advent of the Romans. More precisely she attempted to show where and how the Romans occupied the surroundings of San Giovenale. Although not abandoned, the previously active landscape shows a considerable drop in settlements during the 4th and the beginning of the 3rd centuries BC.⁵⁸⁴ Not until the impact of the newly constructed Via Clodia, following this phase, do we see an increase in villas.⁵⁸⁵

But obviously something was happening on Vignale during the Etruscan period of regression, that is before the epoch of the Roman villas. Apart from determining whether an early courtyard complex is present on Vignale, one can at the same time raise the question of what kind of structures we could expect in conjunction of the already documented traces of wine production. Obviously, there are traces of post-earthquake activities west of the vine cultivation trenches. As well as the already mentioned traces of building material, tiles, and the Southwestern necropolis, such activity is also attested by pottery. Hemphill has documented stray ceramics of Etruscan bucchero, coarse ware and tile fragments, from the 5th and the 4th centuries BC on the eastern side of Wall C.⁵⁸⁶ These are directly connected to area of the vine cultivation trenches CT1–3.

The period that begins in the 5th century BC is also discussed by Pohl when debating Vignale in relation to zones

such as the Borgo area, near the Acropolis. We know that the Bridge Complex, indirectly connecting these areas, was rebuilt directly after the earthquake, which suggests an active correlation between the sites.⁵⁸⁷ Pohl states that new types of cultivation, in the form of vine growing, can be traced on the Vignale plateau. She is here referring to the vine cultivation trenches CT1–3. Based on the material remains from the Borgo area, she dates the Vignale trenches to the first half of the 5th century BC. The Borgo area, she states, remained inhabited until the end of the 5th century BC, but this more urban habitation area is gradually dismantled in favour of viticulture established, for instance, on the Vignale plateau, as demonstrated by the presence of *pestarole* (wine presses) in combination with cellars.⁵⁸⁸ At first, Pohl's conviction was surprising to the present authors, since vine cultivation trenches are generally dated at least a century later (see *Table 2*). However, we are partly favourably disposed to this idea, even though we are well aware of the problems posed by the limited amount of exposed material. We see a continual presence on both plateaus, although with reduced building activities, and there are simply no convincing material remains between the filling of the 6th century BC earthquake debris in the cisterns and the following activities—that is the area of cultivation east of Wall C on Vignale, manifested in the cultivation trenches CT1–3. Pohl further states that the habitation area on Vignale was demolished to make room for cultivation.⁵⁸⁹ This idea we partly reject, since the actual demolition was an act of nature, the earthquake that is. If by demolition she means the clearing of earthquake debris into cisterns and wells, then we concur. And as stated, this must have been accomplished rather swiftly after the earthquake, due to the homogenous nature of the pre-earthquake material dumped inside, with no disturbances in the form of 5th-century BC material. Stray finds of pottery other than from the early 5th century have however been recorded in the area to some extent.⁵⁹⁰

Nevertheless it should be noted that we currently have no idea of the processes during the time period between the post-earthquake clean-up and the beginning of cultivation using the kind of trenches documented in CT1–3. There might in fact be a period of low activity, where only parts of Vignale were rebuilt, and when other kinds of cultivation could have been practised, before that of viticulture by means of trenches became widely established. In this aspect it is also important to note that the wine presses and cellars replacing earlier activities on the *Spina*, next to the Borgo area, could in fact have served for processing the grapes from wild vines.

⁵⁸¹ Söderlind 2006, 121; Klynne, A. 2006–2007, 53.

⁵⁸² Söderlind 2006, 119; Klynne, A. 2006–2007, 53.

⁵⁸³ Hayes 2006–2007, 83, fig. 16 showing *amphorae* at Villa Selvasecca.

⁵⁸⁴ Hemphill 2000, 135; Klynne, A. 2006–2007, 54.

⁵⁸⁵ Hemphill 1993; 2000, 138, fig. 207.

⁵⁸⁶ Hemphill 2000, 44, sites 55, and 57, see also map of Civitella Cesi. Hemphill refers to the pottery found in the so-called semi-subterranean building at Casale Pian Roseto (Veii). The building and its remains have been re-studied by Torelli 1998 and it is now interpreted as a small rural sanctuary dedicated to Stata Mater, an ancient goddess from the Latin pantheon dated from the late 6th to the middle of 4th centuries BC. Murray Threipland & Torelli 1970; Torelli 1998, 130–133.

⁵⁸⁷ Backe Forsberg 2005.

⁵⁸⁸ Pohl 1986, 129.

⁵⁸⁹ Pohl 1986, 129.

⁵⁹⁰ Hemphill 2000, 44.

This is indeed important to consider, since Vignale's vine cultivation trenches CT1–3 would then not have been needed. This historical development of viniculture is discussed in 'The production of wine at Vignale from Etruscan to medieval periods' in *Chapter 5*. Examples of vine cultivation trenches and their dating can be seen in *Table 2*, where the earliest in the area are dated to *c.* 350 BC. Conceivably the tenor of daily life changed after the devastation in the late 6th century BC, and the economy of San Giovenale adapted into something viable, later to be yet further refined. Thus, a plausible scenario is that there was an idling period of hundred years or more. In 2013 Carl Nylander and Lars Karlsson concluded that in the Borgo Period 4 (4th–2nd centuries BC) a clearing of the *Spina* was undertaken and that *pestarole* and cellars replaced earlier structures.⁵⁹¹ This would better fit the establishing of the Vignale vine cultivation trenches CT1–3 and leaves Pohl's argument a century ahead of its time. As explained, her suggested inauguration of the trenches on Vignale corresponds to Period 3 of the Borgo area (*c.* 530–400 BC), which is the latest period of pottery present on the Borgo NW.⁵⁹² In any case the 5th century BC, both on the Acropolis and the Borgo area as well as on Vignale, shows a decline in building activities, replaced by a gradually evolving focus on viniculture. It is during this period one might expect to find the development of an early courtyard house⁵⁹³ (perhaps with rebuilt phases from

a 6th-century BC building), the presence of which might have a direct connection to the vine cultivation trenches CT1–3 on Vignale.

In the discussion of Vignale's putative hidden structures, it could be of great value to bring up, yet again, some of the contents of cistern WI-6 that are described at length above. It is important to note that cistern WI-6 is situated only 12 m east of the possible courtyard complex. The fill, which differed from the other water installations on Vignale, includes objects that may indicate uses within the ritual domain. The material is feasibly a deposition of sacred objects, gathered and concealed after the earthquake of 550/530 BC (*Fig. 152*).⁵⁹⁴ Textile implements are worth mentioning in the same context. Similar to the inscribed vessels, these could be interpreted as gifts to a divinity.⁵⁹⁵ An alternative to the more practical use of textile objects, one may here also emphasize the loom weight as a representation of the economic and life-sustaining interplay between man and animals. It can be argued that the objects themselves, representing this propitious interaction, also became symbolic of it.⁵⁹⁶ In comparison to the other cisterns and wells in the near vicinity on Vignale, equally filled-up with earthquake debris, WI-6 also shows a clear overrepresentation of pantiles and cover tiles. This is noteworthy since it may strengthen the assumption that these represent fragments of a destroyed, dismantled, and buried edifice—perhaps the debris of a sacred structure? Even though the objects deposited in WI-6 display ritualistic properties, it is important to stress that the fill might be coincidental. The possible sacred context of WI-6 might also derive from a locale other than the possible courtyard house structure. Another possibility to keep in mind is that any sanctuary, in its early phase, could have formed part of a larger habitation structure; for example, a small square cult building was incorporated in the 6th-century BC courtyard house of Villa dell'Auditorium in Rome.⁵⁹⁷ In fact, the relatively limited amount of ritualistic objects, enclosed in one cistern alone (?), is also in support of a smaller sanctuary. Villa dell'Auditorium is also interesting as a comparison in the way its function can be seen to change over time. As we have already discussed, there are indications that the possible courtyard complex on Vignale could have been in

⁵⁹¹ *San Giovenale* V:1, 12, 147–150, 153.

⁵⁹² However, the cellar O1 situated in the south-west part of the Borgo NW habitation was dated to Period 4 (4th–2nd centuries BC). See *San Giovenale* V:1, 149–150, 153, figs. 48, 121–122, 135; the cellar contained, for example, Etrusco-Campanian black-glaze ware dated to 250–150 BC and handle and bottom fragments of two storage *amphorae*, one (O1-6) of type Lamboglia-Dr. 1A (120–80 BC), *San Giovenale* V:2, 188–189, 201, pls. 12, 101, O1-3–4, O1-6–7. The bottom fragment (O1-7) is likely an Etruscan wine *amphora* of Py & Py 1985, type 3B or 4A dated to the second half of the 6th century BC, see Strandberg Olofsson 2002, 129, on Etruscan transport *amphorae* from the monumental area (Zone F) at Acquarossa, figs. 1, 3:3B, 4A, 10.

⁵⁹³ A well-known Archaic four-winged courtyard building within a large Archaic complex (see Wikander 2017, chapter II.3.1–8, fig. 44) at Poggio Civitate (Murlo) dated by Wikander 2017, 180, to 585/575–550/530 BC. However, MacIntosh Turfa & Steinmayer 2002, 5, table 2 mentioned a later date for the monumental building (61 × 61 m). On reconstructions, see Wikander 2017, 162, fig. 55; Tuck 2006, 130–135, fig. 13; Phillips 1993, 7–12, figs. 7–8; Edlund-Berry 1994. The courtyard building was constructed on the remains of an Orientalizing monumental building dated to 630–590/585 BC, Wikander 2017, 180. On the various dates of the buildings, see Wikander 2017, 179–180. On some Archaic courtyard buildings in Italy, see MacIntosh Turfa & Steinmayer 2002, table 2. For example, the well-known Etruscan monumental building in Zone F at Acquarossa dated from *c.* 625 BC or earlier to the middle of 6th century BC, its final destruction by a conflagration, Wikander & Wikander 1990, 189–205, figs. 1, 9; Strandberg Olofsson 1984, 15–21, nn. 3, 5, figs. 2–3; 1986, 81–89. The two building complexes have many similarities and have been discussed by several researchers, see Strandberg Olofsson 1984, 81–82; Klynne, A. 2006–2007, 44, n. 79 also referred to similarities between Villa Selvasecca and the Archaic Building Complex

at Poggio Civitate (Murlo), as well as other courtyard houses at Marzabotto, Regisvilla, and the Palatine and Villa Auditorium in Rome.

⁵⁹⁴ On the earthquake of 550/530 BC, see Blomé *et al.* 1996; Blomé & Nylander 2001.

⁵⁹⁵ Gleba 2009, 69–74, table 1: votive deposits with textile implements.

⁵⁹⁶ Holmgren 2004.

⁵⁹⁷ D'Alessio & Di Giuseppe 2005, 181–183, fig. 4 Period 2, 500–300 BC. In Period 3 (300–225 BC) of *La villa "dell'Acheloo"*, a small sanctuary called the Tempietto was built at the same place as the earlier small square cult building, 179–181, fig. 5. See also D'Alessio 2006, 143–158, figs. 72, 76–77, 80, 85 (Period 2 of the villa, 500–300 BC). D'Alessio & Di Giuseppe 2006, 211–224, figs. 125–126, 131–133.



Fig. 152. Showcase of Vignale artefacts from cisterns WI-1a, WI-6, and well WI-3, “Pozzo Pacchiarotti”, in the Museo Nazionale Etrusco Rocca Alborno in Viterbo (photograph by Richard Holmgren).

use over a longer period, although with functions transformed over time. The farmstead in Villa dell’Auditorium dates to the period between 550 BC down to AD 150, while its first residential villa phase dates to the period between 550/500–300 BC.⁵⁹⁸ Returning to Vignale, we can assume that during the period of tribulation directly after the earthquake, the inhabitants repaired crucial buildings and reused whatever was available, a situation that is similarly indicated elsewhere in San Giovenale. In order to keep the economy operating after the earthquake, was early wine production adopted at Vignale? While the Late Etruscan phase on Vignale shows an emphasis on viniculture through, for example, the presence of the vine cultivation trenches CT1–3, it is essential to consider the possibility of pre-earthquake-period wine production. In this matter we could once again return to the pre-earthquake findings of cistern WI-6. The ram’s head suggests a special kind of building, while the type of ceramics, in the form of a libation vessel, jugs, and drinking cups, additionally implies some kind of public place with an emphasis on wine. The pottery, mostly relatively complete, suggests that the material in question was buried at the same occasion, rather than being accumulated over a larger area and time.⁵⁹⁹

⁵⁹⁸ D’Alessio & Di Giuseppe 2005, 177–183, figs. 1–6, see also n. 744.

⁵⁹⁹ See feature description and catalogue in *Chapter 4*, and ‘Vignale and the wine—endnotes’ in *Chapter 5*.

Last, there might be some interesting similarities with the already mentioned findings around the Borgo area of San Giovenale. When comparing the Borgo and the adjacent *Spina* with the already discussed area on Vignale, we have seen that the overall phasing points to a focus on viniculture after the devastating earthquake. When exactly the various features such as cellars and *pestarole* are installed on the *Spina* is open for debate. A gradual focus on the production of wine is perhaps to be suggested, with the harvesting of wild vines and later of vines grown on stakes seen as a local development over perhaps 130–150 years. Perhaps the use of vine cultivation trenches on Vignale was then further bolstered through the Roman sphere of influence. It is obvious that wine gradually became an extremely important product, and the practise of viniculture was inherited from the early centuries of habitation in the area. It is likely that, along with animal husbandry, wine gradually became an even-more central commodity for the daily life in San Giovenale—a life that strove to escape the chaos of the late 6th century BC. Harvesting and processing grapes could continue in the fertile land and ravines that flourished, despite the large-scale devastation caused by the earthquake of 550/530 BC. This also means that the buildings, religious and/or profane, are mere the continuation of daily practices, of which wine was part. We can see the early, pre-earthquake, physical remains of wine through finds such as those made at the Bridge Complex, the Acropolis, and on Vignale, for example, those in cistern WI-6. In the latter case,

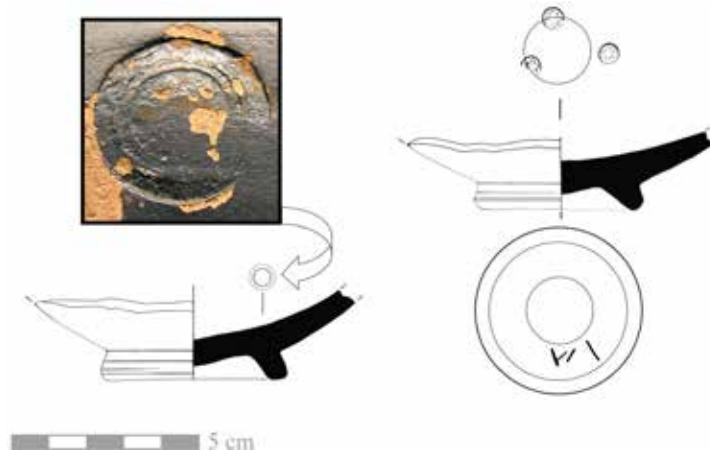


Fig. 153. Two Etruscan black-glaze bases with stamps. Left: impressed stamp with circular motif and outer decorated border (Cat. no. 133). Right: impressed stamps of ivy—possibly to be ascribed to *L'atelier des petites estampilles* (Cat. no. 132) (illustrations by R. Holmgren).

ritualistic objects, likely from a small or public shrine, were replaced by an agricultural wine-related emphasis. Building activities on Vignale were progressively associated with the vine cultivation trenches CT1–3. In line with the material remains on Vignale, these practices were initiated during the 5th century BC.

Turning to the Borgo complex (NW), its upper strata contained a huge amount of stone and building material, tiles, and broken pottery. These upper strata have been interpreted as the result of a clearance from the higher and nearby positioned *Spina*. This seems to have been the removal of material deriving from buildings in order to, as on Vignale, make space for an agricultural focus—as shown by the replacement of the demolished buildings with numerous wine-processing installations.⁶⁰⁰ In this area, an impasto terracotta protome ram's head was found (Fig. 118). Judging by this relatively shallow find (30 cm from the surface), it most likely derives from the same clearance of building material discussed above. As noted above, the head itself bears some similarities to the ram's head found in cistern WI-6 (Fig. 113). It has been suggested that the ram's head found in the Borgo settlement derived from a temple situated above—on the *Spina*. It is likely that the large amount of tiles and blocks/ashlars and an *ex voto* terracotta plaque, depicting a female face, originated from the same clean-up activities and as such, from the same context of a sacred building.⁶⁰¹ The situation resembles that of Vig-

nale, where the ram's head together with other sacred items and building(s) of the 6th century BC were removed and replaced with edifices connected to wine production. It is hard to elaborate further on these findings. Nevertheless, they are worth mentioning in order to enrich a possible connection between the different phases recorded on Vignale, as regards the importance of wine: earlier sanctuaries or public buildings where wine was part of the rituals celebrated there, the destruction of the earthquake of 550/530 BC, followed by a renewed focus on viticulture with greater economical returns.

CAT. NOS. 132–133: POTTERY—SURFACE FINDS MADE WEST OF THE POSSIBLE COURTYARD COMPLEX

Figs. 28, 153

Cat. no. 132. (Fig. 153). Bowl. One ring-base, interior decorated with three stamps of ivy leaves *c.* 0.5 cm in diam. Fine light brown-buff clay. Lustrous black glaze (gloss) inside, ring-base black glazed except for the edge of the ring-base. Diam. of base 4.6 cm. Lamboglia 1952, type 27. Two Etruscan letters, *ai*, inscribed under the base, perhaps short for *aiser*, probably meaning “to the gods” (inv. no. 2006-1).⁶⁰² The impressed stamps of ivy are from the *L'atelier des petites estampilles*, stamps 38–40, Morel 1969, figs. 5–6, 8:c; 1965, pls. 2:10, 13:184, 37:533, 38:10; Comella & Stefani 1990, M134, pl. 31, type 32163, dated to the first decade of the 3rd century BC; on black-glaze vessels from the Tiber, i.e., ivy leaf stamp 216 in pl. 60, Form 27, see Bernardini 1986. This workshop was located in Rome or nearby and has been dated between 305 and 265 BC, with a peak in production in 285 BC;⁶⁰³ see, for example, also Jehasse & Jehasse 1973, 181, 214, 254, 276,

⁶⁰⁰ *San Giovenale* V:1, 148–149; V:3.

⁶⁰¹ On terracotta objects, out of context, the ram's head and the female terracotta antefix/*ex voto*, see Berggren & Moretti 1960, 3–4, figs. 1–2; Hanell 1962, 310, fig. 282; *San Giovenale* V:1, 34, fig. 14; V:2, 191, cat. no. 26, see also n. 64. The question is whether the examples are architectural or sculptural terracottas. Pohl 2009, 191 discusses whether the terracotta ram's head, cat. no. Sp. 25, fig. 15, pl. 104, had functioned as a “gigantic fire-dog or spit-support”. See also the reference in *San Giovenale* V:2, n. 63 where the head might be interpreted as a zoomorphic sacred vessel.

⁶⁰² Pers. comm. by Giovanni Colonna. On *aisa/esia*, Colonna 2001. For the graffiti, see Maras 2009, 116–117, on *ais(er)*.

⁶⁰³ Bernardini 1986, 27–28.

on bowls with ivy or other leaf stamps, i.e., pl. 120:792, dated to 320–280 BC. See also Melucco Vaccaro 1970, 490–500, figs. 381:113, 382–383, str. A α on the piazza, dated to the first half of the 3rd century BC. Stamps of ivy leaves (Morel 1965, 2775c, 2783g) 285–20 BC are also found in a large cistern (*favissa*) near the Portonaccio temple at Veii, Ambrosini *et al.* 2009a, 284–286, n. 1405, fig. 61:114.

Cat. no. 133. (Fig. 153). Bowl. One ring-base with part of wall, with impressed stamp of circular motif and outer hatched decorated border, 0.6–1.0 cm in diam. Fine, light brown-buff clay. Lustrous black glaze inside, ring-base black glazed except for the edge of the base. Diam. of base 5.2 cm; pres. H 2.5 cm. Dated to the first decade of the 3rd century BC (inv. no. 2006-2). Cf. Morel form 27 = Morel 1965, 2637b1, pl. 51. The bowl may belong to the *L'atelier des petites estampilles*, though this stamp has not been registered. The most used form in the workshop was Morel form 27 a–c, with a size of base between 4.8–5.8 cm and a rim diam. between 13.4–15.0 cm; see Morel 1969, 63–65. Other forms used in the workshop were cup form 24, *oinochoe* form 58, *pateres* form 36, *kylix* form 42B, Morel 1969, 82–89. The form is dated between 310–240 BC; see Morel 1969, 104–105, 114, fig. 33.

Stone Platform inside Quarry

In the autumn of 1959 del Chiaro described the unearthing of a large “wall”, made of reused tufa blocks and found just below the surface within a few of the excavation trenches on the summit of Vignale. When clearing the area, further tufa blocks of different sizes were revealed in two to three courses, placed regularly inside a cut in the bedrock (*fossa*) with a total height of c. 1.10 m. In the final days of the 1959 excavations, del Chiaro wrote in his notebook that this “wall” had developed into a large platform—thus interpreting it as a platform or a substructure of a possible monumental building. He further stated that the excavated remains were a “partly bedrock and partly built-up foundation” and also noticed some regular oblique grooves in the blocks’ surfaces. This structure needed to be excavated further according to del Chiaro—a work which Brown continued in 1960.⁶⁰⁴ Brown also noticed the regular oblique grooves on the exposed tufa blocks as well as on the surrounding bedrock. It was suggested that these must have been post-antique since they ran over the Stone Platform, the bedrock, and the edges of the cultivation trenches CT1–3—thus the construction was interpreted as a platform used in a vineyard, later incised with modern plough marks.⁶⁰⁵

⁶⁰⁴ MdC notebook 1959, 45–48, 52–59, 63.

⁶⁰⁵ FB notebook 1960, 29–34.

STONE PLATFORM

Figs. 27, 74–75, 126, 154–155, 157, 159

Feature: platform-like structure of reused ashlar blocks positioned inside a bedrock cutting

Interpretation: older quarry filled with reused ashlar blocks

Preliminary date of first construction: late 6th century BC

Preliminary date of use: late 6th–late 4th centuries BC

Preliminary dating of building material: early 6th century BC or earlier

Area: (TS2), Squares L53 and M52/M53 (Fig. 75)

Geographical location: adjacent to Cultivation Trenches CT1–3, inside Quarry

Position: N42°13'23.03" E12°00'16.04" (centre position ± 5 m)

Height ASL (m): 172

Measurements (m): c. L 17, H 0.5–1.5, W 5–8 (entire Stone Platform, viz. two separate sections of the platform)

Finds:-



Fig. 154. Stone Platform (feature map by VAP).

According to the description by Brown, the feature itself consists of two separate bodies of neatly fitted and packed ashlar blocks, of which both units comprise the filling of a pre-existing deep bedrock cutting (see Quarry below).⁶⁰⁶ The structure can be found in Squares L53 and M52/M53 (Figs. 75, 155). The feature as such creates a north–south levelled strip of 14.28 m in length, with a width of about 4.50 m. Many stones showed rabbeted corners and other signs of previous usage. These were placed without a regular bond or overall pattern, and roughly parallel or perpendicular to the sides of the large cutting they fill.⁶⁰⁷ Each stone differs in size, despite their seemingly same origin, with an average

⁶⁰⁶ FB notebook 1960, 27, plan by F. Brown, photographs by B. Blomé (Figs. 75, 78, 155), drawings in MdC notebook 1959.

⁶⁰⁷ Several blocks seem to have been cut in an L-shaped form. Similarly cut tufa blocks were found in the walls of a few buildings in the Borgo NW slope, probably a feature designed to make the constructions



Fig. 155. The enigmatic Stone Platform excavated on Vignale in 1959, looking north-west (photograph by C.W. Welin, courtesy of SIR).

width of 0.40–0.50 m and a length of around 0.80 m, with the longest block measuring 1.6 m. The number of courses vary between one and three, depending on the variations in depth of the bedrock cut. The function of the Stone Platform or substructure is however unknown, while the blocks themselves might constitute reused material from a substantial building, likely destroyed by the earthquake of 550/530 BC.

QUARRY

Figs. 27, 74–75, 126, 155–157, 159–160, 166, Table 12, Graph 4

Feature: bedrock cuttings

Interpretation: quarry

Preliminary date of first construction: 7th century BC or earlier (?)

Preliminary date of use: 7th century BC (or earlier) to the 6th century BC (?)

Preliminary dating of building material: -

Area: (TS2) Squares L53 and M2/M53 (Fig. 75)

Geographical location: adjacent to cultivation trenches CT1–3, containing the Stone Platform

Position: N42°13'23.03" E12°00'16.04" (centre position ±5 m)

Height ASL (m): 172

Measurements (m): L c. 15 × 5 where the cutting depth is more than 1.20

Finds: pottery, tiles

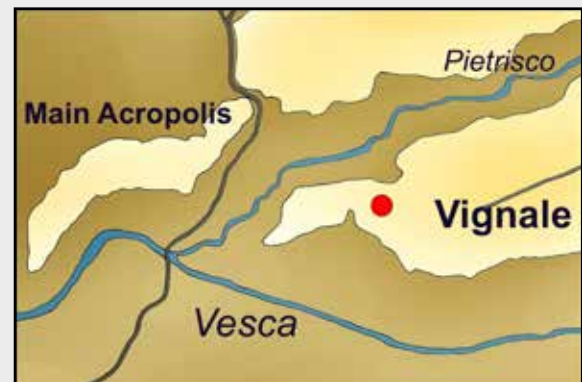


Fig. 156. Quarry (feature map by VAP).

better suited to withstand earthquakes, see Blomé *et al.* 1996; Blomé & Nylander 2001, and for the Bridge Complex, Backe Forsberg 2005.

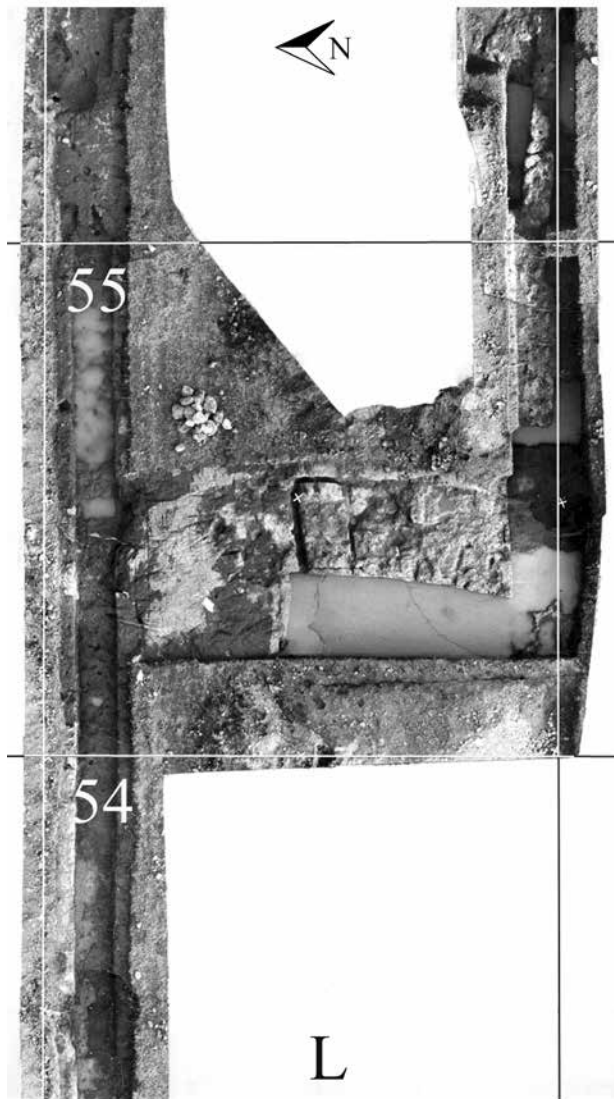


Fig. 157. Photograph plan of part of the quarrying area, here with focus on Square L55 and the unfinished tufa block cuttings in situ (photograph by S. Hallgren and processing by VAP, courtesy of SIR).

The Quarry area had a size of approximately 15×5 m (the area visible through excavation) and was utilized for the extraction of tufa blocks (Squares L53 and M52/M53)—and the “empty”/negative areas created by this extraction were later used as cellars. It is highly probable that the Quarry was used for stone extraction during the 7th and 6th centuries BC, before the cutting of the cultivation trenches CT1–3 in the same area (Fig. 75). The Quarry fill in L53 and M52/M53, that is from the top of the Stone Platform down to its deepest part, had pockets of earth and tufa chips, sparsely intermixed with

fragments of tiles and potsherds (Level II, 0.25–1.50 m).⁶⁰⁸ The Quarry with its platform and fill was later levelled with earth for the purpose of cultivation (Level I). It is obvious that the Quarry containing the Platform made part of a larger quarrying area. For example, clear traces of some unfinished ashlar block cuttings, left *in situ*, can still be seen in the drawn plan, Square L55, and also in the photograph plan of the area (Figs. 75, 157).

DISCUSSION AND PARALLELS—STONE PLATFORM INSIDE QUARRY

During trial excavations on Vignale in the 1950s, a peculiar and quite prominent feature was documented. The excavators, del Chiaro and Brown, at the time described the feature as a platform of some kind. Situated in the area of the highest point of the Vignale ridge, early speculations discussed the Stone Platform as the remains of a monumental building, perhaps a temple. The remains are so striking in the early photographic documentation that it is easy to see the appeal of this interpretation. In fact, the Stone Platform was one of the archaeological features that piqued the interest of present authors into exploring still-hidden features that could shed light on the ancient use of the Vignale plateau. With its labour-intensive method of stacking blocks, the Stone Platform very much resembles the platform architecture found in the Portonaccio temple in Veii and, albeit a more modest version, the remnants of Ara della Regina in Tarquinia (Fig. 158).⁶⁰⁹ Krister Hanell and Pohl discussed the stones as being a platform for agricultural work adjacent to the cultivation trenches CT1–3.⁶¹⁰ In this context the feature is compared to the platform on the Borgo in San Giovenale and as such dated to Period 2⁶¹¹—that is, after the earthquake of the late 6th century BC.⁶¹² However, since the stones within the Vignale Stone Platform are reused, a foundation for a monumental building of some sort is perhaps less likely. What is plausible though, if relating the Stone Platform to a shrine, is the assumption that a building with a religious purpose could have been ritually buried. This could have been a consequence both of earthquake damage or a Late Etruscan shift of religious practices. The ceramic material recovered from the area very much supports the idea of a religious precinct of some sort.

In the excavation diary Brown gives a preliminary chronological phasing of the Stone Platform and associated rock cuttings. He suggests the following chain of events:

⁶⁰⁸ FB notebook 1960, 29–30.

⁶⁰⁹ Edlund-Berry 1994.

⁶¹⁰ Hanell 1962, 310, fig. 219, plough marks; Pohl 1985.

⁶¹¹ *San Giovenale* V:1, 12, chronological concordances of periods at San Giovenale, Period 2 (575 to c. 530 BC).

⁶¹² Blomé *et al.* 1996; *San Giovenale* V:1, 152.



Fig. 158. Remains of Ara della Regina in Tarquinia, with plough marks scored in the upper surface of the blocks of the altar, looking north (photograph by R. Holmgren).

“... the crest of the Vignale was first used as a quarry. The quarry cuttings were then filled in, provided with wells and cesspools and later covered by habitations. In the next stage the tufa-walled dwellings were raised [built], the wells, cisterns and cesspools filled and the *Fosse* cut in straight lines across the site presumably for planting. A section of the old quarry cuttings was carefully filled in with blocks from dismantled dwellings to form the platform, presumably as the loading platform of the garden or vineyard. In a final stage, after the abandonment of the plantation the ridge was ploughed diagonally crosswise”.⁶¹³

The interpretation provided by Brown is most satisfactory and, one must say, impressive considering that it was written during the early stage of investigations. We can now try to piece together the phasing of these occurrences and add some further considerations in light of successive studies made in the San Giovenale area.

The interpretation that the Quarry was the first Etruscan activity on Vignale is very plausible: all other activities around are subsequent, and a quarry would not have been placed in the midst of a habitation. The Quarry's existence shows that the need for tufa blocks as building material was crucial. Brown goes on to suggest that the Quarry was filled in and that the area saw activities. Although this seems to be the case, one can also argue that there really was no need to

fill the empty space when the area was used in the subsequent period, as seen in the remains of wells, cisterns, and houses. One could instead suggest that the Quarry testifies to an initial period of continuous building activities. As such, the tufa blocks deriving from the Quarry might have been used for various common ventures in the vicinity, but they could also have been used for buildings constructed next to or inside the earlier Quarry (or both), where the empty spaces created by the extraction of the tufa came to serve as cellars. This might explain the curious and somewhat narrowly defined shape of the actual cuttings. If this is the case we also have to accept the idea that these buildings did not necessarily need to be outside any area of habitation.

In the next stage, and after the filling of the Quarry, Brown writes that tufa-walled dwellings were built on top of the filled Quarry. We must assume this to be correct, even though the tufa-walled houses could be the direct consequence of the Quarry. It is not clear whether Brown assumes that the period between the first settlement and a tufa-built settlement should be separated. But since the idea also implies that the cisterns and the cesspools in the area were filled up, it means that some period of time must have passed. One could suggest that this second change in habitation patterns is the result of the earthquake of 550/530 BC. The first excavators had no knowledge of this earthquake.

We can assume that the first houses constructed on this site used the Quarry as cellars and that they served their function, also using the cisterns and the cesspool (WI-5), (Square M58) up to the earthquake. The latter damaged the site in such a way that many water installations went out of use and were filled

⁶¹³ FB notebook 1960, 36–37.

up—and badly damaged buildings with limited use were left in position. We must assume this since the pottery material in the area indicates that the habitation remained in place for some time, before the area was ultimately used for cultivation purposes only. When this happened, we must furthermore assume that the spaces in the bedrock (Quarry/cellars) were not filled in. Any endeavour to have the hollowed bedrock emptied in order to fill it with the tufa blocks is perhaps less likely. When the area was turned into a Late Etruscan cultivation area, the old buildings were dismantled and simply buried in their own cellars or cisterns. This would have been labour effective, and such a chain of events would give us an answer to why the holes needed to be filled at this point. It would also give us a satisfying answer as to why the stones were not reused elsewhere, such as in extensive defensive constructions, since this was a time of decline.

One of the fundamental questions raised when dealing with the Stone Platform is the chronological inquiry regarding the quarry-like trench in the bedrock that encompasses the ashlar blocks. The first assumption that arises is that the Quarry is likely filled with stones from the nearby plateau, for labour-saving reasons. This in turn suggests that it is probable that these relatively carefully hewn blocks derive from a period of monumental building on Vignale, and secondly, that these were not needed for any subsequent building activities, but rather were used to level the bedrock itself to enable cultivation. However, we know that the Etruscans generally reused blocks for other building activities and to assume that the perfectly shaped platform blocks were buried for this purpose is not the most obvious explanation. The bulk of the ashlars were clearly not originally hewn for the purpose of filling the Quarry, an aspect that was also noted by the excavators.

As already noted above, our interpretation of the circumstances is that the filling of the Quarry is in fact the last modification that was performed before abandoning any Etruscan settlement activity in the area. This would explain why the blocks were not reused for larger building activities. We see a sudden change in habitation patterns and the use of land during the Roman period. The emphasis on dispersed villas and land use for cultivation did not require all the available building material. Where cultivation was concerned, the Vignale plateau was probably better worked without obstacles. The fastest and most labour-saving way of transforming the tableland to serve cultivation was in fact to dismantle all unnecessary structures and bury the material from still-standing houses into their own cellars.

There is ample evidence to suggest that the quarries were reused first as cellars. The phenomenon should not be seen as a random solution for reusing quarries within the settlement, but rather an elaborate concept equivalent to the manufacture of the ditches around tumulus tombs and settlement moats during the Etruscan period. These ditches and moats

had a duality: they not only served their primary purpose of forming a void-like barrier, but their excavation also allowed for the extraction of the building material required. This also fits the theory of the first excavators, that the post-Quarry activities involved building activities above and around the Quarry. These activities resulted in both houses with the previous Quarry forming cellars and newly constructed water installations such as wells and cisterns. Later, the latter water installations were clearly filled with debris from the clean-up following the 550/530 BC earthquake. Therefore a possible interpretation of the Quarry with its filling blocks potentially comprises three major phases: 1) a quarry serving the construction of the pre-earthquake settlement, 2) post-earthquake activities with limited use of still-standing structures, and 3) dismantling activities to allow a new type of land usage.

The entire surface of the platform structure was scored with regular and parallel plough marks. These run north-east to south-west and are approximately 0.60–0.70 m apart (*Fig. 159*, occurring predominately in Square L53/M53). According to Brown the plough marks are post-antique since they cut across both the Stone Platform and the cultivation trenches CT1–3, as well as the bare bedrock. While this is true, it is impossible to say how long a period of time passed between the abandonment of the various features that Brown mentions and the creation of the plough marks. These kinds of marks are well attested at archaeological sites. They are often considered as not resulting from any ancient activities, and are more usually interpreted as modern—especially due to their regularity and the profound force that seems to have been applied to make the actual indentations.⁶¹⁴ Since the parallel plough marks appear to have derived from a single event only, and one which could be unmechanized (the space between the impressions is not exactly uniform), one might ask the bold question if this could be an indication of a unique occasion associated with a particular incident, perhaps even in antiquity and not post *c.* 1950? From the Roman period, there is ample textual evidence that associates ploughing with the founding of cities. We know, for example, of the founding ceremony and the cutting of the *sulcus primigenius*, the initial furrow ploughed to define the borders or boundaries for construction activities.⁶¹⁵ There was a Roman belief that as a town was constituted ritually with a plough, it should also be destroyed by the same means.⁶¹⁶ As a consequence we know of

⁶¹⁴ Santillo Frizell 2007, 6; Boëthius 1962, figs. 12–13 on ploughing with ards and working the soil probably with a single-bladed hoe. See also Fries 1962, 247–248, figs. 217, 219; Fries & Mark 1962, figs. 219, 323; Wetter 1962, fig. 154 a modern man ploughing with oxen at Barbarano Romano. On ritual ploughing, see also White 1970, 174–178, pls. 20, 21:5.

⁶¹⁵ Rykwert 1976, 65; Edlund-Berry 1994.

⁶¹⁶ Verg. *Aen.* 4.2.12; Edlund-Berry 1994 on the case of Murlo.

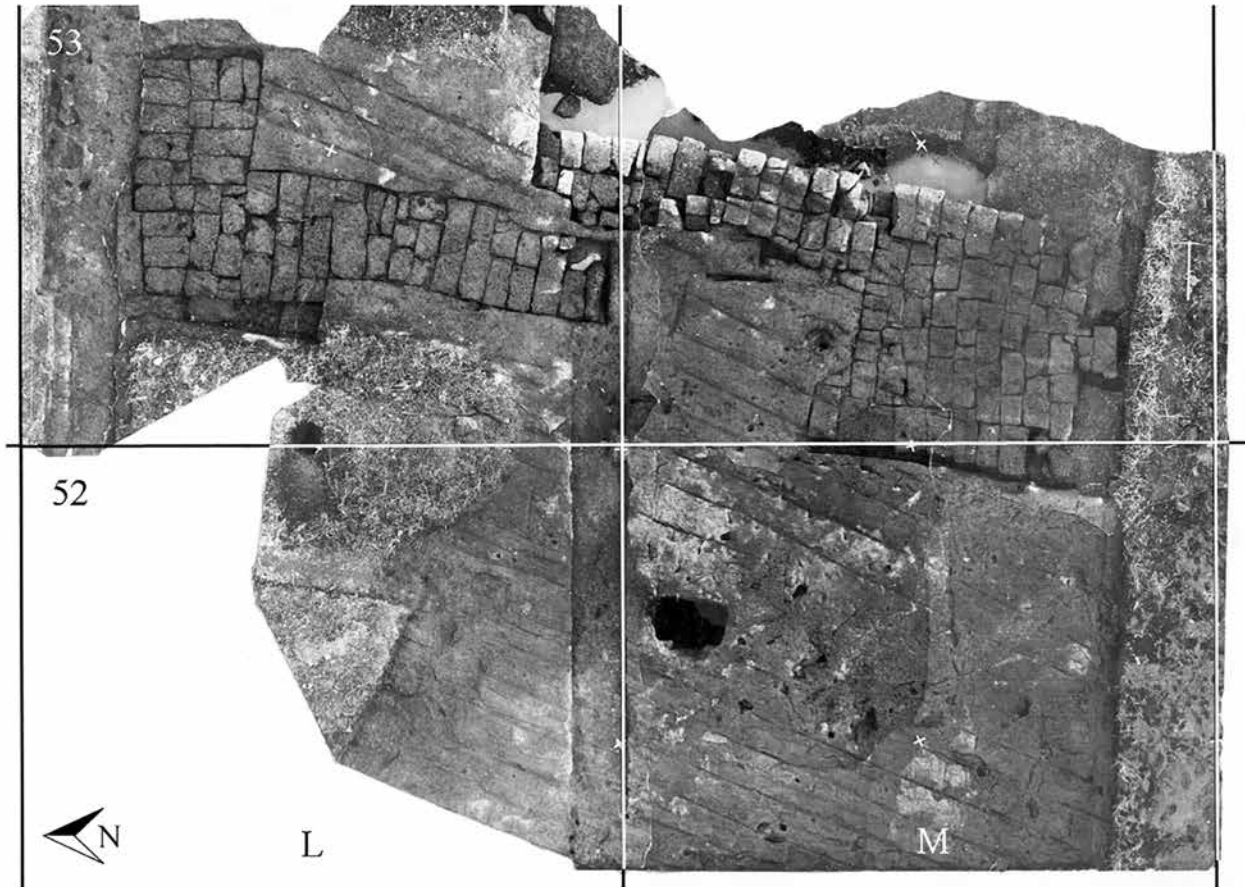


Fig. 159. Photograph plan of Stone Platform/Quarry area, here with focus on Squares L53/M53–M52. Also visible in M52 is the mouth of cistern WI-2 (photograph by S. Hallgren and processing by VAP, courtesy of SIR).

several Roman examples where the ploughing of walls played an important ritual function in eliminating the legal existence of an urban area.⁶¹⁷ Even though traces of cultivation, both ancient and modern, are well documented through the existence of plough marks, it might be important to consider the particulars above in relation to the marks preserved on Vignale.

One important question that needs to be considered regards the tools applied, and if such grooves could have been made with ploughs during the latter half of the 1st millennium BC. In the context of rites of destruction, the use of great force was called for, and as a consequence, the plough marks thus created may resemble those made by modern tools. To the best of the authors' knowledge, no convincing physical evidence exists anywhere of Roman ritual destruction by ploughing.

There are, however, other types of plough marks in the near vicinity of the Stone Platform on Vignale. These are

multidirectional plough marks from an ard (*aratrum*) which in this area could derive from any phase between the middle of the 4th century BC to the end of the medieval period. They are located adjacent to the cultivation trenches CT1–3, inside the Quarry.⁶¹⁸ These types of plough marks should be considered contemporary with the use of the cultivation trenches, due to their precise location in between the latter, without straying beyond these limits. Obviously, cultivation was practised in between the viticulture trenches while these were in use (Fig. 157, Square L55).⁶¹⁹

Similar plough marks are to be found over the house foundations of Houses I–III in Area F East on the Acropolis, and

⁶¹⁸ See also clear plough marks in the foundation blocks of the temple B at San'Antonio (Caere), Maggiani & Rizzo 2001, 143, fig. 1.

⁶¹⁹ Egidi 2009, 497–517, esp. p. 504 with an aerial view showing cultivation trenches with a distance of approx. 10 m in between. This large spacing between the trenches may indicate a mixed cultivation, for example, cereals and beans between vine trenches, see Witcher 2016, 467–468. The spacing between the vine trenches at Vignale is 8 m, see Table 2.

⁶¹⁷ Rykwert 1976, 70–71; Edlund-Berry 2006, 116–117, fig. VII.2.



Fig. 160. Plough marks covering the house foundations of House II in Area F on the Acropolis in San Giovenale, looking north (photograph by Y. Backe Forsberg).

further afield over the altar in the Ara della Regina complex in Tarquinia (Figs. 158, 160). A certain extent of time was obviously needed between the abandonment of such building activities and the accumulation of enough soil to make ploughing worthwhile.⁶²⁰ Therefore, we can assume that any such traces of ploughing belong to the later periods in antiquity, however not before the establishment of the cultivation trenches.

CAT. NOS. 134–174: SELECTED FINDS FROM STONE PLATFORM AND QUARRY

Level II, Squares M53/M54, L54

Fig. 161, Table 12

*Transitional impasto*⁶²¹

Cat. no. 134. (Fig. 161) Jar. Ovoid body, high neck, rim fragment with slightly everted rim and rounded lip. Handmade, greyish-buff clay, slightly micaceous; large white grits; greyish slip outside and inside rim. Est. diam. 22.5 cm; pres. H 8.8 cm; see *San Giovenale* II:4, 72, pl. 18:389. Dated from the end of the 8th to the beginning of the 7th centuries BC (inv. no. 59/60-229).

⁶²⁰ On soil erosion, and air-borne dust accumulation on the ground surface and along the ravines, see Fries 1962, 247–248.

⁶²¹ See, for example, *San Giovenale* II:4, 68 for the definition of transitional impasto.

Cat. no. 135. (Fig. 161). Cup. High column-base; diam. 5 cm; handmade (inv. no. 59/60-231).

Etrusco-Corinthian ware

Cat. no. 136. (Fig. 161). Plate. Rim fragment with applied small rope-handle. Thickened, rather straight rim with rounded top. Fine buff clay; very worn, no paint left. Est. diam. 21 cm handles excluded; 24 cm handles included; pres. H 2 cm. Dated between the second half of the 7th century to 540/539 BC, i.e., before the earthquake of 550/530 BC. (inv. no. 59/60-219b). Cf. cistern WI-2, *Cat. no. 7*; Bonghi Jovino & Chiesa 2005, pls. 130:11, 132:16, 135:7; Chiaramonte Treré 1997, pls. 62, 64, 67–68; *San Giovenale* I:7, fig. 14:36; V:2, 197–198, pls. 3–6. See also *Cat. nos. 92, 137*.

Cat. no. 137. (Fig. 161). Plate. Fragment of ring-base; very worn, no paint left. Diam. of base 9 cm; pres. H 2.5 cm (inv. no. 59/60-221). Same fabric as *Cat. no. 7*: the ring-base probably belonged to that plate, found in cistern WI-2; see also *Cat. nos. 92, 136* and especially *San Giovenale* I:8, figs. 19:60-61, 22:19, 34:127. Dated to the beginning of the 6th century BC.

Red-slip ware

Cat. no. 138. (Fig. 161). *Pyxis* jar/*stamnos*. Rim and body fragment. Very short neck, globular body and thickened rounded lip. Reddish-brown clay, dark grey core; micaceous; red slip outside. Est. diam. 26 cm; pres. H 4.7 cm (inv. no. 59/60-232). Cf. *San Giovenale* V:2, 20–21, pl. 43 (Period 2 str., last third of the 6th–last quarter of the 5th centuries BC).

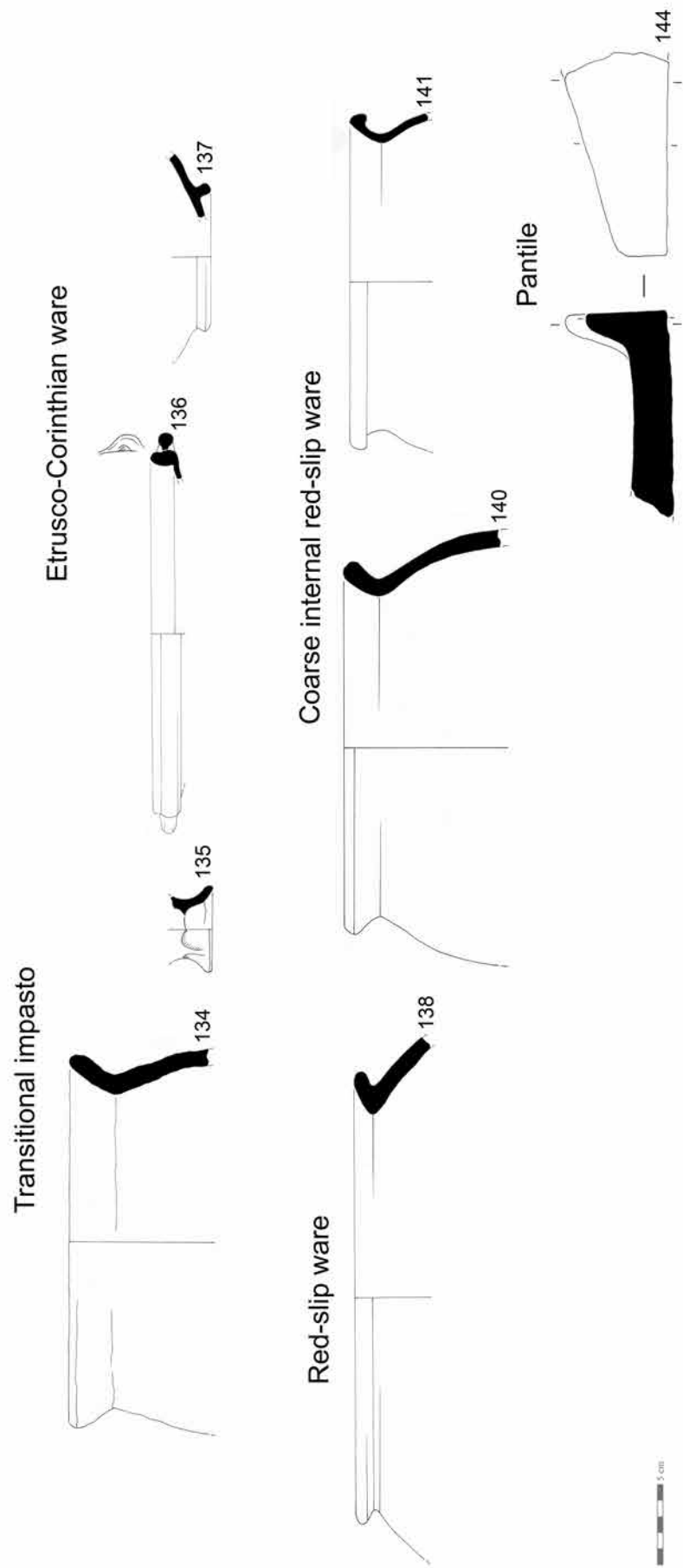


Fig. 161. *Stone Platform and Quarry. Selected finds from Level II, Squares M53/M54 (Cat. nos. 134–138, 140–141, 144) (drawings by R. Holmgren).*

Coarse internal red-slip ware

Cat. no. 139. Jar. Ovoid-globular, short neck, thickened slightly rounded lip. Brown clay with mica and white grits; reddish-brown slip. Est. diam. 16.5 cm; pres. H 7.5 cm (inv. no. 59/60-237). Cf. *San Giovenale* V:2, pl. 57 (Period 1 str., 650–530 BC), pl. 58:A:d-2-4-332 (Period 2 str. 530/500–430 BC).

Cat. no. 140. (Fig. 161). Jar. Globular. Rim fragment, refired almost vitrified; diam. 24 cm (inv. no. 59/60-234).

Cat. no. 141. (Fig. 161). Jar. Ovoid. Rim and body fragment, thin wall. Short neck, thickened triangular undercut lip; brown clay slightly micaceous with black and white grits; greyish-brown slipped exterior and interior. Est. diam. 19 cm, pres. H 4.5 cm (inv. no. 59/60-235). See *San Giovenale* V:2, pl. 58:R-269, AP-41, pl. 60:P-1-6 (Period 2 str., c. 530/500–430 BC).

Cat. no. 142. Large bowl/basin. T-shaped rim; diam. 27.5 cm (inv. no. 59/60-235); see *San Giovenale* V:2, 216, pls. 63–64, dated to building Period 2, c. 530/500–430 BC.

Tiles

Cat. no. 143. Pantile. Part of border; square form of raised edge, Wikander 1981, type 1 or 2. Buff clay with grey core, slightly micaceous with black and white grits, sandy to the touch. Red slip, very worn. L 5.5 cm; H of border 4 cm; th. of border 3.5 cm; th. of plate 2 cm. See Backe Forsberg 2005, fig. 94a:22–23; *San Giovenale* V:2, pl. 107:a:d-2-4-692; Wikander 1981, 71, 76, fig. 2:16-19. Dated to the middle of the 6th century BC or slightly later (inv. no. 59/60-251a).

Cat. no. 144. (Fig. 161). Pantile. Lower right raised border and flange; thin plate and thin border; reddish-yellow slip, dark reddish clay with white inclusions, slight micaceous, worn. L 12.5 cm; th. of plate 2.5 cm; H 5 cm; th. of border 1–2 cm (inv. no. 59/60-251a).

Cat. no. 145. Pantile. Lower left raised side border, square border, bevelled corner; thin plate; reddish clay, with white large inclusions and mica; dark brown slip. L 10.5 cm; th. of plate 1.5 cm; H 4.4 cm; th. of border 2.3 cm (inv. no. 59/60-253).

Level II, Squares M53/M54, L52 Quarry fill

Fig. 162, Table 12

Etrusco-Corinthian ware

Cat. no. 146. (Fig. 162). Stemmed goblet. Rim fragment with wide protruding rim, rounded lip and body. Stem missing; very worn, no traces of paint. Diam. of rim 12.5 cm; pres. H 3 cm (inv. no. 60-142). Cf. *San Giovenale* V:2, pl. 3, WA-20-27. Cf. *San Giovenale* I:7, fig. 6:17; I:8, fig. 33:98–101; V:2, pl. 3 WA-21. Dated to the beginning of the 6th century BC.

Bucchero

Cat. no. 147. (Fig. 162). Plate/bowl. Rim fragment. Est. diam. 28 cm; pres. H 2.3 cm. Ordinary bucchero, greyish-black clay. See Bonghi Jovino 2001a, 267, *Tipo* I 2c 13, pl. 107:12/4, n. 479. This form is rare in bucchero, but occurs very frequently in Etrusco-Corinthian ware (see *Cat. no. 136*). For bucchero comparisons from Tarquinia see Locatelli 2001 and from Vulci in Rizzo 1990, 108, nos. 32–33, fig. 207:u–v. Dated to the beginning of the 6th century BC (inv. no. 60-144).

Red slip

Cat. no. 148. (Fig. 162). Jar. Ovoid-globular. Rim fragment, short out-turned rim with angular lip. Rough surface between neck and body. Est. diam. 21.5 cm; pres. H 8.5 cm (inv. no. 60-151); *San Giovenale* II:4, pl. 42:Ad:2-4-269 (Period 2 str., 550/530–430 BC).

Cat. no. 149. (Fig. 162). Large bowl. Conical ring-base with slightly concave bottom; body and base fragment. On base three impressed dimples. Diam. of base 10 cm; pres. H 8 cm (inv. no. 60-168).

Cat. no. 150. (Fig. 162). *Pyxis* jar? Three joining rim fragments; square flat inturned rim, slightly carinated body. Est. diam. 29.5 cm; pres. H 2.8 cm (inv. no. 60-167).

Internal red-slip

Cat. no. 151. (Fig. 162). Jar. Carinated. Rim fragment with T-shaped rim. Short neck. Below carination the body had a rough surface. Est. diam. 28 cm; pres. H 6 cm (inv. no. 60-167). On rough surface below carination, see *Cat. no. 154*; see also *San Giovenale* V:2, pls. 52, 67–68 (internally burnished red slip, Period 1 str., 650–530 BC).

Cat. no. 152. (Fig. 162). Jar/jug. Ovoid. Column-shaped base with slightly concave bottom. Diam. of base 6 cm; pres. H 2.5 cm (inv. no. 60-185). See *San Giovenale* V:2, pl. 42:B:a-2-1, pl. 43:A:b-1-31.

Cat. no. 153a. (Fig. 162). *Dolium*. Ovoid-globular. Two joining rim fragments with everted rim, angular lip, and short neck. A large oblique impressed cross exterior on rim (4.5 × 2 cm). Est. diam. of rim 42 cm; pres. H 11.5 cm (inv. no. 60-175). On shape, see *San Giovenale* V:2, pl. 93, B:c-8-11-16; *Caere* 3:2, fig. 506, Kb 1.1, p. 285. On impressed cross mark on rim, see Colonna & Backe Forsberg 1999, 81, fig. 10, no. 48. On incised marks on rims of various sizes of jars in the sanctuary at Pian Roseto, see Murray Threipland & Torelli 1970, 82, 84, figs. 27–28, 31–32; similar forms of jars (type C) are found at Sant'Omobono, see Colonna 1963–1964, 18, fig. 9. Dated to the middle of the 6th–early 5th centuries BC.

Metal

Cat. no. 153b. One thin bronze fragment (inv. no. 60-194).

Wall plaster

Cat. no. 153c. One small piece of wall plaster (inv. no. 60-193).

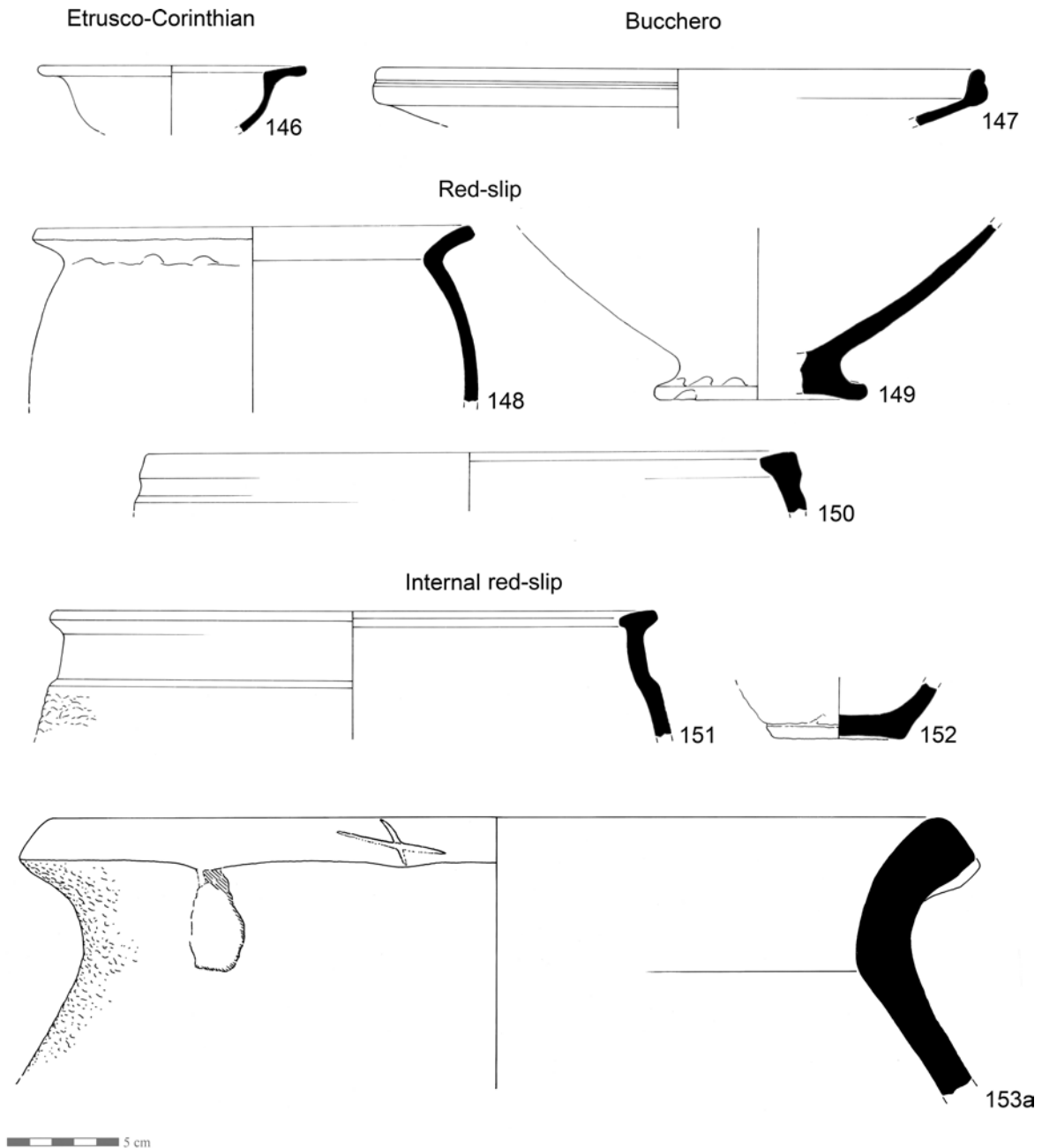


Fig. 162. Stone Platform and Quarry. Selected finds from Level II, Squares M53/M54 in the Quarry fill (Cat. nos. 146–153a) (drawings by R. Holmgren).

Level I, Squares L55/M55, fill of rock cuttings

Figs. 163–164, Table 12

Brown impasto

Cat. no. 154. (Fig. 163). Jar. Slightly carinated. Rim fragment with short everted angular rim, very coarse surface below the short neck. Est. diam. 18 cm; pres. H 5.4 cm (inv. no. 60-68a).

See the coarse surface treatment of the body in internally bur-nished red-slip jars in *San Giovenale* V:2, pl. 67; a similar sur-face occurs on jars found in Backe Forsberg 2005, fig. 77:3, not carinated. Dated to the end of the 7th century BC.

Cat. no. 155. Cancelled.

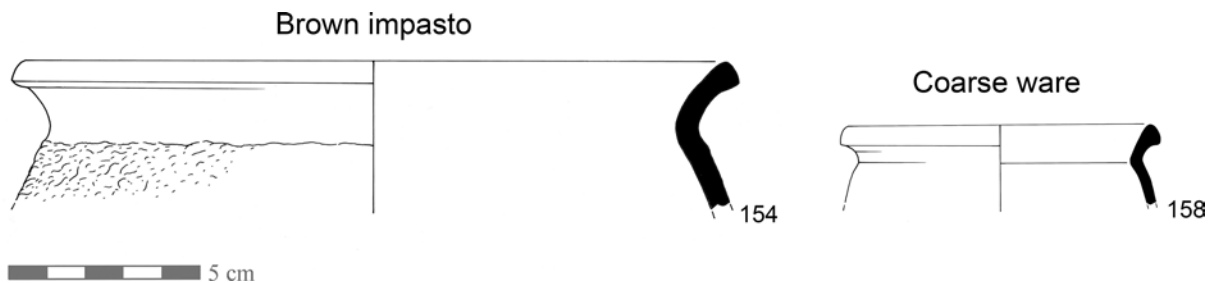


Fig. 163. Stone Platform and Quarry. Selected pottery from Level I, Square L55, fill of rock cuttings (Cat. nos. 154, 158) (drawings by R. Holmgren).



Fig. 164. Stone Platform and Quarry. Lug foot/handle of basin with four crosswise-placed lug feet (Cat. no. 157) from Level I, Square L55 (photograph by Y. Backe Forsberg, courtesy of SIR).

Coarse ware

Cat. no. 156. Jar. Slightly everted collar/rim. Diam. 14 cm (inv. no. 60-71).

Cat. no. 157. (Fig. 164). Basin with four crosswise-placed lug feet. Large, rather flat foot with slightly rounded edge. Reddish-brown clay; very micaceous white and black inclusions. Brownish grey under foot (which may indicate that the foot should be interpreted as a handle). W 11 cm; L 17.5 cm; pres. H 10 cm; th. 5 cm (inv. no. 60-60). Differs from other basins from San Giovenale; however, this type did occur frequently in the find material at the habitation quarter on Borgo NW, *San Giovenale* V:2, 216, pls. 46, 56, 66, 71, 89, 91; one early example of a handmade basin was found in the semi-subterranean building in Area B on the Acropolis, *San Giovenale* II:4, pl. 24. The basin is similar to Colonna's S. Omobono type C, Colonna 1963–1964, 24–28, figs. 13–15, and Zifferero's types 3–5, Zifferero 2000, 155, fig. 16.6. See also the basin with four crosswise-placed lug feet of Zifferero 2004, type 3 in cistern WI-6 above (Cat. no. 48) and the basins in Backe Forsberg 2005, fig. 76: 12–16; Bonghi Jovino 2001a, pl. 73:202/5. Dated to the 6th century BC.

Cat. no. 158. (Fig. 163). Small jar. Everted angular rim; short neck; diam. 8 cm (inv. no. 60-65).

Cat. no. 159. Terracotta spool (?). One end missing, pres. H 5.5 cm; diam. 2.5 cm. Dated to 7th–6th centuries BC (inv. no. 60-59).

Level II, Square M55, rock cuttings

Fig. 165, Table 12

Buccheroïd impasto

Cat. no. 160. (Fig. 165). Faliscanizing *amphoriskos*. Upper part of handle; pres. L of top of handle 3 cm (inv. no. 60-125). See Backe Forsberg 2005, 64–65, n. 330, figs. 77:10–11, 14–20, c. 30 fragments representing a minimum number of 17 vessels; *San Giovenale* V:2, 207–208, pl. 20; IV:1, pl. 11:47a, 48d, 49c; I:8, figs. 24:11, 17:12; I:5, pl. 47:7; I:6, figs. 4:14, 8:5, 14; I:7, fig. 13:37; Fuglesang 1997–1998, fig. 8:21; Backe Forsberg 2005, fig. 72; *San Giovenale* II:4, 62–63, fig. 31, pl. 5. Hemphill & Barbieri 2004, tomb CC 69, fig. 4:6. Dated from early 7th to beginning of the 6th centuries BC.

Italo-Geometric

Cat. no. 161. (Fig. 165). Plate. Four rim fragments with flat wide protruding rim, worn. No traces of paint. Est. diam. 20.5 cm; pres. H 2.5 cm (inv. no. 60-126). See Backe Forsberg 2005, pl. 78:4–6; *San Giovenale* V:2, 195, pl. 2:Sp.-1, K:a 2-3. Dated to the end of the 8th or beginning of the 7th century BC.

Level II, Square M56, rock cuttings

Fig. 166, Table 12

Brown impasto

Cat. no. 162. Carinated bowl. Rim fragment with upwards tapering rim, high neck. Brown clay, greyish-brown burnished slip. Est. diam. 16.4 cm; pres. H 5 cm. Cf. *San Giove-*

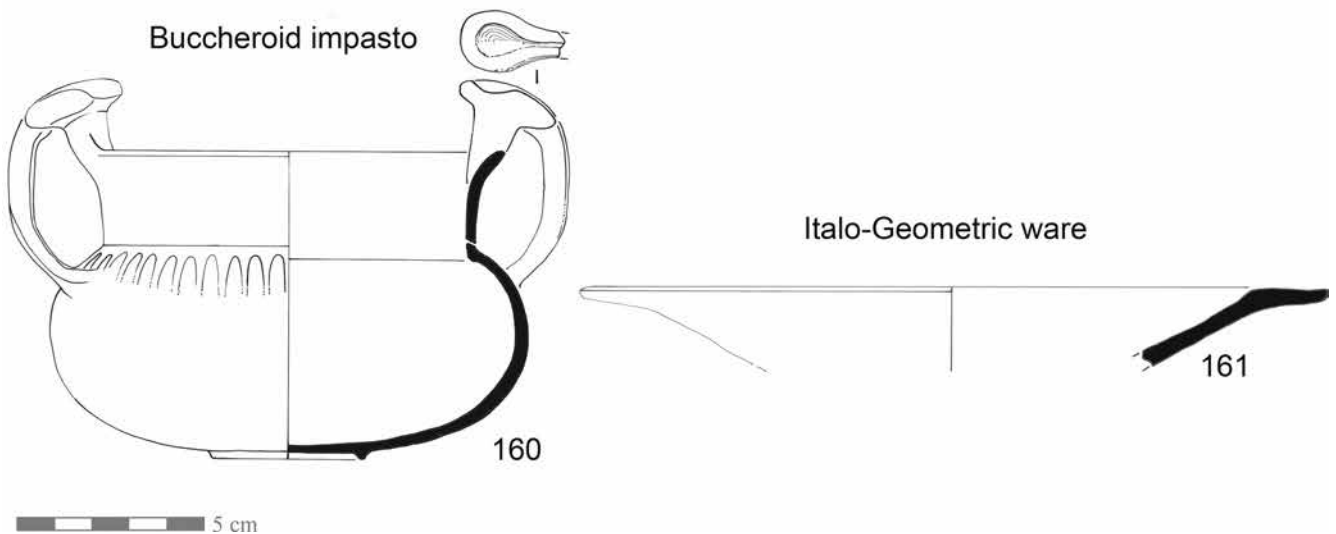


Fig. 165. Stone Platform and Quarry. Faliscizing amphoriskos and an Italo-Geometric plate from the Level II, Square M55 rock cuttings in the northern part of the Quarry fill (Cat. nos. 160–161) (drawings by R. Holmgren).

nale V:2, 203–204, pls. 14–15. Dated from early 7th century to c. 630/625 BC (inv. no. 60-99).

Red impasto/red-slip

Cat. no. 163. (Fig. 166). Jar/*dolium*. Globular, rim fragment with flaring grooved rim, very worn. Est. diam. 20 cm; pres. H 3.8 cm (inv. no. 60-108). See *San Giovenale* IV:1, pl. 1; V:2, pl. 41.

Internal red-slip ware

Cat. no. 164. (Fig. 166). Basin/brazier. Rim fragment with T-shaped thickened, angular rim. Est. diam. 35.5 cm; pres. H 5.5 cm (inv. no. 60-125). *San Giovenale* V:2, pls. 63:A:b-1-50, 65:Sp-13. Period 2 str. (530/500–430 BC). See *Caere* 3:1; Pieraccini 2003.

Bucchero

Cat. no. 165. (Fig. 166). *Chalice*. Carinated, two joining rim fragments with three horizontal grooves on the exterior body. Brownish-black clay; very micaceous. Est. diam. 13.5 cm; pres. H 6.1 cm. Rasmussen 1979, type 3 or 4b. Dated to the 6th century BC (inv. no. 60-83).

Level I, Squares L53, M52/M53, the cultivation layer over Stone Platform

Fig. 167, Table 12

Italo-Geometric (?)

Cat. no. 166. Jug/jar? Closed form. One small and thin body fragment with red paint outside. Beige-light brown well-levigated fabric (inv. no. 60-30).

Red slip

Cat. no. 167. (Fig. 167). Basin. Rim fragment with T-shaped rim, grooved on top of rim. Red clay with grey core, white and black grits, sandy touch, micaceous. Red slip worn off. Est. diam. 29.5 cm; pres. H 5.5 cm (inv. no. 60-139). On examples from the Palatine, see Giuliani 2009, 78, fig. 10:1–2, see nn. 94–95 for diffusion of this type of basin and Carafa 1995, 222, no. 623. Dated to the second half of the 6th century BC. Cf. also *San Giovenale* V:2, pl. 73 (Period 2 str., 530/500–430 BC), pl. 64 internal red-slip ware (Period 2 str.).

Cat. no. 168. Two-handled jar. Carinated body with T-shaped rim. Diam. 26 cm (inv. no. 60-40). See Backe Forsberg 2005, fig. 88:1–2; *San Giovenale* V:2, pl. 67 internally burnished red slip (Period 1). Dated to 6th century BC.

Tiles

Cat. nos. 169–170. Fragments of ridge tile and cover tile/*imbrex* (inv. nos. 60-31b, 60-32b).

Level II, Square M58, pottery deposit in Cultivation Trench CT3b/in trial pit

Figs. 168–169, Table 12

Etrusco-Corinthian ware

Cat. no. 171. (Fig. 168). *Aryballos*. Piriform shape; almost intact but the mouth, traces of a handle below neck, flat small foot, very worn. Fine reddish-buff clay with very abraded surface. No traces of paint left. H 6.95 cm; diam. of neck 1 cm; W 5 cm; diam. of foot 1.6 cm (inv. no. 60-196). On shape cf. *San Giovenale* I:7, fig. 6:1, p. 5; I:5, pl. 5:45, p. 26, pl. 12:55, p. 31; V:2, 199, pl. 9. Dated to early 6th century BC.

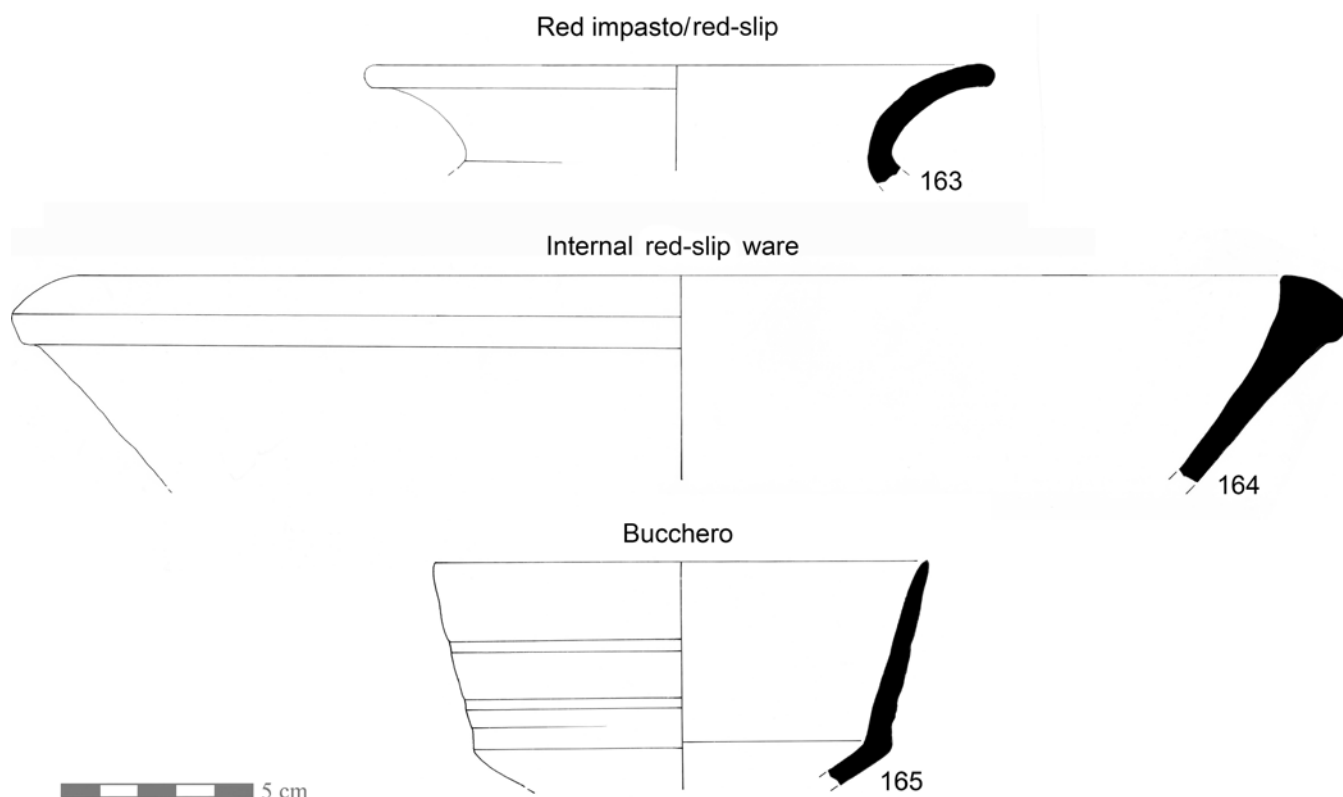


Fig. 166. Stone Platform and Quarry. Selected finds from Level II, Square M56, rock cuttings in northern part of the Quarry fill (Cat. nos. 163-165) (drawings by R. Holmgren).

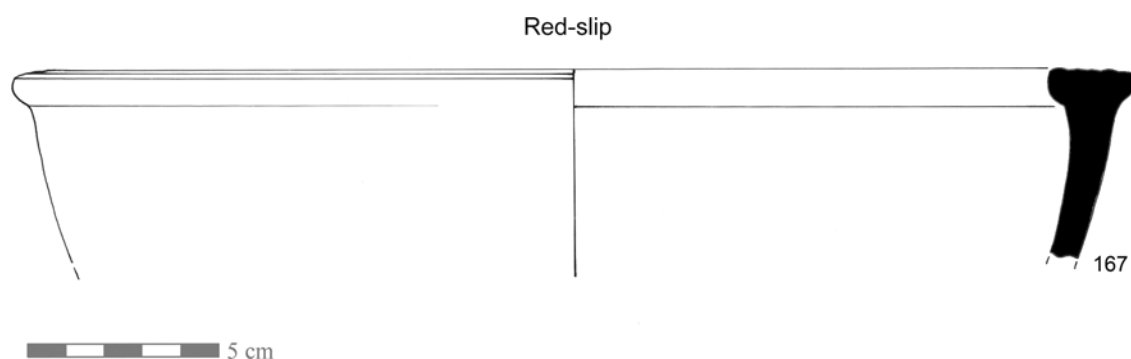


Fig. 167. Stone Platform and Quarry. Red-slip basin from Level I, Squares L53/M52-53, cultivation layer over Stone Platform (Cat. no. 167) (drawings by R. Holmgren).

Brown slip/internal red-slip

Cat. no. 172. (Fig. 168). Jar. Globular. Rim fragment with everted rim with angular lip, brown-slip exterior, red-slip interior; short neck. Est. diam. 19.5 cm; pres. H 9 cm (inv. no. 60-203).

Brown impasto

Cat. no. 173. (Fig. 168). Jar/bowl. Slightly carinated, one rim and body fragment; upwards tapering grooved rim; brown-

grey-slip exterior and red-slip interior. Est. diam. 18.3 cm; pres. H 6 cm (inv. no. 60-199). See examples from Borgo NW, *San Giovenale* V:2, pl. 14. Pohl dates the carinated jars with upwards tapering grooved rim from the Spring-Building in Area E to the 8th century BC, but there seem to be variants in other fabrics continuing to be popular down into the 6th century BC, *San Giovenale* II:4, 203-204, pl. 3. See also brown impasto jars from the habitation in Area F East, *San*

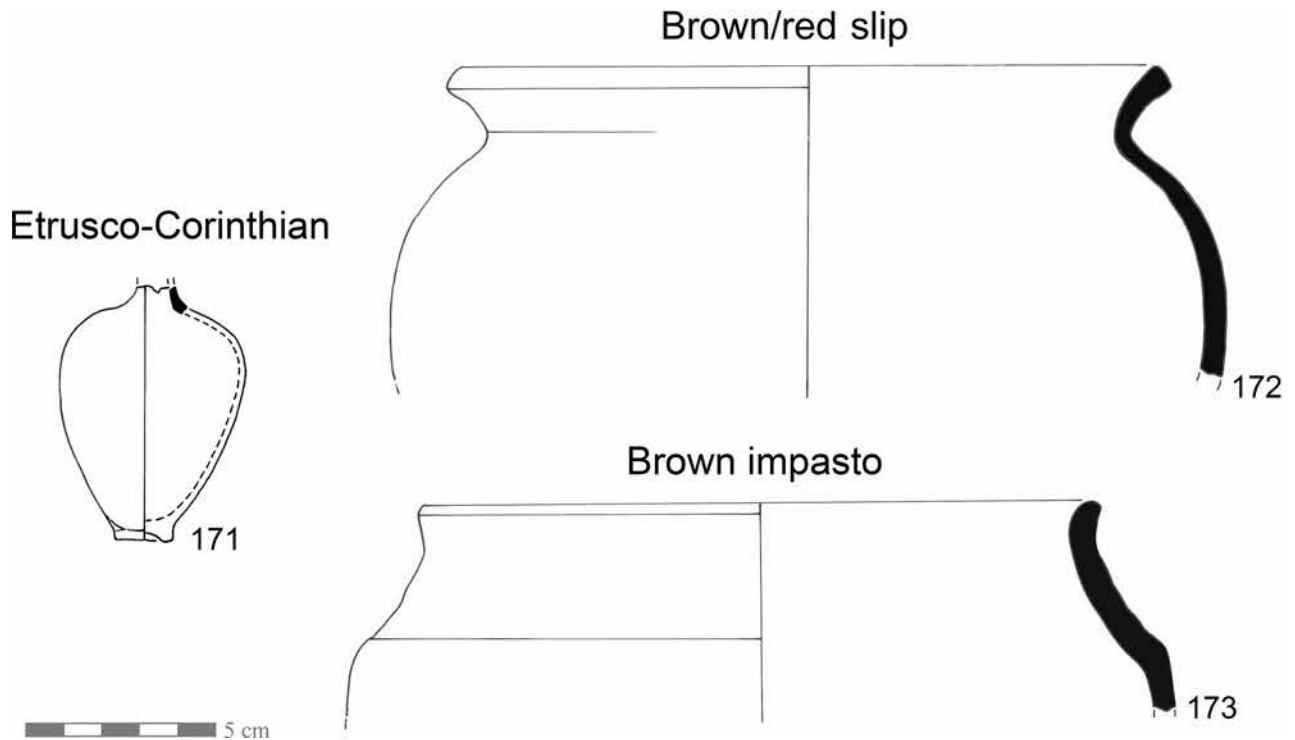


Fig. 168. Selected finds from Level II, Square M58, a pottery deposit in Cultivation Trench CT3b/in trial pit (Cat. nos. 171–173) (drawings by R. Holmgren).

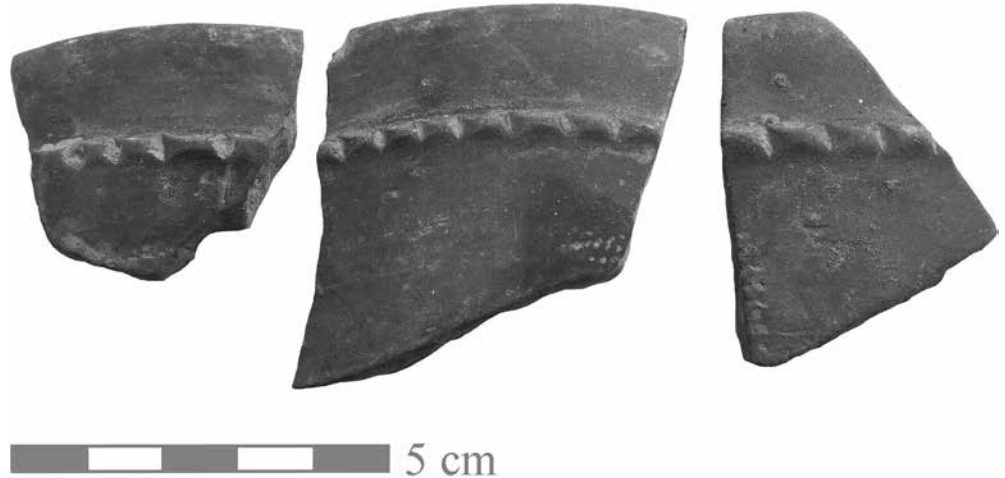


Fig. 169. Rim fragments of carinated bucchero cup (Cat. no. 174) from Level II, Square M58, a pottery deposit in Cultivation Trench CT3b/in trial pit below (photograph by Y. Backe Forsberg, courtesy of SIR).

Giovenale IV:1, 126–127, pl. 9: 295–296 a late form of jars; Acconcia *et al.* 2009, figs. 24:5–6, 25:1.

Bucchero

Cat. no. 174. (Fig. 169). Carinated (?) cup. Black bucchero. Three rim and body fragments with diamond-shaped groove near rim. Two of the fragments show traces of a horizontal

closed fan, one with the end of the fan and the second with eight impressed rays (inv. no. 60-197). On fan decoration, see Regter 2003. Rasmussen 1979, type 2d, 189–190, pl. 27, n. 137. Dated between the last quarter of the 7th century to the first half of the 6th century BC. Similar cup with fan decoration is found in a cistern in Veii. Acconcia *et al.* 2009, 42, fig. 23:3.

COMMENTS ON VARIOUS ARTEFACTS IN THE QUARRY FILL, LEVELS I–II

Pottery and miscellaneous artefacts

In the following discussion the pottery, small finds, and the architectural remains from Level I and Level II in Squares L50/M50–L58/M58 and will be considered (*Figs. 161–169*). Similar to the analysis of the content in the wells and cisterns, the focus will mainly be on items which may illustrate functions and dates, thus illuminating the character of the fill. A summary of all pottery fabrics, architectural terracottas, and small finds in the Quarry fill (Squares M53–M55), including the Stone Platform, is shown in *Tables 12–13* and *Graph 4*.

The red- and brown-slip vessels dominate with 86 items, followed by coarse ware/internal red slip with 64 items, bucchero with 39 vessels, and Etrusco-Corinthian with 17 vases. A few tiles were also registered, as well as one textile tool (spool). Storage jars of various fabrics are the most common shapes, followed by cups and bowls used for drinking and eating. Level I, *c.* 25 cm deep, occurred in Squares L50/M50–L58/M58, encompassing the cultivation trenches CT2a and CT3a, the Stone Platform, and part of the Quarry. The finds consisted of 26 individual vessels of diverse fabrics, shapes, and dates as well as two fragmentary roof tiles. The tableware comprised one Italo-Geometric plate and three bucchero vessels (cup, jug, jar) and one brown impasto bowl. The household pottery consisted of seven red-slip jars, a jug, a basin, a bowl, a lid, and three jars as well as two lids in coarse ware (*Table 12*). One brown impasto jar with a short neck and rough surface below the neck (*Cat. no. 154*) is dated to the end of the 7th century BC.

Brown, the excavator, commented upon the character of the pottery in the Quarry fill in his notebook from 1960: “At first glance the sherds from the filling of the Quarry seem not be later than the 6th century BC, perhaps no later than the middle of the century.”⁶²² According to Brown, the deposit in Square M58 (CT3b) or in cutting below seems contemporaneous in material with the filling of the Quarry.⁶²³

After having examined the artefacts from the Quarry we may conclude that there is pottery dated from the 8th to the end of the 6th centuries BC. An anomaly is the fragment of a red-ware jar in Square L55 dated to the 3rd century BC.⁶²⁴ Even in the Quarry fill the red-slip and coarse ware household pottery dominate although the tableware unearthened comprises a third of the household pottery.

The pottery from Level II in the quarry cuttings (that is the fill immediately above the bedrock surface, *c.* 0.60–1.10 m

below ground level) displays a diversity of fabrics, from Etrusco-Corinthian to coarse ware, and the pottery is fragmentary and worn (214 individual vessels, *Table 12*). Eight Archaic tile fragments and one single fragment of wall plaster (*Cat. no. 153c*) were also identified. The plaster fragment mentioned in the notebook is unfortunately missing. A second piece of wall plaster was also registered in cistern WI-5, situated underneath Cultivation Trench CT2b.

Only one small fragment of an unknown bronze object (*Cat. no. 153b*) was present in the Quarry fill. Brown drew attention to a chip of the mineral muscovite (also known as common mica). This shining mineral may have been used in the production of pottery (*Table 13*).⁶²⁵

The fragmentary Faliscanizing *amphoriskos* (*Cat. no. 160*) of buccheroid impasto is the only example from Vignale. However, this type occurred frequently in the Bridge Complex as well as in the Borgo settlement.⁶²⁶

The only Etrusco-Corinthian *aryballos* (*Cat. no. 171*), likely used as a perfume bottle, was found in the trial pit of Square M58 in Level II, the lower stratum within cultivation trench CT3b—this together with a black bucchero cup with traces of a horizontal closed fan below a dented board near to the rim (*Cat. no. 174*). Also found in Level II were a globular jar of brown slip/internal red-slip ware (*Cat. no. 172*), dated to the 7th century BC and a carinated jar in brown impasto (*Cat. no. 173*), dated to the 8th century BC.⁶²⁷ The handmade almost cylindrical transitional impasto jar (*Cat. no. 134*) found in Level II, Squares M53/M54, could also be dated to the 8th century BC.

Tableware such as cups, plates, and bowls used for drinking and eating, made in transitional impasto, brown impasto, Italo-Geometric, Etrusco-Corinthian ware, and bucchero (in all 72 items) occurred frequently, although pots for storing, serving, and food processing such as jars, jugs, *amphorae*, *dolia*, large bowls, and basins in red impasto, red/brown-slip ware and coarse ware, were in the majority with 156 items (*Table 12*). The ordinary bucchero plate with applied rope handles (*Cat. no. 147*) from Level II in Square M54 was dated to the beginning of the 6th century BC. The plate is a copy of the kind of Etrusco-Corinthian bowls/plates found in cisterns WI-9 (*Cat. nos. 91–92*) and WI-2 (*Cat. no. 7*) as well as in squares M53/M54 of the Quarry fill (*Cat. no. 136*). As mentioned in the catalogue above, this form is rather rare in

⁶²⁵ FB notebook 1960.

⁶²⁶ See further on Faliscanizing cups in *San Giovenale* V:2, 207–208 discussion, pl. 20; IV:1, 68, 127–129, figs. 78–80, 262–282, 285, pl. 11. On House I, room B, and House III, in Backe Forsberg 2005, fig. 77.

⁶²⁷ *San Giovenale* II:4, 203–204.

⁶²² FB notebook 1960, 45.

⁶²³ FB notebook 1960, 46.

⁶²⁴ Red ware or possibly African red-slip shapes and fabric.

bucchero fabric,⁶²⁸ with only a few examples reported, from Tarquinia and Vulci.⁶²⁹

One lug foot/handle of a red-slip basin with four cross-wise-placed lug feet interpreted as having a ritual function is represented in the Quarry fill (*Cat. no. 157*). Fragments of an almost complete red impasto/red-slip basin (*Cat. no. 48*) and a few lug feet (*Cat. nos. 49–51*), were found in cistern WI-6, situated north-west of the Quarry. The basins can be dated from the 7th to the end of the 5th centuries BC and are consistent with the pottery found in the wells and cisterns on the Vignale plateau and in the Bridge Complex on both sides of the Pietrisco brook.⁶³⁰

A large ovoid globular coarse ware *dolium* with an internal red slip (*Cat. no. 153a*) found in squares M53/M54 is worth mentioning due to the impressed cross on the exterior of the rim. The *dolium* has been dated to the 6th–5th centuries BC. Such impressions made on the exterior of rims have, for example, been reported from Casale Pian Roseto.⁶³¹ The only Etruscan black-figure cup was discovered in Square M56, Level II (*Table 12*). Only ten fragments comprising one ridge tile (*kalypter*), one cover tile (*imbrex*), and eight pantiles (*tegulae*) have been registered; eight from Level II and two items from Level I (*Table 13*). Fragments of roof tiles (cover tiles and pantiles) were also reported from Level I in Squares M53–M55, in Level II in Squares L54/M54, as well as in Level II in Squares M56 and M58. The number of tile fragments could be compared to the finds from cistern WI-6 (19 fragments of mostly pantiles), WI-2 (the three pantiles), and WI-5 (one pantile) (*Table 9*).

Burials and necropoleis

The necropolis of Casale Vignale was the first site that attracted Eric Wetter's attention in 1956.⁶³² There were, however, additional necropoleis of interest in the area, of which some comprised scattered high-status burials on the far eastern part of the Vignale tableland. These though, became of secondary interest, since the relationship between the Casale Vignale necropolis and the Acropolis hill became the main point of study. As work advanced with initial excavations and documentation on the Acropolis area, in 1959 the interest in tombs on Vignale was revived.

Accordingly, in October 1959 a field survey was performed. Its aims were to investigate the possible existence of tombs

along the slopes and the summit of the Vignale plateau. It was at this time that the first speculations of Vignale as an important archaeological site were made. According to the notebook by Östenberg, one sepulchre was located during this survey—a chamber tomb that was positioned on the southern incline of the plateau. The looted tomb is further noted on the sketch by Asplund, positioned below the summit, c. 75 m east of Vignale's western end (*Fig. 27:V1*).⁶³³ The settlement of San Giovenale as a whole is encircled by at least nine different cemeteries (*Figs. 6, 170, 212*). Some of these were active over a long period spanning from the early 10th century BC down to the middle of the 3rd century BC. The Porzarago and the Fosso del Pietrisco necropoleis were the only burial-grounds containing cremation tombs from the Final Bronze Age III. In general, cemeteries are located on the opposite side of rivers and gullies from the settlement which they serve, and/or along main roads in the vicinity—typically where the burials could be seen from the settlement's Acropolis. Apart from San Giovenale, we also encounter this same organizational pattern in renowned Etruscan city-states such as Veii, Caere, Tarquinia, and Vulci, as well as in the nearby Etruscan towns of Blera and San Giuliano.⁶³⁴

When determining the character, importance, and chronology of the settlement remains on the Vignale promontory, the VAP project realized the necessity of exploring the site's nearby burial-grounds. To limit the study, only the burials in direct connection to Vignale were studied. The close proximity between the Vignale plateau and the main plateau with its Acropolis makes it likely that the two sites shared many burials. Nevertheless, it is interesting to pinpoint certain cemeteries that were positioned close to Vignale's buildings and infrastructure.

The foremost and perhaps best-known burial-ground in the San Giovenale area is the Casale Vignale necropolis, located to the north of Vignale (*Fig. 170:5*). It runs parallel to the entire Vignale plateau and clearly has a natural connection to the Acropolis through its infrastructure. This was facilitated through a western bridge (viaduct), spanning over the Dogana and providing direct access to the Borgo area (*Fig. 30*). The burials of Castellina Camerata are situated south of Vignale, with the river Vesca as a natural division in the topographical and religious landscape (*Fig. 170:4*). The tombs are dated from the late 7th to the 4th centuries BC (*Fig. 171*).⁶³⁵ This burial-ground is very interesting due to its principal connection to the Vignale settlement. We shall elaborate on this

⁶²⁸ This form is not mentioned either in Rasmussen 1979 or in Rasmussen 2016.

⁶²⁹ Locatelli 2001, 267, table 107:12/14; Rizzo 1990, 99, fig. 180.

⁶³⁰ Backe Forsberg 2005, 74, fig. 76:12–16, tables 21–22.

⁶³¹ Murray Threipland & Torelli 1970, 82–84, figs. 27, 31–32.

⁶³² *San Giovenale* I:1.

⁶³³ CEO notebook II 1959.

⁶³⁴ Naso 1996, 113, figs. 90, 172; 2017a, 320–321. On Caere and Tarquinia, see Colonna 1986, pls. 1, 3. On the necropoleis at Veii, Caere, Tarquinia, Vulci, and Orvieto, see Zifferero 2017b, fig. 70.1, 3, 7, 10. On Blera see, Santella 1981, 61–64; Ceci & Schiapelli 2005, fig. 18, and on San Giuliano, Steingraber 2009, 26–27.

⁶³⁵ Ricciardi 1984; 1987a; Tobin-Dodd 2015, 79, table 16.



Fig. 170. San Giovenale from the west with the Acropolis (lower left) and Vignale (upper right) with seven of the necropoleis frequently discussed in the text. 1. Fosso del Pietrisco, 2. Valle Vesca, 3. Vignale Southwestern necropolis, 4. Castellina Camerata, 5. Casale Vignale, 6. Porzarago, and 7. Pontesilli (photograph by R. Holmgren).

below, but as mentioned, the focus will be on tombs directly connected to Vignale's tableland in order not to venture too far from Vignale as the study object. Therefore, emphasis is placed on the Fosso del Pietrisco and the Valle Vesca necropoleis, both east of the Vignale tip (Fig. 170:1–2). We shall also discuss the recently discovered Southwestern necropolis, which contains the tomb initially mentioned by Östenberg in 1959 (Fig. 170:3).⁶³⁶ This Hellenistic cemetery is particularly interesting in establishing a link between settlement, infrastructure, and tombs of the time period they represent. We will also examine signs in the landscape of possible unearthed tombs, revealed through remote sensing and supplementary records from early notes and literature.

NECROPOLIS OF FOSSO DEL PIETRISCO

Figs. 170, 172–173, 175–177, 189

Feature: necropolis

Interpretation: necropolis associated with the Vignale habitation and a northern extension of the Valle Vesca necropolis

Preliminary date of building material/construction:
10th to 3rd centuries BC

Preliminary date of use: 10th to 3rd centuries BC

Area: (TS3), Via Valle Vesca

Geographical location: north-eastern side of the Vignale promontory, 100 m west of the Blera–Civitella Cesi road

Position: 42°13'32.94"N, 12°00'46.18"E (midpoint)

Height ASL (m): 188 (midpoint)

Measurements (m): c. L 50 (cluster radius of pozzo tombs)

⁶³⁶ CEÖ notebook II 1959.



Fig. 171. One of more than 80 documented chamber tombs in the necropolis of Castellina Camerata (photograph by R. Holmgren).

Finds: cremation tombs (custodiae and earth burial in situ), inhumation tombs (chamber tombs), funeral street, pottery



Fig. 172. Necropolis of Fosso del Pietrisco (feature map by VAP).

In 1959 the “flying squad” located a previously unknown burial-ground on the northern side of the dirt road in the north-east part of the Vignale plateau. It is positioned along the Fosso del Pietrisco, north-west of the Valle Vesca graves (see TS3 in Fig. 26).⁶³⁷ Apart from three Final Bronze Age cremation burials of *pozzo* tomb type, with their *custodia in situ*, the two *pozzo* tombs (FP1 and FP3), and one earth tomb (FP2). There is also an inhumation chamber tomb (FP4) dated to the Hellenistic period, alongside a funeral road with bedrock wheel-tracks found just below the surface.⁶³⁸ The excavators came to the conclusion that the exposed part of the funeral

street (6.5 m long) running north-west–south-east may have headed towards the Valle Vesca necropolis, c. 100 m south of the Fosso del Pietrisco tombs. The basis for this assumption was formed by the visible traces of a road discovered on a 1960 aerial photograph taken by the Italian Military Airforce.⁶³⁹ The road may have had several tombs along either side, though today there are no surviving traces of mounds due to heavy cultivation and modern land use.

The “flying squad” also registered some tumuli tombs on either side of the south-west–north-east thoroughfare, now an asphalted track, near the modern Blera–Civitella Cesi road.⁶⁴⁰

The most notable feature within the necropolis of Fosso del Pietrisco is the presence of Proto-Villanovan tombs. These were discovered and excavated by the Swedish Institute of Classical Studies in Rome in 1959. The two cremation burials of *pozzo* tomb type, with their *custodia in situ* (FP1, FP3), and the earth burial (FP2), were examined and at the time dated to the 8th century BC (Figs. 173–174).⁶⁴¹ In following years the tombs have been redated to the Final Bronze Age IIIA2.⁶⁴²

⁶³⁹ *San Giovenale* I:8, fig. 1; Wetter 1962, 206, aerial photomap F7. See also the remains of the Etruscan tomb road, *San Giovenale* I:8, 17–18, fig. 11.

⁶⁴⁰ Wetter 1962, 206, aerial photomap F7.

⁶⁴¹ *San Giovenale* I:8; on the discussion of the dating terminology of the early Swedish archaeologists, see Tobin-Dodd 2015, 61–63, esp. n. 328. Only fragments of the covers of FP1 and FP3 were found, see the reconstruction drawing in Fig. 173. On the cremation well-tombs at Veii (*tombe a pozzo*) during the Early Iron Age, the more sophisticated form of well-tombs (*custodiae*), and the inhumation burial practice (*tombe a fossa*), see Biagi 2019, 50, n. 21. On burial types at Veii, see also Piergrosi 2019, 58. See also various versions of *custodiae* from the Monterozzi necropolis at Tarquinia, Fig. 174.

⁶⁴² Barbaro & De Angelis 2010, 33, table 1:30–31. They also comment on the necropoleis at San Giovenale: Fosso del Pietrisco (169, fig. 8, tables 10:25, 11:25, 15:25), Porzarago (175, fig. 8, tables 10–11:29, 15:29), and on Vignale (349–352, fig. 8, table 13:25).

⁶³⁷ Lasaponara *et al.* 2012, fig. 3.

⁶³⁸ *San Giovenale* I:8, figs. 1–2, 4–17.

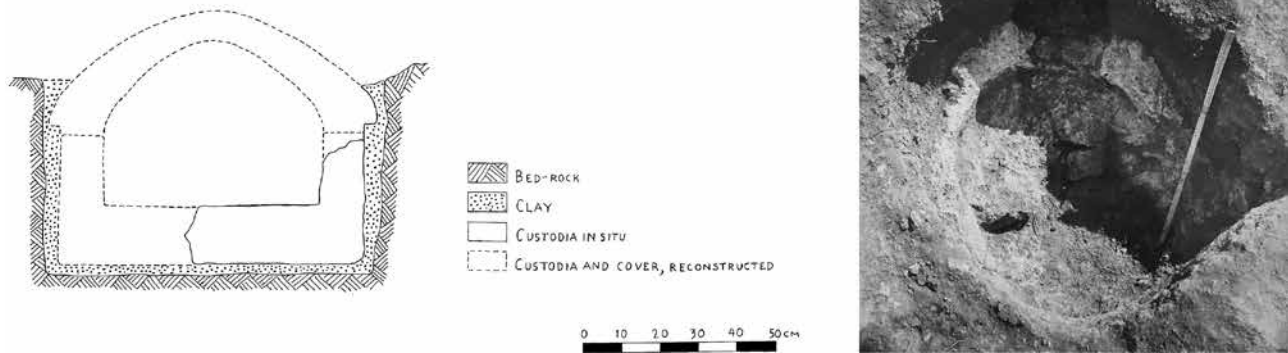


Fig. 173. One of the cremation burials (custodia in situ, FP1), found in the Fosso del Pietrisco necropolis on Vignale. Reconstruction drawing and photograph of Tomb FP1 (illustration by P.G. Gierow and photograph by C.W. Welin, courtesy of SIR).



Fig. 174. Various versions of custodiatic tombs displayed above ground in the Monterozzi necropolis in Tarquinia (photograph by Y. Backe Forsberg).

The dating of the four cremation tombs of the Porzarago necropolis, positioned on the hilltop north of the Acropolis (Fig. 170:6), also underwent the same reconsideration.⁶⁴³ The ^{14}C dating acquired in Area F could likewise confirm that the Proto-Villanovan phase at San Giovenale rather belonged to the Final Bronze Age.⁶⁴⁴ During aerial investigations by VAP in 2007–2010, hints of several previously unknown *pozzo* tombs were recorded. An aerial survey, using infrared thermography (IRT) as well as LiDAR, confirms that the burial area contains more graves and extends further than first anticipated. Fig. 175 shows the results of various remote sens-

ing techniques undertaken at a height of c. 100 m. This recent aerial survey shows the presence of at least 60 individual *pozzo* tombs, including the ones already discovered. The tombs are revealed by heat signatures in the form of a semicircular mark. These result from the sun heating part of the shallow hollows in the ground surface above the burials: the semicircle is that part facing the sun. These shallow depressions are barely visible to the eye, even from the ground, but sometimes lusher and higher vegetation growth can reveal the location of the tombs. Occasionally a fainter heat signature, likewise semicircular, is generated on the surrounding soil facing the sun. In this case, it is due to the compact and heat-sensitive soil that surrounds the more moist fill above the *custodia* and the cover of the tomb. LiDAR scanning has exposed larger crater-like structures of already looted tombs, but the fainter indications described above are more obvious when using the infrared thermography method (IRT). Due to modern activities in and around the *pozzo* tombs, there has been too much disturbance to provide an accurate image of the complete extent of the Final Bronze Age necropolis. There are indications of many more tombs extending both north and west. Another extension reaches into the ploughed and heavily disturbed area in the east which may conceal additional tombs. Moreover, a substantial pozzolana quarry, dug in the early 1970s, cuts this latter area (Fig. 176).⁶⁴⁵ It is possible that parts or even a major portion of the necropolis was destroyed during the time this quarry was active. At any rate, the preserved part of the cemetery can be estimated to conceal at least twice the number of tombs already documented. Since the three excavated *pozzo* tombs (FP1–3) have been robbed, there were only fragments

⁶⁴³ Domanico 1995, 96–97, appendix 1; di Gennaro 1986, 29–30; *San Giovenale* I:5; Berggren & Moretti 1960, 6–7; Tobin-Dodd 2015, 63, nn. 329–331.

⁶⁴⁴ *San Giovenale* IV:1, 140–141.

⁶⁴⁵ See Colonna 1973, on a necropolis with tumuli and cube tombs destroyed when the pozzolana quarry was dug in the early 1970s.

of a few vessels found scattered around them. These finds are of the same type as a few fragmented Final Bronze Age vessels found in cistern WI-6 on the summit of the Vignale plateau (*Cat. no. 41*).

This type of vessel may also be associated to the finds in the *pozzo* tombs dated to the same period found in the Porzarago necropoleis, as well as to the Final Bronze Age/Proto-Villanovan finds unearthed in the hut settlement on the Acropolis.⁶⁴⁶

As mentioned above, the necropolis of Fosso del Pietrisco also contains some tombs of a later date, from the Archaic and Hellenistic periods. Some of the Etruscan-period tombs spread westwards, because their construction required the rock faces located in the deep ravine of the Pietrisco brook. However, there is also ample evidence to suggest that the burials of Fosso del Pietrisco or at one point were part of a larger sepulchral installation stretching to the other side of the modern Blera–Civitella Cesi road, i.e., where the tumuli tombs were found and mapped in 1959—along the ancient road connecting with San Giuliano (*Fig. 5*).⁶⁴⁷ A further connection to the necropolis of Valle Vesca is discussed below.

The Etruscan tombs of Fosso del Pietrisco comprise one chamber tomb (FP4), which following its excavation in 1959, could be dated to the 3rd century BC based on its pottery contents. Unfortunately this tomb could not be located during the survey of Tobin-Dodd in 2013–2014. However, four new chamber tombs (Tombs 199–201 and 203) were located during this survey (*Fig. 177*). The tumulus tomb, Tomb 201, was dated to before 625 BC (Tobin-Dodd's Period 1) and Tombs 199 and 200, with semi-tumuli, likely belong to Tobin-Dodd's Period 2 (625–400 BC), as does Tomb 203, containing one single chamber. A modern farmhouse was built over the latter, necessitating the removal of the mound above the sepulchre.⁶⁴⁸

NECROPOLIS OF VALLE VESCA

Figs. 170, 178, 189

Feature: necropolis

Interpretation: necropolis for the Vignale habitation, main extension of the Fosso del Pietrisco necropolis

Preliminary date of first construction: late 8th/early 7th centuries BC

Preliminary date of use: late 8th/early 7th to 5th centuries BC

Preliminary date of building material/construction: late 8th to late 5th centuries BC

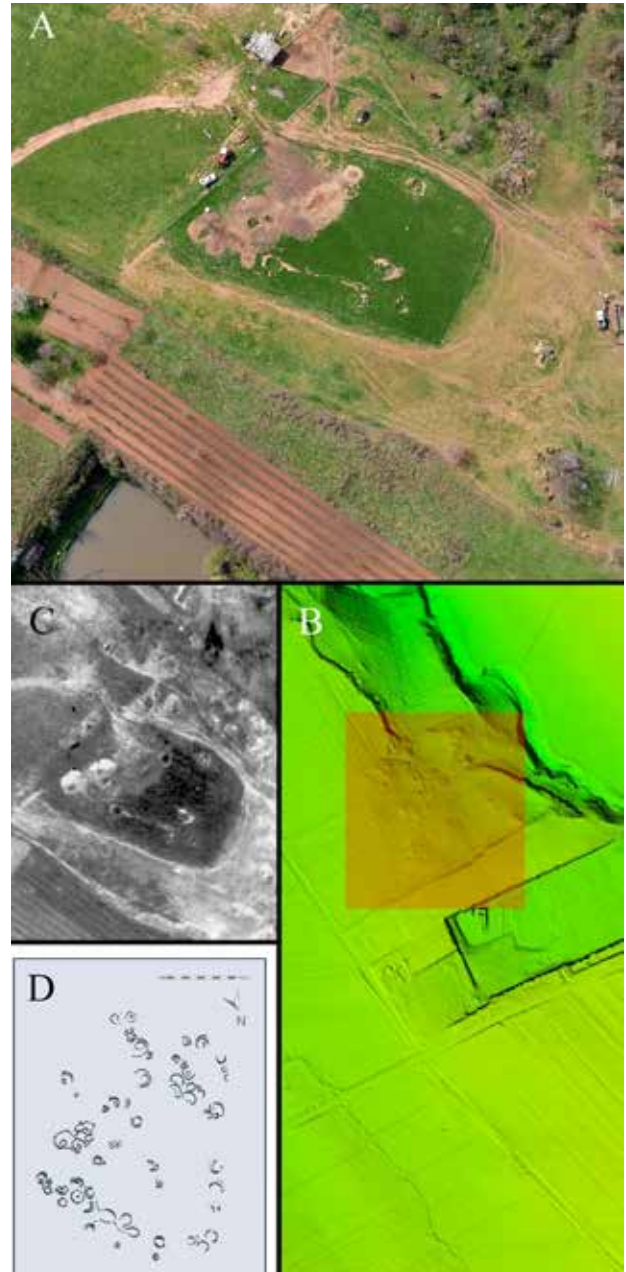


Fig. 175. Four different images of the same area of the necropolis of Fosso del Pietrisco. Top image (A): aerial oblique photograph. Only a few robbed tombs are visible as circular spots, left of the central grassy area. Lower right (B): LiDAR image of the same area, marked with a red rectangle. More than a dozen tombs are here clearly visible in the uneven soil—which likely covers further tomb structures. Middle left (C): infrared thermography (IRT) of the same area as (A) and (B), showing even more unexposed pozzo tombs. Lower left (D): drawing depicting an interpretation of the separate tomb structures in this area revealed through IRT and LiDAR, which can be estimated to c. 60 individual pozzis tombs (data of LiDAR image acquisition from Geocart srl with processing by N. Masini [CNR/IBAM] and R. Lasaponara [CNR/IMAA], IRT image processed by N. Masini and aerial/IRT photographs by R. Holmgren and H. Kuusma).

⁶⁴⁶ *San Giovenale* IV:1; V:2; III:3; Malcus 1984.

⁶⁴⁷ *San Giovenale* I:8, 19, n. 2. See also aerial photomap F7 in Wetter 1962, 206.

⁶⁴⁸ *San Giovenale* I:8, 14–17, figs. 2, 9–10; Tobin-Dodd 2015, 67, fig. 46, Tomb 202 equates to FP4. On Tombs 199, 200–201, 203, see Tobin-Dodd 2015, 161–162, figs. 46, 120, table 10.



Fig. 176. Pozzolana quarry dug in the early 1970s east of Fosso del Pietrisco. The quarried area has probably encroached on the necropolis, looking south-west (photograph by R. Holmgren).



Fig. 177. The arrow marks the eastern flank of the ridge containing the three chamber tombs (Tombs 199–201) in Fosso del Pietrisco necropolis, located by F. Tobin-Dodd, looking south-east (photograph by R. Holmgren).

Area: (TS3), Via Valle Vesca
Geographical location: south-east Vignale plateau/ravine,
 east and west of the asphalt road
Position: 42°13'27.96"N, 12°00'57.94"E (centre position)
Height ASL (m): 189 (centre position)
Measurements (m): c. L 150 (radius)
Finds: tumuli tombs, chamber tombs, funeral streets, pottery

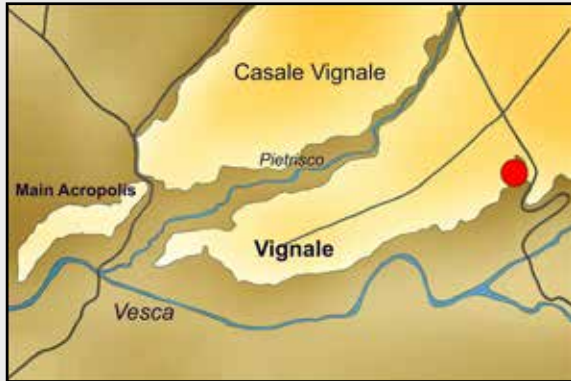


Fig. 178. Necropolis of Valle Vesca (feature map by VAP).

The necropolis of Valle Vesca was located and described in 1959 by the “flying squad”, but was not included in the land survey performed by VAP. The necropolis is situated in the far south-eastern corner of the Vignale plateau (Fig. 170:2). More specifically, it sits on both sides of the Blera–Civitella Cesi road, where the latter ascends into the Vesca ravine. The burial-ground is partly connected to the Vignale plateau, but mostly associated with the small valley of a tributary of the river Vesca. The most comprehensive understanding of the distribution of tombs was provided by Tobin-Dodd and his field survey of 2013–2014.⁶⁴⁹ The distance to any of the known settled areas during antiquity could be estimated to c. 1.5 km and 20 chamber tombs were documented, all looted. Of these, two have a tumulus (Tombs 179 and 196) and one a semi-tumulus (Tomb 195), whereas the rest are cut into the cliffs.⁶⁵⁰ The tombs are dated by burial types and artefact content from the late 8th century down to late 5th century BC.⁶⁵¹ The burial-ground might very well be an extension of the neighbouring Archaic and Hellenistic necropolis of Fosso del Pietrisco, discussed above. As such it could possibly have been connected via the funeral street discovered within the area of the Pietrisco tombs.

⁶⁴⁹ Tobin-Dodd 2015.

⁶⁵⁰ Tobin-Dodd 2015, 17, fig. 45, tables 10, 16; *San Giovenale* I:8, 19–58, figs. 1–2, 13–35; I:4, 5.

⁶⁵¹ Seven tombs dated to 725–625 BC, twelve tombs dated to 625–400 BC, one of unknown date.

Four Valle Vesca tombs (VV1–4) were excavated and published by members of the Swedish Institute of Classical Studies in Rome. The tombs contained material dated from the beginning of the 6th century BC and they were probably in use until the 5th century BC.⁶⁵² However, the tombs VV1–4 were recently redated to the 7th century BC, based on some specific fragments of pottery.⁶⁵³ It could not be confirmed if the tombs of VV1–4 were once covered by tumuli. A fifth Etruscan chamber tomb (CC69) was excavated by the Civitella Cesi Survey team in 1981 and published in 2000. It contained remains of fragmentary pottery and metals.⁶⁵⁴ The tomb has been dated to the beginning of the 7th century BC based on the artefacts found inside.⁶⁵⁵ Furthermore, the “flying squad” found traces of a road passing through the burial area, which could also be located in the aerial photographs taken in 2010.

The variety of fabrics and shapes among the vessels found in the burial deposits of tombs VV1–4 and CC69 can be linked to the finds from wells and cisterns, as well as in the Quarry fill, all on Vignale.⁶⁵⁶ There are different opinions on whether the Valle Vesca necropolis was used by the inhabitants of the Acropolis or/and by the settlement on the western tip of the Vignale plateau.

VIGNALE SOUTHWESTERN NECROPOLIS

Figs. 179–187

Feature: necropolis

Interpretation: necropolis for Vignale's Late Etruscan habitation

Preliminary date of first construction: 4th century BC

Preliminary date of use: 4th century BC

Preliminary dating of building material/construction: 4th century BC

Area: (TS2), along funeral street

Geographical location: south-west tip of the Vignale

Position: 42°13'22.65"N, 12°00'10.36"E

(Chamber Tomb V2)

Height ASL (m): 161 (Chamber Tomb V2)

Measurements (m): c. L 50

⁶⁵² *San Giovenale* I:8, 19–58, figs 1, 13–35; Tobin-Dodd 2015, 158, Tomb 189 (VV4, Tomb 190 (VV1), and Tomb 191 (VV3).

⁶⁵³ See Tobin-Dodd 2015, 157–158 on a new chronology of tombs.

⁶⁵⁴ Hemphill & Barbieri 2004, 47–55, figs. 2–3; Hemphill 2000, 46–47, cat. no. 69.

⁶⁵⁵ Hemphill & Barbieri 2004, 54; Tobin-Dodd 2015, 159 on the 7th-century BC date of Tomb 192 = CC69.

⁶⁵⁶ *San Giovenale* I:8, 25–58, figs. 17–35; Hemphill 2000, 46–47, see site 69 on folded map.



Fig. 180. R. Holmgren clearing some of the soil accumulated from the plateau above, and covering most of the tomb façades in the Vignale Southwestern necropolis (photograph by Y. Backe Forsberg).

Finds: chamber tombs, funeral street, shelters (reused tombs?)



Fig. 179. Vignale Southwestern necropolis (feature map by VAP).

The objective of the field survey conducted in October 1959 by members of the Swedish Institute of Classical Studies in Rome was to investigate the presence of tombs on the slopes and on the summit of Vignale. No tombs were found on the summit, but one chamber tomb, albeit looted, was mentioned on the southern slope in the notebook kept by Östenberg. On the sketch made by Asplund the sepulchre was marked below the summit of the southern incline, that is *c.* 75 m east of the westernmost point of the Vignale promontory (Figs. 27, 170:3).⁶⁵⁷ In 2006 VAP relocated the remains

⁶⁵⁷ CEÖ notebook II 1959.

of this particular chamber tomb, now named V1. The tomb was described together with other clearly visible and partly accessible tombs, Chamber Tombs V2–V6. These tombs were quite a surprising discovery. The latter tombs must have been discernable in 1959, although less clearly so than V1. All six tombs (Chamber Tombs V1–V6) were positioned along the ascending road which connected directly to the plateau and the contemporaneous late Etruscan settlement. The area has the appearance of a funeral street with rock-cut tomb façades at two levels, upper and lower. The upper levels were not clear due to the amount of soil and debris that had accumulated on them through the centuries—deriving from the plateau above (Figs. 180, 184, 186). The tombs along the street were already plundered when documented in 2006. Presumably most of these clandestine operations happened after 1959.

Chamber Tomb V1

Figs. 27, 179, 181–182 (for feature map, see Fig. 179)

Feature: tomb

Interpretation: chamber tomb with recessed façade (Prayon 1975, type F2:35)

Preliminary date of first construction: 4th century BC

Preliminary date of use: 4th century BC

Preliminary dating of building material/construction: 4th century BC

Area: (TS2)

Geographical location: south-west tip of the Vignale, along the funeral street, lower level, east of Chamber Tomb V4

Position: 42°13'22.50"N, 12°00'10.86"E

Height ASL (m): c. 161

Measurements (m): chamber: D 3.70, W 3.50, H -, dromos: W 0.90, L 1.80, H 2.00+

Orientation: entrance from south, facing funeral street

Chamber Tomb V1 is of Prayon F2:35 burial type (Fig. 27).⁶⁵⁸ It is a rather common type of chamber tomb, with an almost square-shaped chamber, a rectilinear doorway, vertical walls, low roof, and a short *dromos* which is orientated to the left side of the tomb's central axis. The inner ceiling bears no cut marks but has a slightly convex shape with the highest point in alignment with the doorway. The rectangular entrance was blocked with tufa stones, some of which are still *in situ* but broken due to recent intrusion. The tufa stones constituted the outermost blocking of the *dromos*; that is, 1 m in front of an original blocking leading directly into the actual buri-

⁶⁵⁸ Prayon 1975, pl. 87. See Tobin-Dodd 2015, 15–19 on burial types.

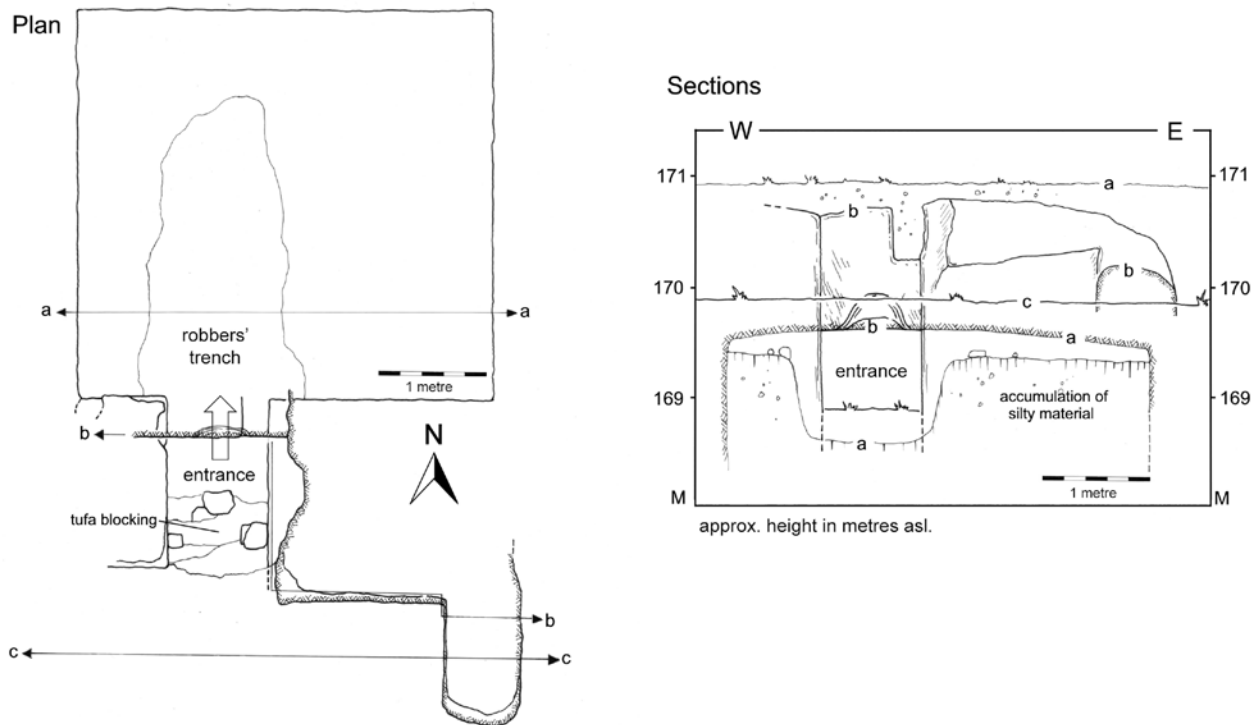


Fig. 181. Plan and sections of Chamber Tomb V1 (illustrations by R. Holmgren).

al chamber. It was forced open by bending the sealing stone outwards which is indicated by the typical concentration of chip marks above the access to the sepulchre ('b' in the section drawing of Fig. 181). This intrusion is probably an old one, while trial soundings or perhaps illicit excavations were performed later. The early date of the first intrusion is evident from a small dugout trench stretching from the entrance towards the opposite inside wall. This trench made our documentation possible, in that it created a working space with a height of around 1.20 m. The trench is 1 m wide, and did not reach the floor level. The cut was made through a homogenous accumulation of silty hard-packed material which seemed to constitute a slow build-up—thus, because the amount of accumulated silt almost reached the tomb's ceiling, it can be suggested that the entrance was damaged centuries ago. No beds are visible, but there is sufficient accumulation of earth to hide any such construction beneath the soil. However, if a bed were positioned immediately to the left, in the area where the trench was dug, it would have been visible. If there are beds or benches these must therefore be positioned to the far end or to the right—most likely the latter, due to the general orientation of the chamber and the empty area visible in the trench.

In front of the entrance is a square-shaped yard with an L-shaped wall cutting in the bedrock façade to the east (Figs. 181–

182). As can be seen in Fig. 181, it stretches to the right (east) of the *dromos* and measures c. 1.50 × 1.10 × 0.70 m.

There are no signs of artefacts, but in a report to the Soprintendenza made by the "flying squad" in 1959, there is a note of a cliff chamber tomb found and sounded that same year. The sketch matches the position of Chamber Tomb V1. The finds comprised a few impasto sherds, mostly bucchero and coarse ware, Greek imported black-figured pottery, Campanian black-glazed ware, and a few Arretine pottery fragments, many of them household wares.⁶⁵⁹ Neither any detailed drawings nor stored sherds have been found in the archives of the Swedish Institute of Classical Studies in Rome, and since there is only a tiny mark indicating the tomb's position, sketched on the hand-drawn map mentioned earlier, it is impossible to say anything further based on these brief descriptions. The rather early date of some of the pottery does not match the architectural dating of this obviously late sepulchre. One can only imagine that the few sherds found must have accumulated there via the stream of silty material coming from the plateau above, or perhaps hoarded there by early collectors. In any case, if this is the same tomb as described in 1959,

⁶⁵⁹ CEÖ notebook IV 1959 (*Squadra volante*).



Fig. 182. The tufa façade of the Chamber Tomb V1 in the Vignale Southwestern necropolis (photograph by R. Holmgren).

this material was found too high in the strata to be connected to the tomb's original period of use.⁶⁶⁰

Chamber Tomb V2

Figs. 27, 179, 183 (for feature map, see Fig. 179)

Feature: tomb

Interpretation: chamber tomb with recessed façade (?)

Prayon 1975, type B1:4

Preliminary date of first construction: 4th century BC

Preliminary date of use: 4th century BC

Preliminary dating of building material/construction:

4th century BC

Area: (TS2)

Geographical location: south-west tip of the Vignale, along the funeral street, upper level

Position: 42°13'22.65"N, 12°00'10.36"E

Height ASL (m): c. 161

Measurements (m): chamber: - dromos: W 0.70

Orientation: entrance from south, facing funeral street

Chamber Tomb V2 could only be superficially documented during the VAP survey. Its position was established and its general appearance described briefly. The tomb's entrance is only partly visible due to local geological factors and its in-

terior is no longer accessible (Figs. 27, 183). The tomb is of the same design as its sibling, Chamber Tomb V1. Chamber Tomb V2 is however more in alignment with the upper level, west of Chamber Tombs V5–V6. The façade has become detached from the cliff due to the slowly destructive effects of expanding tree-roots,⁶⁶¹ and only c. 70 cm of the upper part of the entrance is visible above the ground, along with a small part of the chamber. There is an abundance of water at this point due to the nearby gully that carries run-off from the Vignale plateau (Figs. 146, 148). The tomb faces the funeral street and, as discussed in the description of Tomb V3 below, it is probably connected to an upper passageway running parallel to the Late Etruscan funeral street slightly below.

Chamber Tomb V3

Figs. 27, 179, 184–186 (for feature map, see Fig. 179)

Feature: tomb

Interpretation: chamber tomb with recessed façade (?)

Naso 1996, type 7

Preliminary date of first construction: 4th century BC

Preliminary date of use: 4th century BC

Preliminary dating of building material/construction: 4th century BC

Area: (TS2)

Geographical location: south-west tip of the Vignale, along the funeral street, lower level, west of Chamber Tomb V2

⁶⁶⁰ See also Romanelli 1986a, fig. 23, the semi-dado Bleranian tomb in Pian del Vescovo.

⁶⁶¹ San Giovenale I:9, 5.



Fig. 183. The entrance to Chamber Tomb V2 in the Vignale Southwestern necropolis (photograph by R. Holmgren).

Position: 42°13'22.52"N, 12°00'09.77"E

Height ASL (m): c. 161

Measurements (m): chamber: D c. 3.50, W c. 2.50, H c. 2.0

Orientation: entrance from south, facing funeral street

Chamber Tomb V3 can be categorized within Naso's burial type 7 (Fig. 184).⁶⁶² It was not possible to enter the tomb during VAP's survey. The entrance to the chamber is sealed by a large, flat stone. This is damaged in its upper right corner, forming a narrow space through which a camera, provided with a flash, was lowered into the tomb, thereby facilitating its documentation (Fig. 185). The single (?) burial chamber is rectangular, elongated towards the north and with a rectilinear entrance almost centred in the southern end of the chamber. The uneven ceiling bears no cut marks or reliefs and its general appearance is similar to that of Chamber Tomb V1. One notable difference is a low-positioned niche in the eastern wall, opposite the funerary bed along the western wall. Due to soil accumulated on top of the bed, it is difficult to determine if there are in fact two funerary beds arranged in a single row, i.e. head-to-tail, head-to-tail, or one bed directly to left of the entrance combined with an area for storage in the

far end. Walls are vertical with some low-positioned rectangular cuttings in the northern and eastern walls. These may indicate that the tomb was later reused for another purpose. The almost nonexistence of soil deposits in the tomb furthermore suggests that the chamber has been cleaned out or was perhaps successfully sealed until recently when it was deprived of its contents (and possibly reused). During documentation only a heap of soil covered the southern part of the chamber, next to the entrance. This in turn suggests that the tomb, reused or untouched, had been opened during the last decades. This soil also contained some pieces of pottery that could not be collected for documentation, but these are most likely stray finds deriving from the soil outside the tomb. It is likely that a similar circumstance applied to the pottery described by the "flying squad" in 1959—mentioned above, in the description of Chamber Tomb V1. Outside this tomb, in the soil around the cutting for the entrance, a number of fallen tufa blocks, pottery, tiles and other habitation debris can be seen. These are derived from the plateau above, possibly from clearance, and have accumulated among the tombs along the funeral street. Some of this material has fallen inside the tombs. Thus, Chamber Tombs V1 and V2 provide a good demonstration of how early dated material of the 6th century BC could be found in a later-dated tomb.

The external western (left) side of Tomb V3 shows hints of a façade, creating an angled enclosure similar to that of Chamber Tomb V1. A parallel feature to the east is expected, but is

⁶⁶² Naso 1996.



Fig. 184. Chamber Tomb V3 in the Vignale Southwestern necropolis, Naso 1996, burial type 7, seen in two views with the left photograph looking down towards the blocked opening, looking north-east and the right photograph, looking east, showing the area above and behind Chamber Tomb V3, where two different levels of tomb façades can be discerned (photographs by R. Holmgren).



Fig. 185. The interior of Chamber Tomb V3 in the Vignale Southwestern necropolis, looking north, with a niche to the right (in the eastern wall) and a funerary bed to the left (by the western wall) (photograph by R. Holmgren).

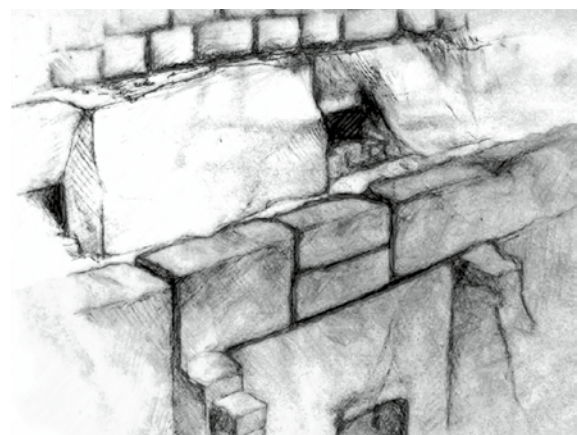


Fig. 186. A sketch interpretation of a second, upper level of burials above the lower-level row of tombs in the Vignale Southwestern necropolis, along the funeral street, looking north-east (illustration by R. Holmgren).

hidden beneath the soil and fallen tufa blocks. The abundance of debris seems to seal yet another row of rock-cut tombs—a second level of sepulchres above the row of the Chamber Tombs V1–4 along the funeral street. As can be seen in *Figs. 184, 186*, this not only seems to create another level of tombs, but also some kind of shelf-like passageway in front of the sepulchres' upper row. It is also notable that the upper part of the façade, belonging to Chamber Tomb V3, is shaped by freestanding blocks neatly placed above the lowerpositioned façades. Since these blocks are only c. 40 cm thick, they could also serve as a perimeter wall to the passageway of the upper level tombs. A similar set of tombs, although without any

visible second-level passageway, has been documented in the necropolis of Casale Vignale and was investigated by Gruppo Archeologico Romano during the 1980s.⁶⁶³ Another variant of rock-cut façade tomb was found at Castel d'Asso and Norchia.⁶⁶⁴ These tombs, however, are separated from the habitation area. Whether Chamber Tomb V3 and the adjacent tombs to its right (east) originally had an even higher façade is

⁶⁶³ Ricciardi 1987a.

⁶⁶⁴ Colonna di Paolo & Colonna 1978 on Norchia. On San Giuliano, see Steingraber & Menichelli 2010.

unclear. This can perhaps be verified among the fallen blocks constituting the layers now blocking the entrance of the lower level of Chamber Tombs V1–4.

Chamber Tomb V4

Figs. 27, 179 (for feature map, see Fig. 179)
Feature: tomb
Interpretation: chamber tomb with recessed façade (?)
 Naso 1996, type 7
Preliminary date of first construction: 4th century BC
Preliminary date of use: 4th century BC
Preliminary dating of building material/construction: 4th century BC
Area: (TS2)
Geographical location: south-west tip of the Vignale, along the funeral street, lower level
Position: 42°13'22.65"N, 12°00'10.50"E
Height ASL (m): c. 161
Measurements (m): -
Orientation: entrance from south, facing funeral street

Chamber Tomb V4 was yet another tomb that could only be superficially documented (Fig. 27). The entrance to the tomb was only partly visible due to accumulations of soil and a tree trunk, and therefore the interior could not be investigated. The general appearance resembles that of Chamber Tombs V1 and V2, but shares the same lower-level terrace position as Chamber Tombs V1 and V3. From the open upper half-metre of the tomb's entrance, one can still see parts of the interior. Inside only silty accumulations could be distinguished. The lintel bears traces of a forced entry and one must presume that the tomb was looted at the same time as the other visible chamber tombs in the area. The western side of the entrance is next to a cutting in the cliff, which marks the end of the tomb's designated outer space. There is no such cutting to the east (right). A similar architectural feature on the western (left side) of the tomb (a cutting) can also be seen in Chamber Tombs V1 and V3.

Reused Chamber Tombs V5 and V6

Figs. 27, 179, 187 (for feature map, see Fig. 179)
Feature: shelter-like cuttings into the cliff
Interpretation: chamber tombs reused as animal shelters/storage
Preliminary date of first construction: 4th century BC
Preliminary date of use: 4th century BC to Roman/medieval(?)

Preliminary dating of building material/construction: 4th century BC, remodelled during Roman/medieval times(?)

Area: (TS2)

Geographical location: south-west tip of the Vignale, along the funeral street, upper level

Position: 42°13'22.82"N, 12°00'12.36"E

Height ASL (m): c. 163

Measurements (m): chamber: D c. 0.60, W c. 3, H c. 1.70

Orientation: entrance from south, facing funeral street

In the most easterly part of the funeral street, truncated by the southern slope of Vignale as it runs up to the summit, two likely reused chamber tombs are visible in the upper level of the necropolis. The two rectangular cuttings are 5.6–3.8 m in length, 1 m in depth, and 1.5–1.6 m in height, separated by a wall with a width of 0.49 m (Figs. 27, 187). Presumably these are remnant tombs, where the outer façades have collapsed, leaving two adjacent rectangular niche-like structures in the cliff. This is a commonly encountered arrangement in the Etruscan landscape in general, but here they add further evidence to the notion that the area supported several Late Etruscan tombs—obviously in direct connection to the habitation above. The tombs bear witness of having been used for a longer period of time, even after their function as homes for the dead was discontinued. Most likely these sooty spaces have both served as shelters for herdsmen and/or animals, where carved hollows for fixing reins are obvious indicators of this secondary use. Whether the spaces saw more elaborate uses during Roman and/or medieval times is not known. Aside from reworked details in the cliff, there are some beam holes above the openings that suggest that the extended parts of the caved areas were roofed. As the collapsed façades are long gone, there are at this point no visible architectural elements for further inquiry. However, the reconstructed original size of the tombs, with the low and slightly convex ceiling without decorative elements, suggest a dating in line with Chamber Tombs V1–V4.

DISCUSSION AND PARALLELS—BURIALS AND NECROPOLEIS

The study of the necropoleis on the eastern end of the Vignale plateau can provide information on the Archaic and Late Etruscan settlements on Vignale itself. Furthermore, the recently documented Hellenistic Southwestern necropolis on the westernmost tip of Vignale supports the notion of Late Etruscan activities in its immediate vicinity (Fig. 170:3). Parallels to various burial sites in the San Giovenale area were also considered above.



Fig. 187. Reused Chamber Tombs V5 and V6 in the Vignale Southwestern necropolis, looking north-west (photograph by Y. Backe Forsberg).

Östenberg's typology of the tombs excavated in San Giovenale during the 1950s–1960s categorized them in a sequence from 1–6.⁶⁶⁵ In the time since his publication, new excavations have been conducted in some of the necropoleis and new categorizations have been added,⁶⁶⁶ for example, by Tobin-Dodd, who in 2013–2014 performed the most thorough survey of San Giovenale's chamber tombs to date. He described a large number of previously unknown chamber tombs in his 2015 treatise.⁶⁶⁷ These were recorded by Tobin-Dodd in the Montevangone necropolis on the south side of the river Vesca and the Castellina Camerata burial-ground, as well as discoveries in the area of the Fosso del Pietrisco cemetery.⁶⁶⁸

The necropoleis in the vicinity of the Vignale plateau comprise various kinds of burials, such as the *pozzo* tombs from the Final Bronze Age III (Fig. 170:5–7),⁶⁶⁹ and a Late Etruscan chamber tomb with a *dromos* (FP4, Fig. 177). Similar types of

chamber tomb can also be found in the Valle Vesca necropolis.⁶⁷⁰ Yet another type of tomb, questioned by Östenberg, was the rock-cut façade tomb frequently represented at Norchia, San Giuliano, and Castel D'Asso.⁶⁷¹ This kind of tomb, which is classified as type 7 according to Naso 1996, or Prayon 1975 type B1:4, is regularly found at Casale Vignale (Fig. 188).⁶⁷² Chamber Tomb V3, positioned along the funeral street in the Southwestern necropolis, seems to have this specific kind of rock-cut façade, but without a false door (Figs. 184, 186).⁶⁷³

The three Proto-Villanovan cremation burials (one *pozzo* tomb and two *custodiae*, FP1–3) were investigated and dated to the 8th century BC, i.e., the Early Iron Age.⁶⁷⁴ However, the tombs have now been redated to the Final Bronze Age

⁶⁶⁵ *San Giovenale* I:9.

⁶⁶⁶ See Tobin-Dodd 2015, 202, appendix 1, on new tombs excavated 1982–1990 by Soprintendenza per i Beni Archeologici dell'Etruria Meridionale and Gruppo Archeologico Romano; Naso 1996.

⁶⁶⁷ Tobin-Dodd 2015.

⁶⁶⁸ Tobin-Dodd 2015. The Montevangone necropolis was investigated in 1957 and consisted of two Etruscan chamber tombs, one dated to the first half of the 6th century BC and the other to the first part of the 5th century BC. The two tombs are published in *San Giovenale* I:5, 109–126, pls. 1, 51–62. See also Pohl 1982.

⁶⁶⁹ *San Giovenale* I:8, figs. 2–4; I:9, 4, table 1.

⁶⁷⁰ *San Giovenale* I:8, 11, 19–58; I:9, 5, table 1.

⁶⁷¹ *San Giovenale* I:9, 10.

⁶⁷² Tobin-Dodd 2015, 166–167, Tombs 220 and 221. Tobin-Dodd has not commented on the (external) shape of this type of tomb. He divided some tombs into two types, “Tombs with a curvilinear outer shape” and “Tombs with a rectilinear outer shape”, see pages 16–19. See also the rock-cut tomb with false Doric door, Tomb 172, dated to the 4th century BC or later (Tobin-Dodd's Period 3) pp. 23 and 153, fig. 13. See also Tombs 173 and 174 with traces of false doors.

⁶⁷³ During the 1980s–1990s the Soprintendenza in Rome continued excavating several tombs in the Casale Vignale and Castellina Camerata necropoleis, Ricciardi 1984; 1987a.

⁶⁷⁴ *San Giovenale* I:8. On the discussion of the dating terminology of the early Swedish archaeologists, see Tobin-Dodd 2015, 61–63, esp. n. 328.



Fig. 188. Rock-cut tomb façade in the south-western area of Cassale Vignale—which can be compared with Chamber Tomb V3 along the funeral street in the Vignale Southwestern necropolis, looking west (photograph by R. Holmgren).

IIA2 and IIIA2 (c. 9th–8th centuries BC). The four *pozzi* tombs in the Porzarago necropolis north of the Acropolis have also been redated to the same period range.⁶⁷⁵ Results from the ¹⁴C dating acquired in Area F East also confirm the same dating. Whether the Fosso del Pietrisco tombs belonged to the Final Bronze Age hut settlement of the Acropolis plateau, or an adjacent and still unlocated site on the Vignale plateau, is an open question.⁶⁷⁶ Thus far no oval huts have been identified on the Vignale tableland. Nevertheless, finds such as a biconical jar and a carinated bowl found in cistern WI-6 strongly support the idea of an early settlement on Vignale (*Cat. nos.* 41–42).

The aerial investigations by VAP in 2007–2010 found traces of many new *pozzi* tombs east of the already recognized burials (*Fig.* 175). VAP's aerial survey, using infrared thermography (IRT) as well as light detection and ranging (LiDAR), confirms that a number of various types of tombs are present on both sides of the Blera–Civitella Cesi road on the Vignale plateau;⁶⁷⁷ altogether these may have comprised a single, large necropolis. The results of this remote-sensing venture point to the existence of quite a large number of Bronze Age tombs

in the Fosso del Pietrisco necropolis.⁶⁷⁸ Further ground investigations are required to provide more detailed information regarding these potential tombs. It should also be noted that the documented extent of the Archaic and Hellenistic burial areas of the Fosso del Pietrisco has been expanded as a result of Tobin-Dodd's survey of tombs.⁶⁷⁹ Additionally, the information on the pozzolana quarry dug in the beginning of the 1970s, in an area containing tumuli and cube tombs, supports our assumption that the Fosso del Pietrisco necropolis was much larger than previously estimated.⁶⁸⁰ We shall return to this below.

In the recently studied Southwestern necropolis, at least four Late Etruscan chamber tombs could be documented (Chamber Tombs V1–4), as well as two larger burial tombs modified as animal shelters (Chamber Tombs V5–6). Chamber Tombs V1–4 are positioned along the funeral road just outside the access to the south-western tip of the Vignale settlement (*Fig.* 27). As mentioned above, these tombs were quite a surprising discovery, which also led to the identification of a poorly preserved winding road connecting the Vignale plateau with the river Vesca to the south and beyond. The chamber tombs, which were all pillaged, have been dated

⁶⁷⁵ Tobin-Dodd 2015, 63, Tombs 329, 330–331; *San Giovenale* I:5; Berggren & Moretti 1960, 6–7.

⁶⁷⁶ Tobin-Dodd 2015, 72–73.

⁶⁷⁷ Wetter 1962, 206, aerial photomap F7.

⁶⁷⁸ Coluzzi *et al.* 2011; Lasaponara *et al.* 2012.

⁶⁷⁹ Tobin-Dodd 2015, 67, fig. 46, table 11, Tombs 199–203.

⁶⁸⁰ Colonna 1973, 537.

to the 4th–3rd centuries BC due to features similar to those of several Hellenistic chamber tombs on the slopes of Casale Vignale, in the Poggette area (Fig. 170:5).⁶⁸¹ In particular, Tobin-Dodd's Tomb 221 on Casale Vignale can be compared to Vignale's Chamber Tomb V3 in several ways: no visible *dromos*, a flat ceiling without any intricate cuttings, and the presence of only one bed.⁶⁸² Chamber Tomb V3 has only one bed positioned on the left (western) side accompanied by a niche on the opposite wall.⁶⁸³ Tobin-Dodd's Tomb 220, near to Tomb 221, has one right-side (east) bed besides a centrally positioned bed.⁶⁸⁴ Vignale's Late Etruscan Chamber Tomb V1 has a *dromos* leading into a single chamber with a flat uncut ceiling. This looted tomb contained a large amount of accumulated silt, which made it difficult to undertake soundings for potential hidden beds. Nevertheless, according to the plan, a right-side (east) bed arrangement is to be suggested (Fig. 181).

When considering the spatial relationship between Etruscan burial-grounds and contemporary settlements, the general opinion among scholars has been that the necropoleis in Southern Etruria were separated from the habitations they served—for example, situated across a deep ravine or a river—although the necropoleis were generally visible from the settlement (Fig. 170). Scholars have consequently argued over which settlement was connected to the nine separate necropoleis in the San Giovenale area.⁶⁸⁵ The visibility from the main settlement, in this case the Acropolis, is an important factor. Another factor involves the character of the rock, where geological conditions played a crucial role in the construction of certain types of burials.⁶⁸⁶ Finally, as will be seen in the case of Vignale below, one must also take into account the relationship between tombs and roads.

Let us first take into consideration the tombs of Castellina Camerata (Fig. 170:4). This necropolis, opposite Vignale, was early on proposed to belong to a 6th-century BC settlement

on the western tip of Vignale.⁶⁸⁷ An alternative suggestion was that it belonged to the settlements including the Borgo and the Acropolis.⁶⁸⁸ The burial-ground is situated south of the Vesca river, in a ravine carved by the Fosso della Camerata. The latter is a brook which empties into the Vesca river, opposite the south-western part of the Vignale plateau. The area was surveyed in 1959 by the “flying squad” from the Swedish Institute of Classical Studies in Rome. The team found 66 tombs but excavated and published only three.⁶⁸⁹ Some of the tombs were investigated in the 1980s and a few were only summarily published.⁶⁹⁰ Tobin-Dodd, who surveyed the area in 2013–2014, documented 82 tombs, of which 69 have been either dated or redated: 38 tombs to the period before 625 BC, 27 to the period 625–400 BC, and four to the period after 400 BC. Thirteen were of unknown date.⁶⁹¹ Considering visibility and the separation from the inhabited plateaus, it seems fair to suppose that Castellina Camerata is a perfect match for any of the settlements at San Giovenale. Castellina Camerata's perfect geological preconditions for the construction of chamber tombs, as opposed to the relatively level setting of Casale Vignale, probably made the former necropolis a major addition to the burial-grounds in San Giovenale's immediate neighbourhood.

The custom of placing cemeteries on a separate plateau, but visible from the settlement, is well established.⁶⁹² However, there are examples where tombs and settlements were sited on the same plateau—but far apart. One instance is Pian Conserva at Tolfa, and another example is that of Acquarossa.⁶⁹³ When making such considerations, one could on good grounds suppose that the Archaic settlement in San Giovenale, including the tip of Vignale, had used the necropoleis of Fosso del Pietrisco and/or Valle Vesca, not least since the dating of the chamber tombs coincides with those of the recovered settlement remains nearby.⁶⁹⁴ On the ritual organization and the layout of burial-grounds, see Vedia Izzet who also discusses the importance of visibility during various periods.⁶⁹⁵

Hemphill has argued that the Valle Vesca cemetery, some distance east of the Vignale settlement, could have been used by the inhabitants of a small Etruscan site located between

⁶⁸¹ Tobin-Dodd 2015, table 16, a cluster of 23 Hellenistic chamber tombs (Tombs 220–242) on the Casale Vignale, one in Ponton Paoletto, four in Castellina Camerata, one in Fosso del Pietrisco, and three in Grotte Tufarina. Gamurrini *et al.* 1972. Tobin-Dodd 2015, 16–35, table 3, has dated his newly discovered tombs and redated some of the old published ones according to various architectural features in Period 1 (725–625 BC), Period 2 (625–400 BC), and Period 3 (400–200 BC).

⁶⁸² We now know of two tombs furnished with only one bed, see Tobin-Dodd 2015, Tomb 220.

⁶⁸³ There are only a few found in all the San Giovenale tombs, see Tobin-Dodd 2015, Tomb 102.

⁶⁸⁴ See Tobin-Dodd 2015, figs. 5–6 on general terminology of the exterior and interior of a tomb. On Tombs 220–221, see Tobin-Dodd 2015, 166–167.

⁶⁸⁵ Tobin-Dodd 2015, 72, fig. 40, shows nine burial-grounds. The recently discovered Vignale Southwestern necropolis is the tenth burial-ground.

⁶⁸⁶ *San Giovenale* I:9.

⁶⁸⁷ *San Giovenale* I:4, 6.

⁶⁸⁸ *San Giovenale* I:4, 6; Colonna 1997, 65; Tobin-Dodd 2015, 75.

⁶⁸⁹ Tobin-Dodd's Tombs 124 = CC 2, 131 = CC1, and 150 = CC3. See Tobin-Dodd 2015.

⁶⁹⁰ *San Giovenale* I:7, 3; Tobin-Dodd 2015, n. 343, and appendix 4.

⁶⁹¹ Tobin-Dodd 2015, 65–66, 131–155, fig. 44, table 9. The 82 tombs are registered as Tombs 97–178.

⁶⁹² Tobin-Dodd 2015, figs. 40, 52–53.

⁶⁹³ Brocato 2000, 470; Tobin-Dodd 2015, 74. Pers. comm. by Margareta Strandberg Olofsson that tombs and settlement area were found at Acquarossa but divided by a road.

⁶⁹⁴ Tobin-Dodd 2015, 66–68, figs. 10–11.

⁶⁹⁵ Izzet 1996, 70.

San Giovenale and Civitella Cesi.⁶⁹⁶ According to Marco Rendeli, it is dubious whether the necropoleis of Fosso del Pietrisco and Valle Vesca belonged to the settlements on Acropolis and Borgo in San Giovenale.⁶⁹⁷ In light of VAP's Vignale study, which was not entirely available to either of the scholars above, this situation may now be seen in a new perspective. Although the Vignale settlement has only been partially investigated, the similarity and the dating of the finds from cisterns and other features, together with the grave goods, make it probable that the inhabitants of Vignale practised their burials in these necropoleis. Fosso del Pietrisco, with its burials dated to between the 7th and the 3rd centuries BC, could also be reconsidered a burial-ground for the Vignale settlement. This is especially relevant when considering that the chamber tombs, not far from Vignale's water installations WI-9 and WI-3, contained Late Etruscan/Hellenistic pottery of the 3rd century BC. This material is similar to the contents of Chamber tomb FP4, found in the Fosso del Pietrisco necropolis next to the Pacchiarotti property.

When Gierow published the Archaic Valle Vesca tombs, he advocated that this cemetery, along with the Fosso del Pietrisco necropolis, belonged to the Vignale settlers, while Östenberg, Hemphill, and Tobin-Dodd are supporters of an Etruscan habitation on or in the vicinity of the Civitella Cesi plateau.⁶⁹⁸ Tobin-Dodd and the others argue that either visibility did not play a major role and the tombs did not have to be visible from the San Giovenale Acropolis—or that visibility was important for the inhabitants and therefore the necropolis was used by the Civitella Cesi settlers.⁶⁹⁹ When studying the topography of Vignale and elaborating further on the Valle Vesca tombs, VAP is more minded to favour Gierow's view. Tobin-Dodd and the others could very well be correct in their claims, but there is some circumstantial evidence to suggest that the tombs were primarily connected to the inhabitants of the Vignale plateau. Positioned c. 600 m distant from the Vignale settlement, these tombs should be considered sufficiently separated, although located on the same plateau. As mentioned when discussing the infrastructure of San Giovenale, it would also be wrong to consider all of Vignale as belonging to a distinctly defined plateau with steep slopes all around. Rather it is a landmass that gradually transforms at its western end into a very narrow promontory (Fig. 48). The Etruscans do not seem to have had a problem with a settlement and a necropolis placed on the same table-

land, considering that the dating of the burials in Valle Vesca accords with the habitation remains on the Vignale promontory, which makes it probable that the Vignale settlers used this necropolis.

Returning to the idea of visibility—the tombs must have been apparent from the Vignale settlement, both by eye and in mind. By the latter, we refer to the obvious awareness of the tombs that settlers and visitors would have had when approaching and exiting along the settlement's eastern access. This is analogous to the relation between the Casale Vignale burials and the Acropolis, even though these are clearly divided by the deep, narrow interruption of the Dogana road (Via Ceretana) (Figs. 30:1, 170). Regarding the question of visibility of the tombs in the Valle Vesca area, we must also consider the now-missing tumuli in their immediate vicinity. These must have been clearly visible from the Vignale settlement when gazing east. The tumuli in this case could be regarded as the earliest and the most elevated subdivision of a larger necropolis, then used by settlers at both Vignale and the Acropolis, with its tombs from the Final Bronze Age to the Hellenistic period. In this case, one could argue that the seemingly distant location of the Valle Vesca burials can be explained by the wish to construct chamber tombs: in Valle Vesca we find the only nearby ravine allowing for this type of funeral architecture. Due to modern interventions in the landscape it is hard to envision the earlier layout of the area. The modern north–south asphalt road that runs through Vignale's eastern end (the eastern border of VAP's study area), is not only a separating distraction today, but also has enabled drastic modern changes—such as building activities, farming, and quarrying. There was, in fact, a well-thought-out infrastructure connecting both the various tombs of the Fosso del Pietrisco and the Valle Vesca necropolis, as well as the now-absent tumuli. Together these constituted a large hub at an intersection with roads running in all cardinal directions. We have the east–west road linking San Giovenale and San Giuliano through Vignale, and there was a north–south road positioned parallel and slightly west of the modern asphalt road. The ancient road running north–south had its southern continuation through the Valle Vesca necropolis and its northern extension most likely through Fosso del Pietrisco, where tracks of an ancient road could be traced in the bedrock—an observation that however was not further studied in detail. The reason for this was that the early excavators were not yet aware of the extent of necropoleis in the area and as such the importance of an established infrastructure. It was not until the early 1970s that many more tombs would be discovered just next to this road, and the reason for this discovery was the initiation of pozzolana quarrying. The large rectangular quar-

⁶⁹⁶ Hemphill 2000, 46.

⁶⁹⁷ Rendeli 1993, 348; *San Giovenale* I:8, 17. The burial-grounds may have belonged to the Vignale settlement due to their position at the eastern part of the plateau.

⁶⁹⁸ *San Giovenale* I:8, 46; Colonna 1997, 65.

⁶⁹⁹ Tobin-Dodd 2015, 66–67, 75, fig. 52; Hemphill 2000, 46; *San Giovenale* I:4, 5.

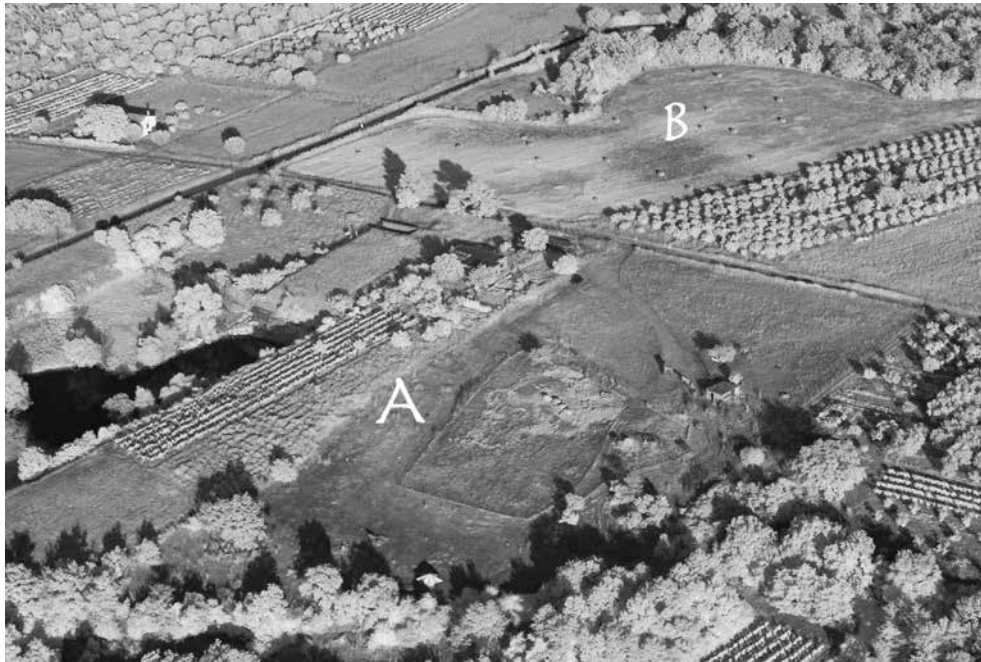


Fig. 189. A NIR oblique photograph, looking south-east, of the semicircular “shelf” (B) next to the Valle Vesca descent and south of the Fosso del Pietrisco burials (A). Site B contains anomalies that may conceal tumuli or other tombs, resembling the topographical position of the Porzarago necropolis north of the Acropolis (photograph by R. Holmgren).

ry can still be seen west of the asphalt road (Fig. 176).⁷⁰⁰ The east-west road mentioned above was probably also an important link to Casale Vignale and the road to Blera, when coming from San Giuliano—this without having to go through the core settlements of San Giovenale. This would then have been the ancient version of the Blera–Civitella Cesi asphalt road. In the epicentre of this hub were the tumuli tombs that were indicated on Wetter’s map, east of the asphalt road, but not excavated (Fig. 48).⁷⁰¹ In the vicinity of this intersection, there is a semicircular “shelf” of land on Vignale, next to the Valle Vesca descent. Today, this spot is of agricultural use only, but NIR photography has revealed some anomalies on the site that may further extend the area of tumuli and other tombs (Fig. 189). If so, this “shelf” very much resembles the topographical position and possibly the burial content of the Porzarago necropolis north of the Acropolis (dated from the Final Bronze Age to the Hellenistic period). Altogether, the burial-grounds of Fosso del Pietrisco and Valle Vesca, both in their variation and in the timespan they cover, comprise a substantial amount of funerary material that requires corresponding remains of settlements. We believe that the remains of this settlement are to be found on Vignale’s western promontory.

Before concluding, let us have a further look at Vignale’s Southwestern necropolis and the question of later burials, as well as and their position relative to the Vignale settlement.

The funeral pattern in this Late Etruscan necropolis is in line with many other Hellenistic burials from the period, in that the tombs were to be placed outside the city walls, often sited in sloping ground near the settlement itself. The positioning outside the city walls is in accordance with the Roman Family Law on funerals.⁷⁰² A similar example is to be found on the slopes of Petrolo, the ancient settlement at Blera, and along the branch of Via Clodia which ran along the top of the plateau. Those tombs were dated to the 5th–2nd centuries BC.⁷⁰³ Other examples are Civitella Cesi and San Giuliano-Manterano. For the latter site Roman influence is documented from the 4th century BC.⁷⁰⁴ The Roman conquest of the Etruscan cities, which started with Veii in 396 BC and continued with Sutri in 386/383 BC, and possibly the still-unidentified Etruscan sites of Contenebra and Cortuosa in 388 BC, may have impacted the placement of the later chamber tombs in San Giovenale (Tobin-Dodd’s Period 3, that is, 400–200 BC).⁷⁰⁵

⁷⁰² On Hellenistic chamber tombs dated to Period 3 (4th century BC or later), which can be found in all the necropoleis around San Giovenale except Porzarago, see Tobin-Dodd 2015, figs. 40–41, 43–47, 49–51, table 16. Table X of the Roman Law, which stated that inhumation and cremation burials should be placed outside the city and that there were restrictions in funeral matters, was placed with the other tables at Forum Romanum in Rome, cf. Robinson 1975.

⁷⁰³ Ceci & Schiapelli 2005, 36, fig. 18.

⁷⁰⁴ Hemphill 1993; 2000; Ceci & Schiapelli 2005, fig. 18.

⁷⁰⁵ Livy 6.4.7–11. Contenebra and Cortuosa have tentatively been identified with San Giovenale. Suggestions of other Etruscan sites being Contenebra and Cortuosa also occur. See also discussion in Perego 2012,

⁷⁰⁰ Colonna 1973, 537.

⁷⁰¹ Wetter 1962, 206, aerial photomap F7.



Fig. 190. Roman *arcosoli* and *loculi* seen below the di Vico castle on the Acropolis of San Giovenale, looking south-west (photograph by B. Hallert, courtesy of SIR).

Moving forward to burials within the settlements, simple rock-cut Roman niche tombs (*arcosoli* and *loculi*) were found below the di Vico castle on the San Giovenale Acropolis (Fig. 190). The same type of tombs, dated to the 3rd–2nd centuries BC, can also be seen along the road-branch of Via Clodia at Blera, as well as along the road on the western side of the Petrolo plateau.⁷⁰⁶ It is worth noting that several of the Roman Family Laws mentioned above were either abandoned or replaced by more suitable edicts during the 3rd century BC. If this is an indication of a change in burial rituals is currently not known, but as mentioned we do find tombs within settlements at this later stage. According to Tobin-Dodd a rock-cut niche tomb, possibly Roman, is located at the very western tip of Vignale.⁷⁰⁷ Since Hemphill found various concentrations of scattered Roman pottery on the north-western side of the plateau, dated from the 2nd–1st centuries BC to the 2nd century AD, it should not be unexpected to find Roman burials in this area.⁷⁰⁸ In San Giovenale, during the period of Roman expansion, the area was dotted with large *villa rusticae* and smaller farmsteads, for example at Le Pozze, dated to Re-

publican time and the early Empire.⁷⁰⁹ A villa dated from the 4th–3rd centuries BC to the second half of the 4th century AD was documented by Hemphill on the eastern slopes of Casale Vignale.⁷¹⁰

The latest documented period of any burial on the Vignale proper is thus the possible Roman niche tomb mentioned above. However, it should not be excluded that some of the chamber tombs in the Southwestern necropolis on Vignale could have been reused as Christian burials from the second half of the 1st millennium AD—analogue with the three chamber tombs inscribed with Latin crosses at “La Piazzetta” west of Casale Vignale (see below, Figs. 218–219). The reason for such an assumption is the indication of a thriving connection between the Acropolis and Vignale through the latest phase of the Bridge Complex (Bridge 1). Evidence for this is discussed in the subsequent chapter on wine production over time in this area. Currently the only documented burials from the 1st–10th centuries AD are the ones on the Acropolis. Five simple rectangular shaft inhumation tombs covered by Roman pantiles and cover tiles (*alla cappuccina*) were found in front of the northern wall outside the medieval chapel. No finds could date the tombs but the reused tiles were dated to the 4th–2nd centuries BC.⁷¹¹ Inhumation burials from both

42–45; Olsson 2021, 64, 70–71, 126. For chronology, see Tobin-Dodd 2015, 203.

⁷⁰⁶ Ceci & Schiapparelli 2005, 38, figs. 30–31, 75–76, 79. *Custodia* tombs are still visible today along the road on the Petrolo plateau down to Ponte della Rocca.

⁷⁰⁷ Tobin-Dodd 2015, 72.

⁷⁰⁸ Hemphill 2000, 44–45, sites 55, 57, and 61. See also map of Civitella Cesi in the back of the book.

⁷⁰⁹ Hemphill 2000, 39, sites 32–33, 37, and 39.

⁷¹⁰ Hemphill 2000, site 66. See also Hemphill 1993.

⁷¹¹ Berggren, E. 1984, 83–90, fig. 40; Tobin-Dodd 2015, 77, fig. 54. The tiles may have been reused.



Fig. 191. Medieval rectangular tombe a fossa, looking north-west, here clearly seen inside the chapel covered by nenfro slabs (photograph by R. Holmgren).

inside and outside the southern side of the chapel have been recorded. In the excavation notebooks from 1958 there is information on a firmly identified cemetery directly south of the chapel.⁷¹² Several medieval rectangular *tombe a fossa*, covered with large slabs of grey volcanic rock (nenfro), were found inside the chapel and some are clearly visible on an aerial pho-

tograph from 2009 (Fig. 191).⁷¹³ Skeletons, probably from medieval inhumation burials, are also recorded in a few settlement areas on top of and adjacent to the Acropolis hill—such as the Borgo area and Area F East, House III.⁷¹⁴

⁷¹³ Berggren, E. 1984, 83–84, figs. 40, 42.

⁷¹⁴ *San Giovenale* V:1, 149, figs. 11, 134, a late 5th- or early 6th-century AD burial in niche Ah. See also *San Giovenale* V:2, pl. 101, A:h-1; IV:1,

⁷¹² EB notebook 1958, 61 stored in the Archaeological Archive at SIR.

Table 12. Pottery wares from Levels I–II in various excavation squares on the Vignale summit, including items not catalogued (Stone Platform, Cultivation Trenches, and Quarry = bedrock cuttings, see also Graph 4).

Ware/context	Level I M53–M55	Level III L54/M54	Level I–II L55/M55	Level III M53/M54	Level II M56	Level II M58	Total
Italo-Geometric	1		1				2
Etrusco-Corinthian		3	5	4	4	1	17
Bucchero	5	7	5	6	13	3	39
Transitional impasto		3					3
Brown impasto	1		2		8		11
Red impasto				1	2		3
Red/brown slip	11	4	12	24	26	9	86
Brown slip handmade						2	2
Coarse ware internal red slip	3	7		11	7	5	33
Coarse ware	2	6	9	7	3	5	32
Etruscan black-glaze/black-figure					1		1
Red ware			1				1
Total	23	30	35	53	64	25	230

Concluding remarks on the dating of pottery and small finds on Vignale

The various table and household wares, roof tiles, and the small finds found especially in cisterns WI-1a, WI-2, and WI-5, situated in the Quarry area (Fig. 75), are quite homogenous and indicate the various occupation periods on the Vignale plateau during the Orientalizing and Archaic Etruscan periods, i.e., 7th century to the middle of the 5th century BC. The Quarry fill has probably been derived from debris on the western part of the plateau. The latter area is dominated by cisterns and wells from habitations spanning over several periods, ranging between Proto-Villanovan to Late Etruscan/Republican times. The earliest pottery found on Vignale was located on the northern slope. It consists of two fragments of biconical jars of primitive impasto dated to the Late Neolithic period c. 3300 BC (*App. 1, nos. 82–83*). In this location were also found a few primitive impasto fragments of Proto-Villanovan type (Final Bronze Age IIIA2). Another early fragment was that of a carinated bowl in primitive impasto (*kyathos*, prob-

Table 13. Small finds, including architectural terracottas, from Levels I–II in various excavation squares on the Vignale summit, including items not catalogued (Stone Platform, Cultivation Trenches, and Quarry = bedrock cuttings) (TS2).

Ware/context	Level I M53–M55	Level III L54/M54	Level III L55/M55	Level III M53/M54	Level II M56	Level II M58	Total
Terracotta spool?			1				1
Wall plaster		1		1			2
Tiles (architectural terracotta)	2	6			1	1	10
Metal: bronze		1		1			2
Mineral: muscovite				1			1
Total	2	8	1	3	1	1	16

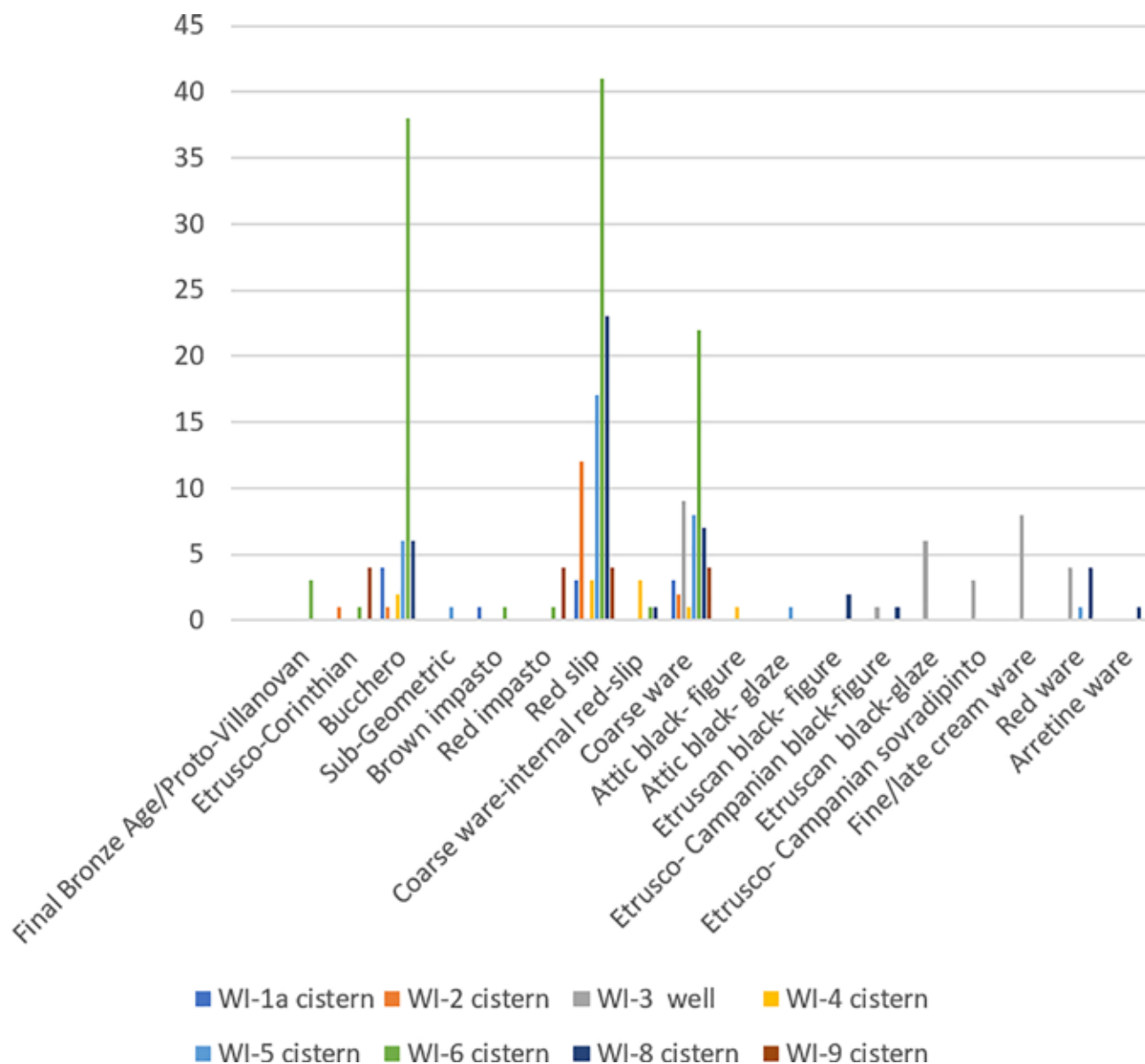
ably with one handle) which was found in cistern WI-6 near the Quarry. It dates to the 9th century BC (*Cat. no. 41*).⁷¹⁵ The late 7th to the middle of the 6th centuries BC were represented by the finds in several of the cisterns, especially from cistern WI-6. The finds consisted of terracotta items such as a ram's head, a fire dog, roof tiles, textile implements, together with various vessels of black and ordinary bucchero, coarse ware and red-slip jars, and jugs and basins with crosswise-placed lug feet.

Hemphill concluded that various areas on Vignale had finds from the late 7th to 5th centuries BC. She also found areas with material dating from the 4th to the 2nd centuries BC—and likely even 2nd century AD material.⁷¹⁶ The ceramics in “Pozzo Pacchiarotti” WI-3 (*Table 7*) were dated to the end of the 4th century to the 3rd century BC, as were the two black-glaze bowls found on the ground surface on the western tip of Vignale (*Cat. nos. 132–133*), which correspond well to Hemphill's periods. The chamber tombs in the Vig-

51, 55, fig. 42, str. 1 contained some glazed medieval sherds. Tobin-Dodd 2015, 76–78.

⁷¹⁵ Backe Forsberg 2005, 63, n. 318, table 3, figs. 75:1–2 (Neolithic closed forms), 75:6–13 (Proto-Villanovan forms), see also *Appendix 1*.

⁷¹⁶ Hemphill 1993; 2000.



Graph 4. Ceramic wares from various squares, Levels I–II, in the Quarry.

nale Southwestern necropolis and the Hellenistic tombs in the Fosso del Pietrisco necropolis can also be ascribed to these periods.⁷¹⁷

The pottery found in the fill of the cisterns and the Quarry consists of table ware, mostly bucchero vessels connected with drinking, eating, and serving. Also present, and all dated to the 6th century BC, are household wares of various fabrics,

mainly red slip and internal red slip, as well as coarse ware used for cooking and storing. Orientalizing table pottery such as Italo-Geometric and Etrusco-Corinthian, both dated from the 8th to the 7th centuries BC, was also represented, as well as a few Final Bronze Age III (10th century BC) and Proto-Villanovan vessels (9th century BC). The contents of “Pozzo Pacchiarotti” WI-3 comprised a variety of table wares common in the 4th to the 3rd centuries BC (Table 7).

⁷¹⁷ See Tables 10 and 15. On the Southwestern necropolis and Fosso del Pietrisco, see above.