

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
dell'Etruria Meridionale
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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 6. Final synthesis and chronological overview

This current study is based on the fieldwork conducted by Vignale Archaeological Project (VAP), initiated in 2006. The project used a combination of extensive ground and aerial surveys, the latter incorporating various types of remote sensing such as conventional photography, near-infrared (NIR), infrared thermography (IRT), and LiDAR scanning (light detection and ranging). Thus, the techniques used were a synergistic solution with satellite remote sensing, historical photographs, field surveys, and ancillary information. An important motivation for the recent project was to include the unpublished excavations at Vignale in 1959–1960. From the start of investigations in the area, the western part of the Vignale plateau has yielded a plethora of Etruscan installations such as cisterns, house remains, pottery, and a sizeable stone platform (Fig. 27). Nearby wine presses and bedrock linear features were also documented, of which the latter could be identified as cultivation trenches. A stone's throw to the north of the habitation area were the remains of the large Bridge Complex that connected Vignale with the Acropolis and its surroundings. New evidence of additional road networks and small bridges also showed how Vignale was connected to Etruscan necropoleis to the south and east as well as Late Etruscan burials below the habitation itself (Fig. 30). This infrastructure confirmed Vignale both as an important settlement as well as a transit area. In other words—the monumental Bridge Complex reflected the importance of Vignale as a separate entity within San Giovenale as a larger unit.

Vignale through the ages— a chronological overview

The earliest presence of human activity is the evidence of Late Neolithic pottery (*Pienza Palidoro* style, c. 3300 BC) found in a fill excavated in the area above the southern bridge abut-

ment (Fig. 26, TS1, App. 1, nos. 82–83). Since this material is located on the northern lower slope of Vignale, there is reason to believe that the sherds derive from material that was redeposited here during the comprehensive construction work associated with Bridge 1 and its adjacent structures at the Bridge Complex. The construction of the bedding for the road intersection at the Bridge Complex required some levelling. An analogy to this could be seen during a trial sounding beneath House 1 in 1999 (near the northern abutment of Bridge 1), where the foundation layer of the house represented a mix of San Giovenale's early Etruscan periods (c. 625 BC) and ceramic types up to the construction of House 1 (c. 565 BC).¹⁰²⁷ Thus, any Neolithic material deposited near Bridge 1 could originate from any area of San Giovenale, but likely near the spot where it was found. Another and perhaps more plausible theory is that the Neolithic sherds represent the remains of what previously was situated above, and that they have fallen down from the plateau as a result of various later construction activities on the summit (Fig. 26, TS2). If this is the case, then these sherds represent the first testimony of Neolithic activities on the Vignale plateau.¹⁰²⁸

Moving on to the subsequent periods, we have described and discussed the three Final Bronze Age IIA and IIIA2 *pozzo* burials of the Fosso del Pietrisco necropolis, of which two were of a *custodia* type (c. 9th–8th centuries BC, Fig. 173). Located at Vignale's eastern end (Fig. 26, TS3), this necropolis could possibly reflect the presence of a nearby settlement from the same period. There is reason to believe that these tombs were associated with Vignale: the tombs' position along the eastern access to Vignale and the fact that pottery from the same period is represented on Vignale's promontory, provides

¹⁰²⁷ Backe Forsberg 2005.

¹⁰²⁸ On Neolithic and Bronze Age pottery found on the Acropolis during the 1950s–1960s, see Note 58 in Chapter 2.

a relatively strong case. A similar case scenario has been suggested for the four Final Bronze Age III *pozzo* tombs in the Porzarago necropolis, which most likely belonged to the hut settlement on the Acropolis.¹⁰²⁹

Final Bronze Age (c. 12th–9th centuries BC, *Cat. nos. 41–42*) and Early Iron Age (c. 9th–8th centuries BC, *Cat. no. 43*) pottery was found in cistern WI-6 together with possible ritual objects of a later period. The early sherds represented should be understood as stray, residual finds, but they do nevertheless presumably indicate a presence in earlier periods on Vignale. Since the material was recovered almost 70 years ago, it is hard to say with what precision the cistern was excavated, and if more fragmentary material was preserved inside but not collected during excavation. However, the generally low frequency of material from the early periods should not be surprising, given that we are depending on material recovered from the filling of cisterns and other later constructions. Even if the cisterns were constructed later, and filled up at an even later point in time, we can expect earlier pottery to be included in their fills due to clean-up activities following destructive events and other transfers of soil during any occupational period. In a similar way, demolished ashlar and rubble walls and beddings for roads are often a source of scattered remains of early pottery. Almost all of the cisterns documented on Vignale were filled with fragmented material from the clean-up after the mid-6th century BC earthquake, a clear demonstration of the destructive power of the phenomenon. When mentioning the fills comprising post-earthquake clean-up material, it is relevant to clarify that pre-Etruscan pottery is not to be expected in any quantity. The simple reason for this is that Etruscan courtyards and living areas seem to have been occupied and used with the bedrock entirely exposed. As such, the areas around the buildings and other features lacked any accumulated soils in which pottery from earlier periods could become embedded. At Vignale, no traces of housing prior to the Etruscan building activities were documented during the early excavations. VAP's use of remote sensing was far too imprecise to detect features such as the rock-cut channels of early huts.

A settlement from the Proto-Villanovan culture (Final Bronze Age III c. 10th–9th centuries BC) positioned on Vignale now seems to be more plausible than earlier thought. Before VAP's remote sensing surveys, only three tombs (FP1–FP3) had been recorded in the Fosso del Pietrisco necropolis. However, the presence of the newly discovered tombs speak in favour of the existence of a separate settlement on Vignale.¹⁰³⁰ The aerial surveys indicate the presence of at least 60 *pozzo* tombs. The present authors suggest that an even larger num-

ber of Proto-Villanovan tombs are likely still hidden here, and that even more could have been destroyed in modern times.¹⁰³¹ As noted, ploughing and various factors obscuring the ground view, aside from extensive quarrying, have caused disturbances in this seemingly large burial area. No ¹⁴C dating was obtained in Fosso del Pietrisco due to the general, non-intrusive approach of VAP's surveys, and nor was any radio-carbon dating performed on the four Proto-Villanovan tombs in the separate Porzarago necropolis, documented in 1956. Since the latter likely served the inhabitants on the nearby Acropolis, a specific ¹⁴C analysis made in this settlement may suggest a date for the tombs. This analysis was performed on a hearth in one of the huts in Area F East and provided a date of 1400–1200 BC.¹⁰³² As for now, taking all the circumstantial evidence together, we believe that these two burial-grounds—Fosso del Pietrisco and Porzarago—can be dated to be from the same period, that is, the Final Bronze Age IIIA2. One can not exclude the possibility that additional *pozzo* tombs are present in the Porzarago necropolis periphery. Richard Edgar Linington a Foundation staff member from the C.M. Lerici Foundation undertook a geophysical investigation in the Porzarago necropolis, but did not find any indication of further tombs;¹⁰³³ nor could any additional tombs be located through VAP's remote sensing over the Porzarago necropolis. These negative results should however be viewed with some caution, since peripheral tombs may have evaded detection via remote sensing due to assorted geological criteria.

What then about remains from the Villanovan Period (c. 9th–8th centuries BC) in San Giovenale? The few representations of Final Bronze Age pottery on Vignale, such as the ones recovered from cistern WI-6 (*Cat. nos. 41–42*), indicate that the intense activities of the early Etruscan period removed much of the evidence of any previous undertakings on the plateau. This could also be true for any remains associated to the Villanovan culture. An illustrative analogy comes from the general circumstances found in many cities of the Eastern Mediterranean, where traces from the Late Bronze Age are commonly absent due to the intense building activities and fortifications from the Early Iron Age period onwards. However, the lack of any nearby burials from the Villanovan period in San Giovenale (not yet discovered?), would in fact indicate that the Villanovan culture has not left many traces in the area. This would then be typical for southern Etruria, where sites were abandoned during the Final Bronze Age (except for larger settlements such as Veii, Cerveteri, Tarquinia, and Vulci, etc.)—later to be reoccupied in the 8th–7th centuries

¹⁰²⁹ *San Giovenale* 1:5; 1:8.

¹⁰³⁰ *San Giovenale* 1:8.

¹⁰³¹ Backe Forsberg *et al.* 2008a; 2008b; Coluzzi *et al.* 2011.

¹⁰³² *San Giovenale* 1:8; Backe Forsberg *et al.* 2008a; 2008b; Coluzzi *et al.* 2011; *San Giovenale* IV:1, 140–141, fig. 265.

¹⁰³³ *San Giovenale* 1:4, 4.

BC. However, investigations at the nearby necropolis of Campo Sant'Antonio-Chiusa Cima in San Giuliano documented c. 100 Villanovan cremation and inhumation tombs. At the time of writing no traces of a Villanovan settlement have been found on the adjacent plateau at San Giuliano.¹⁰³⁴

As regards the situation at Vignale, the current authors suggest that future sounding ventures should focus on the newly located *custodia* tombs in the necropolis of Fosso del Pietrisco. As possible comparanda, Lars Karlsson refers to *custodia* tombs found in Tarquinia and Cerveteri from the Villanovan IIB period (c. 750–730 BC). The pottery found there is comparable to the few brown impasto fragments dated to the late 8th century BC that were recently found on the San Giovenale Acropolis in Area F East.¹⁰³⁵

The first substantial evidence of an Etruscan habitation on Vignale dates back to the 7th century BC. As discussed above, it is hard to determine the eastern extent of this habitation, due to the modern use of the land (Figs. 26–27, 74, 170). The first Etruscan settlement phase that thrived before the late 6th-century BC earthquake is manifested in the construction of bedrock water installations (WI-2, 5, 6 in Figs. 75, 91–92, 159) and vast amounts of pottery sherds (Cat. nos. 7–12, 41–66, 96–104 in Figs. 94–96, 107–112, 115, 128–129) and scattered tufa blocks used as building material. The latter comprises both building activities in the form of houses positioned on the plateau and city/retaining walls (Walls A, B, C in Figs. 55, 58, 60–66), mainly documented on the southern slopes—facing the presumably less densely inhabited surrounding landscape. Since the initial excavations were limited to often random soundings or narrow trenches (Figs. 74, 155, 159), it is hard to grasp the extent of the early activities in full (Fig. 27). But with the combination of remote sensing and recent ground surveys, the evidence provided of the life in an Etruscan settlement is fairly revealing.

We believe that the ancient Stone Platform can be used as a microcosm of Vignale's Etruscan epoch (Fig. 159). The platform as such is however not representative of the early Etruscan period. On the contrary, it is rather the void in which it is built—the Quarry—that likely represents the early construction activities (Fig. 157). The rather restricted area of this ancient excavation, as well as the traces of marked and uncut blocks, identifies the site as a typical quarry. It makes sense to suspect that the early Etruscan building phase attempted to produce both cisterns, cellars, and building blocks in the

same undertaking (Figs. 101, 123, 126). In other words, the seemingly quite labour-intensive task of excavating the bedrock was in fact a quite effective way of initiating the building activities on Vignale. The large *fossa* on the Acropolis in San Giovenale (Fig. 6) is in all likelihood a good example of another such enterprise. The advantage of this method is the proximity between the quarry and the construction activities, but with the disadvantage to later generations of the creation of a hollowed and uneven land surface, which was unsuitable when they turned to agriculture.

In the specific case of Vignale, which seems to have seen an emphasis on viticulture during the post-earthquake period (c. 5th century BC onwards), the plateau was likely needed for cultivation. The least labour-intensive way of restoring level ground was by filling the Quarry's larger spaces with the blocks initially quarried there. Of course, to use the space effectively it was essential to stack the blocks in an orderly arrangement. In such a way, we believe that the Quarry and Stone Platform represent the initial and closing phase of the most building-intensive period on Vignale. This period also encompasses the late 6th-century BC earthquake.

In the archaeological record, perhaps the most dramatic event in San Giovenale is the 550/530 BC earthquake. On Vignale too the traces of its destructive force are obvious. And yet there are still no finds that could provide a more exact dating of the event, either from Vignale or the larger area of San Giovenale. It is noteworthy that the building activities after the earthquake seem to continue at the westernmost part of the Vignale plateau. This is not the case in the area of the Quarry and Stone Platform further east. There, for example, most of the water installations WI-1a, 2, 5, 6 (Figs. 27, 75, 91, 124) were filled with post-earthquake building debris, such as roof tiles (Cat. nos. 13, 71–78, 88–89, Figs. 115–116, 124) and fragmented tufa blocks. These are well packed and resemble the clearing of destroyed remains documented, for example, in the Borgo area.¹⁰³⁶ The pottery found in the water installations on Vignale also tells the same tale as its counterparts on the Borgo—it is a quite homogenous material with no sherds post-dating the earthquake destruction phase, with the exception of some shallow stray finds. On Vignale, typical examples of such pottery assemblages were found in cisterns WI-2, WI-5, and WI-6 (Fig. 152).

Items found in cistern WI-6 may indicate the nearby existence—before the earthquake—of a special kind of building, a public place associated with offerings, such as wine. As noted above, the relatively well-preserved finds suggest that the items were all placed in the cistern during the same event. The assemblage contains ritual paraphernalia, probably from a small shrine, as exemplified by, for instance Cat. nos. 44, 48,

¹⁰³⁴ Zori *et al.* 2016, 2, 5, fig. 3. See also Steingraber 2009, 35–36, 85.

¹⁰³⁵ *San Giovenale* IV:1, 82–84, 112, 125, 138, 140, figs. 113, 116, 119, 242, pl. 7:100, 106–107, 112, 128. One fragment, no. 112, pl. 7, fig. 119 with a particular type of impression, is supposed to belong to a large biconical jar found in str. 3B in the latest hut level. The fragment has been compared with a similar type of decoration on biconical jars found in Tarquinia and dated to Villanovan IA (9th century BC).

¹⁰³⁶ Pohl 1980; 1984; 1985; *San Giovenale* V:3.

52–55, 67. After the earthquake these items were deposited in the cistern. Rather than reconstructing the earlier shrine or temple, this area on Vignale saw an increasing emphasis on agriculture, later reinforced by the construction of Cultivation Trenches CT1–3 (Figs. 20, 74–75, 78).¹⁰³⁷

The finds on Vignale can be compared with finds made in the Borgo habitation/working quarters at San Giovenale. In the Borgo, the upper strata produced a massive amount of building material, roof tiles, and fragmented pottery. This has been interpreted as a result of an ancient clearance of the higher and nearby positioned *Spina* (Fig. 6), removing debris stemming from various structures, in order to create an area for agricultural use. This later use is shown through the presence, in the post-earthquake era, of numerous pieces of wine-processing equipment.¹⁰³⁸ As outlined, we see a similar development on Vignale. The similarities between the Borgo and Vignale go even further. On the Borgo an impasto terracotta protome in the shape of a ram's head was discovered (Fig. 118). This comparatively shallow find (c. 30 cm depth below ground surface) most likely originated from the post-earthquake clean-up of building material. The Borgo ram's head has many similarities to the ram's head found on Vignale in cistern WI-6 (Cat. no. 67, Fig. 113). The two items display differences in appearance and firing technique, but both are hollow from the neck down to the muzzle. It was proposed that the Borgo ram's head originated from a possible temple that was situated on the *Spina*. Other finds attributed to the same sacred building include a large number of roof tiles and ashlar, as well as an *ex voto* terracotta plaque.¹⁰³⁹ This setting may find its equivalent on Vignale, where the ram's head, together with potential sacrificial items and building remains of the 6th century BC, were cleared in an effort to make the area more suitable for agricultural use, including wine production.

It is quite clear that the Late Etruscan phase on Vignale shows an increasing emphasis on wine production. Therefore, it is important to raise the question of the significance of wine production in the pre-earthquake period. It is apparent that, as well as animal husbandry, the production of wine was an exceptionally important economic activity inherited from early Etruscan times. After the earthquake, both wine-making and animal husbandry most likely became even more pivotal producers of commodities in San Giovenale. After the turmoil of the late 6th century BC, the fertile surrounding landscape flourished, despite the massive scale of the earthquake's de-

struction, enabling sustenance through viticulture and animal husbandry.

It is important to note that, in almost all instances, the debris in the cisterns after the late 6th-century BC earthquake comprises a homogenous, single filling event, all the way from the bottom of the cistern to the orifice. This suggests that the clearing of debris was performed soon after the earthquake. In addition to the rather homogeneously dated material in the cisterns, we can conclude that the eastern part of TS2 (Fig. 26, excavated in the 1950s and 1960s) was abandoned in favour of other areas. Thus, the probable rebuilding of a habitation area was thereafter limited to the western end of the promontory—"the tip", also situated within TS2 (Figs. 27, 92).

At the northern part of the Pietrisco Bridge Complex (Figs. 5, 12–13, 39) phase 1 ends with the earthquake. The complex is later rebuilt in a more modest version, referred to as building phase 2 (Fig. 40).¹⁰⁴⁰ This is one of several indications, as we shall see, that Vignale was still an essential part of the San Giovenale locality. One should again point out that no extensive soundings or excavations were made in the westernmost parts of Vignale during the early excavation campaigns (west of Wall C in TS2, Figs. 27, 64–66). Our assumptions are based on evidence gathered from ground surveys with documentation of various visible features such as tombs and walls. We shall also add that the aerial remote sensing techniques were helpful in understanding the development in the centuries following the 6th-century BC destruction.

Obviously Bridge 1 was still in use after the earthquake, but it is hard to determine in what state. The second phase with House 2 shows rather swift repairs (Fig. 40)—correlating to the procedure of filling cisterns on the Vignale plateau. There are no traces of tufa block debris mixed in the colluvial soils of the eastern area of TS2 (Fig. 26). However, further west one can still clearly see a mix of scattered building material in the form of tufa fragments, as well as roof tile fragments and some pottery sherds. This suggests, contrary to the effective clean-up of the first building phase, that this later occupation was left exposed, eventually to be degraded by weather and ploughing activities, and/or was partly reused elsewhere.

One can conclude that the reason why there is no, or only very little, building debris in the eastern parts of TS2 (Fig. 26) is that this area was efficiently cleared and post-earthquake debris was buried before it could be dispersed. The roof fragments in the western area occur in the shapes of both pantiles and cover tiles (Fig. 28). These are of typical Late Etruscan style, but fragments from even later periods, down to the 2nd century BC, should also be mentioned.¹⁰⁴¹ Attic black-figure cups have been found on the slope north of the western prom-

¹⁰³⁷ As discussed in Chapter 4, 'House remains on the western promontory—a possible courtyard complex (atrium house)?'. See also 'The vineyards—wild vine versus cultivated vine', in Chapter 5.

¹⁰³⁸ *San Giovenale* V:1, 148–149; V:3.

¹⁰³⁹ On terracotta objects out of context, 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, n. 64.

¹⁰⁴⁰ Backe Forsberg 2005, 215, 217, figs. 36, 44a, 96.

¹⁰⁴¹ Hemphill 2000, 44, site 55.

ontory (*Cat. no. 17, Fig. 77, App. 1, no. 31, Fig. 235*). Furthermore, among the building debris on the plateau, 4th-century BC Etruscan black-glazed pottery was found—two base fragments (bowls) with stamped decorations, of which one is inscribed (*Cat. nos. 132–133, Fig. 153*). This late period is also reflected in the material found in the “*Pozzo Pacchiarotti*” (WI-3, in the eastern part of Vignale, halfway between TS2 and TS3, *Figs. 131–132*). The *pozzo* contained rich pottery dating from the middle of the 4th century down to the 3rd century BC (*Cat. nos. 108–131, Figs. 133–142*). Although this material was most likely derived from a tomb, it could very much indicate a contemporary settlement. On the Acropolis of San Giovenale this time period is represented in the find material discovered in the *Fossa cuniculo* and its adjacent water installations in Area B (*Figs. 73, 102–103*).¹⁰⁴²

In the context of tombs present in the Vignale area during the 4th–3rd centuries BC, one should mention the Late Etruscan tombs present on the southern slope of TS2 (*Fig. 27*), that is the Southwestern necropolis (Chamber Tombs V1–6, *Figs. 27, 30, 179–187*). When recently discovered by VAP these tombs were unfortunately already affected by illicit excavations. The necropolis’ position along Vignale’s southern access (funeral street) is important to comment upon (*Fig. 30*), as through this access, the tombs were no doubt directly connected to the settlement above on the Vignale plateau. As a whole the infrastructure conveniently links this upper western dwelling with this Etruscan road (Vignale southern access) leading south to the river Vesca and beyond, through the by-then ancient Castellina Camerata necropolis (*Fig. 170*).¹⁰⁴³

Let us sum up the post-earthquake period. During the 5th century BC we see signs of a size reduction of the settlement on Vignale, which was hereafter restricted to the plateau’s western area, west of Wall C (*Figs. 65–66*). We must assume that the western share of TS2 (*Fig. 27*), where there remained a settlement, underwent substantial repairs as opposed to the eastern segment. This probably occurred sometime during the 5th century BC. At this same time, further east on the plateau, the Quarry is filled with leftover ashlar not intended for reuse, forming what later excavators came to call a Stone Platform (*Figs. 135, 159*). This would also level the area, but at the same time effectively clearing the surface of obstructions, an analogy to the filling of the cisterns. This is likely a consequence of a decision to alter the usage of the land. At the time of excavation, the Platform was interpreted as a monumental platform for a building. However, so far there is no evidence to suggest that this was the case. The Platform should rather be seen as a solution to bury unwanted stones in a convenient way and at the same time create a level area. One can not

exclude though, that these ashlar once belonged to a religious precinct and required a ritualistic burial, a hypothesis discussed elsewhere.¹⁰⁴⁴ This interpretation of the Platform is also in line with the next chronological phase on Vignale, which shows signs of cultivation, rather than building activities as in the eastern area of TS2.

There are indications that the move towards cultivation—as opposed to the construction of new buildings—took place during the century following the 550/530 BC earthquake. First, we have the clearance of post-earthquake debris in this area, as discussed above. Second, the so-called Stone Platform (*Figs. 155, 159*) exhibits smoothed wear on its upper surface, which it is assumed occurred after the blocks had been stacked inside the quarry hollow in the bedrock. This is an indication that the surface of the Platform was exposed and used over some time after the abandonment of the settlement and the cleaning/levelling activities. This is likely related to the rebuilding period of the post-earthquake settlement, west of the Stone Platform. Based on these circumstances, we believe that the next phase for which we have structural evidence is the construction of the Cultivation Trenches (CT1–3, *Figs. 74–75*).

It is hard to tell if the planning of the Cultivation Trenches (CT1–3) was contemporary with the levelling of the area. The most likely explanation is that the eastern part of TS2 (*Fig. 27*) (and beyond ?) was converted into a plantation area, where the three documented Cultivation Trenches were a later addition, as the land use developed during the Late Etruscan period. This overlapping period should be associated with a change in use, sometime during the 5th to the early 4th centuries BC. In line with studies already presented of these trenches (*Fig. 78*), it is obvious that they were constructed for viticulture. The trenches cut through the buried Etruscan remains from the pre-earthquake period—both the Quarry and its neatly fitted Stone Platform, as well as various cisterns (WI-2, 5). One such example is cistern WI-5, with its upper neck truncated by the cutting of one of the three Cultivation Trenches (CT2, *Figs. 74–75*), and the lower part of the cistern still extant below the bottom of CT2. This might also be an example of reusing the earlier cavities as planting holes, as trees were sometimes grown as a support for grape-bearing vines.

The evidence of building activities on Vignale after the earthquake is scarce. After the initial post-earthquake clearance, one must assume that there was a period of hiatus with little building and only limited restoration of damaged structures. Since no satisfactory excavations were performed on Vignale’s western promontory, we cannot say for certain when the major part of the settlement was rebuilt. As noted above, the habitation is, nevertheless, indicated through the existence

¹⁰⁴² *San Giovenale* II:2, 22, 40–42, pls. 33–35.

¹⁰⁴³ *San Giovenale* I:7.

¹⁰⁴⁴ See ‘Stone Platform inside Quarry’ in *Chapter 4*.

of the Southwestern necropolis and through visible scattered building debris and pottery (see, for instance, *Cat. nos. 132–133* in *Fig. 153*). Throughout the post-earthquake phase, where activity was most pronounced in the 5th century BC, we must assume that the inhabitants of San Giovenale still had interests in Vignale—perhaps initially as land for cultivation only, or simply as a route in San Giovenale’s well-established road system. Throughout the periods from the Late Bronze Age up to San Giovenale’s final periods of occupation, there is ample evidence for parallel activities on the Acropolis and the Vignale plateau. Therefore, it seems safe to assume that the 5th century BC was no exception.

Traces of antique ploughing are clearly visible on top of and around the Stone Platform area. These could be traces of cultivation performed in conjunction with the use of the Cultivation Trenches CT1–3, associated with viticulture. The construction and first use of the wine presses documented east of the Acropolis on the *Spina* (south of the Borgo area), have been dated to the transition between the 5th and the 4th centuries BC by Pohl.¹⁰⁴⁵ This dating seems to be very convincing in accordance to comparable sites and in relation to the evidence of activities focusing on viniculture in San Giovenale. It is tempting to see a link between large-scale wine production on Vignale and the processing of wine in the Borgo area. As we have seen, Bridge 1 at the Bridge Complex, connecting the two plateaus, was rebuilt and functioning during this time (*Fig. 40*). We can see that the Borgo area was inhabited during the post-earthquake period (Borgo Period 3, for example, the restored houses in the western part of the habitation). It is however impossible to draw detailed conclusions based on the limited material remains of this time period found on Vignale. The evidence at hand seems to indicate densely inhabited areas on both plateaus during the pre-earthquake period. The phase after the destruction is then followed by at least a century of transformative activities, where cultivation took place on certain areas that had initially been used for dwellings. From the 4th century BC, the practice of viticulture is clearly evident on the plateau.

During the 5th century BC the remaining and presumably restored houses on Vignale seem to have been protected by a larger defensive wall, Wall C, which likely stretched across the plateau in a north-north-west–south-south-east direction. Based on the wall’s construction method, as well as its dating through pottery and the very fact that this wall would have stretched right through the first Etruscan settlement, we must assume that this was added as an eastern limit to the 5th-century BC settlement. East of this wall the Cultivation Trenches (CT1–3) are laid out in an east–west alignment (*Fig. 75*). As mentioned, this specific area was likely

used for cultivation that eventually developed into viticulture. The vine trenches on Vignale are however not the only indication of a change in habitation pattern and land use. On the *Spina*, south of the Borgo, the construction of *pesta-rolle* and cellars (Borgo Period 4, *Fig. 88*) replaced the earlier building activities. It is difficult to establish a final date and to outline the cultural characteristics of the constructions that defined the Late Etruscan habitation, which persisted on Vignale’s western promontory. The latest clear evidence of a Late Etruscan presence on Vignale is provided by the chamber tombs of the Southwestern necropolis (Chamber Tombs V1–6, *Figs. 27, 179–187*) and in the Fosso del Pitriscio necropolis (*Figs. 26, 48, 175–176, 189*).

When exactly does the alteration into a landscape dominated by Roman villas take effect, and when do we draw a line between these new establishments and the earlier Etruscan remains? This cannot be answered with ease, but indications pointing to weaker and more dispersed habitations on the Vignale and Acropolis plateaus, until the fading of and then final integration of the Etruscan identity during the Roman era. According to the material remains, it seems to have been a slow process that took place over the 150–200 years preceding the Roman farming activities evident from the 3rd century BC onwards. The latter are expressed through the presence of the nearby *villa rusticae*, such as Villa Casale Vignale (*Fig. 170*, seen in the mid-distance) and Villa Camerata along the Dogana (Via Ceretana) (*Figs. 6, 20, 30:1*).

Thus, it is a challenging task to determine the progress of activities during the period between the clean-up of the earthquake (550/530 BC) and the establishment of the Cultivation Trenches on Vignale (mid-4th century BC). The overall interpretation, according to the finds and features, is that it was a period of low activity. It is crucial to remember that the wine presses and cellars on the *Spina* could have served the processing of grapes from wild vines as well as those from vines cultivated in trenches. This assumption can be central in the understanding of the relationship between cultivation and production, since vine cultivation trenches would not always be necessary to explain installations used for wine production. We should remember that the earliest trenches for viticulture around the San Giovenale area, such as the ones presented in *Table 2*, are dated to *c.* 350 BC. We believe that Cultivation Trenches CT1–3 on Vignale are no exception. Pohl has suggested that the Cultivation Trenches CT1–3 are contemporary with Period 3 of the Borgo area (*c.* 530–400 BC), which is the latest period with preserved pottery on the Borgo NW.¹⁰⁴⁶ In 2013 Nylander and Karlsson concluded that the Borgo Period 4 (4th–2nd centuries BC) saw a clearing of the *Spina*

¹⁰⁴⁵ Pohl 1985, 54–58; *San Giovenale* V:3.

¹⁰⁴⁶ *San Giovenale* V:1, 149–150, 153, *figs.* 48, 121–122, 135; V:2, 188–189, 201, *pls.* 12, 101, O1-3–4, O1-6–7.

and that *pestarole* and cellars replaced earlier structures.¹⁰⁴⁷ We suggest that the Cultivation Trenches CT1–3 are contemporary with these later changes on the Borgo. This means that Pohl's suggested date for the trenches is likely a century ahead of its time.

During the 5th century BC, when viniculture gradually replaced much of the building activities in San Giovenale, there is indirect evidence of another type of building on Vignale's western promontory. Based on aerial remote-sensing analysis there is an indication of a courtyard house, perhaps with rebuilt phases from a 6th-century BC building (*Fig. 151*), which may have been connected to the Cultivation Trenches. The question is if any datable material found on Vignale can provide hints for a more precise identification of this building. It should be emphasized that the thermographic imagery, together with physical remains such as cisterns and scattered stray finds, are only suggestive. Without soundings or excavations, our effort here was to provide a reasonable analysis of the data recorded, to form the basis of a hypothesis for any future ventures. With such sparse material remains it is furthermore challenging to define the type of structure hidden below—Roman, Late Etruscan, or possibly even earlier. Even if a dating of the building could indeed be obtained, one always needs to consider that different phases of the structure may have altered its character and purpose over several centuries. It is also pertinent to reflect on the actual extent of any building material existing in this area. Such a building complex could in fact be part of a larger occupation, with neighbouring constructions further west or even continuing eastwards from TS2. It does, however seem clear that the area containing the Cultivation Trenches, east of the possible courtyard complex, has not provided traces of reoccupation after the 6th-century BC earthquake. The only possible building remains documented are those visible in VAP's LiDAR and IRT images as a substructure of approximately 35 × 40 m with an inner open space containing cisterns (*Fig. 92*). The black-glazed pottery fragments found here are another factor indicating a material presence from the late 4th to the middle of the 3rd centuries BC (*Cat. nos. 132–133*).

Thus, the activities on Vignale's western promontory have been assigned to the 4th and 3rd centuries BC solely through the recovered remains of pottery and roof tiles. The possible courtyard complex (*Fig. 151*) could have continued to function through various phases from the Archaic period down to the 4th and 3rd centuries BC, with its later period connected to the adjacent Cultivation Trenches. No pottery from the 2nd or 1st centuries BC has been found on the promontory, except for at its extreme northern part, east of TS1 and TS2, and some distance from the excavated zone. The scattered

pottery is here characterized by black slip and African red slip from the 2nd century AD (*App. 1, nos. 63–65, 119, Tables 1, 24*). The lack of such material on the promontory and the eastern area of TS2 suggests that any Roman venture in the form of a building would have been confined to the northern edge of the Vignale plateau parallel to the Pietrisco brook.

The possible courtyard complex could represent a satellite site perhaps connecting agricultural activities on Vignale with the Villa Casale Vignale, located 800 m north-east on the opposite side of the Pietrisco brook. This villa is situated near modern-day Casale, which is positioned centrally on the westernmost tableland of Casale Vignale (*Figs. 170, 172*). Scattered sherds from early periods have been found at the villa site, and it has been suggested that it dates from the 4th/3rd centuries BC to the 5th century AD. Thus, it is possible that the villa was already occupied during the Late Etruscan period, and continued to be so through the Roman Republic and up to 5th century AD.

Castellina Camerata is another larger villa in the area dated to the same period. The villa is situated close to the Dogana (Via Ceretana), south of the river Vesca and some 700 m from Vignale's western tip (*Figs. 6, 30:1, 172*). It is a large complex with substantial buildings, and was occupied continuously from the Early Republic to the 6th century AD.¹⁰⁴⁸

Of a slightly later date is the *villa rustica* of Le Pozze (Pian de Crette). Situated only a few kilometres north-west of San Giovenale, it also provides an interesting view of similar and contemporary villas from the middle of the 3rd century BC. According to Hemphill this is a substantial site which was occupied to the 4th century AD.¹⁰⁴⁹ Like the possible courtyard complex on Vignale, Villa Le Pozze is also associated with cultivation trenches. Furthermore, transport *amphorae* were found at Le Pozze, as well as several wells/cisterns and wine/olive presses.¹⁰⁵⁰

Other Roman remains established at a later date in the area include Villa Sambuco, which is described as a “working establishment”. Hemphill confines the dates of the Villa Sambuco house foundations from 20 BC to AD 40, although another date range of 150 BC to AD 50 has been suggested.¹⁰⁵¹ This site also yielded storerooms in its northern parts, which contained fragments of half-buried *dolia*. Additionally, transport *amphorae* of both Italian and imported types were found. These were suggested to have contained wine, oil, and grain.¹⁰⁵²

¹⁰⁴⁷ *San Giovenale* V:1, 12, 147–150, 153.

¹⁰⁴⁸ *Table 1*; Hemphill 2000, 45–46, 85–86.

¹⁰⁴⁹ *Table 2*; Hemphill 2000, 38, site 32.

¹⁰⁵⁰ *Table 2*; Ricciardi 1987b; 1990a; Tron 1990.

¹⁰⁵¹ See *Note 225* in *Chapter 4*; Hemphill 2000, 32.

¹⁰⁵² Östenberg 1962, 313–320; on half-buried *dolia*, see *Fig. 211* in *Chapter 5*. Fairly similar earthenware vessels, called *quevri* and used for

Hemphill also identified a Late Etruscan and a small Roman site on the Vignale plateau during her Civitella Cesi survey in 1989. She dates one of these two sites to the 5th–4th centuries BC, and 3rd–1st centuries BC, and the second site to the 2nd century AD (the Early Republican and Roman times respectively).¹⁰⁵³

On Vignale, the only tomb associated with the Roman period is a possible *loculus* on the western tip of Vignale mentioned by Tobin-Dodd.¹⁰⁵⁴ Due to the poor preservation of the niche tomb it is difficult to date, but it resembles the Roman *loculi* south-west of the Borgo, in the cliff-foundation of the medieval castle (Fig. 190). These in turn find parallels in the *loculi* south of the Petrolo plateau, along Via Clodia in Blera, which date to the 1st century BC.¹⁰⁵⁵ A near and perhaps better topographic parallel to the tomb on Vignale are the *loculi* positioned in the eastern end of Petrolo, i.e. the Etruscan settlement. In regard to the Vignale tomb's isolation from similar features, one should perhaps note that a section of the westernmost promontory of Vignale may have collapsed into the valley below. This is indicated on the LiDAR images showing the overgrown terrain of the area (Fig. 25, upper image, to the lower right of 'c').

In this context it is also worth mentioning the nearby site of Civitella Cesi, a distinct and separate settlement located on a pronounced hilltop. Civitella Cesi very much mirrors the chronology of San Giovenale, and it has been suggested that the site can be associated with the tombs of Valle Vesca.¹⁰⁵⁶ Our view, that the Valle Vesca necropolis should rather be related to the Vignale settlement, is discussed elsewhere.¹⁰⁵⁷ The habitation period of Civitella Cesi dates from the 7th to the 4th centuries BC. A Roman presence of the 1st/2nd centuries AD is also attested here, and a small medieval village occupied the end of the promontory, flourishing in the 12th and 13th centuries AD.¹⁰⁵⁸

In respect of observable remains in San Giovenale, the last millennium and half, is represented by the Christian structures and the subsequent medieval castle of the di Vico family (Figs. 15, 190). How Vignale, the Acropolis, and the

surrounding landscape was utilized during this relatively long time period is a separate study. With Etruscologists at the helm, the Vignale Archaeological Project has accordingly highlighted only selected facets of these later periods, mostly within the aspect of viniculture.

Most of the wine-related activities that were established around the middle of the 1st millennium BC seem to have continued as an important economic enterprise through the early and high medieval periods—even up to modern times. In particular this can be seen in the use made of the open high plateaus and the adjacent slopes. The perhaps most telling of the documented wine-related features are the strategically placed wine presses around Vignale (WP1–2, Figs. 68, 81–85, 89), in the Bridge Complex (Fig. 87), on the Borgo (Fig. 88), and in the Porzarago necropolis (Figs. 6, 207). Some of these illustrate the interconnectedness of the activities of the Vignale plateau and those in the Acropolis area, a connection made concrete by the Bridge Complex itself. This bridge seemed to have been in use when the 6th–9th century AD chapel on the Acropolis was active (Figs. 15–16, 191); the similarity of the apsidal structure (Fig. 221) on the northern bridge abutment to the Acropolis chapel might indicate a connection of some sort (Figs. 6, 18). The scattered material evidence from the early Christian period through the high medieval age are perhaps best encapsulated in the next section.

A concise chronology of Vignale

Table 15

Then—what's hidden beyond the Etruscan bridge? This section attempts to provide a brief chronological summary of Vignale in the form of ten paragraphs, already discussed in detail in this study. These subsections are further summarized in a chronological table, Table 15.

PRE-ETRUSCAN PERIODS

1. Late Neolithic pottery fragments (*Pienza Palidoro* period c. 3300 BC), found in the fill above the southern bridge abutment (App. 1, nos. 82–83). Since the Late Neolithic period is also present on the San Giovenale Acropolis, there is a high probability that an analogous situation prevailed on the Vignale plateau, where dispersed settlements were located on the heights between deeply incised local rivers and brooks.

2. The documented and now-extended necropolis of Fosso del Pietrisco contains burials from the Final Bronze Age III through to the Early Iron Age period (Area TS3). In the Vignale settlement area, some stray finds of Early Iron Age pottery were found in cistern WI-6 (Cat. nos. 41–42). VAP has argued that there is reason to believe that the cremation tombs

centuries to ferment and store grapes, are still today used in the wineries in Georgia. See Jansson 2018.

¹⁰⁵³ Hemphill 1993, figs. 3–5; 2000, 44–45, sites 55, and 61. The Etruscan pottery was referred to as similar to the Casale Pian Roseto finds in *ager Veientanus* (that is 530–330, 300 BC according to Murray Threipland & Torelli 1970) and the Roman material to the 2nd/1st centuries BC, and to the 2nd century AD. See also Torelli 1998.

¹⁰⁵⁴ Tobin-Dodd 2015, 72.

¹⁰⁵⁵ Ceci & Schiappelli 2005, fig. 79; on niche tombs, see Chapter 4, 'Discussion and parallels—burials and necropoleis'.

¹⁰⁵⁶ See Chapter 4, 'The eastern access to Vignale's western tip'; and 'Necropolis of Valle Vesca'.

¹⁰⁵⁷ See Chapter 4, 'Discussion and parallels—burials and necropoleis'.

¹⁰⁵⁸ Hemphill 2000, 46 (site 146), 89–91, fig. 127.

Table 15. Chronological periods with site reference on the Vignale plateau.

Phase/context	Vignale West (TS2)	Vignale Central (TS2)	Vignale East (TS3)	North Slope (TS1)	South Slope (TS2)
Late Neolithic (4th millennium BC)				pottery	
Final Bronze Age III–Early Iron Age		pottery in cistern WI-6	<i>pozzo</i> tombs		
Etruscan 7th–6th centuries BC	habitation, wells/cisterns	Quarry, habitation, wells/cisterns, Wall C lower part	chamber tombs, tumuli, (cistern WI-10, west of TS3)	road, Bridge Complex (Bridge 1)	city/retaining walls Walls A and B, road?
Etruscan 5th century BC	habitation (dispersed)	Stone Platform inside Quarry	chamber tombs	road, Bridge Complex (Bridge 1), pottery	road?
Late Etruscan 5th–3rd centuries BC	wells/cisterns, defensive wall D, tile fragments, pottery	Cultivation Trenches CT1–3/plough marks, tile fragments, pottery	chamber tombs, pottery in well WI-3	road, Bridge Complex (Bridge 1)/Bridge 2 (?), pottery	chamber tombs (V1–6), funeral street, road?
Late Etruscan/Roman 3rd century BC–2nd century AD	<i>loculus</i> , courtyard house? stray finds ⁱ	stray finds, pottery, plough marks? ⁱⁱ	pottery in well WI-3	Bridge Complex (Bridge 1)/Bridge 2, pottery	funeral street, road?
Late Roman/Early Medieval 6th–10th centuries AD		stray finds, Wall C upper part		Bridge Complex (Bridge 1)/Bridge 2, pottery	road?
High Medieval 13th–14th centuries AD				Wine Press WP1	Wine Press WP2
Post-Medieval 20th–21st centuries AD		plough marks	pozzolana quarry		“hunting lodge”, animal shed, Wall D

ⁱ Hemphill 2000, 45, site 61.ⁱⁱ Hemphill 2000, 44, site 55.

of *custodia* type found in the Necropolis of Fosso del Pietrisco mirror contemporary activities in a nearby settlement on Vignale. However, the clearance of layers above the bedrock in subsequent periods make such finds hard to trace.

ETRUSCAN PERIODS

3. The first clearly identifiable Etruscan habitation has material remains dating from the late 7th to the middle of the 6th centuries BC. These are represented over Vignale’s central western and westernmost areas, predominantly through building remains, water installations (WI-1–11) and pottery, as well as defensive perimeter Walls A and B on the southern slope (TS2, *Figs. 27, 58*) and Bridge Complex/infrastructure (TS1, *Figs. 12, 26–27, 30, 39–40*). There is a strong indication that the Quarry on the plateau, later to contain the Stone Platform (*Figs. 155, 157, 159*), was originally created as a source for building material during the initial Etruscan phase, and was later used for cellar structures.

4. In the post-earthquake period, immediately after 550/530 BC, the settlement on Vignale and elsewhere in the area seem to continue in a more modest form. The Bridge Complex between the settlements is rebuilt but obviously still constitutes an important route (TS1, *Figs. 27, 39–40*). On Vignale the habitation continues with a focus on the western tip,

while the previously central western area with its houses, wells, and cisterns is discontinued (easternmost TS2). The cisterns, such as WI-2, WI-5, and WI-6, are filled with earthquake debris—a similar situation has been documented in the Borgo area of the Acropolis. Furthermore, the Quarry is filled with residual ashlar (the Stone Platform, *Figs. 155, 159*), derived from previously standing structures. Thus all water installations in this area are filled with a relatively homogenous assemblage of ceramics and terracotta objects that can be dated to no later than the middle of the 6th century BC. The cisterns had depended on nearby roofed structures for the collection of water. It would seem the late 6th-century BC earthquake demolished the buildings, causing the cisterns to fall out of use. This often-overlooked fact could explain the abandonment of all cisterns, which had originally constituted quite an elaborate investment.

5. The evidence from the 5th century BC, in the immediate after-effects of the devastating earthquake, are relatively scarce. This could be considered the “dark” century of the San Giovenale area, and unsurprisingly so. The 5th century BC can be seen as a period of striving and rebuilding, with dispersed smaller activities, dependent on agriculture at a small scale. It is in the next century that we see larger-scale activities in the form of extensive land use in the earlier abandoned areas on the Vignale plateau.

LATE ETRUSCAN PERIOD

6. The first half of the 4th century BC is still dominated by the settlement being confined to the westernmost tip of Vignale. Cultivation Trenches (CT1–3, *Figs. 74–75*) for viticulture are established in the western central area and cut through the previous habitation destroyed in the 6th century BC (easternmost TS2). During the second half of the 4th century BC, a larger wall (Wall C) is likely added across the plateau (*Figs. 26–27*), defining a boundary between the cultivated area and the habitation—and simultaneously serving as a defensive perimeter. Added into the now smaller and regenerated settlement is the newly documented Southwestern necropolis with chamber tombs (V1–6) directly connecting a funeral street with the settlement above. The defensive walls from the pre-earthquake period are also connected to the general infrastructure of the southern slope. A possible atrium house located near the southern part of Wall C likely functioned as a larger structure within the settlement. The building could be related to both earlier and later activities on the plateau and likely to the activities of the adjacent Cultivation Trenches.

LATE ETRUSCAN/ROMAN PERIODS

7. The transitional events leading us through the 3rd century BC into the Roman period are difficult to detect in terms of structural evidence. These remains, or rather the lack thereof, suggest a smooth transition into a landscape dominated by Roman farming activities. It is possible that the viticulture established on Vignale transitioned naturally into the Roman period: such endeavours seem to continue alongside the establishment of larger villas elsewhere in the area—such as Casale Vignale and Villa Camerata. A Roman presence on Vignale is evidenced by roof tiles and ceramics in the central northern part of the plateau (east of TS1, *Fig. 27*), and these finds are likely connected to intensified agricultural activities. In this period the area is also incorporated into the developed Roman road systems, a network which made use of the then long-established Pietrisco Bridge Complex and other Etruscan infrastructure.

LATE ROMAN/EARLY MEDIEVAL PERIODS

8. The lack of larger structures within the San Giovenale locality during the Late Roman period is a continuing trend from the previous centuries. Pottery and roof tiles from the 4th century AD are however present on the Vignale spur (*Figs. 17, 121*). Early Christian structures follow, such as the chapel on the Acropolis dated to 6th–9th centuries AD, and add to an overall dispersed presence. The chapel furthermore coincides with the redated apsidal structure dominating the later period of the Bridge Complex (*Figs. 39–40, 221*). The very fact that the bridge had probably been functioning from as early as the middle of the 1st millennium AD supports the assumption that in the early medieval period Vignale was still strongly connected to wide-ranging activities in the site as a whole (*Fig. 232*). A wine press and traces of cultivation trenches from this period are attested on the Porzarago necropolis (north of the Acropolis), which indicate the importance of viniculture during this time. Since wine production is also confirmed on Vignale proper, from around the 10th century AD, through wine presses (WP1 *Figs. 27, 80–82*, and WP2 *Figs. 27, 68, 83–86, 89*), the evidence suggests a continuation of viniculture from the Late Roman period up to medieval times.

The Acropolis chapel with apse and a graveyard nearby seems to have been in use quite early, since several Late Roman tombs, covered by Roman tiles, i.e., 5th or 6th centuries AD, were found directly outside the chapel (*Fig. 15*). A presence during the early medieval period, c. 7th–8th centuries AD as well as 9th century AD, is also attested by pottery found all over the main plateau,¹⁰⁵⁹ and by some inhumation tombs found below the floor inside the chapel. Contrary to the opinion of Thordeman, the chapel seems to have been in use after the castle was abandoned during the 14th century, an interpretation based on a bronze coin contemporary with Pope Julius II, 1503–1513, found under an *opaion* inside the chapel.¹⁰⁶⁰

¹⁰⁵⁹ See Ferracci's study on pottery from San Giovenale in *Note 67*. On chapels with towers in the area of the Mignone valley see, Agneni & Ferracci 1998; 2001; 2006/2007; De Minicis & Ferracci 2007; Berggren, E. 1984; Brandt 1996.

¹⁰⁶⁰ Thordeman 1962, 310.

HIGH MEDIEVAL PERIOD

9. During the 12th–13th centuries AD, the medieval castle of the di Vico family was constructed on the Acropolis hill. During this time the infrastructure on Vignale suggests that the plateau was used as a source of building material and for cultivation. The local Etruscan and Roman road network was still in use, which can be seen in, for example, the use of a ramp structure (Ramp 1) in Via Vignale Nord (*Figs. 30, 37–38*). That the Vignale plateau was still functioning as a site for harvesting grapes is evident in the use of the wine presses on the slopes (WP1–2, *Figs. 80–86, 89*).

POST-MEDIEVAL PERIODS

10. Parallel plough marks, clearly seen on top of the Stone Platform, result from the introduction of modern ploughing techniques from the 1950s onwards (*Figs. 14, 159*). On the southern slope, a “hunting lodge” made of reused Etruscan blocks and a similarly constructed animal enclosure illustrate the latest recent use (*Figs. 17, 68*). Some of the chamber tombs of the Late Etruscan period are furthermore reused as animal sheds, and the post-medieval 20th–21st century retaining wall (Wall D, *Figs. 58, 68*) similarly uses blocks from the antique defensive walls of the 6th century BC and later.

