Appendix 2: Surface material distribution by periods from survey area 1

App. II.1 The Middle Neolithic

Looking at the distribution of the Mid-Neolithic material as revealed by the transect survey collections, it is evident that it is completely confined to the tip of the Ramnište Ridge or sector IX. These are field blocks 157, 159, 192 and 193 (map III_1a and 1b). Only on these field units did the transect survey collections included pottery fragments that belonged to the Middle Neolithic assemblage. This situation is paralleled in other regions subjected to intensive surveys, although it has to be noted that being ceramic-based, it is possible that the survey missed potential satellite clusters consisting solely of flint[1]. The largest collection came from field block 157 covering the upper terrace or what was defined as site 11 in chapter Appendix 1. This was also however the field unit with the best ground visibility conditions, a recently cleared vineyard, while the rest of the field units where Mid-Neolithic finds were collected were fallow fields. 16 fragments were collected by individual field walking transects from field block 157, 13, 10 and 2 from field blocks 193, 192 and 159 respectively. As field block 157 is slightly larger, in terms of artifact density it ranks lower than field block 193. But because it featured a greater overall artifact density, the total grid survey was limited to field block 157. What needs to be stressed from the very beginning though, is that the individual transect collections from which these raw figures are derived don't necessarily represent an equal fraction of the true amount of surface material. As explained in earlier chapters, the quantification and the collection of the surface material by individual transect units were carried out in two separate stages. This resulted in disparate density records for a considerable number of field units: in certain cases, the individual transect collections comprised only 10-15% of the counted material, in others, we collected well over 100% of the ceramic counts. In order to have comparable data, alongside the raw records of the individual transect collections, it will be necessary to present density figures based on transect collections standardized to 100% of the overall counted amount, corrected for visibility. In other words, we will assume that we've collected all counted material, from every field walking transect[2]. As has been shown, this can have a considerable effect on the density figures and as a consequence, on interpreting certain concentrations of surface finds as site or off-site, central or ephemeral site. If we want to rely on the record of the individual transect collections, it will be necessary to adjust the number of collected finds to a fixed percentage of the counted amount.

[1] The phenomenon of flint-scatters unaccompanied by pottery has been observed in survey projects that include flint specialists, J. Forsen et al. The prehistoric period-conclusions, 185-199, J. Forsen, B. Forsen et al. *The Asea Valley Survey: An Arcadian Mountain Valley from the Paleolithic Period until Modern Times*, Stockholm 2003; W. Cavanagh, and Joost Crouwel, The Survey Area in the Prehistoric Periods, 121-150, eds. W. Cavanagh et al. *The Laconia Survey: Continuity and Change in a Greek Rural Landscape*, London 2002.

[2] J.L. Bintliff, P. Howard, A.M. Snodgrass, *Testing the Hinterland: The work of the Boeotia Survey* (1989-1991), Cambridge 2007

Table 1: Amount and distribution of the Middle-Neolithic finds

Total amount and percentage	829, 4.8%
Mean density (overall, grid&transect)	1 per 100 sq m, .08 per 1000 sq m
Min/Max density (on site)	1.6 - 70 fragments per 100 sq m
Site area	c.a. 8500 sq m
Total dispersal area	c.a. 9690 sq m

In total 829 fragments could be related to some of the fabric groups that constitute the Middle Neolithic assemblage (table 1). This represents 4.8% of the total surface record in the first survey area. It is a fairly substantial amount when compared to some other periods' assemblages. The fact that it was found strictly limited to four field walking units is reflected in the very sharp contrast between the mean and maximum artifact densities recorded by the transect and the grid survey. In fact the mean values are rather misleading because not a single Mid-Neolithic fragment was found on the rest of the field walking units. But even the formal mean value is much lower in comparison to the minimum on-site densities. As a result of this distribution, the definition of a site threshold is not a problem in the case of the Mid-Neolithic material (table 2). On all field units on which Mid-Neolithic finds are present, their density is several times higher than the district average. Nevertheless because of the uneven survey coverage of the site area (total collections by regular grid units on the upper, transect collections on the lower terrace), the details of the on-site distribution are less clear.

Table 2: Mean district density and density on field blocks covering the site area in 1000 sq meters

	Field block 157	Field block 158	Field block 192	Field block 193
Expected/mean district	1.75	1.75	1.75	1.75
Actual	10.5	5.5	12.20	26.65

The total collection by regular grid units on the upper terrace, or field block 157 recorded a maximum artifact density of 70 fragments per 100 sq meters and a mean density of 12 fragments per 100 sq meters (map III_2). This component of the site consists of two cores: one larger near the southern edge of the terrace, the other much smaller, situated 10-20 meters to the east-northeast, in the central part of the gridded area. The larger core is also twice as denser, including the site's maximum of nearly 71 Mid-Neolithic shards per 100 sq meters. The smaller core is sparser, yielding a maximum of about 43 fragments per 100 sq meters. From these peaks artifact density declines gradually, in roughly concentric rings. Grid units featuring over 15 fragments are surrounded by grid units featuring between 7 and 15 fragments, and these are in turn surrounded by grid units featuring between 3 and 7 fragments[3]. The peripheral zone of less than 3 fragments per grid unit or less than 6 fragments per 100 sq meters probably

[3] For a strikingly similar structured on-site distribution on a Mid-Neolithic site in southern Greece see J.F. Cherry, et al, An archaeological survey in an artifact-rich landscape: A Middle Neolithic example from Nemea, Greece, 159-176, *American Journal of Archaeology* 92-2, 1988, particularly fig. 5.

extends slightly beyond the limits of the grid; its sudden disappearance from the northern and western rows of grid units should be related to the low ground visibility.

Evidence that the lower terrace was occupied during this same period primarily came from the less intensive collection strategy, using the field walking transects as collection units (map III_2a). It was further possible to carry out total collection on a small garden parcel, cleared in the second year of the survey. It presented roughly equal visibility conditions to those on the upper terrace and the density recorded was very close to the average of 12 fragments per 100 sq meters, recorded on the gridded area. As this was a hoed parcel, while the upper terrace was occupied by a deeply ploughed vineyard, it is possible that the lower terrace featured an even greater density. However collection by field walking transects revealed a density of only 1.5 fragments per 100 sq meters. Even when calibrated for visibility conditions and for the lesser degree of survey intensity, the density of finds barely exceeded 6 fragments per 100 square meters. As discussed earlier, in more extreme instances the adopted multiplying factors of 2 and 2.5, compensating for the visibility conditions and the survey intensity fail to produce the expected values[4]. But this could simply mean that the artifact density over the entire lower terrace is truly lower. On the other hand, the above-mentioned cleared parcel measures 40 sq meters and it is located near the upper edge of the terrace. It is thus not necessarily representative of the entire stretch.

Luckily we collected finds from the upper terrace using the same collection strategy by individual field walking transects, prior to the gridded total collection. Comparing only the results of the transect survey (corrected for the visibility factor), it turns out that the cluster on the lower terrace was denser after all. On field block 193, the transect survey recorded the maximum density of 26 fragments per 1000 sq meters, 12.5 were recorded on field block 192 and slightly over 10 fragments per 1000 sq meters on field block 157. However the density of finds on the lower terrace shouldn't be overestimated because the transect collections from field block 157 were certainly less intensive than on field blocks 192, 193 and 157. Field 157 was immediately recognized as a potential site and selected for a total grid survey, while transect collections on field blocks 192 and 193 were more thorough, both because we recognized the presence of Mid-Neolithic finds and because of the lower ground visibility. If we try to compensate for this uneven collection strategy by deriving the number of Middle Neolithic finds in case all counted material was gathered, we will clearly see that the Middle Neolithic material is evenly spread across all three field blocks; the density ranging from 12.1 fragments on field block 193, 13 on field block 192 and 12.7 Mid-Neolithic shards on field block 157, on the upper terrace. It is impossible to apply the same formula to field block 158, where the number of counted finds was 0. In this and similar cases, the artifact density recorded by the individual transect collections is usually lower than on field blocks covering the rest of the site area (map 2b).

As on the lower terrace, visibility conditions are far from ideal on the neighbouring field blocks to the north and the west. Nonetheless none of the finds collected from these transects dated to the Middle Neolithic and the grid survey of the upper terrace clearly revealed a dramatic drop in the quantity of these finds on the three northernmost rows of grid units. It is very possible that the cluster on the lower terrace

[4] C.f. J. Bintliff et al. The Tanagra Project: Investigations at an ancient Boeotian city and in its countryside, 541-606, *Bulletin de Correspondance Hellénique* 128-129/2004-2005.

spread for some thirty meters to the south, reaching the terrace edge. On the other hand, it is certain that the floor of the valley wasn't occupied. This was confirmed by the transect collections from these units.

The area over which the Mid-Neolithic material was spread on the upper terrace measures roughly 93 by 48 meters, or 4 464 sq meters. This doesn't necessarily equal the size of the actually occupied area. The peripheral ring of grid units featuring between 0 and 6 fragments per 100 sq meters could represent the site halo, formed by post-depositional processes or waste disposal in the past[5]. Taking into account only the zone featuring above 7 fragments per 100 sq meters or grid units where between 3 and 7 Mid-Neolithic fragments were collected, the size of the occupied area shrinks to less than 4000 sq meters. If not denser, the scatter on the lower terrace was certainly slightly larger. Mid-Neolithic finds were found dispersed over an area of at least 5 226 sq meters. Because of the collection strategy and visibility conditions, one can only guess at the distribution of finds on the lower terrace. If it was similar to the distribution of surface finds on the upper terrace, the occupied area shouldn't be much smaller than the total dispersal area or the halo of Middle-Neolithic site. The southern tip of this terrace is completely overgrown, but it is difficult to accept that the site limits didn't overlap with the terrace edge. Thus it is quite possible that both the site area and the total dispersal area were slightly larger, perhaps extending to about 1 hectare.

App. II.2 The Late Neolithic (5th and first half of the 4th millennium)?; uncertain assemblage dating

Table 3: Amounts and distribution of the assemblage possibly dating to the Late Neolithic

Total amount and percentage	385, 2.3%
Mean density (overall, grid & transect)	0.43 per 100 sq m; 0.4 per 1 000 sq m
Min/Max density (on site)	2.4- 29 fragments per 100 sq m
Site area	> 8 000 sq m
Total dispersal area	ca. 200 000 sq m

During the course of fieldwork and the initial processing of the collected material, it was thought that this is a part of the Middle Neolithic assemblage (see Appendix 1). However the careful study of the fabrics and the divergent distribution patterns clearly indicated that we were dealing with two separate assemblages. While material dated to the Middle Neolithic is limited to a few field units on the southern end of the Ramnište Ridge, the undated assemblage was present on over 50% of the field units in this sector. It comprised two fabric groups, consisting of 385 fragments or only 2.3% of the total number of collected finds (table 3). The great majority of these or about 365 fragments were collected from site 11. This assemblage is less than half the size of the Mid-Neolithic group of fabrics. Interestingly this ratio of 2.2 to 1 is only valid when material

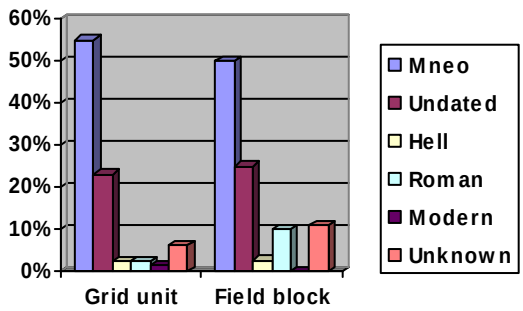
[5] J. Chapman, "Rubish dumps" or "Places of deposition? Neolithic and Copper Age settlements in Central and Eastern Europe 347-362; A. Ritchie ed. *Neolithic Orkney in its European context*, Cambridge 2000, after B. Erdoğu, *Prehistoric settlements of Eastern Thrace* 14, Oxford, 2005. Gardens, requiring intensive agricultural cultivation and in-field manure could also contribute to this halo effect; J. Bintliff, 31, 2006.

collected by grid units is compared. If only the finds collected from individual field walking transects are compared, the Mid-Neolithic finds outnumber the possible Late Neolithic assemblage by 2 to 1. These somewhat conflicting estimates actually illustrate the fact that the latter assemblage is distributed in a thinner and more widespread scatter. This is more clearly illustrated if we compare the overall mean densities of the two assemblages collected by grid and transect survey. The transect collections recorded about 4 possible Late Neolithic fragments per 1 hectare, more than four times the density of the more numerous Mid-Neolithic material. However when the overall mean densities recorded by the grid survey are compared, the Mid-Neolithic material is twice as dense as the undated assemblage. Because of the greater dispersal area of the undated assemblage and the smaller difference between the maximum and minimum on-site densities, determining the site limits and the status of satellite clusters presents a more delicate problem.

As already mentioned, the main concentration of these finds was found immediately to the east of the core of the Mid-Neolithic settlement on the upper terrace. On the upper terrace, the total grid survey recorded artifact densities ranging from 2.5 to 29 fragments per 100 sq meters, or between 1 and 12 fragments per grid unit (map III_3). In comparison the density of Mid-Neolithic shards on the same location varied from 2 to 70 fragments per 100 sq meters. On the site core, artifact density ranges between 12 and 29 fragments per 100 sq meters, with a tendency of a rather sharp decline on the surrounding grid units. Essentially there lacks a distinct and a continuous site-halo; in places artifact density suddenly drops below 2.5 fragments per 100 sq meters or 1 fragment per grid unit. In general however, much of the eastern and southern portions of the grid feature between 5 and 12 fragments per 100 sq meters or between 2 and 5 fragments per grid unit. There is an evident decline in the northwest corner of the grid, on the westernmost row of grid units. The absence of material on the northernmost row of grid units is largely due to low visibility and it is very likely that the site spread slightly further to the north.

That this assemblage spreads on to the lower terrace is confirmed by the results of the collection by individual field walking transects on field blocks 192 and 193 (map III_4a). After compensating for the visibility conditions and the lower survey intensity, the recorded artifact density reached over 1 fragment per 100 sq meters. This is still far less than the minimal on-site density, though as with the Mid-Neolithic assemblage, it seems that even after compensating for the lesser degree of survey intensity by a factor of 3, the true amount of the material is underestimated. This was confirmed by the total collection on the small cleared parcel on field block 159, where 3 fragments were collected, giving a density of 7 shards per 100 sq meters. Note that on this field block the transect survey revealed zero artifact density, probably indicating an even higher density on the rest of the lower terrace, on field blocks 192 and 193. In fact focusing only on the transect survey results, the density of the undated material is 2 to 3 times higher than that recorded on field block 157 (map III_4b). Over 12 fragments per 1000 sq meters were recorded on field block 193, 9.5 on field block 192 and only 4.9 on field block 157. In support of the view that there was a second core on the lower terrace, we may point to the good quality of the finds, especially in comparison to the scant finds collected from the rest of the field units in this sector.

Graph 1: Distribution of finds by periods on site 11



On the upper terrace, the cluster stretches over an area of about 3 500 sq meters, excluding the zone featuring 2 or less fragments per grid unit. As with the Mid-Neolithic assemblage, the cluster on the lower terrace was probably denser and slightly larger, spreading over a maximum area of 5 500 sq meters. The area covered by dwellings was certainly smaller. On field blocks to the north, finds of this assemblage disappear from the surface. Thus it evidently fully overlaps with the Mid-Neolithic cluster, the main differences being that its core on the upper terrace has moved slightly to the east.

As shown in graph 1 the undated assemblage spreads in a much thinner carpet than the Middle Neolithic. It represents between 20 and 25% of the total amount of finds collected by grid and transect units. Perhaps this indicates that it covers a shorter period of time than the Mid-Neolithic assemblage. It was already mentioned that the cluster on site 11 is completed by small amounts of Hellenistic, Roman and Early Modern pottery dispersed across the site area.

However the finds of the undated assemblage are not solely concentrated on site 11 (map III_4b). After the processing of the finds it became clear that they were present on about 50% of the field blocks in sector IX, partly spreading onto the floor of the central valley. There are two groups of field units spreading over areas much greater than that of site 11. The first group consisting of field blocks 160-164 is situated about 200 meters to the north of site 11, on the crest of the Ramnište Ridge. It consists of 5 field blocks featuring very low total artifact densities, rarely exceeding 3 fragments per 1000 sq meters. Only two feature visibly greater quantities of surface material compared to the neighboring field blocks, but this is still barely half the amount encountered on the gridded field blocks. Actually one of these field blocks (162) gave the greatest number of finds of the undated assemblage, although in terms of density, it features slightly over 4.5 fragments per 1000 sq meters. Collection by individual field walking transects revealed that the undated assemblage comprised a significant portion of the total amount recorded on these units. They were found accompanied by equal or smaller amounts of Hellenistic or Roman and Early Modern pottery. In fact on certain field units they represented 100% of all collected finds. But the density of this material never exceeded the threshold of 5 fragments per 1000 sq meters, even after the field records were filtered for the visibility conditions and survey intensity. Slightly greater quantities were discovered on field units 160 and 162, both situated along the crest of the Ramnište Ridge. Field units positioned over the lower terraces feature even smaller amounts of surface material or less than 3 fragments per 1000 sq meters.

The second cluster spreads over a larger area and it is only slightly thinner. It was discovered some 250 meters to the northeast, towards the northern end of sector IX. Only one of the field units featured artifact density higher than 3 fragments per 1000 sq meters (field block 168); on the rest of the field blocks spreading further north for over 200 meters, it dropped below 2.5 fragments per 1000 sq meters or less. It has to be recalled that the amount of the total surface record in this northern part of sector IX usually varies between 1 and 2 fragments per 100 sq meters and it is no wonder it didn't receive greater attention during fieldwork. Nevertheless when the records of the transect survey are considered, there are no grounds to distinguish between these groups of field blocks and field block 157 where site 11 was identified (table 4, map III_4b). The overall low density of finds, which diverted the focus of the survey from these locations was simply resulting from the absence of Middle Neolithic finds. As shown on table 4, the density of this assemblage is higher than the district average on at leas two other locations apart from field blocks 157 and 192-193. On the other hand it is difficult to believe that these clusters would have been missed, if the actual concentration of material was anywhere near that on site 11, even if the Mid-Neolithic assemblage is excluded. A possible explanation lies again in the inconsistencies of the collection by individual transects. On field block 157, the collections by individual field walking transects were less intensive, because this field unit was already planned for total grid survey. On field blocks 192, 193, on the lower terrace of site 11 and on the rest of the field blocks in this sector, collections by individual field walking transects were more thorough, distorting the actual distribution of the undated assemblage.

Table 4: Mean district density and density on field units covering possible site areas, in 1000 sq meters

	Field block 157	Field block 189	Field block 162	Field block 168
Expected	1.4	1.4	1.4	1.4
Actual	4.6	1.2	4.7	3.5

But if we attempt to equalize the thoroughness of the individual transect collections as we did for the Middle Neolithic finds, we'll get a similar result (map III_4c). Even if the transect collections on field block 157 were as intensive as on the rest of the field blocks on which this material was present, it would still feature a slightly lower density than on field block 192 or 162. In such a case, the density on the assumed core of the site on the upper terrace will equal about 5.5 fragments per 1000 sq meters, 9.2 and 5.6 on field blocks 192 and 193, on the lower terrace. Note than on the latter field unit, if the records of the transect collections are left unadjusted the density will reach over 12 fragments per 1000 sq meters. Thus, as with the Middle Neolithic assemblage, the core of the site moves to the lower terrace. On the next cluster of field blocks to the north, the density of the Late Neolithic finds ranges between 0.8 fragments on field block 161a and 7.5 fragments per 1000 sq meters on field block 162, which becomes the second densest concentration of possible Late Neolithic finds in the survey area. There is a particularly strong increment on field block 189, on the valley floor, where artifact density grows from about 1.7 to over 6 fragments per 1000 sq meters. On the

northernmost group of field blocks, 168, 170-171, the adjusted records of the individual transect survey produced somewhat lower densities of 4.7 fragments on field block 168, 2.3 on field block 170 and 0.8 fragments on field block 171. There is also a considerable increase on field block 184, on the valley floor, over 600 meters north of site 11. Here the adjusted transect collections give an artifact density of over 2.8 fragments per 1000 sq meters. We believe that both in this case and in the case of field block 189 the adjusted figures of the transect collections are overestimating the density of Late Neolithic material. In both cases a relatively small fraction of the counted material was collected and in the case of field block 184, the sample fraction is further minimized by the very low surface visibility.

If this analysis is correct, we will have to accept the fact that apart from site 11, there were at least 2 or 3 other locations on which the density of Late Neolithic material exceeds the expected amounts. Nevertheless these inconsistencies in the individual transect collections cannot undermine the perceived differences in the amount and especially the quality of the finds collected from the two terraces over which site 11 is spread and from the rest of the field blocks where this assemblage was identified. The collections from field blocks 160-164 and 168-170 consisted of a handful of badly worn fragments and the overall artifact density was many times lower than on field block 157. They were surveyed in two separate occasions and it is very unlikely that clusters of size similar to those on field block 157 or 192 would have been completely missed. Their on-site status cannot be justly denied, although in the final interpretation they are seen as smaller satellites of the settlement on site 11. One final observation in support of this view is the different signature between the concentration on site 11 and those on field blocks 160-164 and 168-171. Whether the records of the transect survey are adjusted or not, the density of Late Neolithic material on site 11 stays high above the site threshold on three contingent field units. On the other two potential sites, it is not only limited to single field blocks, separated by field units featuring average or lower than average amounts of surface material, but it is further limited only to certain individual transects.

Considering the relatively unfavorable visibility conditions in this sector, it is equally possible to argue that there existed a continuous, but very thin scatter of finds, stretching over the entire length of Ramnishte Ridge, perhaps even emanating from the cluster on site 11. However this claim is undermined by a total grid survey on field units 167a and 168. Both field blocks featured equal visibility conditions, but while 168 yielded at least several fragments of the discussed assemblage, not a single shard was found on field block 167, although it was surveyed more intensely. If these findings are correct, apart from the larger concentration on site 11, the material belonging to this assemblage also appears in a couple of very thin scatters, distributed over much larger areas. For example, the group of contingent field blocks in the central part of the sector (field blocks 160-162) roughly occupies an area of over 3 hectares! But this area was surely not entirely covered by a continuous carpet of finds. They rather appear in several tiny and isolated clusters, remaining invisible before the material is categorized into separate fabric groups.

App. II.3 The Bronze Age (3rd and 2nd millennium BC, until c.a. 1200 BC)

In total, only about 35 fragments can roughly be dated to the Bronze Age. This presents a negligible 0.2% of the total number of collected finds or less than 3 fragments per 10 hectares (table 5). But because of the existence of at least one larger concentration of finds, the overall mean density recorded by the grid survey is much higher or about 40 shards per 10 hectares. Nevertheless, this is one of the smallest assemblages from the first survey area, with a fairly modest range between the minimum and maximum on-site densities. But because of the absence of contemporary background noise even an isolated fragment produces artifact densities higher than the overall and district mean values; such was the case with the find on grid 5a (table 6). On all three locations where definite Bronze Age fragments were encountered, the average artifact density was at least 4 to 5 times higher than the mean district value. In the case of the Bronze Age assemblage determining the limits of individual clusters doesn't present a particular challenge, but determining the rank and character of the satellite clusters is much more difficult.

Table 5: Amount and distribution of the Bronze Age finds

Total amount and percentage	35, 0.2%
Mean density (overall)	0.4 per 1 000 sq m; 0.02 per 1 000 sq m
Min/Max density (on site)	ca. 1 – 10.7 fragments per 100 sq m
Site area	> 300 sq m + 300 sq m
Total dispersal area	/

Table 6: Mean district (grid and transect) and on-site density of Bronze Age finds

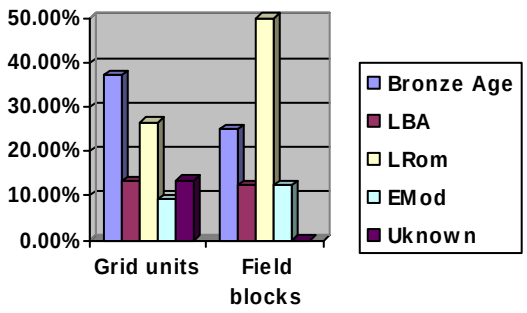
	Field block 6	Grid 16b	Grid 5a
Expected/Mean	0.6 per 1000 sq m	1.1 per 100 sq m	0.008 per 100 sq m
Actual	2.5 per 1000 sq m	5.9 per 100 sq m	0.6 per 100 sq m

More than 95% of the finds were collected from several grid units and two field blocks, on the parcels of the monastic complex by the Vardar, in sector 1. This is in fact site 3, situated in the western half of the monastic yard and probably on the neighboring fallow parcel, to the southeast (map III_5). As discussed in Appendix 1, this is a small but fairly compact cluster, accidentally discovered towards the end of the second year's campaign. The highest density of 10.7 fragments per 100 sq meters was recorded on a pair of units in the southern half of grid 16b. In fact this entire half of the grid, with the exception of the easternmost row of units features artifact densities ranging between 5.3 and 10.7 fragments per 100 sq meters (map III_6). On units in the northwest half of the grid, the quantity of these finds drops to less than 2 fragments per 100 sq meters, completely disappearing at a distance of 25 meters from the site core. On the opposite side beyond the limits of the garden, the southeast limit of the site remains elusive. Here ground visibility conditions change drastically and apart from recent debris, the surfaces are sterile. In Appendix 1 it was explained that this grid was positioned over a deeply

ploughed garden in the monastic yard. Beyond the southeast limit of this field, it is impossible to follow the cluster of finds. However 80 meters east of this field's edge, across the seasonal Momčilo Creek, a small collection of fragments was gathered from field block 6 featuring much worse visibility conditions and using the individual field walking transect as a collection unit. These rare finds amount to an approximate density of 2.5 fragments per 1000 square meters or 1 fragment per 100 sq meters, after compensating for the lower ground visibility and survey intensity. This barely approaches the density recorded on the periphery of grid 16b, although it is well above the district average. But turning to the transect survey results, one sees that not a single fragment was collected from the monastic garden, prior to the total collection by grid units. It is thus highly probable that this site continues for at least 80 meters to the southeast from the established site core or even more likely, it consisted of two separate cores, situated on both sides of the small creek. It is unfortunate that the banks of the creek are inaccessible, covered by buildings belonging to the modern monastic complex.

East of the site core, the Bronze Age material also disappears abruptly. This is again related to visibility conditions, as the garden on which this material was found lies tens of centimeters lower than the rest of the monastic yard. Most of the surface here is covered by a carpet of Late Roman and Early Modern finds. Even if the cluster of Bronze Age finds continued to spread into this direction, it would have been completely overwhelmed by the presence of Late Roman and Early Modern tile. Some of this later material was also found on the grid units alongside Bronze Age finds. Interestingly however, the Late Roman material was rarely found on grid units with predominantly Bronze Age finds. This could mean that the Late Roman finds collected from the easternmost units of grid 16b are a continuation of site 2, partly overlying the Bronze Age cluster. Its core is situated 87 meters to the north of the core of site 3; the two being separated by a row of monastic buildings and the church. As shown on graph 2, when the composition of the collections from surrounding field units is analyzed the Late Roman finds become the most dominant group, representing 50% of the collections. In contrast their share in the total collections from site 3 drops to about 27%, while the Bronze Age finds comprise nearly 40% of the finds on grid 16b. Note the fairly high percentage of unrecognizable finds on site 3. These are a group of overfired shards that couldn't be positively identified, but judging by the modeling it seems more likely that they belong to the Bronze Age rather than to the Late Roman assemblage.

Graph 2: Distribution of finds by period on site 3 and surrounding field units



The garden in the monastic yard barely opened a small window into the Bronze Age settlement. The cluster borders revealed by the survey are doubtlessly artificial and the Bronze Age site was certainly slightly larger. It definitely extended further to the east and south from the discovered core and most probably, there was another core on the southern bank of the small creek. The revealed portion of the cluster measured about 825 sq meters, including the zone of less than 2 fragments per 100 sq meters. But maintaining consistency in the proposed interpretation, this narrow zone is better excluded from the occupied area. As shown by earlier research, residential sites tend to leave the same signature in the surface record, regardless of their size; a minor site will simply produce a narrower halo zone[6]. Site 3 occupies a minimum of 300 sq meters. As explained, it is very likely that a portion of the site remains inaccessible. Although it can't be clearly demonstrated, the cluster from field block 6 on the opposite bank of the seasonal creek probably represents the remains of a similarly sized site.

Very faint traces of this period were also discovered in the third, northwest sector of the survey, over 700 meters northeast of the core of site 3 and 150 meters northwest of the modern village (map III_7). Here only a couple of fragments were found amidst a mass of Iron Age, Late Roman and Late Ottoman to Early Modern material. They were collected from two contingent grid units, on the southern half of site 5a. This presents a very tiny amount, with a maximum of slightly over 0.5 fragments per 100 sq meters, 3-4 times less than the amounts collected from the periphery of site 3. Nevertheless it still exceeds the estimated mean density of Bronze Age material for the entire survey area by several times. Considering the fact that fairly large quantities of material from three later periods were deposited on the same location, it is very likely that these two fragments are all that remains of an isolated hut or a farm, perhaps even of a similar size to the partly discovered farm in sector 1[7]. It is quiet possible that a more scrupulous study of the material gathered from other large clusters will also reveal one or two fragments that can be dated to the Bronze Age. Indeed one or two fragments that can possibly date to the Bronze Age were found on sites 6 and 8, both occupied during the 1st millennium BC. In these cases however, the fabric identification remains tentative.

The difficulties in interpreting the significance of these tiny remains are self-evident. Given the fact that we were dealing with a very long local pottery production, it is not impossible that some of these isolated fragments were simply misinterpreted finds from later periods. But far more crucial is the apparent inconsistency in our own interpretations. When discussing the distribution of the undated assemblage, we encountered a roughly similar pattern with one large central cluster and an unknown number of smaller and thinner satellites. In this case it was maintained that the satellites were simply too small in comparison to the main cluster to represent anything but the remains of non-occupational activities or isolated dwellings. Why adopting a different interpretation for the isolated Bronze Age finds, especially when they are certainly many

[6] J.L. Bintliff, 31 2006; T.J. Wilkinson, Extensive sherd scatters and land-use intensity: some recent results, 31-46, *Journal of Field Archaeology* 16-1, 1989.

[7] C.f. J.L. Bintliff, P. Howard, et al. The hidden landscape of prehistoric Greece, 139-168, *Journal of Mediterranean Archaeology* 12.2, 1999; for criticism see, J. L. Davis, Are the landscapes of Greek prehistory hidden? 22-35, eds. S.E. Alcock, J.F. Cherry, *Side-by-side survey: comparative regional studies in the Mediterranean World*, Oxford 2004; D.K. Pettegrew, Chasing the Classical farmstead: assessing the formation and signature of rural settlement in Greek landscape archaeology 189-209, *Journal of Mediterranean Archaeology* 14, 2001.

times smaller than the central cluster on grid 16b or site 3? One needs to point to two slight but important differences. While all clusters of the undated assemblage including the one on site 11 were discovered in conditions of very low background density, in a peripheral sector of the surveyed basin, the clusters from the Bronze Age were discovered in more variable conditions. The cluster that constituted site 3 in the monastic complex is situated in an uninhabited and poorly cultivated part of the survey area. On the other hand, the isolated fragments discovered on site 5a and possibly on sites 6 and 8 were found in the most intensively cultivated survey sectors, in the immediate vicinity of the modern village. Moreover, while site 3 was never again reoccupied, sites 5a and 6 will be occupied during at least one later period. As a result, their presence in the surface record could be seriously diminished by later activities. Finally, while the satellite clusters of the undated assemblage were all found within a distance of 500 meters from the central cluster, the scanty Bronze Age finds were found dispersed over a much larger area. The clusters of the undated assemblage were all found within the limits of a single micro-topographic unit, marking the inner territory of the nucleated settlement. The distance between sites 3 and 5a, to take only the securely dated ones is about 750 meters as the crow flies. However there is no visual communication between these two locations and the walking distance between the two is at least 1300 meters.

It is chiefly because of these taphonomic and distributional considerations that we proposed a contradictory interpretation. The satellite clusters of the undated assemblage were seen as isolated huts, outbuildings or even non-residential features, while the pair of Bronze Age shards as the vestigial remains of a possible farmstead. In principle site 5a could truly represent the remains of a minor ephemeral site, though in such a case its dominant location becomes baffling.

App. II.4 The Late Bronze Age (1600-1200 BC)

Table7: Amount and distribution of the Late Bronze Age finds

Total amount and percentage	35, 0.2%
Mean density (overall)	0.38 per 1 000 sq m; 0.03 per 1 000 sq m
Min/Max density (on site)	1.7 – 5 fragments per 100 sq m
Site area	> 200 sq m?
Total dispersal area	7 406+41 400 sq m

In total about 35 fragments belong to this fabric category or as much as all Bronze Age fabrics taken together. This is still a very small portion of the total collection and similar to the Bronze Age fabrics, the mean overall density of these finds is almost 40 per 10 hectares of total grid survey, 3 fragments per 10 hectares of transect survey. Unlike the Bronze Age assemblage, this material is dispersed more evenly, both locally and on a sector level. The range between the minimum and maximum on-site densities is only half the range for the Bronze Age material. In the case of the Late Bronze Age finds, there is also a weaker contrast between the densities recorded on various finds-spots and the interpretation of the clusters of intermediary densities becomes even more problematic.

Table 8: Mean district density and density on field blocks covering find-spots of Late Bronze Age material, in 1000 sq meters

	Field block 5b	Field block 94	Field block 114	Field block 115
Expected/mean	0.1	0.03	0.08	0.08
Actual	4.3	1.4	0.9	0.6

As shown on table 8, on all four field blocks from which this material was collected by individual transects, the artifact density is between 30 and 40 times the expected values for the specific sectors. One also notes that these clusters become thinner going from the southwest towards the northeast corner of the survey area (map III_8a). The densest concentration was discovered in sector I, near the monastic complex, featuring 4.3 fragments per 1000 sq meters. The individual finds collected from field blocks 94, 114 and 115 at Prisoj's eastern foot give densities lower than 1.5 fragments per 1000 sq meters. In order to check if this is related to the uneven collection by individual transect units, we modified the number of collected finds so that they represent 100% of the counted material, corrected for the variable visibility conditions (map III_8b). The pattern revealed by the raw record of the transect collections is confirmed and further reinforced. The concentration on field block 5b in the monastic complex is truly denser, featuring over 20 fragments per 1000 sq meters, while the density on field blocks at Prisoj's eastern foot remains below 1.5 fragments per 1000 sq meters. To a certain degree, the Bronze Age pattern with one denser cluster and several find-spots of intermediary density is repeated, with the difference that the focus of activity has shifted from the southern to the eastern foothills of the Prisoj. Whether this difference in the quantity of surface finds on the respective locations truly reflects the size of the settlements or the local taphonomic conditions remains disputable.

This interpretation is chiefly confirmed by the results of the total grid survey, although the contrast between the density recorded on the find-spots and the district average recorded by the grid survey is somewhat less pronounced. The greatest quantity of this material came from site 3, where we recorded the maximum density of 5 fragments per 100 sq meters (map III_9). On neighboring grid units, it gradually drops to 3.3 and 1.7 fragments per 100 sq meters. Analyzing the dispersal of this material separately from the Bronze Age assemblage, it is evident that its main concentration has shifted for about 15 meters to the north of the core of the Bronze Age site, on its periphery. Its size is slightly smaller, measuring less than 200 sq meters. Despite the very small size of this hypothetical site, one can still observe a site core defined by artifact densities higher than 3 shards per 100 sq meters and a peripheral zone of about 1.7 fragments per 100 sq meters along the eastern edge of the grid. Being centrally positioned in the gridded area, it is quite possible that the site doesn't extend beyond the limits of field block 5b. It was evidently smaller than its Bronze Age predecessor. The collections by individual field walking transects from sector I didn't include other finds of this fabric group. This implies that the second core of the Bronze Age site on field 6 was abandoned, further underlining the contraction of settlement in this sector. As shown on table 9, the difference between the average density on the site area and the district average recorded by the grid survey is roughly tenfold.

Both the grid and the transect collections from sectors III and V confirm that there was no continuity on the locations where certain or possible Bronze Age finds were collected. However nearly 50% of the Late Bronze Age finds were found on the intensely cultivated stretch between the eastern foot of the Prisoj and the right bank of the central valley in sector VII. There are at least 4 clusters consisting of 2 or 3 fragments, each spread over an area of a few grid units or 120 to 130 sq meters and a number of isolated individual fragments situated in-between these "clusters". The density usually varies between 1 and 1.7 fragments per 100 sq meters, equalling the density recorded on the periphery of site 3 (map III_10, table 9). As demonstrated by the individual transect collections, these clusters were sparser than the one on grid 16b. They are nonetheless over 30 times the mean recorded by the grid survey in sector VII.

Table 9: Mean district and on-site density recorded by the grid survey, in100 sq meters

	Grid 16b	Grid 8-9	Grid 10	Grid 12	Grid 13-14
Expected/mean	0.34	0.06	0.06	0.06	0.06
Actual/ mean per grid	3.5	2	2	2	2

It is worthy of mention that the incidences of possible Late Bronze Age finds discovered by the transect and the grid survey in sector VII hardly overlap. As we saw, the highest density of 1.4 fragments per 1000 sq meters came from field block 94 that was left out of the regular grid survey. On the other hand, on field blocks where the total grid collections revealed most of these tiny clusters, the transect survey recorded no finds datable to the Late Bronze Age. This could imply that the cluster on field block 94 was more substantial. But at the same time, although the individual transect collections from field blocks 113 and 114 included one Late Bronze Age fragment, the total grid survey covering the eastern halves of these field units failed to detect finds datable to this period. Even after being corrected for the lower degree of survey intensity, the artifact density on field block 94 remains below the figures recorded by the total grid survey. Without further fieldwork, it is impossible to maintain the view that the concentration recorded by the transect survey on field block 94 is necessarily larger than the rest of the clusters recorded by the grid survey in sector VII.

These finds-spots form a chain along the western bank of the central valley stretching for slightly over 700 meters. It is difficult to observe clear patterning in the distribution of the clusters because of the variations in their size and structure. Taking into consideration only the clusters spreading over two or more contiguous grid units, the following pattern emerges. Two clusters were discovered on site 7, spaced only about 30 meters apart. To this pair we may add the concentration on field block 94 situated about 50 meters to the south. After an interval of nearly 200 meters stretching over grids 9 and 10 (the southwest portion of site 8) where only two isolated fragments were found, there appears another cluster in the very centre of site 8. Over 110 meters to the northeast, on the "upper" half of site 8, there appears yet another small cluster. Finally, a sparser group of three fragments was collected from grid 14, at the southern foot of site 9. As shown on map III_10, in-between two clusters there often appear individual fragments of this

group. Thus we arrive at the same dilemma as with the possible Late Neolithic assemblage: either these small clusters are the remnants of a thin, but fairly widespread continuous carpet or more likely, the disturbed remains of enclosed deposits from pits, dispersed huts and farmsteads.

Like the scant Bronze Age fragments from site 5a, the Late Bronze Age material was mostly found amidst dense scatters of material from later periods. The cluster on grid 7 was accompanied by finds datable to the Late Bronze-Early Iron Age, while those from site 8 were accompanied by Late Iron Age finds. As will be shown, both site 7 and 8 are intensely occupied nucleated settlements, just like the Roman-Late Roman phase on site 5a. These peculiar taphonomic circumstances certainly distort the original pattern of distribution, either by sealing off earlier deposits or destroying them, incorporating but a few residual finds in the cultural layer created by the later settlements. Later we'll see that even the larger settlement on site 7 was probably completely obscured by the much larger Late Iron Age settlement on site 8. To a certain degree, this fact challenges the interpretation that we just offered because finds belonging to the discussed fabric group do appear on a few locations in the central part of site 8, while finds belonging to the later assemblage from site 7 appear only outside the site limits or in the halo zone of site 8. It has to be pointed though that the relation between the Late Bronze Age fabric group and the assemblage dated to the subsequent Late Bronze-Early Iron Age remains uncertain. It is possible that the two were actually contemporary. Their patterns of dispersal are not at all divergent in sector VII (map III_10a). In addition it is equally possible that a small number of Late Bronze-Early Iron Age finds went unnoticed amidst the large mass of not dissimilar Late Iron Age finds. Yet their isolated appearance on site 3 in sector I, as well as their absence in the southern half of sector VII is problematic. Judging solely by the pattern of distribution, the Late Bronze Age fabric group looks more like a predecessor than a component of the Late Bronze-Early Iron Age assemblage.

App. II.5 The Late Bronze-Early Iron Age? (1200-1000 BC)

There are about 400 fragments that can securely be grouped into a single assemblage, possibly dating to the period of transition between the Late Bronze and the Early Iron Age. To these we added about 100 fragments of coarse ware that couldn't be clearly distinguished from the coarse fabric groups of later periods. Although so far this is one of the assemblages with the largest dispersal area, its distribution over the surveyed basin is far from even. Over 90% of the finds came from sector VII, with only a small percent spreading over peripheral field units in sectors IV and V. Hence the fairly low overall mean densities, barely exceeding the overall density values for the similarly dispersed but smaller, possible Late Neolithic assemblage. The densities of 0.6 fragments per 100 sq meters of grid survey and less than 1 fragments per 1000 sq meters of transect survey implies significant remains over most of the area covered by sector VII. As the analysis will demonstrate, this is not far from the truth. But in order to make a finer distinction between the site and the off-site and draw more realistic settlement limits, it is necessary to introduce the mean district density for sector VII, which predictably will set a much higher on-site threshold. In this survey sector the mean density of Late Bronze-Early Iron Age finds ranges between 2.2 and 4.4 fragments per 1000 sq meters of transect survey and about 1.5 fragments per 100 sq meters of grid survey.

Table 10: Amount and distribution of the assemblage dated to the Dark Ages

Total amount and percentage	ca. 500, 3.2%
Mean density (overall, grid& transect survey)	0.6 per 100 sq m; 0.8 per 1 000 sq m
Min/Max density (on site)	6-56 fragments per 100 sq m
Site area	5 000-7 000 sq m
Total dispersal area	ca 100 000 sq m

As shown on the thematic map, over 50% of the field blocks in sector VII feature artifact densities higher than the overall mean value of 0.8 fragments per 1000 sq meters (map III_11a). On 7 or 8 field walking units, the artifact density recorded by individual transects exceeded the district mean value of 4.4 fragment per 1000 sq meters and on two pairs of field blocks in the central part of the sector, the transect survey recorded over 14 fragments per 1000 sq meters (table 11). The majority of the field blocks with over 4.4 fragments per 1000 sq meters appear isolated or in pairs in the southern half of sector VII, including the two pairs of field blocks with the highest artifact densities, field blocks 94-103 and 102a/b. Only two belong to the northern half of the sector; these are field blocks 113a and 114 at the southern and western foot of site 9. The rest of the field units featuring artifact densities higher than the district average are situated in the southern half of sector VII and into sector IV. This distribution pattern is to a certain degree similar to the distribution of the possible Late Neolithic assemblage, collected from site 11 and field blocks in sector IX. It too consisted of one large and a couple of minor clusters; the latter clearly emerging from the surrounding zone of very low artifact density, but still featuring at least half as many finds as the central cluster. As with other assemblages characterized by a more even distribution, the difference between the mean district and the on-site density is poorly pronounced, inevitably complicating the interpretation of concentrations only slightly higher or lower than the sector's average density.

Table 11: Mean district density and density on field blocks covering potential site locations, in 1000 sq meters

	Field un 103	Field un 102	Field un113a	Field un 99	Field un 80
Expected	4.4	4.4	4.4	4.4	4.4
Actual	14.2	18.2	6.3	6.2	9.4

Three of these field blocks with higher than average artifact density were gridded and total survey was carried out. In general the results of the individual transect survey were confirmed, though much larger densities were recorded (map III_12). As suspected prior to the analysis of the collected finds, the central cluster was situated on field blocks 103 and 95, defined as "site 7" in Appendix 1. On two grid units in the southwest corner of field block 103, the maximum density of 56 and 44 fragments per 100 sq meters was recorded; it is nearly 10 times the densities recorded by the transect survey even after filtering for the ground visibility and the survey intensity. On the surrounding grid units,

the quantity of finds suddenly drops to around 12 fragments per 100 sq meters; while on the periphery of the grid, it dropped to about 6 fragments per 100 sq meters.

But the increased artifact density doesn't terminate at the edge of field block 103. As with the undated collection from sector IX, it is rather difficult to draw a clear site limit. The problem became particularly acute when the total collection from the neighbouring field block 104, to the north of "site 7" was analyzed (map III_12). According to the transect survey, on this field block the density of finds dated to the Late Bronze-Early Iron Age is evidently lower. It was gridded because the overall quantity of finds was greater than the sector's average and because of the suspicion that the Late Iron Age settlement on site 8 spreads over this field block. Surprisingly fabrics datable to the Late Bronze-Early Iron Age were found on nearly half of the grid units. Their distribution is almost random, though it is clear that there is a sudden decrease in the eastern third of the grid. On the rest of the grid units the density of this material ranges from 0 to 18 fragments per 100 sq meters. Usually a pair or a single grid unit featuring artifact densities of over 10 fragments per 100 sq meters is surrounded by a few grid units featuring below 10 fragments per 100 sq meters. Grid units with less than 2 fragments per 100 sq meters are rare and they are rarely contiguous. It is impossible to observe an overall tendency; densities of over 12 fragments per 100 sq meters were recorded on grid units situated 150 meters from the core of "site 7". In fact the highest densities of 18 fragments per 100 sq meters were recorded on units of the northernmost grid row. It is unfortunate that on the next field block to the north, ground visibility conditions prevented us from collecting more than a few badly worn finds. Possibly there was another larger concentration, situated around 115 meters to the north of the core of site 7.

The pattern revealed on the large field to the north of "site 7" actually repeats the distribution of finds observed within the limits of the small clusters at the foot of site 9. On this location, the total grid survey covered field blocks 113a and 113b because of the unusually high overall artifact density. Unlike on the field block to the north of "site 7", here the grid survey revealed but a single, small cluster. On one grid unit at the southern foot of site 9, the maximum artifact density was measured at 10 fragments per 100 sq meters. On the peripheral grid units, it ranged between 2 and 4 fragments per 100 sq meters, which is still above the sector's average recorded by the grid survey or 1.5 fragments per 100 sq meters (table 12). Thus, this cluster occupies an area not larger than 200 sq meters. It strongly resembles the network of clusters revealed on field block 104, north of "site 7". In the latter case, it looks as if dozens of these tiny clusters were brought together on a single field block. At the western foot of site 9, on grid 15, the maximum artifact density rarely exceeded 2 fragments per 100 sq meters. This was basically a scatter of individual or pair of fragments with average density lower than the sector's average. This discovery demonstrates that apart from small, satellite clusters, there also existed concentrations of intermediary density, as was suspected in the case of the possible Late Neolithic assemblage. It also shows that even clusters of very small size, such as the one on grid 14 can potentially elevate the artifact density recorded by the transect survey above the district average. This warns us that the transect survey is not very sensitive when it comes to determining the size of the site, though it is usually a fairly accurate indicator of a site's presence.

Table 12: Mean district density and density on find-spots recorded by the grid survey, in 100 sq meters.

	Grid 8	Grid 9	Grid 14	Grid 15
Expected	1.5	1.5	1.5	1.5
Actual	10	5.6	2.7	1.3

Only small portions of the fields south and east of "site 7" were gridded. Here the quantity of the discussed assemblage is evidently lower than on the field to the north, although the distribution pattern is similar. South of the site core this material nearly disappears, but after some 50 meters it shortly reappears, reaching a density of about 5 fragments per 100 sq meters. This distribution pattern is perhaps best illustrated through the results of the transect survey. Site 7 is surrounded by field blocks featuring around 2-3 fragments per 1000 sq meters, but on the following ring of field units, the density of this material rises to nearly 2 fragments per 100 sq meters. On field blocks situated further to the south, its quantity continues to fluctuate, though it never exceeds 1 fragment per 100 sq meters. Because of the low ground visibility and the scarceness of the overall surface record, we didn't include field blocks 102a-102b in the grid survey. It is possible that there was another larger cluster on this pair of fields, perhaps even similar to "site 7". We have to clarify however that the increased density on these two fields could very well stem from the smaller size of the field blocks. The absence of well preserved or diagnostic finds is also striking.

A slightly different pattern emerges to the north of field block 104, in the northern half of the sector (map III_13). Although half of the field units in this area were covered by total survey, finds datable to the Late Bronze-Early Iron Age were found only on a few grid units. As mentioned earlier smaller quantities were discovered on grid units at the foot of site 9, nearly 500 meters to the north of the site core. It is noteworthy that the thin carpet of finds stretched over roughly the same distance, on field blocks south of "site 7". A much larger, Late Iron Age site situated immediately to the north and partly overlapping with "site 7" explains the sudden disappearance of this material in the easternmost section of field block 104 and on the next few field blocks to the north. Once the amount of the Late Iron Age finds decreases, there emerge rare fragments datable to the Late Bronze-Early Iron Age. Globally observed, this material is conspicuously distributed on field blocks situated along the edge of the Late Iron Age site. Only on a few rare micro-locations within the site limits did there appear a handful of examples of the discussed assemblage. Of course it should be allowed that a small number of fragments passed unnoticed amidst the mass of not much different material. To the west the carpet of finds datable to the Late Bronze-Early Iron Age suddenly disappears. Not a single fragment was found west of the dirt-road that connects Sopot with the neighboring village to the north, although visibility conditions remain stable.

So far we relied on the combined records of the transect and the regular grid survey in determining the extent and the status of the various concentrations of finds datable to the Late Bronze-Early Iron Age. For this purpose the number of finds collected by individual transects, after being corrected for the visibility factor was multiplied by a factor of 2.5, to compensate for the lower degree of survey intensity. A similar picture emerges when we consider only the results of the transect collections, but adjusting them

to represent 100% of the counted material (map III_11b). There are nevertheless a few important differences. In principle there aren't significant changes concerning the field blocks that represent potential site locations, although there are significant differences in the recorded artifact density. Firstly, we note that the density of finds on field block 103 is much higher than on surrounding field units, featuring over 23 fragments per 1000 sq meters. There is also a significant increase on the neighbouring field to the north, field block 104, where artifact density increases from about 3 to over 13 fragments per 1000 sq meters. That there are considerable amounts of Late Bronze-Early Iron Age finds on this field was confirmed by the regular grid survey. (The neighbouring field block to the south, 95a where the continuation of the site was confirmed by the grid survey is coloured green on the thematic map, because we counted zero artifacts on its surface) At the same time, the very high concentration recorded on field block 102, decreases to about 10 fragments per 1000 sq meters, while the one on field block 113a rises from 6.6 to over 9 fragments per 1000 sq meters. This suggests that the potential cluster on field blocks 102a/b was of a similar size to the one on field block 113a, covered by grid 14. Given that 100% of the counted material was collected, the concentrations on field blocks 80 and 82 also gain in prominence. The former features over 22 fragments per 1000 sq meters, nearly equaling the density on field block 103, while on field block 82, the density of this material rises to over 13 fragments per 1000 sq meters. Note however, that unlike the main site on field blocks 103 and 104, these two field blocks stand isolated, at the very periphery of the carpet of Late Bronze-Early Iron Age finds. We believe that this indicates an absence of site halo, such as the one surrounding the central cluster on grid 8 or the satellites on grids 9 and 14.

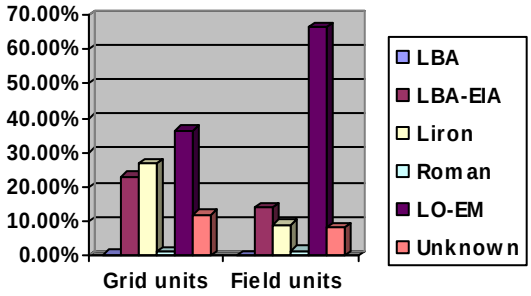
The seemingly focal and discontinuous distribution of the discussed assemblage is more intelligible if viewed integrally, as a single, but highly fluctuating layer of surface finds. "Site 7", situated roughly in the middle of the area, clearly represents the core of this assemblage. Nearly half of the finds were collected from grid units covering field blocks 103 and 95. In fact "site 7" is defined by a compact cluster of grid units featuring an artifact density not lower than 6 fragments per 100 sq meters. It occupies an area of roughly 1250 sq meters. Outside this zone, the density of this material falls drastically except for the field to the north, where the grid survey revealed a discontinuous carpet of finds, featuring between 0 and 18 fragments per 100 sq meters. It lacks an apparent central focus, although it is possible that there was another core, about 115 meters to the north of site 7. It is equally likely that each of the dozen grid units featuring artifact densities of about 10 fragments per 100 sq meters represented distinct settlement cores, surrounded by halo zone defined by artifact densities between 0 and 2 shards per 100 sq meters. Further to the north, the surface record is dominated by a much larger group of Late Iron Age fabrics. On the fields outside the limits of the Late Iron Age site, there emerges an even thinner scatter of finds datable to the Late Bronze-Early Iron Age. Significantly this small amount of finds, nicely represented by the isolated cluster at the southern foot of site 9 closely follows the distribution pattern observed on the field to the north of "site 7". Tiny clusters consisting of several finds were found dispersed at intervals of over 100 meters. Thus it seems, while the density of this material gradually declines as one moves away from "site 7", its inner distribution pattern doesn't change. It rather becomes sparser stretching the extent of this assemblage over an area of at least 10 hectares.

This observation doesn't have to imply that this was a nucleated settlement, surrounded by a wider zone of less intense, off-site activity, although this shouldn't be excluded. At the same time, it is equally possible that one is dealing with a dispersed settlement, with one central and an unknown number of smaller foci, each producing its own halo. The grid survey failed to clearly define such minor cores, at least on field blocks near "site 7". However, although seemingly erratic, the distribution pattern revealed on field block 104 north of "site 7" indicates a dispersed agglomeration of at least a dozen small foci. Each is not larger than 300 sq meters and can feature up to 18 fragments per 100 sq meters. Naturally prolonged agricultural activity has to a certain degree dispersed these small clusters extending their surface and spreading the material more evenly. They become more apparent only on the more distant field blocks, hundreds of meters from "site 7", where they were found fairly isolated and in a context of a low background noise. Here the haloes of these satellite clusters don't overlap and the on-site distribution pattern is much clearer.

Because of the highly dispersed character of the LBA-EIA settlement, it is nearly impossible to draw site boundaries or suggest its size in greater detail. It is difficult to accept that the intensely settled area was limited to the 1 250 sq meters occupied by the preliminary established ":site 7"; this would imply an unproportionally large site-halo or very dense off-site carpet. It is therefore probably justified to add to the intensely occupied area a portion of the field north of site 7, where densities could reach up to 18 fragments per 100 sq meters. This would extend the settled area to over 3000 sq meters. Finally, an account has to be taken of an unknown number of foci, dispersed hundreds of meters to the north and south of the site core. If the two clusters found at the foot of site 9 are representative of the size and the distribution of these foci, it is then reasonable to expect at least another dozen. The transect survey revealed at least three such foci on the fields south of "site 7". Field blocks 80, 91, 97 and 102a-b all feature densities of between 1 and 2 fragments per 100 sq meters and are conspicuously spaced at roughly equal intervals of 150-200 meters. If this interpretation is correct, we can expect the total settlement area to increase to over 5000 sq meters. Caution is necessary however, because at least some of these clusters should present the remains of non-occupational activities, such as burials or pits of various kinds[8].

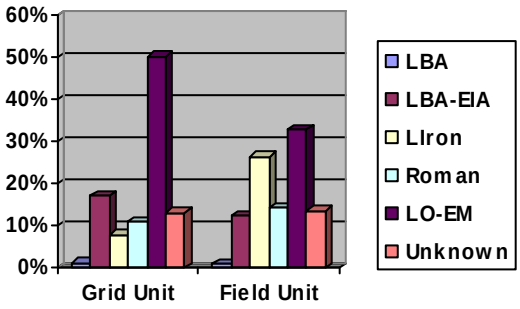
[8] According to authorities in the field, the chances of survival of prehistoric off-site debris are dubious, primarily because of the temporal factor and because during certain time-periods and in certain regions, prehistoric pottery is far more fragile than the material from later, historical epochs. J.L. Bintliff, et al. Landscape and Early Farming Settlement Dynamics in Central Greece 665-674, *Geoarchaeology* 21, 2006; E. Neustupný, 1998 56. This implies that our small, satellite clusters must have originated from closed deposits, rather than from material originally deposited on the surface.

Graph 3: Distribution of finds by period on “site 7” and adjacent fields to the south



Although represented by a greater number of finds than earlier prehistoric assemblages, the presence of these fabric groups is not very visible in the total collections. Even on “site 7” where by far the largest concentration was recorded, finds datable to the Late Bronze-Early Iron Age comprise slightly over 20%. Indeed Late Iron Age finds are slightly more dominant, comprising about 28% of all finds on this site. The greatest portion of the collected material is represented by Late Ottoman and Early Modern finds or roughly about 35%. Positioned by a local road, not far away from the modern village, fields 103 and 104 are full with ceramic debris from this recent epoch. It is very likely that it was this large amount of Early Modern material that drew our attention to fields 103 and 104. The predominance of this material is more clearly visible when the chronology of the finds collected by individual transects is considered. More than two thirds of the finds collected from field blocks south of the site core and east of the modern village belong to some of the Late Ottoman or Early Modern fabric groups. No wonder that we decided to limit the total grid survey to field blocks 95, 103 and 104. Taken together, the assemblages dated to the Late Bronze-Early Iron Age and the Late Iron Age comprise only 20% of the finds in this part of the survey area.

Graph 4: Distribution of finds by periods on site 9 and adjacent fields



As one might expect there is a smaller amount of finds datable to the Late Bronze-Early Iron Age on site 9 and the surrounding field blocks. They represent less than 20% of all finds gathered by the total grid survey on site 9 and slightly over 10% of all finds gathered by individual field walking transects. When the individual transect collections from neighbouring field units are analyzed, the percentage of Late Iron Age suddenly increases to nearly 30%. This is because the halo of the much larger site 8 partly spreads over to field blocks west of the dirt road that connects Sopot with the

neighbouring village to the north. Although at a distance of over one kilometer from the modern village, material datable to the Late Ottoman and Early Modern Period is still the most numerous category on these field units. As can be seen on the graph, Roman material is also present in significant quantities.

App. II.6 The Early Iron Age? (1000-800BC)

Excluding uncertain fabric categories, the Early Iron Age assemblage consists of nearly 700 fragments or slightly over 4% of the total collection. Although accumulated during a period of a couple of centuries, it approaches the quantity of the Mid-Neolithic finds and it is considerably more substantial than the preceding Late Bronze-Early Iron Age assemblage. The statistical distribution presented on table 13 points to the fact that this material is highly concentrated. This is indicated by the very large difference between the overall mean densities recorded by the grid and the transect survey: 90 fragments per 1 hectare of grid survey and only 2 fragments per hectare of transect survey. This sharp difference is only paralleled by the Mid-Neolithic assemblage. The fact that the Early Iron Age assemblage was found limited to a few field blocks is further illustrated by the rather small total area of dispersal. It is only slightly larger than the dispersal area of the Middle Neolithic material. In fact only about 3% of this material was collected outside the site limits and in most cases, these finds came from a few adjacent fields. Thus they could very well be attributed to the site halos. The rest of the finds were collected from two sites in the survey's western sectors. Because of this circumstance, defining the site limits was seemingly more straightforward than in the case of other, more widely and evenly dispersed assemblages.

Table 13: Amount and distribution of finds datable to the Early Iron Age

Total amount and percentage	ca. 700, 4.2%
Mean density (overall, grid&transect)	0.9 per 100 sq m; 0.2 per 1 000 sq m
Min/Max density (on site)	2.5-41 per 100 sq m;
Site area	> 4 000 + 4 000 sq m
Total dispersal area	ca. 14 000 sq m

The transect survey collections left no doubts concerning the main site locations during the Early Iron Age (map III_15a). The ten field blocks on which the transect collections detected finds datable to the Early Iron Age appear clustered in two groups. One group of field block situated immediately to the north of the modern village is concentrated around field block 66, featuring the highest artifact density of over 8 fragments per 1000 sq meters of transect survey. To the north and the west, it is surrounded by field blocks 52-53 and 65, where the transect survey recorded 3.6 and 1.8 fragments per 1000 sq meters. Only rare fragments were collected from field blocks 68 and 69, the latter situated over 300 meters to the northeast of field block 66. The one or two fragments that came from these field blocks amount to a density of about 1 fragment per 1000 sq meters, which is still considerably higher than the district average. The other group of field blocks is situated about 400 meters to the west, in the northwest corner of the survey. It is slightly smaller consisting of field blocks 44a, 44b and 45a. The highest

artifact density or about 6.5 fragments per 1000 sq meters was recorded on field block 44a. Field blocks 44b and 45b yielded less than 2 fragments per 1000 sq meters. Finally, in-between these two groups is field block 31, featuring the third highest artifact density in the survey of slightly over 4 fragments per 1000 sq meters. It must be noted that individual transect collections on this field unit were more intensive because of the presence of a small cluster of fine Roman pottery, possibly coming from disturbed funerary deposits. During the collections by individual field walking transects we narrowed the spacing between field walkers covering the field block with eight rather than four individual transects and collecting all finds from the surface (see Appendix 1). Given that the transect collections were less intensive, it is likely that the artifact density on this field would have been lower than 2 fragments per 1000 sq meters, closer to the field blocks covering the site halos.

Indeed if we modify the number of individual transect collections so that they represent 100% of the counted material, the density on field block 31 drops to only 1.3 fragments per 1000 sq meters (map III_15b). This is similar to the density recorded on other peripheral units, such as field block 69 or field blocks 53 and 65. On the other hand, on the field blocks that featured the highest artifact density, such as field blocks 52 and 66 or field blocks 44a and 45a, there is a considerable increase, further underlining the difference between the site areas and their surrounding. Given that all counted material was collected, the maximum density of over 17 fragments per 1000 sq meters shifts to field block 52, while the density on field block 66, where we collected almost all counted material remains unchanged. There is also a considerable increase on the other pair of field blocks 44a-45b, in the northwest corner of the survey area. Here the artifact density is doubled: over 13 fragments on field block 44a, 9.5 per 1000 sq meters on field block 45a. Note also the increase on field block 68, with over 4 fragments per 1000 sq meters. If this prediction is correct, field block 68 covers a denser cluster than the one on field block 31.

Table 14: Mean district density and density on field blocks featuring EIA material, in 1000 sq meters

	Field block 66	Field block 68	Field block 44	Field block 31
Expected	0.6	0.6	0.8	0.8
Actual	8.2	1.2	6.5	4.3

As with assemblages from other periods that show greater degree of clustering, it is impossible to equate the site threshold with the mean district value. This is because the mean district value is too low. As a result, the incidence of a pair or even a single fragment produces higher local densities. If we were to carry on with this approach, one would have to assign an on-site status at least to the pair of finds collected from field block 68. In comparison to the assemblage dated to the preceding epoch or to the possible Late Neolithic assemblage, the difference between the mean district and on-site densities is considerably higher. In the case of the latter two, on field blocks that certainly covered parts of the site area the recorded density was only 3 to 4 times the district average. The clusters of the Early Iron Age material are at least 5 times the mean artifact density for

the respective sector and the highest density on field block 66 is more than 13 times the mean district value. In any case one shouldn't underestimate the significance of the isolated fragments on field blocks 68 and 69. These and alike find-spots are certainly not on a pair with the clusters on field blocks 52, 66 and 44a-45b, but are probably remains of non-occupational activities. They are important as markers of the settlements inner territory or the site haloes.

Over 70% of Early Iron Age material was collected from site 6 in sector V, about 200 meters north of the village centre and 350 meters west of "site 7". As indicated by the transect survey, it is mostly limited to field block 66, partly spreading over field blocks 53 and 52. Here the density of these finds ranges from between 2.5 to 6.5 fragments per 100 sq meters on the periphery, to between 20 and 40 fragments per 100 sq meters at the core of the site (map III_16). For a short distance the cluster probably continued to spread beyond the limits of the gridded area, until density fell below 1 fragment per 100 sq meters. Collection by individual transects and grid units on the neighbouring field blocks produced only sporadic finds. Isolated fragments were found at a distance of 300 meters to the east of the site core, confirming the presence of the Early Iron Age material on field block 68. This field unit was completely covered by the regular grid survey and the highest density of Early Iron Age material didn't exceed 1.5 fragments per 1000 sq meters. To the south the site is interrupted by the modern highway and to the west, its limits overlap with the field's hedge. It is possible that the two neighbouring fields to the north feature a slightly greater density. The one spreading parallel to the eastern half of the site, field block 65 features unfavorable ground conditions. Although visibility was average, this was a hoed garden and the exposed surface was much shallower than the adjacent field to the south. It offered but a single find datable to the Early Iron Age, most of the artifacts being discarded in the last couple of centuries. On the presented map the artifact density is slightly enhanced because of the small size of the field block. However on the field spreading parallel to the western half of site 6, a density of over 3 fragments per 1000 sq meters was recorded, which is far above the mean density record by individual field walking transects. The southern half of this field block was included in the gridded area and the maximum density of over 4 fragments per 100 sq meters suggests that the site halo doesn't extend much beyond the northern limit of the cluster (table 15). The mean density for sector V recorded by the regular grid survey is about 2.5 fragments per 100 sq meters. Based on the transect and the regular grid survey on field blocks 53 and 68, we can predict that similar amounts contributed to the increased density on field block 31.

To a certain degree this interpretation is supported by the distribution of finds within the limits of site 6. The greatest concentration of material was found on several neighbouring grid units, in the central part of the grid. They form a narrow and elongated cluster, nearly 80 meters long and less than 10 meters wide. This is clearly the site core, with artifact densities ranging between 20 and 40 fragments per 100 sq meters. It is surrounded by two, almost perfectly concentric zones. The inner ring consists of grid units featuring artifact densities between 6.5 and 20 fragments per 100 sq meters, while the outer ring consists of the peripheral grid units, with densities ranging between 2.5 and 6.5 fragments per 100 sq meters. Probably if the grid was extended over field blocks 53 and 67, a third ring would have been revealed, with artifact densities between 1 and 2.5 fragments per 100 sq meters. Very similar on-site distribution patterns have been

revealed in Greece and elsewhere in the Mediterranean[9]. In fact site 6 is one of the rare examples of a nearly perfect concentric on-site distribution in the survey area, where the site core and the gradual transition to the off-site zone, marked by a 10-20 meters wide strip (the outer ring featuring between 1 and 6.5 fragments per 100 sq meters) can be distinguished with such clarity. These fairly wide-spread phenomena have been related to a combination of depositional and post-depositional factors, some authors stressing the importance of the former, others of the latter class of factors[10]. In essence the site-core marks the actually occupied zone, but also those parts of the site most recently brought to the surface. The narrow peripheral strip that separates the site from the off-site is again generated by original depositional behaviour, (intensive in-field manure, rubbish disposal) and post-depositional processes (the weathering of the surface cluster by ploughing, erosion etc). The clear on-site distribution pattern could be related to the state of preservation of site 6 or to the fact that it has been only recently exposed on the surface.

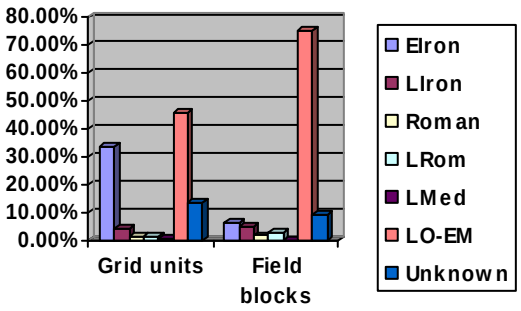
Including the zone featuring between 1 and 6.5 fragments per 100 sq meters and allowing that the integral cluster extended slightly further to the north and south, it turns out that the total site area measures nearly 1 hectare. This is very close to the size of the Mid-Neolithic settlement and its successor on site 11 and only slightly larger than the area over which the previously discussed assemblage was spread. However if we consider only the two inner zones of artifact density above 6.5 fragments per 100 sq meters, the occupied area shrinks to between 4000 and 5 000 sq meters. Having no other means at our disposal, the only potential indicator of the size of the occupied area is the freshness of the material. The attempt to express the freshness of the finds as a simple weight to count ratio proved mainly futile because the weight of the total collection was measured, often including larger amount of Early Modern roof tile, but also because this is more an index of the function and size of the finds, rather than their state of preservation. Much finer parameters need to be taken into account in order to index this aspect of the finds. Based on a purely impressionistic assessment, most of the better preserved examples came from the inner two density zones. Again this is based on the assumption that the phenomenon of site halo reflects a zone of intense, but non-occupational activity: animal sheds, gardens, dumping yards or burials. More essentially it is rightly assumed that artifacts discarded during the period of occupation will be in a much worse state of preservation that those brought to the surface in recent time. But the real difficulty arises when one considers the actual possibility of survival of this prehistoric waste in the surface record. This material had to come from enclosed deposits, such as pits, frequently found on excavations near settlements and necropoleis.

[9] An almost identical phenomenon has been observed along the periphery of historical rural sites in Boeotia, preferably in conditions of sparser off-site carpet, away from major urban centres; J.L. Bintliff, P. Howard, A.M. Snodgrass, *Testing the Hinterland: The work of the Boeotia Survey* (1989-1991), Cambridge 2007; J.L. Bintliff, 31 2006. J. Bintliff, V. Gafney, The Ager Pharensis/Hvar Project 1987, 151-175, ed. J. Chapman et al. *Recent Developments in Yugoslav Archaeology,* Oxford 1988; although the phenomenon is not discussed, it is visible on the presented maps, fig 9.5a, 9.5b; S.E. Alcock, J.F. Cherry, J.L. Davis, 141-142, ed. I Morris, *Classical Greece: Ancient histories and modern* archaeologies, Cambridge 1994.

[10] J.L. Bintliff, P. Howard, A.M. Snodgrass, 23-26, 2007; D.K. Pettegrew, 189-209, 2001; S.E. Alcock, J.F. Cherry, J.L. Davis, 160, ed. I Morris, 1994.

Agricultural activity in later centuries has certainly caused further dispersal from the original sources[11].

Graph 5: Distribution of finds by period on site 6 and the surrounding fields



Site 6 doesn't consist solely of finds dated to the Early Iron Age. Situated at the northern periphery of the modern village and at the crossing of two roads leading to the fields, it is densely littered with finds dating to the Late Ottoman and Early Modern periods. Around 45% of all finds collected by grid units and over 70% of all finds collected by field walking units on the surrounding field blocks date no earlier than the late 19th century. They largely account for the high artifact density in the western section of the grid, obscuring the actual limits of site 6. Actually slightly less than 34% of the finds collected by grid units can be dated to the Early Iron Age. The small fraction of around 3% of the Late Iron Age finds mostly consists of coarse ware and it is possible that these finds also belong to the Early Iron Age assemblage. Other periods were represented in negligible amounts. Apart from the Roman and the Late Roman Period, there is a small amount of finds that can be dated to the Late Byzantine and Early Ottoman Period. As one might expect outside the site limits on the field units in sector V, the amount of Early Iron Age finds sharply dwindles to less than 10%, approaching the quantities of material from later periods.

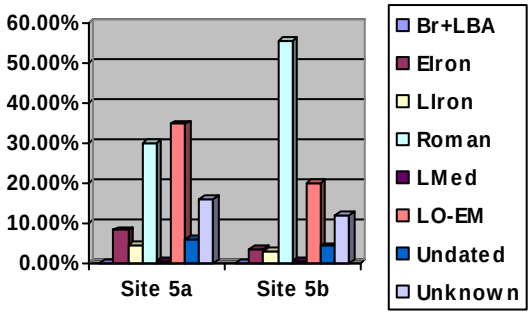
The other location where finds belonging to the same assemblage were found was site 5a, almost 400 meters to the west of the core of site 6, in the northwest corner of the survey (field blocks 44a-44b, map III_17). Judging by the vestigial traces of certain fabrics, this location was already occupied sometime during the Bronze Age. As will be shown later the bulk of the finds collected from site 5a can be dated to the Roman and the Late Ottoman and Early Modern periods. Material datable to the Early Iron Age represents no more than 10% of all finds from this site. It was already mentioned that for some of the coarse fabric groups, it is very difficult to determine if they belong to the prehistoric or the Roman assemblage. Their share in the total collection from site 5a is shown under the label "undated", to separate them from the group of misfired or badly worn shards. Even if these finds are added to the Early Iron Age assemblage, it will still barely represent 15% of the total collection. Finally, there is a small amount of fabrics datable to the Late Iron Age representing slightly over 5% of all finds from this site. As

[11] A.J. Ammerman, Plow-zone experiments in Calabria, Italy 33-40, *Journal of Field Archaeology* 12-1, 1985. J.L. Bintliff, A.M. Snodgrass 508, *Current Anthropology* 29, 1988; S.E. Alcock, J.F. Cherry, J.L. Davis, 142, 160, ed. I Morris, 1994.

said earlier the distinction between the Early and the Late Iron Age assemblages is often quite delicate, though unlike on site 6 there was a visible amount of fine pottery datable to the Late Iron Age. Site 5a is certainly the most complex, multi-period site in the survey area and this is important to remember for a better understanding of the fairly meager prehistoric remains. Up until the present day the fields on which site 5a is spread are intensely cultivated.

To the west the field blocks over which site 5a is situated are bounded by a deep ravine. On the other side of this ravine there is an identically oriented field of a similar size (field blocks 45a-c). Here material datable to the Roman and the Late Roman periods is even more numerous, comprising over half of all collected finds. However nearly 4% of the total collection can be dated to the Early Iron Age, accompanied by about 3.5% of Late Iron Age finds. Interestingly almost an identical amount of Early Iron Age material was found on the field blocks east of site 6. The decrease from site 5a is much less drastic when compared to the sharp dwindling of these finds outside the limits of site 6. The amount of Early Iron Age finds on site 5b is about half the density recorded on site 5a. In comparison these finds represent over 30% of the material on site 6 and only 4% of the material gathered from field blocks east of the site. Perhaps this is an indication that parts of the Early Iron Age site also spread on the other side of the ravine. Unfortunately the poor ground visibility conditions prevented us from collecting a more representative sample from the surrounding field blocks. It should be noted that a considerably smaller amount of finds was gathered from site 5b, less than 6 times the amount collected from site 5a. This is partly due to the worse visibility conditions. These fields have not been cultivated for at least a couple of years at the time of the survey. The fact that they are rarely frequented is reflected in the sudden decrease in the quantity of Late Ottoman and Early Modern finds. On the other hand, the percentage of Late Byzantine or Early Ottoman finds remains stable (graph 6).

Graph 6: Distribution of finds by period on sites 5a and 5b



Focusing on the distribution of the Early Iron Age material on site 5a, it is evident that it is spread in a much thinner carpet (map III_17). The greatest density recorded by the total grid survey was slightly over 5 fragments per 100 meters, identical to the peripheral zones of site 6. This is expected considering the superimposed amounts of Roman and Late Ottoman/Early Modern finds. The core of this cluster was revealed in the northeast corner of the gridded area. As will be shown on these grid units there are only small amounts of Roman to Late Roman finds. The areas of the two settlements

don't fully overlap; the bulk of the Roman to Late Roman finds were collected from the western half of the grid. Nevertheless it is more than certain that the remains of the Roman to Late Roman settlement have considerably smothered the remains of the earlier settlement. This is most apparent near the core of the Early Iron Age cluster, where on a few contingent grid units finds datable to the Early Iron Age suddenly disappear. On these same grid units, we recorded a sudden increase in the amounts of the Roman to Late Roman finds, brick and tile in particular. This circumstance suggests that a larger presence of later finds can nearly completely diminish the presence of earlier periods, even in the central portion of the site. But even through the filter of Roman to Late Roman material it is possible to observe a very similar distribution pattern to that on site 6. A nearly compact zone, featuring artifact densities between 2.6 and 5.3 fragments per 100 sq meters is surrounded by a narrow ring of grid units featuring between 1.2 and 2.6 fragments per 100 sq meters. It is very likely that the core zone spread further to the west and the transition from the site core to the site periphery would have been smoother was there no Roman to Late Roman settlement on nearly the same location. The Early Iron Age cluster is also suddenly interrupted to the north and partly to the east. To the north, it is bounded by a dirt-road leading into the village. There are no traces datable to the same period on the other side of the road. East of the site core the neighboring parcel was enclosed and we were denied access.

The surface of this site revealed by the grid survey measures nearly 4 000 sq meters. Even if it is assumed that it spread over grid units dominated by the Roman to Late Roman material, its size would not be larger than that of site 6. The small amounts of Early Iron Age finds collected from site 5b, although indicating less drastic decline than on the fields surrounding site 6, result in artifact densities only slightly higher than the threshold of 1 fragment per 100 sq meters. In fact if uncertain fabric groups are excluded, the density of these finds will be lower than 1 fragment per 100 sq meters. In this aspect the cluster on grid 5b is in the same rank as the one on field block 68. In practice these are very thin scatters lacking a clear focus and featuring densities lower than the district average recorded by the grid survey. We are now fairly confident that a cluster of similar size raised the density of Early Iron Age finds on field block 31, situated between sites 5a and 6.

App. II.7 The Late Iron Age (7th and 6th century BC)

Table 15: Amount and distribution of finds datable to the Late Iron Age

Total amount and percentage	ca 5 754, 34.8%
Mean density (overall, grid&transect)	7.5 per 100 sq m; 1.2 per 1 000 sq m
Min/Max density (on site)	10-220 per 100 sq m;
Site area	ca 36 000 sq m
Total dispersal area	ca 500 000 sq m

This is by far the most predominant group in the surface record of the survey area. 5754 fragments Late Iron Age finds were collected both by individual transects and regular grids. Actually this could be a slight underestimate of the true amount, as smaller collections of coarse ware found alongside other period's assemblages were excluded

from the group, despite the fact that it was often impossible to distinguish them from the rest of the Late Iron Age coarse shards through macroscopic analysis of the fabric. Even so the Late Iron Age finds comprise almost 35% of the total surface record in the Sopot survey. This was a very surprising discovery. Despite the large volume of material collected by grid units from on-site locations, we were still rather confident that the Late Ottoman-Early Modern off-site debris was surely going to be the most numerous chronological group in the total surface record. Two basic properties concerning the obtrusiveness and the quantitative distribution of this material created this false perception. Like most of the prehistoric material from this survey area, the Late Iron Age finds are impossible to quantify accurately by simply walking over the fields. When individual transect collections are carried out, they are far less visible than the Late Ottoman-Early Modern finds. At the same time, while the off-site debris from the last couple of centuries is evenly spread across most of the survey sectors, the Late Iron Age finds are far more concentrated, despite the fairly large dispersal area stretching over most of the western survey sectors. This is reflected by the very sharp difference between the overall mean densities recorded by the grid and the transect survey: 750 fragments per hectare of total grid survey as opposed to a mere 12 fragments per hectare of transect survey! The difference is more than sixty-fold, far greater even when compared to the same ratio for the highly concentrated Early Iron Age and Middle Neolithic assemblages. And in contrast to the latter two, the Late Iron Age material is much more widespread. The mean overall density of 1.2 fragments per 1000 sq meters of transect survey is far greater than those of the abovementioned assemblages. So far it is the chronological group with the largest total dispersal area, occupying more than a half of the survey area or about 50 hectares. The chief reason behind this large gap between the overall mean values recorded by the transect and the grid survey is the very high on-site maximum recorded on parts of site 8. Such contrasts between the core and the edge of the site are unprecedented. In comparison the densest assemblage so far, the Mid-Neolithic featured a maximum artifact density of slightly over 70 fragments per 100 sq meters and it is still more than three times smaller than the Late Iron Age assemblage. Predictably the high on-site maximum has also increased the mean overall density recorded by the grid survey, so that it is very close to the on-site threshold of about 8 fragments per 100 sq meters. However because this material is almost totally absent from the eastern survey sectors, the mean district values are certainly higher. Taking into account only the western survey sectors will increase the mean artifact density recorded by the grid survey to nearly 10 fragments per 100 sq meters, consequently elevating the minimum on-site densities. The mean density recorded by the transect collections will also increase to over 2 fragments per 1000 sq meters.

Table 16: Mean density in the western half of the survey area and density on possible site locations, in 1000 sq meters.

	Field block 125	Field block 107	Field block 87	Field block 80	Field block 126	Field block 31
Expected	2.1	2.1	2.1	2.1	2.1	2.1
Actual	12.1	8.2	5.8	9.3	16	6.1

As shown on map III_18a, the transect survey recorded the presence of Late Iron Age finds on a fairly large number of field units, nearly all situated in the western survey sectors. More precisely these finds are present on 43 field blocks or over 15% of all field units. To the east of the central valley Late Iron Age pottery is almost completely absent, with the exception of two isolated fragments collected near the area of the mound necropolis. Three individual field blocks and another group of four contingent field blocks feature artifact densities considerably higher than the mean district values. In all of these cases the transect survey recorded artifact density at least three times the district average. 16 or 37% of the field units with Late Iron Age material feature between 1.8 and 5.7 fragments per 1000 sq meters (table 16). Such quantities appear on isolated or pairs of field units in the westernmost sectors II and III, but they are evidently clustered around the category of higher than average density, in sectors IV and VII. The group of field blocks with densities lower than the average for the western survey half were recorded on 20 or nearly half of the field units with Late Iron Age pottery. They evidently cluster around the zone of average and higher than average density, creating a roughly concentric pattern.

The highest artifact densities ranging between 12 and 16 fragments per 1000 sq meters were recorded on field blocks 124-126, in the valley's central part on its right bank. About 50 meters to the southwest completing this group is field block 107. According to the transect survey, the density of Late Iron Age site on this field block drops to about 8 fragments per 1000 sq meters, though this could be a result of the substantially larger area of this field unit. The other three isolated field units with artifact densities higher than the district average appear at Prisoj's southern foot, near the modern village. Because of this circumstance, they were completely overwhelmed by material discarded from the Late Ottoman-Early Modern village and were recognized as potential find-spots only after the processing of the finds. Nevertheless the modest transect collections gave considerable artifact densities, not much lower than on field block 107, later proved to be the core of the Late Iron Age site. Two of these field units, 80 and 87 are located in sector IV, on the fields to the east of the modern village. The highest artifact density of over 9 fragments was recorded on field block 80, a slightly higher value than that recorded on field block 107. Field block 87, situated about 200 meters to the southeast featured 5.8 fragments per 1000 sq meters, which is nearly 3 times the mean district density. Finally, a higher concentration of Late Iron Age finds was discovered on field block 31, where the intensified transect collections recorded over 6 fragments per 1000 sq meters. Needless to stress a less intensive collection technique would have certainly produced lower artifact densities, similar to those recorded on other field blocks at Prisoj's southern foot. This hypothesis was inadvertently tested during the grid collections on sites 6 and 5a. On these field blocks the transect survey recorded artifact densities close to or above the mean district value, but the total grid collections yielded small collections producing densities close to the minimum on-site values. Disregarding the artificial concentration on field block 31, it is evident that the bulk of the material is concentrated in sectors VII and IV. It thus closely follows the distribution of the Late Bronze-Early Iron Age material rather than that of its predecessor, almost exclusively discovered on field blocks at Prisoj's southern foot. In sectors to the north and west of the modern village, the carpet of Late Iron Age material becomes patchy and discontinuous,

although on certain field blocks the artifact density is still close to or slightly above the district average (field blocks 44 and 44a).

Assuming that all counted material was included in the individual transect collections, we get a very different pattern of distribution (map 18b). Most striking of all is the dramatic shifting of the core of this carpet to sector IV, to field blocks 80 and 87. On these two field units the artifact density increases from 9 and 5.7 to 22.5 and 25.8 shards per 1000 sq meters, which is the highest artifact density recorded by the transect survey. The density on the group of four contingent field blocks in sector VII, field blocks 107, 124-126 remains stable, ranging between 8 and 16 fragments per 1000 sq meters. Now however, the focus has moved to field blocks 107 and 126, with 16.8 and 19.6 fragments per 1000 sq meters; a prediction confirmed by the regular grid survey. Also very surprisingly the small groups of field blocks with average density in sectors II and III join the category of very high density, with 14 and 15 fragments per 1000 sq meters on field blocks 18a and 18b in sector II and 7 and 16 fragments per 1000 sq meters on field blocks 44-44a, 45, covering sites 5a-5b in sector III. The zones of average and lower than average artifact density have slightly receded, while the contrast between field blocks with low and high artifact density is visibly increased. In general the roughly concentric pattern with an unambiguous decreasing tendency along the east-west axis is replaced by an irregular, multi-focal distribution.

Thus we are again faced with the problem of weighing the density and the size of the main concentrations of material; a problem that was already encountered during the analysis of the distribution of the possible Late Neolithic or the Late Bronze-Early Iron Age assemblage and which is in general unavoidable when dealing with dispersed surface material. Because the total grid survey was limited to field blocks 107, 124-126 defined as site 8 in Appendix 1 and on field blocks 44-44a, 45-45a or site 5a-5b, the character of the potential clusters on field blocks 80 and 87 and 18a/18b remains unclear. Comparing only the transect survey results, we saw that the artifact densities on these fields and especially on field blocks 80 and 87 are very close to the densities recorded on field blocks covering site 8. In fact were all counted finds collected, the density on these two field blocks would have been considerably higher than on field blocks 107 or 126. This implies that apart from site 8, there were at least two or three other clusters in the western survey half, featuring similar size and higher artifact densities. However one needs to be cautious in accepting the results of this analysis for two chief reasons. The very high densities predicted for certain field blocks in sectors II, III and IV are not surprising at all, in view of the fact that field blocks from these sectors rank the highest in terms of counted material. On the other hand, the large block survey recorded only average densities in sector VII. Predictably the transect collections from this sector represent a higher sample fraction and the adjusted figures are not much different from the raw record of the transect collections. But as discussed in Appendix 1, the large block survey underestimated the true quantity of surface material in sector VII, especially on field blocks with dense prehistoric clusters. Because of its physical appearance and because it is still very much immersed in the soil matrix, it was far less obtrusive than the carpets of Roman-Late Roman and Late Ottoman-Early Modern finds on field blocks surrounding the village.

During the analysis of the distribution of the possible Late Neolithic and the Late Bronze-Early Iron Age finds from the transect collections, it was noted that the difference

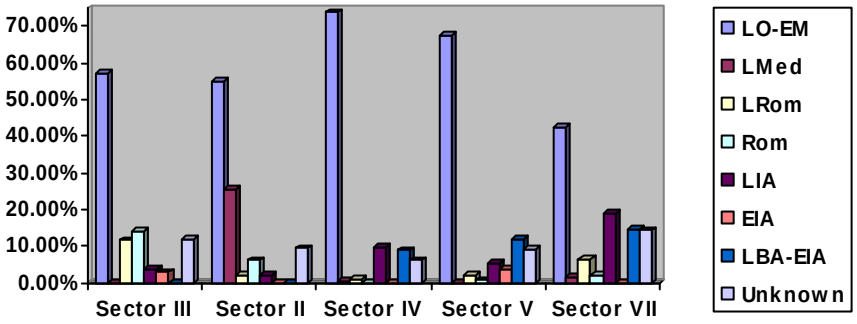
between the central and the satellite clusters is rarely reflected through the artifact density. Rather it was the extent and the signature of the clusters that were the main distinguishing feature between the central site and its satellites. Satellite cluster can appear as dense as or even denser than the central cluster, but they are almost always limited to one or two field units and more importantly, they are rarely surrounded by field blocks featuring average or lower than average artifact density. A similar observation can be made for some of the peripheral clusters of the Late Iron Age material, particularly those on field blocks 18a and 18b in sector II. The group of field blocks 44-44a, 45-45a in the northwest corner of the survey occupies a somewhat larger area, but they too appear isolated in comparison to field bocks covering site 8, in sector VII. Only field blocks 80 and 87 remain problematic, because they practically tie onto the continuous carpet of surface finds spreading across sectors VII and IV.

As discussed in a preceding paragraph, the presence of both the Late Bronze-Early Iron Age and the Late Iron Age material on these field units was discovered only after the processing of the finds. When they were revisited towards the end of the second year's campaign, we discovered only negligible amounts of prehistoric pottery, with most of the finds dating to the Late Ottoman-Early Modern periods (see graph 9). Were the quantities of prehistoric material on these field units anywhere near the quantities encountered on site 8, they would have surely been noticed during fieldwork. On both field units visibility conditions were excellent at the time of the collections, while field block 80, like field blocks 107 was a deeply ploughed vineyard. That these are merely small peaks in the extensive off-site carpet or at most, satellite clusters of intermediary densities is suggested by the fact that they are limited to single field blocks. Even assuming that the cluster occupied the entire area of the field unit, they are still many times smaller than the large cluster that constitutes site 8. Field units 80 and 87 are situated in sector IV east of the village, the same sector where the transect survey recorded increased quantities of Late Bronze-Early Iron Age finds. It is unfortunate that visibility conditions permitted only partial coverage of this strategically very important location in the surveyed landscape. This is a "twin" location to the one occupied by the modern village. It is positioned at the geometric centre of the micro-region, overlooking its eastern entrance and much of the valley's lower part. Indeed it would be surprising if it was found vacant. Despite these circumstances, it is certain that the possible clusters of Late Iron Age material east of the village are separate. They stand nearly 200 meters apart and around 400 meters south of "site 8".

Graph 7 illustrates the contexts in which material datable to the Late Iron Age was encountered during the transect survey. Even in sector VII where "site 8" is situated, the Late Iron Age finds barely represent 20% of the total collection. They are only slightly more numerous than finds datable to the Late Bronze and Early Iron Age and almost 2.5 times less numerous than finds datable to the last two centuries. Although its amount is visibly decreased, the Late Ottoman and Early Modern material was still by far the most numerous according to the transect survey records. As explained in an earlier chapter compared to material from later periods, prehistoric fabrics are clearly characterized by lesser visibility on most soil types. This is related to the different physical appearance of the finds and to the fact that most of the accompanying material was debris discarded in fairly recent times. Unlike prehistoric finds it is loosely related to the soil matrix, which

makes it a much more stable fraction of the surface record regardless of the agricultural season and current land use.

Graph 7: Chronology of the material gathered by transect units from sectors II through VII



The transect survey results were for the greater part confirmed by the total collections by regular grid units. It was nonetheless surprising to discover very large amounts of material on locations where the transect collections picked up only moderate quantities. The total survey by grid units on "site 8" covering field blocks 104, 107 and 124-126 revealed a maximum artifact density of a staggering 220 fragments per 100 sq meters (map III_19). Looking solely at the on-site distribution it is evident that there lacks a continuous zone of high artifact density, such as the one discovered on site 6 (map III_20). Rather there are several separate groups of grid units limited to field blocks 107 and 126. On these foci the artifact density usually fluctuates between 110 and 165 fragments per 100 sq meters. In some cases they are surrounded by grid units featuring between 55 and 110 shards per 100 sq meters. More often the density of Late Iron Age finds sharply drops below 30 fragments per sq meters or even less. The zone featuring between 55 and 110 fragments per 100 sq meters is more extensive, although it is possible to interpret some of the grid units featuring artifact densities of around 100 fragments per 100 sq meters as separate cores. These are mostly concentrated near the site foci but some appear isolated in the peripheral areas of "site 8", on field blocks 104 and 124. Roughly clustering around grid units that have over 55 fragments per 100 sq meters is a zone where the density of Late Iron Age finds ranges between 26 and 55 fragments per 100 sq meters. This zone occupies the majority of the grid units on field blocks 107 and 126 and extends well into field blocks 104 and 124. The very periphery of "site 8" features artifact densities of between 8 and 26 fragments per 100 sq meters, though small patches of similar densities appear in the central parts of the site. Thus the densities recorded at the edge of "site 8" closely approach the estimated overall mean density of 7.5 Late Iron Age shards per 100 sq meters of total survey.

But drawing the limits of "site 8" is more difficult than it seems. This is mostly contributed by the roughly gradual decrease of surface finds along the longitudinal, southwest-northeast axis of the site. Although it was impossible to conduct even an unsystematic collection on the small field separating field blocks 107 and 126, it is very

likely that the density of Late Iron Age material al least stayed above the level of 8 fragments per 100 sq meters. To the northwest, towards the steep eastern slope of Prisoj, site 8 is interrupted by the dirt-road leading towards the neighbouring village to the north. Fields on the other side of the road, even when gridded produced very small amounts of Late Iron Age finds. Similarly on the opposite southeast side, there are very few finds on the floor of the central valley, though a couple of fragments were collected from field block 187, on the left bank. It is much more difficult to delimit the site from the northeast and the southwest. On both sides the density of Late Iron Age material decreases gradually. This is most evident on the southern half of field block 104 and 103, to the southwest of site 8, where the total grid survey recorded a continuous thin carpet featuring between 2 and 7 fragments per 100 sq meters. It is interrupted by rare and low peaks with artifact densities not higher than 10 fragments per 100 sq meters. Further south, on field blocks 95 and 96, grid units featuring over 2 fragments per 100 sq meters become sparser. We expect that a total grid survey on field blocks to the northeast of the site, on field bocks 120-124 will reveal a similar pattern. The fact that the transect survey didn't record Late Iron Age finds to the north of field block 120 indicates that the impact zone on this side of the site was less extensive.

Including the peripheral zones of between 10 and 26 fragments per 100 sq meters and allowing that the cluster had wider margins along the shorter axis, the area occupied by "site 8" measures 400x90 meters or over 3.5 hectares. Even the modern village with its fairly wide streets and spacious yards around the houses occupies a smaller area. In comparison to earlier periods, the Late Iron Age settlement more than tripled in size. However if we exclude the peripheral zone of less than 26 fragments per 100 sq meters, interpreting it is a site-halo, the actually occupied area will shrink to 1.2 hectares. Although this is still larger than all earlier and later settlements, it ranks the Late Iron Age settlement as a hamlet, rather than a village. In general it is always rather tricky to draw the limits of the actually inhabited area, especially when relying solely on the sheer amount of surface material as evidence. In this case however, it is very unlikely that a settlement of the size of a hamlet would build a mound necropolis on a fairly monumental scale and produce so much greater amounts of surface material in comparison to earlier settlements of a hamlet rank. It is therefore no doubt erroneous to interpret the entire zone of 10 to 26 Late Iron Age finds per 100 sq meters as a site halo. This was most probably limited to the outer zone of less than 10 fragments per 100 sq meters. Going back to site 6, the amount of finds gathered from the zone interpreted as site halo was about 8 to 10 times smaller than the collection from the site core. In the case of site 8, this ratio is at least 20 to1. However if one focuses on the extent of the site halos, it becomes obvious that the zone of 10 to 26 shards per 100 sq meters is much too large, extending for at least 200 meters to the south of the site area and also invading the central parts of the site area. It has to be admitted that in comparative perspective, it is not unusual for small villages to produces even much more extensive halos[12]. It must be noted though that the values presented in the cited work refer to what we referred to as the off-site in this study. Indeed if we consider the maximum extent of this wider impact zone, the pattern revealed by T. Wilkinson in the Near East applies perfectly well to the situation in the first survey area. Settlements smaller than 1.5 ha (sites 11 and 7) have

[12] T. J. Wilkinson, tab.1 1989.

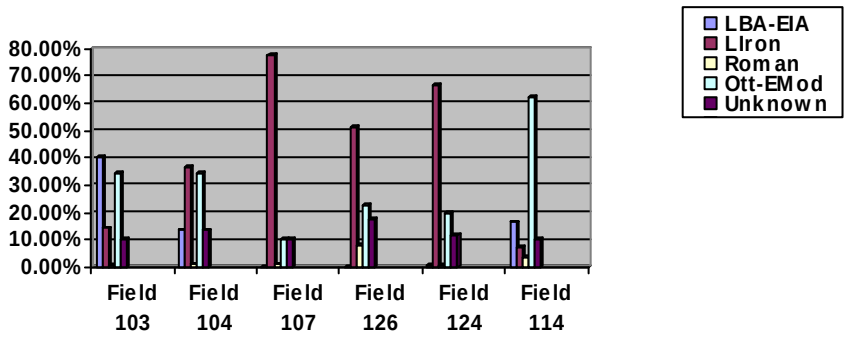
maximum impact zones extending for about 400-500 meters, while the maximum radius of the impact zone of the Late Iron Age village is about 900 meters.

There lacks a clear patterning of the Late Iron Age finds within the site limits. The great majority of the finds is concentrated on field blocks 107 and 126, clearly the main focus of occupation. On field block 107, there is an apparent misbalance between the northeast and southwest half of the grid, most of the finds being concentrated in the latter. Most of the grid units with over 55 and all of the grid units featuring over 110 fragments per 100 sq meters are in the southwest half of the field unit. More precisely finds datable to the Late Iron Age are over 56% more numerous than in the northeast half of the grid. Analyzed as separate units, the density of Late Iron Age finds drops from over 55 fragments per 100 sq meters in the southwest half, to nearly 37 fragments per 100 sq meters on grid units in the northeast half. Over in field 126, the density of this material remains stable at about 36 fragments per 100 sq meters, though there is an evident increase on certain grid units. On the peripheral field blocks 104 and 124, the amount of this material dramatically decreases to 9.7 and 13 fragments per 100 sq meters, respectively. In our opinion it is this "transitional' zone that represents the site halo stretching for about 150 and 100 meters to the south and north edges of the site. Overall the material on the Late Iron Age site is distributed in roughly concentric zones, although the core is evidently not compact and the transition is less smooth in comparison to site 6. There is obviously a small degree of dispersal and focalization, both in the peripheral and the central portions of the site, but the contours of these micro-foci are rather vague. The same distribution pattern continues outside the site limits, but on a tinier scale. The very thin carpet of off-site finds is interrupted by zones featuring zero quantities of Late Iron Age material and sudden but small peaks, where artifact densities nearly reach the threshold of 10 fragments per 100 sq meters.

Beyond the limits of site 8 and its periphery there spreads a fairly vast area covered with a thin carpet of less than 7 fragments per 100 sq meters. It probably covered much of the western bank of the central valley, as small amounts of Late Iron Age material were collected from as far as site 5b, at the western limit of the survey area, nearly 900 meters from the center of site 8. The survey record shows that this wasn't a continuous carpet, thwarting attempts at estimating the total dispersal area of this material. Evidently there are larger quantities of Late Iron Age finds on field blocks to the east of the village, in sector IV. Further west and along the northern section of the foothills, this material appears in more isolated clusters. A total collection by grid units on several field blocks east of the Early Iron Age site 6 yielded not a single shard datable to the Late Iron Age. A slightly greater amount was encountered on a couple of grid units on site 6 approaching the densities recorded on the periphery of site 8. It has to be stressed though that more than 95% of these finds are coarse fabric shards that could easily be contemporary with the dominant Early Iron Age assemblage on this site. It is perhaps no accident that these finds form a cluster almost identical to the Early Iron Age site. A very similar situation was discovered on site 5a. A cluster of similar size but dated more securely to the Late Iron Age, almost perfectly overlaps with the Early Iron Age cluster. In both cases, the maximum density recorded is near the overall mean value of 7.5 fragments per 100 sq meters. It is almost certain that there was a prolonged (or renewed) activity during the Late Iron Age, especially on the strategic site 5a, although it is possible that the density of 7 shards per 100 sq meters is artificially increased by the

adding of a portion of the coarse pottery that belongs to the Early Iron Age assemblage. It is very likely that concentrations of similar size increased the density of Late Iron Age material on field blocks 18a/18b, 31, 80 and 87 (map 19). It is no doubt a pity that we failed to carry out a total survey by grid units on at least one of these fields, to confirm the suggested interpretation.

Graph 8: Distribution of finds by period on different parts of "site 8" and adjacent fields



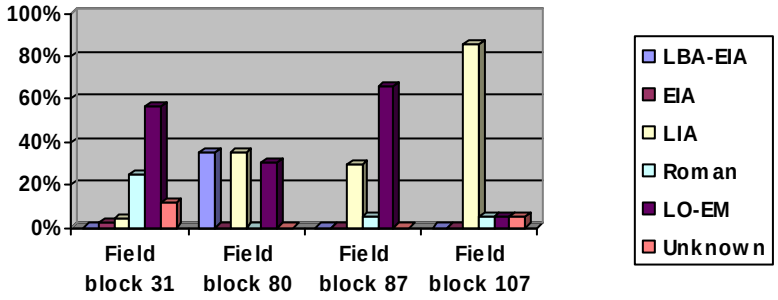
Graph 8 illustrates the chronological composition of the total collections from "site 8". The contrast with the chronological composition of the material gathered by field blocks is striking. The results of the grid survey on the neighboring fields 103 and 114 are added at both extremes, to point to the very large concentrations of Late Iron Age material on "site 8". This comparison nicely demonstrates the sharp contours of the Late Iron Age site, showing that even on field blocks over which the peripheral zone of 8 to 10 fragments per 100 sq meters is mostly spread, such as the southern and northern halves of field blocks 104 and 124, the Late Iron Age finds are still the most numerous group. Finds datable to this period represent nearly 15% of the total collection on field 103. The actual figure is most likely smaller, as the great majority of these are coarse fabrics, possibly belonging to the Late Bronze-Early Iron Age assemblage. On the neighbouring field 104, which is interpreted as a peripheral zone of the settlement, the number of Late Iron Age finds rises rapidly and this period suddenly becomes the most predominant in the surface record. But the main focus of activity was on field block 107, where Late Iron Age finds comprise nearly 78% of the total collection. This is not due to the decreasing quantity of Late Ottoman and Early Modern finds, which begin to dwindle only on fields 124 and 114, but to the vast increase in the amount of Late Iron Age finds. Even though this is the largest of the gridded field blocks, its size can hardly mitigate against the large amounts of well preserved shards.

On field block 126, there is an apparent decline in the percentage of Late Iron Age finds due to a few partly related factors. There is an evident decrease in the amount and quality of this material, which could be a genuine tendency but also a result of the sudden imposition of a small scatter of Late Roman finds. Though the latter are completely outweighed by the Late Iron Age material, it is possible that they have nevertheless partly smothered the presence of the older material on this location. Also characteristic for this field was the general low quality of the finds. A large portion of the nearly 20% consisted of fragments burnt beyond recognition and the majority was very fragmented. As this is unrelated to period, it could simply reflect the agricultural practices on this field. It is like

field 107 a vineyard, but at the time of the survey it didn't show traces of recent plowing with heavier mechanization, while on site 107 at least 30 cm of soil have been exposed in recent years. To a certain degree, though not fully, this circumstance explains the sharp increase of finds on field block 107. Fields 104 and 124 were also recently plowed using heavy machinery, but the amount of Late Iron Age material never approached the quantities recorded on field 107. Although peripheral, the quality of the finds collected from these fields was often better than those collected from field 126.

The sudden rise in the percentage of Late Iron Age finds on field 126 merely reflects the decline in the amount of off-site material from the Late Ottoman and Early Modern periods. It should be stressed that this field lies at a distance of nearly 1 km from the village centre, as the crow flies. Only on the next field to the north, on field block 114, does the quantity of Late Iron Age material fall below the threshold of 8 fragments per 100 sq meters, representing less than 10% of the total collection. In relation to this, it is useful to briefly return to the small scatters on fields 31, 80 and 87 and analyze the chronological composition of the material collected by individual field walking transects. For comparison the results of the transect collection from field 107 are added.

Graph 9: Distribution by periods of the material from field blocks 31, 80, 87 and 107



It is apparent that there is an increase in the amount of Late Iron Age finds on these fields, particularly on fields 80 and 87. Over one third of the finds on field block 80 are datable to the Late Iron Age, which is very close to the percentage of this material on field 104, on the halo of the Late Iron Age site. It has to be noted however, that the majority of the finds from this field unit belong to the category of cooking ware and could belong to the earlier assemblage represented in equal quantities. A scatter of similar size was collected from field 87. Here these finds comprise nearly 25% of the collection and this is surely related to the increase in the amount of Late Ottoman and Early Modern material. A similar number of finds was gathered from field block 31, but because of the very large amounts of Early Modern finds and the larger concentration of Roman pottery, the Late Iron Age finds comprise a negligible 3.75% of the total collection. Compared to the predominance of the Late Iron Age group on field block 107, where both the transect and the grid collections produced nearly identical results, the concentrations on field blocks 31, 80 and 87 are clearly minor, satellite clusters.

App. II.8 The Hellenistic Period (late 4th – late 1st century BC)

The very small size of the Hellenistic collection presents a stark illustration of the sharp contraction of settlement in the survey area during this period. Only 225 fragments or 1.35% of the total assemblage could be attributed to some of the fabric groups datable to the Hellenistic Period. Unlike the two Iron Age assemblages, this material is highly dispersed: the total grid survey recorded only about 4 times higher artifact density than the transect survey. The range between the minimum and maximum on-site densities is likewise fairly modest. In this respect it resembles the distribution of the Bronze and Late Bronze Age material. Clearly the corpus of the Hellenistic finds is much larger but its total dispersal area is also much larger than the dispersal areas of the Bronze Age assemblages. This circumstance creates considerable difficulties, both during fieldwork and the interpretation of the survey results. Being so much dispersed this material is invisible during field survey. As a result, its distribution was mostly charted on the basis of the transect collections and we saw that these can hardly be interpreted without ambiguities.

Table 17: Amount and distribution of finds datable to the Hellenistic Period

Total amount and percentage	ca 225, 1.35%
Mean density (overall, grid&transect)	0.21 per 100 sq m; 0.51 per 1 000 sq m
Min/Max density (on site)	5-28 per 100 sq m;
Site area	> 1 800 sq m
Total dispersal area	ca 200 000 sq m

The material was found dispersed in a rather thin, discontinuous carpet spread over most of the field units in sector IX (map III_21a). Small isolated groups of finds were also collected from fields along the left bank on the valley floor, opposite the Late Iron Age site and one or two isolated finds came from sector X. Considering the relatively small amount of Hellenistic finds and its fairly large dispersal area, it is not surprising that much of this material came to light only after the processing of the finds. Even the larger clusters would've hardly been noticed were it not for the very low density of Late Ottoman and Early Modern off-site material. Being mostly limited to a single survey sector, the mean overall densities are quite misleading. The district values are two to three times higher, approaching 2 fragments per 1000 sq meters of transect survey and 1.5 fragments per 100 sq meters of total grid survey.

Looking at the distribution of the Hellenistic material collected by field walking units, it is evident that it is mostly concentrated on field blocks in the central portion of sector IX. Although this is a rather even carpet of finds, two slightly larger concentrations came to light. The one stretching over field blocks 167-169 was already defined as "site 12" in Appendix 1. The total amount of finds on this location is two to three times greater compared to surrounding fields, which was the main reason for carrying out a total survey by grid units. The highest density of Hellenistic shards was recorded on field block 167 where we counted about 6.45 fragments per 1000 sq meters. To the west on field blocks 168 and 169, it gradually decreases to 4.70 and slightly over 3 fragments per 1000 sq meters, while on the neighbouring field blocks to the north and south, these finds

nearly disappear from the surface. Only sporadic, isolated fragments were collected from field blocks in the northern parts of sector IX. However south of site 12, there is another concentration of Hellenistic material discovered after the processing of the finds. It is situated 250 meters south of "site 12" spreading over field blocks 160, 163 and 164. The intervening stretch was only partly surveyed due to the unsatisfactory ground visibility conditions. It is very probable that there was at least a thin carpet of Hellenistic finds between the two clusters, presently hidden under patches of the dense oak-forest. The recorded density of Hellenistic material ranged from 5 fragments on field block 164, to 3.9 on field block 163 and 2.70 shards per 1000 sq meters on field block 160. On the neighboring field blocks to the east the artifact density drops below 2 fragments per 1000 sq meters, becoming even thinner on the tip of the Ramnište Ridge, on the area occupied by site 11. It has to be noted that the greater density recorded on field blocks 164 and 169a is probably due to the very small size of these field units. If field blocks 164 and 169 are left out of the analysis, the density of Hellenistic shards in this part of sector IX will not differ greatly from that recorded on field blocks at the left bank of the central valley, in sector VI.

On the valley floor, on the left bank of the dry creek, the density of Hellenistic finds ranges between 1.2 and 5.7 fragments per 1000 sq meters. They form a more or less continuous carpet stretching over a length of around 400 meters, from field block 188 on the south to field block 184 on the north. A pair of Hellenistic shards was also collected from the lower terrace of site 11. There lacks a clear tendency in the distribution: there is a gradual decline from field block 188 where 5.7 fragments were recorded, to field block 186b with the minimum of 1.2 shards per 1000 sq meters. After another overgrown stretch, 150 meters north of the pair of field blocks 186a-b, the density of Hellenistic finds rises again over the district's average on field block 184 with nearly 4 fragments per 1000 sq meters. Along this section of the valley floor the left bank is gentler and wider, but at the time of the survey ground visibility was much worse than on the opposite bank. Longer sections between field blocks 188 and 187 and between field blocks 186 and 185 were found abandoned for at least several years and completely overgrown. But even on the surface of fields with perfect visibility conditions, such as field blocks 188 or 186, the recorded densities don't exceed the density on field block 167. Although higher than the district's mean value, in absolute terms these are tiny quantities. For example the maximum density of 5.7 shards per 1000 sq meters on field block 188 is hardly noticeable during fieldwork. Note that in sector VI the field units are smaller because of the configuration of the terrain which enhances the density of the surface finds; a few shards can produce a density value considerable higher than the district average. In fact, even the maximal density of 6.45 Hellenistic shards per 1000 sq meters recorded on field block 167 barely exceeds the mean density of all surface finds in this sector. Unless accompanied by a respectable number of finds datable to the Roman Period, this location would have never been recognized as a potential site.

Table 18: Mean district densities and densities on field blocks with Hellenistic material recorded by transect units, in 1000 sq meters

	Field block 167	Field block 168	Field block 163	Field block 188	Field block 184
Expected	1.85	1.85	1.85	1.85	1.85
Actual	6.45	4.75	3.9	5.8	3.5

In short, the Hellenistic material was found distributed in tiny and isolated clusters, each one consisting of a handful of often badly worn fragments. Superficially it recalls the distribution pattern of the possible Late Neolithic assemblage found in the same sector or of the Late Bronze-Early Iron Age assemblage spread on the opposite bank. In all three cases the material is distributed into one larger and several smaller clusters situated up to 500 meters from the core, but usually within the limits of the same sector or topographic unit. However the Hellenistic assemblage stands apart by its small size and the relatively limited contrast between the amounts of surface finds recorded on the central and the satellite clusters. In this respect it is more akin to the Late Bronze-Early Iron Age than to the possible Late Neolithic assemblage. As with the material dating to the Late Bronze-Early Iron Age, it is very difficult to distinguish one central cluster on the basis of the transect survey results. At least on three pairs and one individual field block, the artifact densities are about two to three times the mean district values. These are field blocks 167-168 and 163-164 situated on the crest of the Ramnište Ridge and field blocks 186a-187 and 188 on the floor of the central valley in sector VI (table 18).

Typically for assemblages with a highly dispersed pattern of distribution, the difference between the highest and the mean district densities are low. For example field block 167, featuring the highest density of Hellenistic material in the survey area, exceeds the mean district value by a fairly modest factor of 3.5 (compare with table 11). Analyzing the distribution of the Late Bronze-Early Iron Age or the Late Iron Age material, we saw that even the small satellite clusters can feature artifact densities that are up to several times the district average. But in the case of these two assemblages, field blocks with high artifact density were a minority, surrounded by field blocks densities that are average or below the average. The chief difficulty regarding the interpretation of the distribution of the Hellenistic material gathered by individual transects is that over 60% of the field blocks on which this period is represented feature artifact densities higher than the mean district value. On almost 35% of the field units on which we encountered Hellenistic pottery, the recorded density was two times the average density for the sector. It is as if there lacked a transitional zone of low artifact density or more probably, it was so thin that the transect collections failed to record it. If this reasoning is correct, than we would have to assign an on-site status to three separate groups of field blocks: one in the central part of the sector, consisting of field blocks 167-169, another situated 150-200 meters to the south, consisting of field blocks 163-164 and a third one, along the valley floor, including field blocks 186a-188. These clusters are united into a compact but thin carpet, through a contracted zone of average or lower than average artifact density.

However before adopting this interpretation of the record of the transect collections, it is necessary to check the degree to which it was determined by the variable intensity of the collections. Assuming that the transect collections included all counted material will result in a pattern more similar to those of the rest of the dispersed assemblages (map III_21b). First of all, one notes that the zone of very high artifact density has shrunken to two field blocks, excluding the very small field block 169a. These are field blocks 167 and 188, on both of which the transect collection represented a small fraction of the counted material. Were all counted finds collected, the artifact density will increase from 6.4 to over 17 on field block 167 and from 5.8 to 25 fragments per 1000 sq meters on field block 188. On the rest of the field units where Hellenistic material was encountered, the collections by individual transect units were more thorough. On field block 168, the artifact density rises from 4.75 to 6.3 fragments per 1000 sq meters, while on field blocks 169 and 171, the increase is negligible. On the group of field blocks 160-164, the transect collections presented a higher fraction of the counted material and the predicted density is only slightly higher than the recorded. On the small terrace covered by field block 164, it even drops below the district average value. In sector VI on the valley floor, apart from field block 188, higher density can be expected on all other field blocks on which Hellenistic material was present. However it is considerably lower than the concentration on field bock 188, ranging between 2.7 fragments on field block 186b to a maximum of over 8 fragments per 1000 sq meters on the peripheral field unit 184.

In principle the adjusted figures don't entail a radical reinterpretation of the transect survey record. The basic lines behind the distribution pattern remain unchanged; the two cores on field blocks 167 and 188 retain their integrity, while the zone of higher than average artifact density still included over half of the field units featuring Hellenistic material. There are nevertheless a few important changes. The difference between field units featuring the highest artifact density and the rest of the field blocks with Hellenistic finds increases considerably, so that the cores on field blocks 167 and 188 become far more prominent. As with the majority of the assemblages, they exceed the mean district density by several times. At the same time, the concentration on field block 163 and the surrounding fields almost looses its integrity, merging with the zone of average artifact density. This results in an evident shift in focus away from the top of the Ramnište Ridge and onto the valley's floor. It is unfortunate that we failed to include at least some of the field blocks from sector VI in the regular grid survey. There is a possibility that the relatively high artifact density on field blocks 184-188 is slightly enhanced by the small size of the field units, about half the size of the average field block in sector IX.

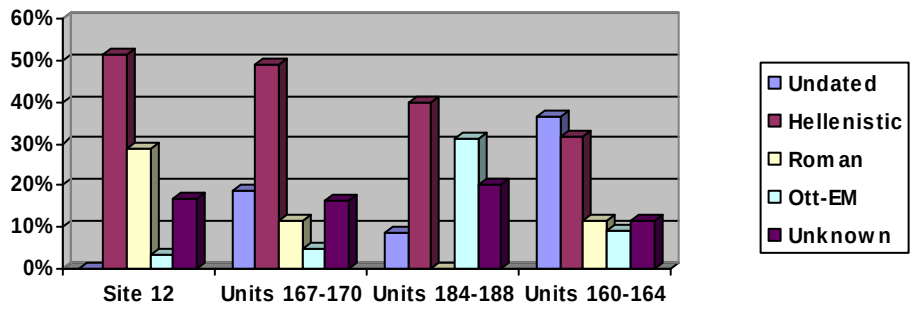
Predictably the total survey by grid units on parts of field blocks 167 and 168 or site 12 recorded a much greater artifact density than indicated by the transect survey (map III_24). It revealed a larger and compact cluster, mostly limited to the central part of field block 167. The density of Hellenistic finds ranged between 4 fragments per 100 sq meters on the periphery to 28 fragments per 100 sq meters on the site core. Thus defined the cluster occupies an area of about 1 800 sq meters, featuring a roughly concentric inner distribution pattern. On three grid units, one pair in the centre of the grid and a single unit along the south edge, we counted more than 20 fragments per 100 sq meters. Grid units featuring between 8 and 20 Hellenistic shards per 100 sq meters are mostly clustered around these two foci, although densities above 8 fragments per 100 sq meters were

encountered on two units at the grid periphery. Most of the outer zone of this cluster consists of grid units featuring between 4 and 8 Hellenistic finds per 100 sq meters. This is also the lowest density recorded in the central parts of site 12. Towards the edge of the grid, the artifact density drops to below 2 fragments per 100 sq meters, which is nearly impossible to distinguish from sterile areas during field work. The decrease is slightly gentler along the northern and western edges, while on the south the cluster is artificially cut by a small oak grove.

Doubtless if the grid was extended further to the north and the east more Hellenistic finds would have been gathered, probably concentrated in small and isolated clusters, producing densities of at least 10 fragments per 100 sq meters. This can be inferred from the fact that similar amounts were collected from one or two grid units on site 11, where the collection by individual transects revealed not a single find datable to the Hellenistic Period. Surely larger clusters would have been revealed, if field blocks 163 or 188 were covered by total grid survey, perhaps even approaching the size of site 12. It is also possible that a similarly sized scatter remained hidden in the eastern half of field block 168, about 100 meters east of the core of site 12. Unfortunately prior to the full processing of the finds, we were unaware that the material found on site 12 spread way beyond its apparent limits. This is not surprising bearing in mind that only about 60 fragments datable to the Hellenistic Period and mostly in a very poor state of preservation were collected from a total area of about 20 hectares. Even if the accompanying finds of the undated assemblage and the thin scatter of Early Modern debris are added, the total amount of surface material on these fields will rise not much above the average for sector IX.

That it is possible that at least one other cluster of similar size to site 12 remained hidden is indicated by the total dispersal area of the Hellenistic material. We saw that the total dispersal area of this group of finds was equal or even larger than the dispersal areas of the possible Late Neolithic and the Late Bronze-Early Iron Age assemblages. These extensive but discontinuous carpets were interpreted as remains of outbuildings, burials and refuse pits (the undated assemblage) or the remains of dispersed dwellings (the Late Bronze-Early Iron Age assemblage). In the case of the possible Late Neolithic assemblage, we had one central cluster clearly standing apart from the satellite clusters, while in the case of the Late Bronze-Early Iron Age assemblage one cluster similar in size to the Hellenistic site 12 was surrounded by a series of not much smaller satellites. Hence the differences in the interpretations of these two patterns and the suspicion that apart from site 12 there was at least one other residential site dating to the Hellenistic Period. If during this period settlement was truly limited to the farmstead on site 12, it becomes difficult to explain the fairly wide impact zone spreading over much of the Ramnište Ridge and the left bank of the central valley. Apart from the eastern half of field block 168, other likely settlement locations are on the valley floor, on field block 188 and less likely, on field blocks 163-164.

Graph 10: Distribution of finds by period on “site 12” and the surrounding fields



As illustrated in the graph, site 12 doesn’t consist solely of finds datable to the Hellenistic Period. They comprise slightly over 50% of all finds collected by the total grid survey, but are accompanied by a considerable number of finds datable to the Roman Period. Nearly 30% of all finds on this site can be dated to the Roman Period and it is very possible that only thanks to this circumstance was it possible to identify site 12 during the field block survey. Outside the gridded area, among the collections gathered by individual field transects, the Roman material represents about 10% of all finds or completely disappears from the surface record as on field blocks 184-188. However if only the chronology of the finds gathered by individual field transects is analyzed, it becomes apparent that the fields on which site 12 is located are not much different regarding the presence of Roman material. Actually the main difference is in the quantity of the Hellenistic finds. Even with collections by individual field transect, finds datable to the Hellenistic Period represent around 50% of all material on these fields. On field blocks 160-164, where a second larger concentration was observed, the Hellenistic material participated with about 30%. It is somewhat more dominant on field blocks 184-188, on the left bank of the central valley, but here the total amount of surface finds was lower compared to the upper sections of the Ramnište Ridge. Also worthy of mention is the fact that the quality of the finds gathered from field 167 is much higher when compared to finds gathered from surrounding fields. This factor also played its role in dictating our decision to focus the total grid collections on field block 167. This is yet another parallel between the Hellenistic and the Late Bronze-Early Iron Age assemblage. It could indicate that even if there truly existed other residential sites dating to the Hellenistic Period, they were smaller or produced less substantial surface remains.

Finally, it is interesting to briefly comment on the relation between the possible Late Neolithic and the Hellenistic assemblage. As pointed out, the two assemblages feature similar distribution patterns and are inversely spread across sector IX. The core of the possible Late Neolithic assemblage is located on site 11 and the amount of material decreases from south to north. In the case of the Hellenistic assemblage, the core is situated in the central part of sector IX, 450 meters north of site 11 while the satellite clusters become thinner going from north to south. The two assemblages are partly overlapping. In particular some of the satellite clusters, such as those on fields 168 and 160, occupy nearly the same locations. As expected on field block 168, being closer to the core of the Hellenistic material, the ratio of Hellenistic to the possible Late Neolithic

finds is 4 to3, while on field block 160, closer to site 11, the ratio is 1 to1. The possible Late Neolithic assemblage is completely absent from the surface record on site 12, while the Hellenistic material is present in tiny quantities on site 11. These ratios can reflect both the actual quantity of the respective assemblages, but also their chronological relation. Although without definite dating, it is very certain that the assemblage that partly constitutes site 11 is pre-Hellenistic. This circumstance perhaps explains the total absence of these finds on site 12, where they were not only less numerous, but also superimposed on by the presumably later Hellenistic site. On the other hand although representing only a tiny fraction, the Hellenistic finds were nonetheless visible in the surface record on site 11. If the clusters of Hellenistic finds on the intervening fields were truly approaching the size of site 12, one would expect to see similar ratios between the two assemblages. Instead on field blocks where both assemblages are represented, their quantities are nearly equal.

App. II.9.1 The Roman to Late Roman Period (AD 1st-end of 6th century)

Material broadly datable to the Roman Period is the third largest chronological group in the survey area, after the Late Iron Age and the Late Ottoman-Early Modern assemblages. About 1450 fragments were classed into the fabric groups that comprise this assemblage. This is 8.75% of the total surface record in the first survey area. Although far more numerous than some of the prehistoric assemblages, the Roman-Late Roman material spans over a much longer time-period covering at least 6 centuries. If this corpus of material is evenly distributed across the three general phases of this long period, the result will be about 450 fragments per phase. This is strikingly similar to the deposition rate during the Late Bronze-Early Iron Age covering a period of roughly equal length to the Mid or Late Imperial phases. But despite the low chronological resolution, it is more likely that the majority of these finds date between the 4th and the 6th century AD, indicating a genuine increase during the Late Imperial Period[13].

Looking at the statistics of the gathered Roman finds in general, it strikes the eye that the difference between material collected by grid units and field transects is much smaller compared to some prehistoric periods (table 19). To illustrate this, the number of Late Iron Age finds collected by grid units is around 70 times the number of finds collected by field walking transects, while for the previous Early Iron Age, this ratio is 45 to 1. For the Roman material the ratio of finds collected by grid units and field blocks is only about 4 to 1, identical to the ratio for the Hellenistic material. The mean overall densities are 14.3 fragments per 1000 sq meters of total grid survey and 3.45 fragments per 1000 sq meters of transect survey. This is clearly related to the spatial distribution of Roman finds. They were literally found in all survey sectors including the previously vacant, upper course of the central valley. Hence the total dispersal area of these finds almost equals the size of the entire survey area. The greatest portion of the Roman finds was found concentrated on a number of site locations, some of which were not included in the total grid survey. On these field blocks individual transect collections were more intensive, further contributing to the relatively small difference between the mean overall densities recorded by the transect and the grid surveys. Apart from on-site material, the transect survey revealed a very thin carpet of badly worn finds on nearly two thirds of the

[13] See though D.K. Pettegrew, The Busy Countryside of Late Roman Corinth, 743-784, *Hesperia* 76, 2007.

field blocks. The distribution pattern of the Roman material is unlike any of the previously discussed periods. It suggests that although the intensity of occupation didn't change dramatically from earlier periods, there were significant changes in the type of settlement and also perhaps in the ways in which the surrounding land was exploited.

Table 19: Amount and distribution of the finds datable to the Roman Period

Total amount and percentage	ca 1 450, 8.75%
Mean density (overall, grid&transect)	1.43 per 100 sq m; 3.45 per 1 000 sq m
Min/Max density (on site)	2-20 per 100 sq m;
Sites 5a-5b	ca 8 000 + 2 000 sq m
Site 8	ca 3 500 sq m
Site 12	ca 1 500 sq m
Sites 13a-13b	ca 3 000 + 3 000 sq m
Total dispersal area	ca 900 000 sq meters

Because this material is present in all survey sectors, the mean overall densities aren't skewed and it is unnecessary to introduce separate density values for each sector. In fact, this will predictably result in high density find-spots in almost all survey sections. As in most other periods of occupation, the carpet of surface finds is focalized and discontinuous; even in low density zones one or two isolated finds are surrounded by wider sterile belts.

According to the statistical method applied (a method known as Natural Break, grouping the field units into ranges defined by breaks in the order of artifact density) the Roman material is distributed into three basic zones of artifact density (map III_25a). On over ¾ of the field blocks on which Roman finds were collected, the density of Roman shards doesn't exceed the threshold of 3.4 fragment per 1000 sq meters or the mean density recorded by the transect survey. These field units are almost randomly dispersed across the entire survey area including the upper course of the central valley, although it is evident that they tend to cluster around zones of higher artifact density. The second zone comprised about a dozen field blocks or 10% of all field blocks on which Roman material was collected. On these field units the transect survey recorded between 10 and 40 Roman shards per 1000 sq meters or roughly between 2 and 16 fragments per field block. They appear isolated or in groups on several locations in the survey area. West of the central valley clusters of this size were found in the monastic complex in sector I, on the fields over which site 5a is located and on field block 72, south of the modern village. The first two surround field blocks with a higher density of Roman finds, while the latter appears isolated. East of the central valley, two groups of several field blocks situated at the foot of Radičica, at the northern and southern ends of sector X featured around 30 fragments per 1000 sq meters, clearly emerging from the surrounding zone of very low overall artifact density. Only less than 5% of the field units with Roman material feature artifact densities higher than 4 fragments per 100 sq meters or between 16 and 45 fragments per field unit. Particularly high artifact densities were recorded in sector I, on field blocks 4a and 4b. Here the fairly large amounts of Roman tile, but also the very small size of the field blocks elevated the artifact density to over 6 fragments per 100 sq

meters. Very high artifact densities were also recorded on field unit 31, north of the modern village. It has to be recalled however that in the case of this field unit, individual transect collections were more intensive than on the rest of the field blocks. Were the individual transect collections less thorough, field block 31 would have been ranked in the second zone with artifact densities ranging between 1 and 4 fragments per 100 sq meters.

Table 20: Mean overall density and density on field blocks covering probable site locations, in 1000 sq meters

	Field block 4a	Field block 44	Field block 31	Field block 133	Field block 142b
Expected	3.45	3.45	3.45	3.45	3.45
Actual	67.3	20.5	39.3	19.9	27

Taking into account only the zone of highest artifact density there are at least two separate foci of occupation during the Roman Period, both in the western survey sectors. One is located to the east of the monastic complex on field blocks 4a-b, the other on field block 31. On these two field units, the transect survey recorded densities at least 10 times higher than the mean overall value (table 20). But if we also consider the field blocks of the second group as potential sites, their number increases to 6 or 7. Although the number of field blocks with artifact densities higher than the mean overall value of 3.45 is even higher, we need to distinguish between field units featuring 5 or 6 fragments per 1000 sq meters and field blocks belonging to the zone of over 10 fragments per 1000 sq meters. There is an evident clustering of field units around the mean overall value of 3.45 and above the limit of 10 fragments per 1000 sq meters. Note that the field units that belong to this latter zone (especially the field units covering site 5a and site 13a-13b) are considerably larger, a circumstance which ranks them lower on the artifact density scale than field block 4a.

Two new "sites" emerge on the western bank, one on the Bronze and Early Iron Age site 5a and a second one on field unit 72, southeast of the modern village. Two, possibly three potential sites appear in the eastern sectors, on the Jakupica Ridge partly stretching over the Late Iron Age necropolis. Judging by the results of the transect survey, there lacked a central nucleated settlement. It rather seems that there were at least two major settlements of roughly equal dimensions: site 5a and the clusters on field blocks 133-134, 142-143 or "sites" 13a-13b and a group of smaller sites randomly dispersed across various sectors of the surveyed area. It is important to note that some of the "larger sites" are clearly related to the forts marking the eastern and western corners of the survey area. The cluster of finds discovered by the monastic complex is situated at the foot of "Kale" Sopot, a Roman fortification that also overlooks site 5a situated 500 meters to the east. Similarly the clusters on field blocks 133-134 and 142-143 are located about 350 meters from the foot of site 10, a larger fortification also probably dating to the Roman Period. Finally a slightly increased artifact density was also recorded at the foot of site 9, a much smaller fort at the northern end of sector 7. In this case however, the transect survey recorded an artifact density equal to the mean overall value and the on-

site status of this and similar find-spots remains dubious (table 21). It is apparent that most major clusters of Roman finds occupy the periphery of the surveyed drainage basin. The central and most fertile parts of the valley were evidently left vacant, especially during the Late Roman phase.

Table 21: Mean overall density and density on field blocks with possible Roman to Late Roman sites, in 1000 sq meters.

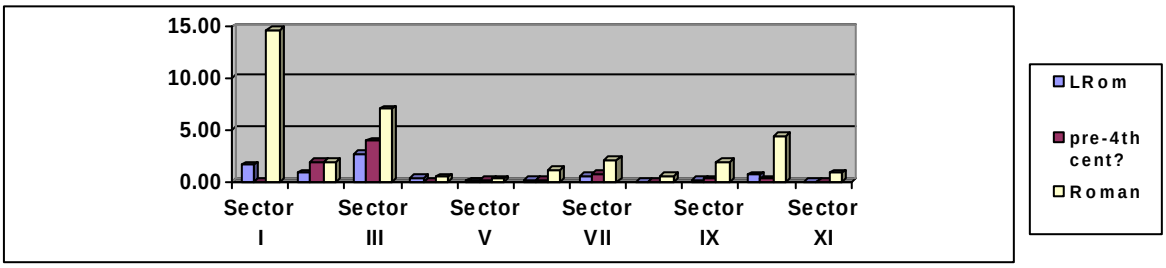
	Field block 72	Field block 115	Field block 192	Field block 155	Field block 122
Expected	3.45	3.45	3.45	3.45	3.45
Actual	10.5	3.4	4.3	5.9	6.3

Before analyzing each of these clusters separately, it is useful to present a summary of the density of collected Roman finds by sectors. As this material is spread in nearly all parts of the survey area, it is important to see if there is a general pattern in the distribution of Roman material across the entire terrain. Two important conclusions can be drawn on the basis of the data presented in graph 11. Although it merely summarizes the analysis of the distribution of Roman finds by field blocks, it clearly illustrates that the bulk of these finds is concentrated in sectors I and III, in the survey's western third. Here the recorded density of all Roman shards for the integral sectors was 16.5 and 13.5 per 1000 sq meters, three to four times greater than in sector X. This suggests that the clusters revealed in the latter and other sectors either occupied smaller areas or were thinner. Indeed when revisited for surface finds collections, the encountered amounts were seemingly so small it was deemed unnecessary to carry out a total grid survey. But after the processing of the finds, it became clear that this impression was greatly shaped by the large amounts of other periods' material, especially in sector III where the total number of finds was more than doubled by the presence of Late Ottoman-Early Modern and Iron Age material. In sector X on the other hand, Roman finds comprised almost 100% of the surface material. Failing to conduct total grid surveys on these seemingly unpromising field blocks was one of the main oversights of this survey. It deprives us of the possibility of directly comparing the density of Roman finds on the two sites and more importantly, to determine the exact size and inner structure of the scatters on field blocks 133-134 and 142-143.

Nevertheless the given data at least clearly indicate that the clusters in the western part of the survey area were considerably denser. This is closely related to the second conclusion suggested by the figure presented below. The presence of finds with a possible pre-4th century date greatly contributes to the higher artifact density, especially in sector III. In sector X on the other hand, the density of this material is only slightly over 0.1 fragments per 1000 sq meters. This small group of finds doesn't fully overlap with the material securely dated to the Late Roman Period. Apart from sector III, they are most numerous in sector II, where less than 1 Late Roman shard per 1000 sq meters was collected. It is also evident that the finds datable to the Early or Middle Imperial Periods are mostly concentrated on field blocks in sectors II, III, VII and IX. In the rest of the survey area, the density of this material fluctuates between 0.1 and 0.5 fragments per 1000 sq meters. It is another indication that there was an actual expansion of settlement

during the Late Roman Period. Especially if we take into account the fact that a portion of the coarse ware and much of the tile, here broadly dated Roman, also probably date to the Late Roman Period.

Graph 11: Distribution of the Roman finds collected by field walking units, by sectors (in 1000 sq meters, visibility and survey intensity corrected)



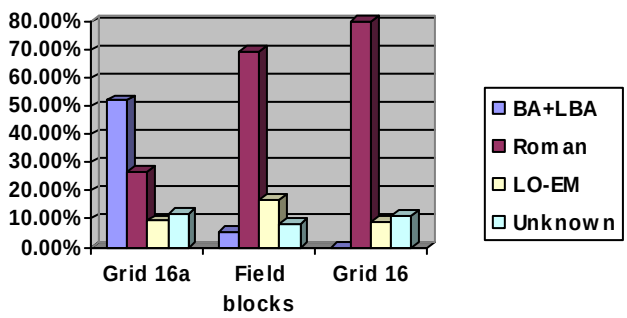
That there are larger amounts of Roman to Late Roman material in the western survey sectors is finally confirmed once the individual transect collections are adjusted to represent 100% of the counted material (map III_25b). The zone of artifact density considerably higher than the mean overall value becomes completely confined to sectors I-III. Overall the carpet of finds datable to the Roman and Late Roman Period loses its multi-focal character, because the high concentrations on field blocks 31 or 142a-142b (where individual transect collections represented over 100% of the counted material) are now evidently lower than on field blocks 4a-4b, or 44-44a. These field blocks still feature densities higher than the mean overall value, but are closer to the zone of average density than to the very high concentrations on field blocks in sector I and III. We will return to the modified records of the transect collections in greater detail when discussing each of the potential sites separately. For the moment, it suffices to point to the examples that mostly contributed to the highly dispersed and multi-focal character of the Roman to Late Roman assemblage. On field blocks 4a-4b, 44, 44b in the western survey sectors, the artifact density either remains stable or increases considerably, rising from 20 to 40 fragments per 1000 sq meters on field block 44 and from 67 to over 240 fragments per 1000 sq meters on field block 4b. At the same time, two new concentrations appear in sector II, on field blocks 20 and 16a with over 70 and 45 fragments per 1000 sq meters. The opposite tendency can be observed on field block 31, where the artifact density decreases from nearly 40 to slightly over 12 shards per 1000 sq meters. The decrease is somewhat slighter on the group of field blocks in the easternmost sector X; from 19.9 to slightly over 12 fragments per 1000 sq meters on field block 133 and from 27 to 18.5 fragments per 1000 sq meters on field block 142b. Even so being undistinguishable from a number of field blocks in the western survey sectors featuring between 10 and 20 fragments per 1000 sq meters, their on-site status becomes uncertain. As will be shown, these field blocks, particularly those in sector X, truly represent site locations, but the very large concentrations predicted for field blocks in the western survey sectors have a considerable impact on the mean overall density. If the records of the individual transect collections are adjusted to represent 100% of the counted material from each field

walking unit, it becomes necessary to introduce mean district values for each survey sector.

App. II.9.2 *"Site 2" and the distribution of the Roman-Late Roman finds in sector I*

After the completion of the transect survey, we were rather confident that the main focus of occupation during the Roman Period was on site 5a-5b and on the fields by the monastic complex in sector I. The results of the total grid survey only partly confirmed this observation. Chronologically the cluster of finds on field block 4a defined as "site 2" in Appendix 1 is nearly homogenous. 80% of the finds can be dated to the Late Roman Period (map III_26a). Most of this material was collected from the central grid units, very near the edge of the meadow east of the monastic yard. They featured between 6 and 12 Late Roman shards per 100 sq meters. The two rows of grid units on the northeast periphery of the grid covered partly sloping terrain with very low ground visibility. Only a pair of badly worn shards was collected from this stretch. On grid units in the southeast half of the grid, the density of Late Roman finds dropped below 6 fragments per 100 sq meters, completely disappearing from the surface record on the other side of the local road. However as clearly suggested by the results of the field block survey, the carpet of Late Roman finds stretched over most of the field units that surround the monastic complex. In fact a density of 12 fragments per 100 sq meters was recorded on the central units of grid 16a, partly covering the Bronze Age cluster in the monastic yard. It was only limited to two neighboring grid units; the rest of the grid featured between 0 and 4 fragments per 100 sq meters. It should be stressed that on the field block covered by grid 16a, the transect survey recorded no fragments datable to the Roman Period. It is thus very probable that clusters of at least the same size exist on the neighbouring field units, featuring up to 10 fragments per 1000 sq meters. This finding undermines the suspicions about the authenticity of "site 2", but at the same time it denies its integrity as a separate archaeological site. Rather it seems that "site 2" is only a small section of a much more extensive carpet of Roman-Late Roman material spreading below and beyond the limits of the Early Modern monastic complex. It consists of an unknown number of tiny and isolated clusters occupying areas between one and a few hundred square meters. This explains why they went unnoticed during the quantification of surface finds by field walking transects.

Graph 12: Chronological distribution of surface finds on "sites" 2 and 3 and in sector I



One can argue that the results of the transect survey provide a clearer image of the distribution of Late Roman finds in sector I (map III_26b). The bulk of this material was collected from field blocks 4a and 4b, along the foot of the rocky cliff where artifact densities reached over 40 fragments per 1000 sq meters. Collections from the overgrown stretches to the north of these field units gave an artifact density of nearly 10 fragments per 1000 sq meters. The amount of Late Roman finds gradually declines towards the bank of the Vardar and more rapidly towards the periphery of the sector. The clusters that made up the layer of Late Roman finds were probably mostly concentrated along the foot of the cliff and around the monastic complex becoming sparser and more isolated on the surrounding fields. This is illustrated in the figure above. On grid 16a, about 10 meters from the Vardar's left bank, Roman finds represent 25% of the total collection. Less then 100 meters away on grid 16, they comprise exactly 80% of the total collection. A similarly sharp decline can be observed along the longitudinal axis of the terrace. The density of this material drops from over 60 fragments per 1000 sq meters on field blocks 4a and 4b to 10 and 3.4 fragments per 1000 sq meters on field blocks 3 and 6. The Roman material represents 70% of the finds collected by individual transects in sector I and in practice determines the distribution pattern of the total surface record in this part of the survey area.

This pattern is reinforced when the individual transect collections are adjusted to represent 100% of the collected finds (map III_26c). Assuming that all counted finds were collected, the main focus of the carpet shifts to field block 4a, with the maximum density of over 243 fragments per 1000 sq meters. It must be noted however, that this sharp increase is mostly due to the large amounts of highly obtrusive tile, giving rather high pottery counts for this field. These counts are further increased because of the low ground visibility on field block 4a. It is evident that the main concentration of this material is on field blocks 3-5, all contingent to or covering parts of the monastic complex. Into the northern and southern thirds of the sector, the adjusted record of the transect survey gives densities lower than 6 fragments per 1000 sq meters. We already mentioned that the field blocks surrounding the monastic complex feature the highest density of Roman to Late Roman material in the survey area, elevating the mean density for sector I to over 64 fragments per 1000 sq meters. As with field blocks in sector VI, this very high concentration of surface material is to a large degree related to the small size of the field walking units surrounding the monastic complex.

App. II.9.3 *Site 5a-b and surrounding clusters*

The main concentration of Roman finds in the survey area was discovered on field blocks 44, 44a and 45a, in sector III. On these locations defined as sites 5a and 5b in Appendix 1, material dated to the Roman and Late Roman periods is accompanied by larger amounts of off-site material from the Late Ottoman-Early Modern settlement and a smaller amount of prehistoric finds (map III_27a). The chronology of the material is summarized in graph 6 in the previous sections and was already discussed. Evidently the Roman to Late Roman settlement spread over a much larger area, but it didn't produce sufficiently large amounts of surface finds to completely obscure the traces of earlier occupation. Indeed the maximum density of 12.65 fragments per 100 sq meters is surprisingly low when compared to the maximum density recorded on a number of

prehistoric sites. This concentration was further limited to two grid units in the northwest corner of the gridded area. This is only a slightly greater amount of material than that recorded in sector I. However the clusters by the monastic complex occupied areas not larger than 200 sq meters, while site 5a is many times larger. The zone of highest artifact density, featuring between 6 and 12.6 Roman shards per 100 sq meters stretched over a larger portion of the northern half of the gridded area. Recall that although comparatively low, the maximum density of 12.6 fragments per 100 sq meters is almost 10 times the mean overall values recorded by the regular grid survey (table 19). The cluster of surface finds is fairly compact, though it is possible to observe two vague cores: one larger spread over units in the centre of the grid, the other smaller in the northwest corner. Both have a prominently linear shape, not necessarily related to the thoroughness of the collection. As will be shown, higher concentrations of Roman material usually comprise a considerable percentage of brick and tile. These linear patches of high density are mostly separated by grid units featuring between 3 and 6 fragments per 100 sq meters, though on certain units in the area of the site core, the artifact density drops below 2.5 fragments per 100 sq meters. Grid units featuring between 3 and 6 fragments per 100 sq meters are mostly concentrated in the northern half of the grid spreading across the entire width of the field. It probably spread further to the east, beyond the field limits, at least along the northern half of the gridded area. In the southern half of the grid and especially in its southeast corner, the density of Roman shard drops rather sharply to less than 2 fragments per 100 sq meters, nearly equalling the mean density recorded by the grid survey. The statistical analysis defined a relatively narrow zone featuring between 2 and 3 fragments per 100 sq meters separating the site from the off-site zone of less than 1.5 fragments per 100 sq meters. It is less compact than the zones of higher artifact density, and it is clearly pronounced along the southern site limit and around the clusters on the western side of the ravine, on field block 45a. This is the halo zone of the Roman settlement on site 5a. Because of the peculiar micro-location occupied by this site delimited on nearly all sides by natural barriers or fields with low ground visibility, it is difficult to determine the full extent of the site halo. It is at least certain that it spread over the entire area of field block 44a, extending for about 80 meters from the site edge. It is also likely that it spread over the village cemetery to the north of the site, on field block 40.

Typically for this survey area, larger concentrations of finds can rarely be followed outside the fields' limits. To the north, on the field on the opposite side of the dirt road, the total number of surface finds suddenly dropped below average. This field is used as the communal cemetery for the modern village and ground visibility is predictably very low. The transect survey recorded a lower than average density of about 2.5 Roman shards per 1000 sq meters. Similarly on field blocks to the east, the overall amounts of surface finds were lower than the area's average. As explained in Appendix 1, we weren't allowed to carry out surface collections, but it would be rather surprising if the cluster of Roman finds didn't spread further east, at least into the western parts of field blocks 41 and 42. Excluding the peripheral zone featuring around 2-3 fragments per 100 sq meters and allowing for wider margins to the north and northeast, the Roman site occupied around 8000 sq meters, which is very close to the size of most earlier, prehistoric sites. Note that the threshold of 2-3 fragments per 100 sq meters is almost twice as high as the mean overall density recorded by the regular grid survey. Including

this zone into the occupied area of the site will extend the site area to over 1 hectare. But for sectors I-III, the average density of Roman shards recorded by the regular grid survey is about 2.2 fragments per 100 sq meters (table 22). Grid units with higher artifact density appear on grids 3 and 6, hundreds of meters from the site edge. However they don't form a continuous carpet of surface material resulting in average densities considerably lower than the district average.

Table 22: Mean district density and average density recorded by regular grid units, in 100 sq meters.

	Grid 16a	Grid 2-4	Grids 5a-5b	Grid 7	Grid 6, 8
Expected	2.1	2.2	2.2	0.26	0.26
Actual	2.4	0.6	3.9	0.45	0.06

The cluster of Roman finds also spreads on the other side of the small ravine delimiting site 5a on the west. On field blocks 45-45c, the transect collections revealed average densities of about 2 fragments per 1000 sq meters, not much higher than those recorded on the modern cemetery on the field north of the site. But as discussed in the previous chapter, during the transect survey we immediately noted larger amounts of architectural ceramics piled up in the corner of field 45a. They were evidently of the same type as those collected from the area of the monastic complex and from site 5a and it was decided to extend the grid survey over fields 45 and part of 45a. In consequence the transect collections were less thorough and didn't include the large pile of dislocated tiles. Was all counted material collected by individual transects, field block 45 would have featured over 49 fragments per 1000 sq meters. A density slightly higher than that recorded on field block 44, covering most of the area of site 5a (map III_27b). Further north on field blocks 45a and 45b, the density of Roman shards declines considerably, although it remains close to or above the mean density recorded by the transect survey for sectors II and III, the transect collections being adjusted to represent 100% of the counted material. On field block 45a, the analysis predicts a density of about 11 shards per 1000 sq meters, over 22 on field block 45b. Note that these equal the density record on field block 44a, covering the periphery and the halo of site 5a. The modified record of the transect collections on field blocks 45a-45c are slightly elevated by the lower ground visibility, but we suspect that a zone of similar artifact density spreads over field blocks 41-43, to the east of the site, marking the full extent of the site-halo.

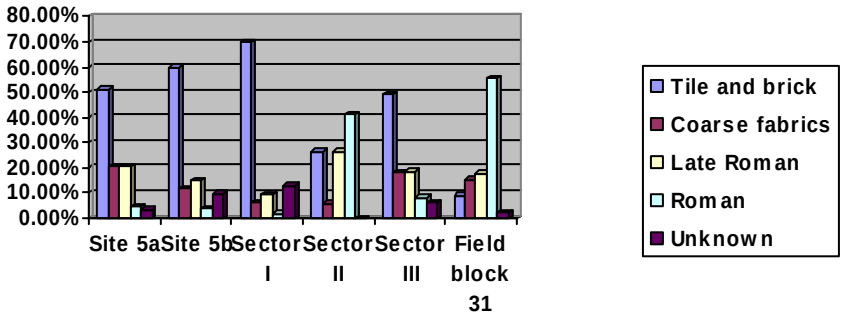
The total grid collections partly confirmed the results of the transect survey. The bulk of the finds was concentrated on two groups of grid units on field block 45, defined as site 5b in Appendix 1. One much larger occupied an area of around 1 000 sq meters in the eastern half of the grid. On this core the density of Roman finds fluctuates between 5 and 10 fragments per 100 sq meters. It is surrounded by a peripheral zone of between 1 and 3 fragments per 100 sq meters. The smaller core situated on the boundary between field blocks 45a and 45b consists of a row of four grid units; three featuring between 5 and 12 fragments per 100 sq meters, while on the northernmost one containing the mass of tile fragments recently piled up in the corner of the field, we counted over 70 fragments per 100 sq meters. It recalls the shape of the smaller core on site 5a. A narrow

strip of low artifact density separates it from the larger core in the eastern half of the grid. It has to be stressed that this concentration was at least partly created by a fairly recent heaping of larger fragments on the corner between fields 45 and 45a. It is thus quite possible that originally this core was more widespread with a lower maximum density. It remains unclear if it is similar small cores such as those revealed on grid 5b or on grids 16a/16b that contribute to the fairly high density on field blocks 45a-45b or a continuous carpet of surface finds.

Despite the evident disturbances, it is clear that "site 5b" is several times smaller than site 5a and that it exhibits a rather different distribution pattern. Adding the grid units featuring 3 fragments per 100 sq meters to the combined areas of the two cores, it would still occupy only about 2000 sq meters. We repeat that it is impossible to determine if clusters of similar size to those on grid 5b or a continuous carpet contributes to the higher artifact density recorded by the adjusted transect collections on field blocks 45a and 45b. That we mustn't overestimate the record of the modified transect collections is demonstrated by the total collections on field blocks 45 and 4b. Both fields feature very high density records, but the regular grid survey revealed only localized concentration, tiny in comparison to the cluster on grid 5a. Field blocks 45a and 45b feature only half the density recorded on field blocks 45 and 4b and it isn't very likely that they hide clusters with on-site densities. We rather suspect a more or less continuous scatter of intermediary density, representing the site halo.

Regarding size and inner distribution, the clusters on "site 5b" are very similar to those discovered on field blocks in sector I. Admittedly the finds collected from "site 5b" present a more complete assemblage, including coarse ware, while the clusters in sector I almost exclusively consisted of tile and rare, plain pottery fragments (graph 13). Even so when compared to the assemblage from site 5a, the percentage represented by coarse fabrics is much lower. Around 11% of the material on site 5b can be classed into some of the coarse fabric categories, while on site 5a these fabrics comprised slightly over 20% of all Roman finds. Interestingly the several pithos fragments were all collected from "site 5b". There is also a slightly greater amount of tile on "site 5b" representing nearly 60% of the Roman assemblage. On "site 5a", they represent about 50% of all Roman finds. In both cases the presence of larger amounts of architectural ceramics determined the elongated shape of the site cores (map III_28).

Graph 13: Distribution of Roman finds by classes on "site 5a-5b", and in sectors I-III



Only a tiny percentage of the finds from site 5a-5b can be dated earlier than the 4th century AD. It consists of a local fabric group that exhibits a slightly different overall distribution pattern from most other Late Roman fabrics. But on site 5a-5b, this material mostly overlaps with the distribution of the predominant Late Roman cluster (map III_30). Larger concentration of shards of the soft-orange fabric came from the eastern core of site 5a, although isolated fragments were collected even from the southernmost grid units. On site 5b too, the few fragments of the soft-orange fabric group were collected from the two cores in the eastern and western half of the grid. Rare examples of this fabric group appear alongside Late Roman material over most of the off-site zone in sectors V and VII, but are absent from sectors II and IV, as well as from the Late Roman assemblage on site 8. On field blocks in sector IX where the local Late Roman fabrics are particularly scarce, the soft-orange fabric appears alongside Hellenistic material forming a compact cluster to the west of site 12. Being distributed independently of the clusters of securely identified Late Roman fabrics and showing certain similarities to the material from excavated Early and Middle Imperial phases, an earlier phase on site 5a-5b is very possible. The contours of this earlier phase remain hidden however, because we don't know how much of the roughly dated plain and coarse pottery and tile went with the soft-orange fabric group.

The soft orange fabric is slightly more numerous in sector III taken as a whole, thanks to a larger concentration of finds collected from field block 31, less than 150 meters to the southeast of site 5a-5b, next to the modern village. As we saw this location also had a longer history of use, possibly stretching back to the Early Iron Age. Our attention to this site was drawn by the presence of well preserved but relatively rare fragments of Roman pottery. The density of this material on field block 31 after a total coverage by individual field walking transects almost reached 4 fragments per 1000 sq meters, in comparison to 13 fragments per 1000 sq meters on certain grid units on site 5a. Even when increased by a factor of 3 to compensate for the lower degree of survey intensity, the density of the soft-orange fabric group is lower on field block 31. In the case of this field unit, this is unnecessary because a total collection was made, the entire field area being covered by closely spaced individual transect units. Although present in smaller quantities than on site 5a-5b, on field block 31 the soft-orange fabric group was mostly found accompanied by other possible pre-4th century fabrics and with rare examples of the locally made Late Roman pottery. Together with these other categories, the Roman cluster on field block 31 features nearly 4 fragments per 100 sq meters, which is just above the density recorded on the periphery of site 5a-5b. As shown in graph 9, material datable to the Late Ottoman and Early Modern Period is nearly three times as numerous as the Roman finds. The Roman cluster was mostly concentrated in the southwest portion of the field and it was evidently confined to the field limits. However, as stressed during the discussion of the overall distribution of the Roman to Late Roman finds recorded by the transect survey, were the transect collections limited to 100% of the counted material, field block 31 would have featured a modest density of 1.2 fragments per 100 sq meters. This equals the densities on field blocks 45a and 45b, recorded by the adjusted transect collections (map III_27b). The zone of average density featuring between 11 and 22 fragments per 1000 sq meters spreads further north, over field blocks 33 and 34.

The collection by field walking transects revealed smaller concentrations of Roman material on a number of field blocks in sectors III and II. As on field block 31, these are mostly datable to the pre-4th century and show no similarities to the Late Roman fabrics predominantly found on site 5a-5b. They are particularly concentrated to the west of the modern village, about 300 meters to the south of site 5a-5b. Small concentrations were recorded on field units 20 and 72b and more rarely, on grids 2-4 immediately south of the village on the terraces above the central valley. On map III_27b there is no compensation for the lesser survey intensity on field blocks 20, 72b and 73a. Being occupied by a Late Byzantine-Early Ottoman settlement in later times, collections on these field units were repeated and intensified. Assuming that all counted material was collected by individual transects will shift these units to the same rank regarding artifact density as the field blocks covering site 5a-5b. More precisely there is a modest increase on field block 72a, leaving it within the average density range, while the concentration on field block 16a gains in prominence. Field block 20 could feature up to 76 fragments per 1000 sq meters, while field blocks 16a and 73a, over 45 and 35 Roman shards per 1000 sq meters. However one must stress that the adjusted records on these field units are quite probably inflated because of the low ground visibility on the one and the high degree of obtrusiveness of the material on the other hand. Recall that the same difficulty was encountered during the analysis of the distribution of the Late Iron Age material, also appearing in tiny quantities on field blocks in sector II. Also note the small size of some of these field units, especially field blocks 20 and 73a.

It is no doubt unfortunate that the grid survey in sector II included only a small portion of field block 16a. Grids 1-3 covered field blocks with average or lower than average density of Roman to Late Roman material. Apparently there is an increase on field blocks to the south of the local east-west dirt-road. It is difficult to talk about clusters of finds in sector II. Most of the finds were found in small groups, consisting of between a pair and several fragments. They produce only a slightly greater density than that recorded on fields to their north. It ranges between 1.5 and 2.5 Roman shards per 100 sq meters, ranking these units below the minimum on-site density on site 5a. But these densities were only recorded on isolated grid units, the average density per grid is 4 to 5 times lower than the average density for sectors II and III recorded by the regular grid survey. These surprisingly low artifact densities point to a substantial decrease compared to the peripheral belt of site 5a-5b. To be sure it is quite possible that on field blocks 20, 16a and 73a, artifact density returns to an on-site level, but the fact that the density of Roman finds is nearly zero on the field blocks separating this stretch from site 5a (covered by grid 1) indicated that this is not a mere continuation of the halo emanating from the Roman site. In fact the average density recorded on grids 1-4 is considerably lower than the mean density of 2.2 fragments recorded by the grid survey in sectors II and III and equals the density recorded on the more distant grids 6 and 8 (table 22).

Notable is the character of the finds collected from these field units. They offer few parallels to the Roman material collected from site 5a-5b or from sector I, especially the material from field blocks in sector II, southwest of the village. Apparently brick and tile are not the most numerous ceramic class. In fact on field block 31 they are the smallest category of Roman material, representing less than 10% of all Roman finds. Coarse ware is likewise present in smaller quantities, particularly on field blocks in sector II. Even on field block 31 where it comprises a greater portion of the Roman material, it

is still represented by slightly over 10% of the finds, similar to the percentage of coarse ware in the Roman collections from site 5b or from sector I. But most striking is the character of the fine wares, clearly distinct from the locally produced plain ware. On field blocks in sector II they consist of two fabric groups, each represented by about a dozen fragments. This is not locally produced pottery. It bears a great similarity to the ceramic material excavated from larger Roman centres, from deposits not later than the 4th century AD. A few examples were collected from field block 31, but only one shard that came from the total collections from site 5a-5b could be classed into one of these fabric groups. The collection from field block 31, north of the village consists of local, more recognizable fabrics. A considerable portion of the finds belongs to a local fabric group, also present on site 5a and possibly datable to the 4th century or earlier. There is almost an identical quantity of a soft buff fabric, with regular traces of a thin, grayish wash. This ware is completely absent from the Roman assemblage on site 5a, but it has parallels among finds from Mid-Imperial deposits from larger Roman sites[14]. Apart from a few examples of the fabric groups concentrated in sector II, there is a small group of Late Roman finds. Perhaps this absence of a superimposing Late Roman layer explains the greater density of possibly pre-4th century finds on field blocks 31. Among the more representative finds made in the predominant Late Roman fabric was a pair of perfectly preserved pyramidal loom-weights. It is noteworthy that this type of find is often associated with sepulchral contexts.

Considering the location of these clusters in relation to site 5a-5b and especially the quantity and the quality of the finds, it seems reasonable to interpret them as remains of a dispersed necropolis. They were found along a 300 meters long stretch, a few hundred meters southeast of site 5a-5b. It is very likely that a number of isolated clusters remain buried under the houses of the modern village. A few isolated fragments were also collected from the grid survey on site 6. Outside this roughly defined strip of land, on grids 8 and 9 the Roman Period is represented only by a slightly smaller amount of finds, but their character is rather different. The fine fabrics datable to the pre-4th century are conspicuously less prominent and examples of the few imported fabric groups are almost completely absent. In the off-site zone the share of plain domestic fabrics and tile is roughly equal, while the percentage of coarse ware remains low. The degree of preservation of the finds visibly declines outside the supposed necropolis area. Diagnostic pieces are nearly absent and many shards have completely worn surfaces.

Intensive regional survey in Greece has demonstrated that it is possible to identify necropolis areas on the basis of the density and the quality of the surface material. But this is possible only for certain time-periods, most typically the Late Archaic through the Early Hellenistic. This is made possible thanks to the peculiar character of the pottery associated with sepulchral contexts, usually consisting of finely made table wares[15]. In the case of the Roman and especially the Late Roman Period, it is far more difficult to see a clear distinction between the pottery from settlements and necropoleis. Quantitatively the collections from sector II are not different from the rest of the off-site zone, but the

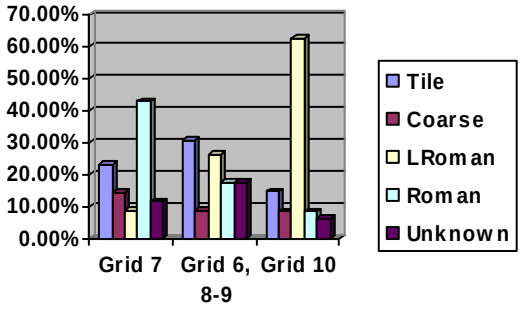
[14] V.Stojanović-Anderson, *Stobi, the Hellensitic and Roman Pottery*, Princeton 1992, 9, table 2.1; similar fabrics were observed on other Roman sites in the country and even in Central Greece, among the survey material collected by the Ancient Cities of Boeotia Survey project, as I learned from the pottery school directors Prof. J. Poblome and D-r P. Bes.

[15] J.L. Bintliff, P. Howard, A.M. Snodgrass et al. 2007, LSE4, THS1, THS11.

peculiar character of the finds and above all, their absence from the site area and the rest of the off-site require a more nuanced interpretation.

App. II.9.4 *The off-site zone, sectors IV and V*

Graph 14: Distribution of the basic classes of Roman material collected by grid units



This zone characterized by a low artifact density and poorly preserved finds stretches over the greater part of sectors IV and V and over the southern half of sector VII (map III_31a). On this eastern half of Prisoj's southern foothills, 300 to 700 meters from the hamlet on site 5a, the individual transect collections detected a very thin, discontinuous carpet of Roman material. Individual fragments were collected from a group of field blocks randomly scattered across the section. They produce artifact densities far below the mean overall value of 3.45 fragments per 1000 sq meters. Adjusting the transect collections to represent 100% of the counted material doesn't challenge this pattern. Although the artifact density on certain blocks increases to over 5 fragments per 1000 sq meters, they still rank lower than the overall and district average (map III_31b). This was confirmed by the total collections by regular grid units: on field units where Roman material was absent from the transect collections (grid 6), the grid survey recorded at least a few scattered fragments, while on field blocks where the transect collections included Roman finds (grid 7 and 10), the more intensive grid collections recorded slightly larger and denser scatters. In general however the density of Roman material in this part of the survey area never exceeds the threshold of 2-3 fragments per 100 sq meters, while the average densities per grids are lower than the district average (table 22). It is thus consistently lower than the density levels that defined the halo zone surrounding site 5a-b and there lack a visible patterning or foci that can be interpreted as "sources" of this material.

As shown on graph 14, on grids 6, 8 and 9 brick and tile again predominate the Roman collections, although plain fabrics still comprise a considerable portion. As mentioned in an earlier paragraph, the fine imported fabrics with a possible pre- 4th century date nearly disappear, while the amount of the locally produced plain fabrics begins to rise. These were for the greater part identical to the groups predominantly found on site 5a. This tendency already begins to manifest itself among the total collection from grid 7, covering site 6 and the surrounding fields. Compared to field block 31 the amount of architectural ceramics has nearly doubled, while the amount of finds datable to the fourth century or earlier begins to dwindle. The number of unrecognizable fabrics is also

visibly increased reflecting the poor state of preservation of the surface material outside field block 31.

The character and the quantity of the Roman material in this part of the survey area signal a definite change from the collection from field blocks in sector II and III. There we had a series of closely spaced clusters with artifact densities ranging between 2 and 4 fragments per 100 sq meters and an evidently higher concentration of fine, imported pottery. On field blocks in sectors IV, V and the southern half of sector VII, artifact density declines still further, while the predominant plain fabrics in the collections from site 5a-b return, albeit in a much worse state of preservation.

App. II.9.5 *Sector VII, the Late Roman phase on site 8*

According to the results of the individual transect collections, the quantity of the Roman to Late Roman finds remains low across the southern half of sectors VI and VII, the central valley floor and the eastern foothills of Prisoj (map III_31a). Only on field blocks 101 and 108 does it approach the mean overall value of 3.45 fragments per 1000 sq meters. But in the northern half of these sectors, at the foot of the fort on site 9, there is a group of closely spaced field blocks with artifact density exceeding the mean overall value by a smaller margin. It is the highest on field block 122, with approximately 6 fragments per 1000 sq meters. However this is far below the densities recorded on sites in the western survey sectors. In fact assuming that all counted material was collected the artifact density will decrease to less than 6 fragments per 1000 sq meters, ranking all field units from sectors VI and VII in the zone of lower than average artifact density (map III_31b). This is because the pottery counts on these field units are considerably lower than in the western survey sectors, especially in sector II.

On the basis of these records, it seems most reasonable to argue that the thin off-site documented in sectors IV and V continues to spread along the central valley floor and the eastern foot of Prisoj. But the total collections by regular grids revealed that the pottery counts for some of the field blocks in this sector were far from accurate. The first indication came from the character of the finds collected from the central parts of site 8 covered by grid 10. Here the composition of the collected Roman finds changes yet again, while the artifact density remains fairly low. The maximum density barely exceeds the limit of 2-3 fragments per 100 sq meters, which again equals the density level recorded on the periphery of site 5a-5b. But this is not a continuous carpet, but a handful of finds scattered across the areas of grids 9 and 10. The average density for the separate grids is below the district average recorded by the grid survey (table 23). It is the change in the composition of the collected material that is rather baffling. Fine fabric groups comprise nearly 70% of the Roman collection, but in this case the great majority can be dated to the Late Roman Period (graph 14). Like the small collections from field blocks in sectors II and III, these finds have no parallels among the local Late Roman material. Nearly half of them are examples of the Gray Macedonian ware, typical for the wider region of the Balkan Peninsula during Late Antiquity, but not very common in the survey area[16]. The few rim fragments suggested the presence of table jugs and bowls. There is very little coarse ware, while brick and tile represent less than 15% of the Roman

[16] V. Stojanović-Anderson, 13-17 1992; M.Ončevska-Todorovska, *Docnoantička grnčarija od Skup*i, Skopje 2004, 49-53.

material. Only a few examples belong to a local fabric group, possibly datable earlier than the 4th century.

Table 23: Mean district density recorded by the grid survey and average densities per grid, in 100 sq meters

	Grid 9	Grid 10	Grid 12	Grid 13	Grid 15
Expected	0.85	0.85	0.85	0.85	0.85
Actual	0.3	0.55	6	0.15	0.45

This dramatic shift in the composition of the off-site material from the Roman Period is partly explained by the results of the total collection on field block 126, only about 50 meters to the northeast of grid 10, in the heart of the Late Iron Age site (map III_32). The study of the finds gathered from this field revealed a Late Roman assemblage, completely obscured by the large amounts of Late Iron Age finds. In fact the highest density of Roman finds in the survey area was recorded precisely on this location, although the transect survey recorded only slightly over 1 Roman shard per 100 sq meters. In fact assuming that we collected as much as we counted, the density of Roman shards on field block 126 would have decreased below 6 fragments per 1000 (cf. maps III_31a and 31b); an amount considerably lower than the value predicted for the overall density of Roman material were all transect collections limited to the finds counted. As mentioned in the discussion of the distribution of the Late Iron Age material, it is possible that one of the reasons for underestimating the true amount of material on field unit 126 was the poor state of preservation of the finds. A considerable fraction of the material simply couldn't be noticed during the large block survey.

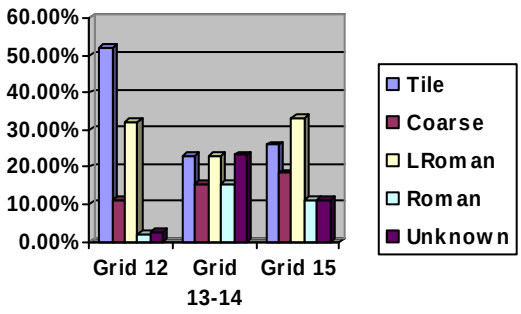
The study of the total collections from grid 12 revealed the unambiguous presence of a contracted Late Roman phase in the northern half of site 8. On two units at the grid's southern periphery, we recorded a density of 18 and 20 fragments per 100 sq meters. Zones featuring over 12 Roman shards per 100 sq meters (the maximum density recorded on site 5a-5b) extended in narrow strips, around 40 meters long. They are separated by a row of grid units featuring not more than 4 fragments per 100 sq meters. Towards the northeast and southwest periphery of the field, the density of Late Roman shards declines more steadily. More than 10 fragments per 100 sq meters were collected from units on the very edge of the grid. This indicates that the concentration of Roman finds most probably spread slightly beyond the grid limits in both directions. As the highest artifact density was recorded on grid units along the southeast edge of the field, it also spread slightly further into the valley floor. Field unit 126 is surrounded by overgrown stretches on three sides, but the total grid survey on the neighbouring field units recorded less than 1 fragment per 100 sq meters. Only in the northwest half of the grid, did we manage to reveal the true limits of this site. Here the density of Roman finds drops sharply to less than 2 fragments per 100 sq meters, although on isolated grid units artifact density remained relatively high. As shown on table 23, in contrast to the neighbouring grids covering parts of site 8 and the fields at the foot of site 9, the average density on grid 12 is about 7 times the district average.

Except for the anomaly across its centre, this cluster of Roman finds roughly follows the pattern of concentric zones of decreasing artifact density. To a great degree it

resembles the distribution documented on site 5a, particularly evident in the narrow elongated core zones. Although the grid survey didn't reveal the entire area of the site, it certainly didn't spread much beyond the limits of field block 126. On field blocks 125, 113 and 107, the density of Roman finds drops to an off-site level. On none of the grids does the average density exceed the sector's average, nor do these scatters exhibit particularly recognizable patterns. Thus the total area of this site can't be larger than 3500 sq meters, even if we allow for wider margins. In fact looking at the results of the total grid survey on field units 113a and 125, as well as on field block 107 to the south, it is evident that at distances of less than 50 meters from the site edge artifact density drops to an off-site level. Allowing that at least part of these overgrown stretches were covered by a zone of intermediary density of between 2 and 3 fragments per 100 sq meters, the occupied area will shrink to less than 3000 sq meters.

It should be pointed out that the surprisingly high artifact density for both the Late Iron Age and the Late Roman assemblage could be related to the fragmented character of the surface material, a circumstance that also contributed to its low obtrusiveness. In the case of grid 12, we believe that the high artifact density chiefly reflects local taphonomic conditions and land-use. Field block 126 was an old vineyard, with a finely harrowed topsoil layer that hasn't been turned over for at least several years.

Graph 15: Distribution of the basic classes of Roman material on grids 12, 13-14 and 15



The character of the Roman assemblage collected from grid 12 is not much different from that on site 5a. Brick and tile are by far the most prevalent type of finds, their concentration often determining the zones of highest artifact density. The main difference between the two assemblages is the smaller percentage of coarse ware in the collection from grid 12. It comprises barely over 10% of all Roman finds on this site, while on site 5a it was represented by about 20%. This could simply reflect a flaw in the classification of certain Late Roman fabrics. It is possible that certain fabrics here classed as plain domestic ware were in fact used for cooking or transport. During the Late Roman Period the cooking ware can have a very fine appearance, thin walls and tiny and well sorted inclusions[17]. However it must be stressed that at least one or two classes of traditional coarse ware continued to appear alongside the Late Roman material. Only a few percents of this assemblage consist of finds broadly datable to the Roman Period.

[17] Cf. M. van der Enden, Koroneia 2009: Surface survey sampling experiments, 33-41, J. Bintliff, B. Slapšak, The Leiden-Ljubljana Ancient Cities of Boeotia 2009 seasons, *Pharos* 17(2), 2012.

On the total collections from grids 13 and 14 covering field blocks 113a and 125, the amount of Roman finds evidently drops to an off-site level (table 23, map III_32). The scarce finds form a very thin off-site carpet, sparser even when compared to the off-site carpet revealed on grids 6, 8 and 9 at Prisoj's southern foot. The density of Roman finds never exceeds the limit of 2 fragments per 100 sq meters and these find-spots are limited to a few dispersed grid units.

While there are close parallels with the finds from site 5a-5b, the Late Roman finds on site 8 are completely unrelated with the small group of fine Late Roman pottery scattered across grid 10. Only one example of the Gray Macedonian fabric was found among the collections from grid 12. This mirrors the relation between the assemblage on site 5a-5b and the small clusters of fine pottery on field blocks in sectors II and III. Comparing the character of the finds from grid 10 with that from grids 13 and 14 north of the small Late Roman site, it becomes apparent that the former are very different from the typical off-site material encountered on field blocks in sectors IV and V. On fields north of the Late Roman cluster on site 8, the density of Roman finds is lower than on field block 107 covered by grid 10. But most striking is the drastic change in the quality of the finds (graph 15). Brick and tile are far less numerous compared to the on-site assemblage, but they are still far more prominent than among the collections from grid 10. Taken as a whole, the Roman material from grids 13 and 14 consists of an equal percentage of plain fabric groups and tile. Somewhat anomalous is the increase in the amounts of coarse fabrics. As one might expect, finds datable to the Late Roman Period are more numerous, though there is an increase of material broadly datable to the Roman Period. Typically for the off-site finds the majority was poorly preserved resulting in a larger percentage of shards of uncertain date. This is in sharp contrast to the Roman collection from grid 10, consisting of over 60% of table ware that was probably imported. Such a drastic change in the composition of the assemblages can hardly be accidental. We pointed to the possibility that as in the case of the scatters of fine ware from sector II, this untypical collection marks the remains of a small necropolis. But despite of this curious change in the composition of the Roman material, the view that the thin scatters of fine ware could mark necropoleis sites remains purely speculative. As explained in an earlier paragraph, during the Roman Period it is difficult to identify pottery with a distinctive, sepulchral character. Moreover it is slightly unusual that in both cases the supposed necropoleis were scattered across the more fertile stretches of land. In the case of the Roman settlement on site 8, one would rather expect to find the necropolis on the fields to the north, at the foot of the small fortification on site 9.

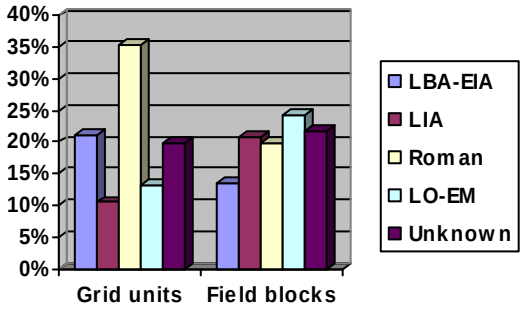
App. II.9.6 *The field blocks surrounding site 9*

The transect survey recorded a slightly increased density of Roman finds on the fields at the foot of site 9. On two field units, field blocks 115 and 122, the density of the Roman material rose to above 3 fragments per 1000 sq meters. This is still below the mean overall density recorded by the transect survey, although it does present a small increase from the surrounding fields. However limiting the individual transect collections to the number of counted finds will result in a continuous carpet of low artifact density. This analysis shows that even on field block 122, the modest density of 6 Roman shards per 1000 sq meters is enhanced by the more intense collections by individual transect

units (map III_31a). Because the transect collections from these field blocks represented at least 100% of the material counted, the adjusted densities are often considerably decreased. On field block 122, they decline from slightly over 6 to 1.5 fragments per 1000 sq meters; on field blocks 115 and 124 where the raw record of the transect collections revealed densities close to the mean overall value, the adjusted densities shrink to 0.9 and 2.2 Roman shards per 1000 sq meters (map III_31b).

One must remember that we were completely unaware of this distribution at the time of the survey and as in sector II, the larger concentrations of Roman material were left out of the regular grid survey. Total collections were limited to field blocks 113a-113b, 114 and 115 for two chief reasons. Firstly the amount of the total surface record was greater than on the surrounding fields and secondly, there were clear traces of a fortification on the top of the small hillock and the foundations of a small rectangular building at its western foot (site 9). As discussed in Appendix 1 we were able to collect only a very small amount of finds, confirming the low predicted values for this part of the survey area. On both grids 14 and 15, the average density is lower than the average density for this survey section and about three times higher than the density recorded by the transect collections (table 23).

Graph 16: Distribution of finds by period at the foot of site 9



We were slightly surprised by the chronological composition of these collections (graph 16). Although the Roman material is clearly the most prevalent on grid 15, there is a nearly equal percentage of prehistoric material, particularly finds datable to the Late Bronze-Early Iron Age. Also evidently large is the percentage of unrecognizable fragments; the quality of the surface finds from this location is generally very poor. Among the transect collections, including field blocks covered by the regular grid survey, material broadly dated to the Roman Period represents less than 20% and it is only the third largest group, behind the Late Ottoman-Early Modern and Late Iron Age material. This is because some of the field blocks included in this analysis cover the halo of the Late Iron Age site, but also the northern periphery of the carpet of Late Ottoman-Early Modern finds, suddenly diminishing on fields to the north of site 9.

Despite the very low overall quantities of material collected from grids 14 and 15, there is a slight but apparent increase in the density of Roman finds on grid 15. On grid 14, as on grids 6, 9 or 13, the maximum artifact density is limited to a small percentage of the gridded area and never exceeds 2 fragments per 100 sq meters (table 23). On grid 15, at the more sheltered, western foot of the hillock, the average density grows to over 0.6

fragments per 100, while the maximum density rises to almost 4 fragments per 100 sq meters. It was recorded on three grid units concentrated in the southern half of the grid. They are surrounded by grid units featuring 2 fragments per 100 sq meters, forming a very thin but visible cluster. Although there lacks a definite focus of the scatter, overall there is a greater amount of Roman material in the central portion of the grid, at the foot of the small hill-fort and close to the abovementioned building remains. In the northern and the southern halves, most of the grid units feature zero artifact density. The bulk of the finds was collected from a single row of units, along the eastern edge of the grid, offering a vague resemblance to the distribution on sites 5a and 8.

Casting doubt over the on-site character of the thin cluster on grid 15 is the low quantity and quality of the finds. With artifact density ranging between 2 and 4 fragments per 100 sq meters, it equals the density recorded on the peripheries of sites 5a-5b and 8 or on the supposed necropoleis areas. Going back to the character of the Roman finds collected from grid 15, it is evidently very similar to the composition of the assemblages collected from the off-site zone, grids 6, 9, 13 and 14 (cf. graphs 13 through 15). Tile is slightly less numerous than plain fabrics, although the amount of coarse ware is lower than on grids 6, 9 or 13. The plain fabrics predominate, but there lack examples of fine imported ware; most of the finds were representatives of some of the local fabric groups. The majority of the finds from grid 15 consists of small, often defaced body shards. Particularly worn were the fragments of brick and tile differing little from typical off-site material.

It seems that regarding both its quantity and its quality, the scatter on grid 15 can comfortably be interpreted as off-site debris. But if we compare the density records for this grid and for grids covering definite parts of the off-site, such as grid 6 or 13, the differences are impossible to ignore. In absolute terms the increase recorded on grid 15 may not be particularly high, but on no other grid do we see a similar clustering of the material. Maximum densities of 4 Roman shards per 100 sq meters also occur on grids 9 and 10, but they are unrelated to the incidences of Roman material on the rest of the gridded area. On the other hand, the quality and the composition of the material could reflect local taphonomic conditions and the specific post-depositional history of this locality[18]. One should be cautious then in dismissing the on-site character of the scatter on grid 15. It is even possible that the intermediary artifact density and the small size of the cluster indicate a special-purpose site. In this particular case, the location at the western foot of the fortified hillock, hidden in the middle of the narrow valley presents an ideal setting for a refugium.

Looking at the amounts of accompanying surface material from other periods, it becomes clear why the Roman material went unnoticed during the transect survey in sector VII, even when it appears in much greater quantities as on field block 126. Being considerably later and consisting of a wider range of ceramic artifacts, one would expect it to be much more obtrusive than the pottery from the prehistoric periods. But in this survey area and particularly in sector VII, this was clearly not the case. Although featuring the highest density in the survey area, the cluster of Late Roman finds on site 8 was almost completely swamped by the much earlier Late Iron Age material.

[18] D. K. Pettegrew, 200-201, *Journal of Mediterranean Archaeology* 14, 2001.

App. II.9.7 *Sector IX, Ramnište and site 12*

The 30 Roman shards collected by field walking transects were found concentrated on field blocks in the southern and northern ends of this sector (map III_32a). Roman material nearly disappears from the surface of field blocks in the central part of the sector. As can be seen, only on a few field blocks does the artifact density exceed the mean over values recorded by the transect survey. Slightly greater amounts were collected from field blocks 193 (4.1), 192 (4.8 fragments) and 159 (3.2 shards per 1000 sq meters) north of site 11 and on its lower terrace (table 24). These consisted of thin scatters of tile, accompanied by larger amounts of unrelated prehistoric material. On field blocks in the central and northern parts of the sector, the density of Roman material drops below 2 fragments per 1000 sq meters. The increased densities on field blocks 164 and 165 are largely due to the smaller size of these field units. Field blocks featuring artifact density lower than the overall average value appear even in the northern end of the sector.

Table 24: Mean overall density and density on field blocks with Roman material in sector IX, in 1000 sq meters.

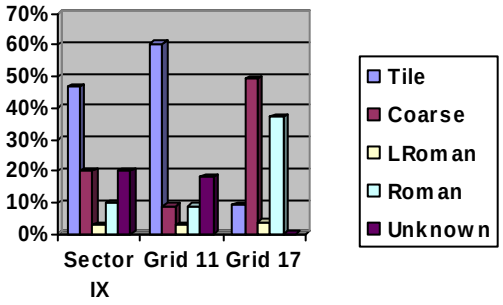
	Field block 159	Field block 192	Field block 193	Field block 164	Field block 176
Expected	3.45	3.45	3.45	3.45	3.45
Actual	3.2	4.8	4.1	3.6	1.4

Assuming that the collections by individual transect units were limited to the number of counted finds, there emerges a slightly different pattern (map III_32b). In general the densities remain below the overall average, with an evident concentration in the southern end of the sector. However the focus has shifted away from field blocks 192 and 193 and moved to field block 159. Was all counted material collected, the density of Roman finds on this field unit could increase to over 7 fragments per 1000 sq meters. On field blocks 192 and 193 on the other hand, transect collections were more intensive and the predicted values are lower. It was surprising to discover a new concentration of average density on field block 176, where the density of Roman finds could rise from 1.4 to over 7 fragments per 1000 sq meters. As will be shown, this could be a continuation of a denser cluster, spreading over from field blocks immediately to the north, in sector X. This analysis also revealed that apart from the small size of the field unit, the artifact density on field blocks 164 or 165 was further overestimated by the intensified collection. At the same time there appears another cluster of possible intermediary density on field block 189, where we collected only a tiny fraction of the material counted.

Typically for the off-site zone in the western half of the survey area, the greater portion of the finds is worn and scrappy. Tiles represent nearly half of this material and unrecognizable fabrics comprise exactly 20%. There was an equal number of coarse pottery shards, which is untypical for the off-site material in western sectors. It is possible that these finds are earlier because a very similar coarse fabric accompanied the Hellenistic fabric groups and this is the predominant period in the surface record in sector IX. Perhaps this also explains the increased percentage of coarse ware among the Roman

finds at the foot of site 9. Only 10% of the finds were examples of fine fabrics broadly datable to the Roman Period. The characteristic Late Roman fabric groups are almost completely absent from the surface record in sector IX. Some of the tile categories collected from these locations are probably datable to the Late Roman Period, although it has to be stressed that they were made in fabrics different than those typically found in the western survey sectors.

Graph 17: Distribution of the Roman finds by classes from sector IX



These findings concerning the composition of the Roman material from sector IX were only partly confirmed after the processing of the finds collected by regular grid units from the Neolithic site 11. As shown in graph 1 at the beginning of this chapter, only a very small portion of the total collection from site 11 can be dated to the Roman Period. 60% of these finds were tile fragments, the rest of the classes comprising less than 10% of the Roman collection. There is a particularly high percentage of unrecognizable ceramics comprising nearly 20% of all Roman finds on site 11. On field blocks in the central part of sector IX, tiles nearly disappear from the surface record, which contributes to the lower percentage of tiles in the entire sector. The total collections from the predominantly Hellenistic site on grid 17 feature an almost inverse composition, with plain and coarse pottery representing nearly 90% of the Roman assemblage. Tiles reappear on the surface only in the northernmost field blocks of sector IX, but in evidently smaller quantities. It is thus evident that the scatter of Roman finds in this sector is not a homogeneous off-site carpet as was initially thought. There are significant differences regarding quantity, quality and composition of the assemblages from various parts of sector IX.

It is unfortunate that the regular grid survey missed the major concentrations of Roman material in sector IX, particularly the one on field block 159. This is hardly surprising however, knowing the prevalence of material from other periods and the low overall density outside the limits of site 11. The field blocks included in the regular grid survey in this sector belonged to the zone of lower than average artifact density.

Table 25: Mean district density and average density per grid in sector IX, in 100 sq meters.

	Grid 11	Grid 17
Expected	1.1	1.1
Actual	0.4	3

The grid survey on site 11 revealed a highly dispersed scatter of Roman finds, with slightly greater concentrations in the northern half of the grid (map III_33). The maximum artifact density ranges between 2.5 and 4 fragments per 100 sq meters, equalling the artifact density recorded on the supposed necropoleis or on the halos of sites 5a-5b and 8. The average quantity for the grid is only 0.4 fragments per 100 sq meters, far below the overall and district average values. But bearing in mind the near absence of this material outside the southern tip of the Ramnište Ridge these quantities gain certain significance, although the small density and the absence of an apparent focus suggests that this is a mere continuation of the thin off-site carpet from the western survey sectors. It is nevertheless possible that the main focus of this concentration was on field block 159, but went unnoticed due to the large amounts of accompanying prehistoric finds and the low ground visibility. The fact that the bulk of the Roman finds from grid 11 were collected from the northern periphery of the gridded area could suggest that we've only managed to document the edge of a minor concentration on field block 159. The lack of the local Late Roman fabrics, very common on sites 5a-5b and 8 was confirmed; the few fragments of plain domestic pottery could only be broadly dated to the Roman Period. That this wasn't a continuation of the off-site carpet on the western bank of the valley is finally suggested by the good state of preservation of some of the tile fragments, especially those collected from field block 159. These were large and freshly broken fragments of Roman tile with almost intact surfaces. Evidently this material has only recently been unearthed from enclosed deposits.

This rather dramatic shift in the composition of the Roman finds in sector IX is clearly demonstrated by the results of the grid survey on the predominantly Hellenistic site 12 (map III_34). Nearly 30% of the total collection on this site can be dated broadly to the Roman Period, producing an average density of about 3 fragments per 100 sq meters, almost three times the district and the overall average (table 25, graph 11). This was a disconcerting discovery because the collections by individual transect units included not a single fragment datable to this period on field block 167. The finds were mostly concentrated in the western half of the grid, partly overlapping with the Hellenistic assemblage, partly spreading further west. Both clusters exhibit fairly irregular distribution patterns. The core of the Roman assemblage consists of one group of four contingent grid units, spread across the southwest portion of the grid and two isolated grid units situated 10 and 20 meters to the north. On these units the recorded density of Roman finds ranged between 8 and 10 fragments per 100 sq meters, slightly lower than on site 5a-5b or on the field blocks surrounding the monastic complex. The intervening units between these cores can feature between 0 and 6 fragments per 100 sq meters. Nevertheless it is evident that the great majority of grid units with artifact densities between 4 and 6 fragments per 100 sq meters are located in the western half of the grid, roughly enveloping the site core. The concentric pattern is interrupted by a group of several units in the grid's eastern half. They form a linear patch, stretching as far as the grid's eastern limit. Grid units featuring the lowest artifact density of about 2 fragments per 100 sq meters are also concentrated in the eastern half of the grid. They are often interspersed with grid units featuring over 4 fragments per 100 sq meters. These artifact densities are typical for the halo zone. In the case of the Roman phase on site 12, the halo is rather patchy and ill-articulated. It is possible that it formed a discontinuous zone spreading over to the neighbouring field blocks, east and north of the site. But as

will be shown, defining the limits and inner structure of this cluster is far from clear, because there are problems surrounding its integrity as a distinct ceramic assemblage.

Unlike the rest of the Roman assemblages, brick and tile represent less than 10% of all Roman finds on site 12 (graph 17). In comparison the cluster of Roman tiles collected from site 11 is almost thrice as large and consists of better preserved fragments. Moreover half of the finds collected from site 12 are coarse ware fragments, while on Roman sites in the western survey sectors this category rarely comprised more than 10% of the total collections[19]. Clearly there is a problem with the Roman assemblage on site 12. The coarse fabric classes are always difficult to date and in the case of site 12 this is almost made impossible by the presence of a larger assemblage dating to the Hellenistic Period. As mentioned in the preceding paragraphs, it is likely that a large portion of the coarse ware dated to the Roman Period, both from site 12 and the surrounding fields is actually Hellenistic. These fabric groups were also found on site 5a, accompanying predominantly Roman material, but it is very possible that they were in use by the Hellenistic Period.

Over 35% of the Roman collection on site 12 comprises a single fabric group, also found on site 5a and among the small clusters of fine pottery on field blocks in sector II and III. Only isolated fragments were found among the predominantly Late Roman material in sectors I and VII. This is the so called soft-orange fabric group, made of local clays and mostly following the traditions established in earlier periods. Site 12 features the highest concentration of this material in the survey area or about 6 fragments per 100 sq meters. Faint parallels were found among the pottery from excavated Roman sites, but it has received little scholarly attention and its stratigraphic context remains unclear. In the case of this survey area, it's been broadly dated to the Roman Period because of the shape of diagnostic pieces, but primarily because of the character of accompanying finds, particularly on site 5a-5b. Except for the coarse ware, this is the only fabric group that links the Hellenistic and the Roman assemblages.

Finally, the tiny percentage of the Roman assemblage on site 12 that consisted of shards datable to the Late Roman Period clearly signals that by this time, the site was abandoned. The few fragments can be comfortably associated with some of the fabric groups encountered on sites 5a-5b and 8. This finding, along with the tiny collection of Late Roman material from site 11 suggest that there was an extensive carpet of Late Roman material in sector IX, but much thinner than in the western half of the survey area. On average there are 0.36 Late Roman shards per 100 sq meters in sector IX, 0.85 in the western survey half.

Analyzing the spatial distribution of each of these fabric classes separately, it becomes apparent that they are only partly overlapping on site 12 (map III_35). As suspected the prevalent coarse fabric group dated to the Roman Period is spread across the entire gridded area. It is also evident that much of the Roman finds from the eastern half of the grid comprise coarse pottery and tile. The examples of the soft-orange fabric group are on the other hand mostly concentrated in the western half of the grid, shaping the previously described site cores. They are accompanied by the other less numerous coarse fabrics, though it is certain that it was also contemporary with a portion of the predominant coarse ware. In fact if all other fabrics except for the soft-orange group are

[19] Cf. M. van der Enden, 33-41, J.L. Bintliff, B. Slapšak et al. 2009, especially the pie-charts in the appendix.

excluded from the Roman cluster, its distribution pattern becomes slightly more intelligible. The main concentration is limited to the western half of the grid, only isolated fragments appearing on grid units in the eastern half and towards the northern edge. This far more compact cluster measures only between 1000 and 1500 sq meters. It is not much smaller than the area covered by the entire cluster of possible Roman finds, but it was evidently thinner and mostly concentrated to the southwest of the Hellenistic cluster. Artifact density ranged between 2 and 6 shards per 100 sq meters.

The chronology of the soft-orange fabric group remains uncertain and it is questionable if it formed a part of a separate ceramic assemblage. Particularly problematic is the fairly large dispersal area of this group, in contrast to the small size and the low density of the clusters on sites 5a-5b and 12. Even if it did, we are still ignorant about how much of the accompanying coarse fabrics on site 12 belonged to this assemblage. Its presence on both site 12 and 5a-5b merely points to the continuity of settlement and local pottery production between the Hellenistic and Late Roman Period in the survey area.

App. II.9.8 *Sector X, sites 13a-13b, 14*

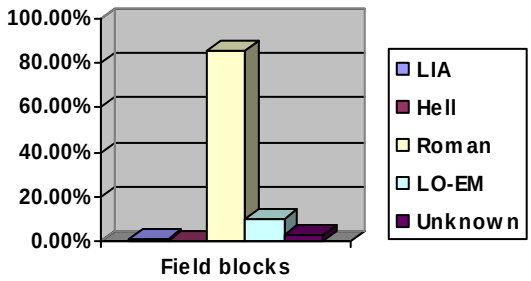
Apart from sectors I and III, the transect survey revealed a third focus of Roman occupation in sector X, on the Jakupica Ridge (map III_36a). The average density of Roman finds in this sector is about 5 fragments per 1 000 sq meters (graph 11). The bulk of the material is concentrated on two pairs of field units on the southern tip of the ridge, while a smaller portion was collected from a group of contiguous field blocks in the sector's northern part, at the western foot of the Radičica Massif. On the pairs of field blocks in the sector's southern end, the density of Roman shards suddenly rose to a maximum of 27 fragments per 1000 sq meters on field block 142a, equalling the densities recorded by transect survey on certain field blocks in sector I and III. On field blocks 152-155, 750 meters to the north, the transect survey recorded between 5 and 10 Roman finds per 1000 sq meters, which is close to the densities recorded on field blocks in sectors II and VII (table 26). On the rest of the field blocks from this sector, the density of Roman finds drops to about 1-2 fragments per 1000 sq meters, or less. Field blocks with average amounts of Roman material are mostly clustered around the zones of higher artifact density, in the southern and northern ends of the sector. On field blocks in the central portion of the sector, Roman finds completely disappear from the surface record, considerably lowering the mean density of Roman finds in sector X. Thanks to this focalized distribution, it was easier to distinguish the field blocks with high artifact density, but because of the low overall density and the predominance of tile, it was decided to carry out more intensive collections by individual transects, rather than total collections by grid units. Only after the processing of the gathered finds did it become clear that this decision was unjustified. Large portions of the surface material on Roman sites in the western survey sectors consisted of finds from other periods, particularly pottery and tile discarded during the Late Ottoman-Early Modern Period. It created a false impression that clusters in the western parts of the survey were much larger compared to those discovered in sector X.

Table 26: Mean overall and density on field blocks covering possible site locations in sector X, in 1000 sq meters.

	Field block 133	Field block 142a	Field block 142b	Field block 152a	Field block 155
Expected	3.45	3.45	3.45	3.45	3.45
Actual	19.90	17.95	27.05	10.45	5.95

This peripheral part of the landscape was left vacant during most of the periods of human settlement in the area. Only the large Late Iron Age community left traces on this location, constructing most of the burial mounds along the Jakupica Ridge, but left almost no evidence in the surface ceramic record. This ridge was also exploited by the Late Ottoman and Early Modern community, but the quantity of surface finds from this period is even lower than in sector IX. On the other hand the total amount of collected Roman finds is over 8 times greater than in sector IX, representing over 85% of the total surface record on the Jakupica Ridge. Thus despite the low overall artifact density, the clusters of Roman material in sector X are only slightly thinner than those in sectors I and III. At the same time however, one shouldn't overestimate the total amount of material on field blocks 133-134 and 142a-142b, defined as "sites" 13a and 13b in Appendix 1. True, if the individual transect collections are increased by a factor of 2.5, the maximum artifact density will rise to over 12 fragments per 100 sq meters on field block 142b. However one has to take into account the fact that collection on these transect units was more intensive and that the predominant tile fragments are more visible than other classes of ceramic artifacts. Recall that the artifact density recorded during the transect survey in sector I, after compensating for the lesser degree of survey intensity was nearly 2 times the density recorded by total grid survey. Not compensating for the lesser degree of survey intensity, the maximum density of Roman shards on sites 13a and 13b will range between 15 and 27 fragments per 1000 sq meters, considerably lower than on field blocks 4a or 44, covering sites 2 and 5a.

Graph 18: Distribution of finds by period in sector X



Assuming that the individual transect collections were limited to the number of counted material, we definitely see that the clusters in sector X are much thinner in comparison to those in sectors I and III. Artifact density dwindles on all field units

covering the southern end of the sector, never exceeding the overall average of approximately 20 fragments per 1000 sq meters. More specifically, on field blocks 133 and 134 (site 13a), it decreases from nearly 20 and 11 to 14 and 9 fragments per 1000 sq meters and from 27 and 19 to 19.5 and 18 on field blocks 142a and 142b (site 13b, map III_36b). When the individual transect collections are adjusted to represent 100% of the material counted, these groups of field blocks are ranked average in terms of artifact density and they are quantitatively undistinguishable from field blocks surrounding site 5a-5b, earlier interpreted as this site's halo. Note however that the increase from surrounding field units is equally sharp or even sharper on field blocks 133-134, 142a-142b. Although considerably decreased, the density on these field units is still considerably higher than the district average value of approximately 3 fragments per 1000 sq meters.

While the transect survey records provide a rough measurement of the amount of surface finds, the exact size of the clusters and the on-site distribution can only vaguely be deduced from the records of the individual field walking transects (map III_37a). Although field blocks 133 and 134 occupy over one hectare, it is evident that the cluster of Roman finds is not evenly spread across this entire area. On field block 133, the bulk of the finds were collected from strips in the central part of the unit featuring a density of nearly 5 fragments per 100 sq meters. There is a considerable decrease along the transect covering the eastern limit of the field unit; while on the opposite western end, it drops to less than 1 shard per 100 sq meters. A very similar pattern can be observed on the neighboring field block 134, where the maximum artifact density was recorded along the eastern limit of the unit. There is an evident decrease in the amount of material compared to field block 133 and in this respect, site 13a greatly resembles site 5a in sector III. They both cover an area of about 8 000 sq meters, though it must be mentioned that during the collections by individual transects, it became clear that the finds were not evenly spread along the entire transects' lengths. Rather they tended to cluster into small groups situated up to tens meters apart. Most likely the sum of the areas of these clusters was not larger than few thousand sq meters.

On field blocks east and west of site 13a, the density of Roman shards drops to between 1 and 2 fragment per 1000 sq meters. Again this is very similar to the distribution of Roman finds on field blocks surrounding site 5a-5b. Could this slightly elevated artifact density indicate the existence of a site halo stretching for about 70 meters, to the east and west of the site edges? Recall that similar densities were recorded on some of the field blocks surrounding site 5a-5b in sector III. Indeed looking at the transect survey results both sites leave a very similar signature in the surface record. The central clusters on field blocks 44-44a and 133-134 belong to the zone featuring between 1 and 4 fragments per 100 sq meters of transect survey and are accompanied by a few contingent field blocks featuring less than 10 fragments per 1000 sq meters.

Adjusting the individual transect collections to represent 100% of the counted material shifts the focus of the site to the easternmost transects, on both field units. The maximum artifact density is only slightly lower, ranging between 3 and 4.7 fragments per 100 sq meters on field block 133, and between 1.1 and 2.8 fragments per 100 sq meters on field block 134. Over the western halves of these two field units and on the neighbouring field blocks, the artifact density drops below the limit of 1 fragments per

100 sq meters. Note that for the contingent field blocks (131, 135, 130) the adjusted records of the transect collections are roughly equal to the raw density records.

Slightly over 100 meters to the east of the edge of site 13a, a second larger cluster was discovered on field units 142a-142b. The density records by individual field walking transects corrected for the lesser degree of survey intensity were 9.5 fragments on field 142a and over 12 fragments per 100 sq meters on field 142b. It has to be repeated that the collections on these field units were more intensive than on the rest of the field blocks. For the purpose of comparing them to the densities recorded by the total grid surveys, it is more useful to treat them as total collections along strips measuring 80x3 meters. Indeed if we compare them with the records from the quantification campaign, we'll see that the factor of 2.5 is probably over-inflating the actual amounts of material on this location. Were the collections limited to the number of counted material, the maximum artifact density would never exceed 3.3 fragments per 100 sq meters. If this calculation is correct, the density of Roman material on both site 13a and 13b is on the order of the intermediary density clusters in the western sectors or the halo zone surrounding site 5a-5b.

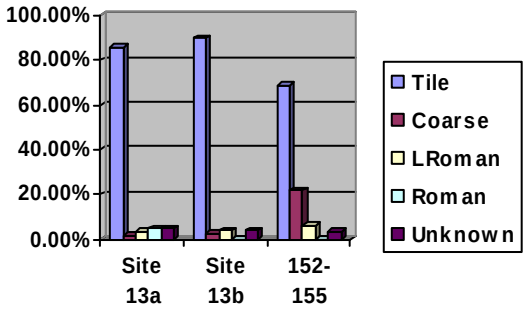
The unadjusted collections by individual field walking transects give an impression of a relatively even distribution of material over these two field units. On field block 142a, there is a slight decrease from 2.8 to 2.1, and 3.3 to 2.5 fragments per 100 sq meters, in case all counted material was collected. Along the western half of field block 142b, the density of Roman shards remains stable at 2.1 fragments per 100 sq meters, but when the transect collections are adjusted, there is a considerable decline, with less than 1 fragment per 100 sq meters. The increase in the eastern half of field block 142b probably indicates a second core, with artifact densities increasing again to 3.7 fragments per 100 sq meters, 2.4 assuming that only counted material was collected. On the next field units to the east, the artifact density gradually decreases below 1 fragment per 100 sq meters. To the north and south, field blocks 142 and 143 are surrounded by overgrown stretches, obscuring the exact limits of the cluster. The fields east of field block 143 were left out of the survey area. But on the next fields to the north and south, field blocks 144 and 129, Roman material disappears from the surface. In other words, it is very likely that the cluster on field block 142a-142b was surrounded by a less extensive halo.

As on field blocks 133 and 134, the surface material was found distributed into several isolated clusters. In fact the cluster on field blocks 142a and 142b had an even more focalized distribution pattern. The great majority of the finds was collected from several smaller clusters in the southern half of the field units. Only a few isolated fragments were collected from their northern portions. Although we failed to clearly document this situation, it is most certain that site 13b didn't spread across the entire area of field units 142a and 142b. Similar to the neighboring site 13a, the combined areas of the clusters would hardly cover over one third of the field blocks. Assuming that both locations were fully residential sites, part of the site halo spreading in-between the two pair of field blocks must be attributed to site 13b. This is perhaps indicated by the slightly increased artifact density on field block 131, to the west of field block 142a. Note that on the field blocks to the north, the transect collections included not a single fragment datable to the Roman Period.

Regarding their size and positioning, sites 13a and 13b are similar to the pair of sites 5a and 5b in sector III. In both instances two clusters of the same contemporary

material were positioned within a distance of not more than 100 meters. But the character of the assemblages on sites 13a and 13b is closer to the assemblages collected from sector I. On both sites brick and tile constitute over 85% of the Roman assemblages, while coarse ware is nearly absent. Only a handful of fragments of plain utilitarian pottery were collected; half of which could be dated more narrowly to the Late Roman Period. Such imbalance in the presence of the basic classes of ceramic artifacts is paralleled on no other Roman site in the survey area. Even on "site 2" by the monastic complex, at least 20% of the finds are pottery fragments. In the case of sites 13a and 13b, they barely comprise 10% of the total assemblage. The collection technique can only partly account for these results, because although brick and tile are more visible than pottery fragments, less intensive collections by transect units on other Roman sites produced more balanced collections. This phenomenon must be related either to the specific taphonomic conditions or to the specific function of the sites[20]. It is equally important to stress that the tile fabrics found on these two sites were different from the tile fabrics collected from sites 5a and 5b or from site 8. Only one or two examples belong to the fabric categories typically found in the western survey sectors and vice versa. Unfortunately the very small number of potshards doesn't allow a more precise chronological determination of these assemblages. The fact that the predominant tile fabrics almost never appear in the western half of the survey area is certainly indicative.

Graph 19: Distribution of the Roman finds by basic classes on sites 13a, 13b and on field blocks 152-155



A similar assemblage was discovered 750 meters to the north of site 13b, at the northern end of sector X (map III_38a). Initially it was though that these are two separate clusters, sites 14 and 15 situated on field blocks 152a and 155. After the study of the gathered material, it turned out that the main concentration was on field block 152a, where slightly over 10 fragments per 1000 sq meters were recorded or compensating for the lesser degree of survey intensity, almost 3 fragments per 100 sq meters. To the north, on field blocks 152b-153 and 155, there spread a thin discontinuous carpet with artifact density never exceeding 1 fragment per 100 sq meters. However looking at the

[20] In fact this is not unusual as similarly composed assemblages have been collected from Late Roman rural sites in the southern hinterland of Thespiai in southern Boeotia; J.L. Bintliff, P. Howard, A.M. Snodgrass, fig. 5.1, 2007, specifically, sites LSE7, THS3, THS12; in Laconia, W. Cavanagh, C. Mee and P. James, et al. *The Laconia Rural Sites Project*, Athens 2005; sites LP2-M176, LP13-M350, LP12-M343; on Keos however, Late Roman rural sites feature a higher percentage of table ware, T. Whitelaw, fig 22.9, eds. R. Francovich, H. Patterson 2000.

distribution of Roman and Late Roman material by individual field walking transects, one notices a higher concentration of finds in the easternmost transect on field block 155. In this particular case the map presented gives a rather distorted image of the density distribution, because it takes into account the sum of the areas covered by the individual transects. If we focus on the density recorded on each individual transect instead, assuming that that their width didn't exceed 3 meters, the focus of the scatter will shift to the opposite northern end, on the easternmost transect on field block 155. On this unit the artifact density sharply increases to 3 fragments per 100 sq meters, not compensating for the less thorough individual transect collections. The finds from this unit were also in a much better state of preservation and highly clustered, while the collection from field block 152a consisted of badly worn tile and pithos fragments dispersed across the western half of the field. These scatters of tiles and pithoi fragments are evidently smaller and thinner compared to sites 13a and 13b, but the distribution of the finds is rather similar. There is an even greater resemblance with the scatter of tiles on the southern end of sector IX, on field blocks 159 and 192. In all of these cases one is dealing with thin and highly dispersed scatters, difficult to recognize as site locations even in conditions of low overall artifact density. Moreover both cases illustrate that field units of unequal size even when not larger than few thousand square meters offer a resolution too low for finer interpretation regarding size and on-site distribution. In the case of sites 13a-13b, 14 and 15 the problem is exacerbated by the focal and discontinuous character of the scatters.

Assuming that all counted material was collected, the initial observation that we are dealing with two separate clusters regains its validity (map III_38b). On field block 152a, and more precisely along its western half, artifact density rises to over 2 fragments per 100 sq meters. On transect units to the north, covering portions of field blocks 152b and 153, the collections were more thorough and artifact density decreases below 1 fragment per 100 sq. meters. Then on the easternmost transect on field block 155, about 200 meters to the north of field block 152a, it suddenly increases to over 6.5 fragments per 100 sq meters. Note that this is higher even in comparison to the clusters on sites 13a and 13b. Further north along the western foot of Radičica, on field blocks 154 and 156, the density of Roman material remains well below the district average.

The clusters collected from field blocks 152a and 155 are too small even in comparison to the Late Roman farm on site 8. Although we failed to document their size using regular grid units, it is certain that the cluster on field block 155 was not larger than a few hundred sq meters. And yet the transect collections from a number of neighbouring field blocks in the northern end of sector X, at the western foot of Radičica suggest a rather thin but extensive carpet spreading over an area of several hectares. The increased density on the northernmost pair of field blocks in sector IX is in fact a continuation of this carpet. On field blocks 152a-155 artifact densities are consistently above the overall mean value ranging between 4.5 and 10 fragments per 1000 sq meters, while on the neighbouring field units, it drops to be between 1 and 2 fragments per 1000 sq meters. It is very unlikely that this entire stretch represents the impact zone of the small site 14. It is possible that the transect survey failed to detect one or two similarly sized clusters, detecting them as an extensive zone of elevated artifact density. It is difficult to otherwise explain the sudden reemergence of this material after the nearly sterile stretches in the central parts of sectors IX and X.

The character of the assemblage on field blocks 152-155 is unlike the typical domestic assemblages collected from sites 5a and 5b (graph 19). Apart from tile and pithoi fragments, there is very little plain domestic pottery. The presence of architectural ceramics is not as strong as on sites 13a and 13b and there is a larger amount of coarse pottery. It represents slightly over 20% of the total collection, but it exclusively consists of pithos fragments. On the entire stretch between field block 152a and 155 there was not a single fragment that could be identified as a kitchen ware. The few finds of plain domestic pottery can be dated to the Late Roman Period. Given that the entire assemblage is contemporary, this could suggest a similar date for the assemblages on sites 13a and 13b. The prevailing tile fabrics and formats are identical on both locations.

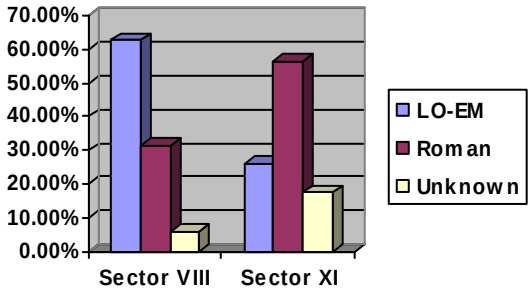
App. II.9.9 *Sectors VIII and XI*

More finds were expected to come from sector VIII where a large Roman fortification was discovered (site 10 in Appendix 1). Most of the fortified area was barren rock, while the rest was thickly overgrown preventing a more intensive survey. The few finds collected from the barren fortified area were exclusively tile fragments. This is not unusual for Late Roman fortifications in the country, although in the case of site 10, one would expect to see more material on the surface given its size and strategic position. Only a pair of worn tiles was collected from two field blocks in this sector, but not from locations near the foot of the fort, but 400 meters to the west, on the left bank of the valley (map III_38c). These are field blocks 201 and 202 featuring 5.7 and 3 fragments per 1000 sq meters respectively (table 27). Similar densities were recorded on field blocks at the foot of site 9 or on the field blocks surrounding site 5a-5b. But it has to be stressed that the average density on these fields is to a large degree enhanced by the very small size of the field units. In practical terms the collections from these field blocks consisted of a pair of worn tile fragments. The scant Roman finds in sector VIII could either represent a continuation of the off-site carpet spreading over most of the survey's western sectors or an infiltration of finds from the tile scatter on the tip of the Ramnište Ridge. Nearly 62% of the surface finds in sector VIII consisted of off-site finds discarded in the last century and a half (graph 20). This is expected, bearing in mind that the modern village is situated only 500 meters from the fields in sector VIII. Because of the low overall artifact density in this sector, even the handful of Roman finds amount to 30% of the total surface record. Basically nothing changes when the transect collections are adjusted to represent 100% of the material counted, apart from the slight increase on both field units (map III_38d).

Table 27: Mean overall density of R-LR finds and the maximal densities recorded by the transect survey in sectors VIII and XI, in 1000 sq meters.

	Field block 201	Field block 202	Field block 221a	Field block 219a
Expected	3.45	3.45	3.45	3.45
Actual	5.7	3	2.25	1.45

Graph 20: Chronological composition of the transect collections from sector VIII and XI



To our great surprise, small amounts of Roman material were found even on field blocks in the most peripheral sector XI, in the upper course of the valley. As in sectors VIII and X, they are accompanied solely by the Late Ottoman-Early Modern material. However in sector XI, situated nearly 2 km from the village, the chronological profile of the surface finds is completely reversed (graph 21). Over 55% of the finds collected from fields along the upper course of the central valley can be dated to the Roman Period. Early Modern finds comprise about 25% of the total surface record in this sector. Interestingly in both survey sectors, nearly 100% of the Roman material consisted of worn tile fragments and more rarely, pithos. Regarding artifact density, the maximum of slightly over 2 fragments per 1000 sq meters was recorded on field unit 221a, in the southern end of the sector (map III_39a). This roughly equals the density recorded on some field blocks at the foot of site 9 and against the local low background noise, it could suggest a possible non-residential activity. On the rest of the field blocks in this sector, the density of Roman finds was lower than 1 fragment per 1000 sq meters. This pattern doesn't change if we assume that all transect collections were limited to the number of finds counted, although field block 221a joins the zone of lower than average density (map III_39b).

Quantitatively sector XI is barely distinguishable from sectors IV and V, forming a two kilometers long, discontinuous and very thin carpet of Roman to Late Roman material. The slight increase on field block 221a is repeated on field blocks in the northern part of sector VII, sectors VIII and IX. Such fluctuations are untypical for sectors IV and V. But the chief difference is that the off-site assemblage from the sectors along the valley's lower course comprised roughly equal amounts of tile and pottery, while in the more distant sectors it consisted almost exclusively of worn tile and pithos fragments. Given the distance from the main residential sites in sectors III and VII, as well as the relatively small size of these sites, it is difficult to interpret the thin carpet of Roman tile in sector XI as a continuation of the off-site carpet from the western sectors. In fact the similarity in the composition of the assemblages collected from sector XI and those from sectors IX or X is truly remarkable. Instead of a continuous off-site carpet, in these three sectors we encountered thin scatters of architectural ceramics and pithoi and more rarely, smaller but better defined clusters. In essence one sees the pattern of distribution of the possible Late Neolithic or the Late Bronze-Early Iron Age assemblage repeated on a grander scale.

App. II.10 The Late Byzantine and Early Ottoman Period (14th-18th century)

Table: 28 Amount and distribution of finds datable to the Late Byzantine and Early Ottoman Period

Total amount and percentage	ca 101, 0.61%
Mean density (overall, grid&transect)	0.05 per 100 sq m; 0.44 per 1 000 sq m
Min/Max density (on site)	6.7-27 per 1000 sq m;
Site area	ca 10 000 sq m
Total dispersal area	ca 128 800 sq m

After the Bronze Age material, this is the second smallest chronological group in the survey area. The collection strategy only partly accounts for this fact; even if assuming there was a 2.5 times greater amount of Late Byzantine or Early Ottoman finds they would still barely equal the quantity of the small Hellenistic assemblage. Conditions on the ground surface also account for the relatively small number of finds. But while decreasing the actual amounts of surface material, the average visibility and the fact that these fields were left uncultivated for years, also contributed to a greater accuracy of the transect survey records. The material on these field units lies loose on the surface making it far more visible than finds on cultivated fields still immersed in the soil matrix. In such conditions, the less focused transect collections are more efficient than on freshly ploughed fields. The character of the Late Byzantine and Early Ottoman finds also makes them much more obtrusive than most prehistoric fabric groups. The pottery was fired at high temperatures and most of the fragments were larger and well preserved. As with Roman brick and tile, the factor of 2.5 compensating for the lesser degree of survey intensity is a bit too high. Although it is evident that the actual amount of the Late Byzantine and Early Ottoman surface material is greater than the collected, in all probability this group consisted of not more than 300 surface fragments or about 1.5% of the total collection. Indeed if we assume that all counted material was collected, the number of Late Byzantine-Early Ottoman shards could rise to 285. Finally, the small amount of Late Byzantine-Early Modern finds relative to earlier periods should also be related to the genuinely decreased rates of consumption and discard of ceramic vessels during this period[21]. As will be shown by the analysis of the surface archaeological record and the written evidence available, despite the small corpus of surface material, the Late Byzantine-Early Ottoman settlement was not smaller than the majority of its predecessors.

A strikingly low density was recorded by the grid survey or only about 0.5 fragments per 1000 sq meters of total grid survey (table 28). In fact the individual transect collections gave only a slightly lower density of 0.44 fragments per 1000 sq meters. But this is simply reflecting the fact that the field units covered by the total grid survey were located outside the site area, while the individual transect collections from the latter were more intensive. Indeed the density recorded by transect units is much closer to that of other periods' assemblages of similar size, such as the Hellenistic. Also typically for all pre-Roman assemblages, the Late Byzantine and Early Ottoman finds are

[21] A. Vionis, Material culture studies: the case of the Medieval and post-Medieval Cyclades, 177-197, eds. J. Bintliff, H. Stoeger, *Medieval and post-Medieval Greece, the Corfu papers*, Oxford 2009.

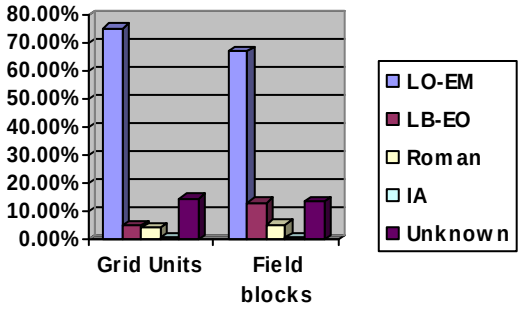
mostly limited to one survey sector. Hence the great contrast between the on-site and the mean, overall density. Outside field blocks in the southern part of sector II, the carpet of Late Byzantine and Early Ottoman finds is mostly spread on fields to the north becoming much thinner north of the highway, in sector III. Only a few fragments were collected from field blocks east of the modern village. This inevitably sets a very low mean overall value, much lower than the minimum on-site density of 6.7 fragments per 1000 sq meters. But even if we take into account only sector II where over 95% of this material is concentrated, the mean overall density is only about 3.75 fragments per 1000 sq meters of transect survey or half the minimum on-site density. Bearing in mind the very small amount of Late Byzantine-Early Modern finds and their fairly large dispersal area, it is not surprising to see a very modest range between the minimum and maximum on-site densities. But because of the sharp differences between the site threshold and the overall and district mean values, the definition of the site limits is less complicated despite the fact that we failed to cover the site area by a regular grid (table 29). This was further facilitated by the presence of building remains defined as site 4 in Appendix 1 and the fact that the bulk of the Late Byzantine-Early Ottoman material was found limited to narrow fields separated by terrace walls. A greater challenge is posed by the concentrations of intermediary density, but in this case it is obvious that they are primarily a manifestation of the small size of the field units.

Table 29: Mean district density and density on field blocks covering the area of site 4, in 1000 sq meters.

	Field block 20	Field block 21	Field block 15b	Field block 73	Field block 8d
Expected	3.75	3.75	3.75	3.75	3.75
Actual	27.1	22.7	8.2	6.7	15.5

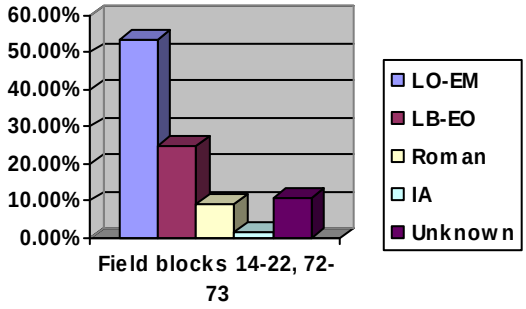
The difficulty of elucidating the exact location of the earlier village came from the situation in the surface record in this part of the survey area. Recall that the large block survey recorded the highest artifact density on field blocks in sector II and particularly on field blocks 23-26, 20, 18 and 72. When revisited for collection, it was realized that a great percentage of these finds consisted of debris discarded during the last two centuries. A similar situation was documented on all field blocks surrounding the modern village. Fragments of Late Ottoman and Early Modern brick and tile were particularly prominent. Nevertheless these were the field units with some of the highest overall artifact densities in the survey area and a large portion of the sector was covered by regular grid units and total collections were carried out. This included much of the sector's northern half, north of the dirt road that connects the village with the monastery. Field blocks 13, 22-27 were entirely or partly covered by grid 1-3, while field blocks 14-16 and 19-20 to the south of the road were partly covered by grid 4 (see Appendix 1).

Graph 21: Distribution of finds by period from sector II



That the great majority of the finds contributing to the high overall density in this sector was debris discarded from the modern village in the past couple of centuries was confirmed by the results of the grid survey (graph 21, map III_43). The Late Byzantine and Early Ottoman finds comprised only about 5% of the total surface record in the northern part of the sector, on grids 1-3 and on grid 4. Although there is a visible increase compared to other sectors surrounding the modern village, this material lacked an apparent focus. The scatter of worn individual fragments was merely becoming denser. However in the individual transect collections from the entire sector, their share rose to considerable 13.5%, clearly indicating that there is a larger concentration of these finds on field blocks in the southern end of the sector. These are precisely the field blocks that were left out by the total grid survey or field blocks 20a-b, 21, 18 and 72-73. These narrow terraces and steep sides on the right bank of the small valley are presently uncultivated meadows used as dumping yards by the few remaining households. Because of the steep terrain partly fragmented into narrow terraces, it was decided to make more intensive collections by field walking transects. The laying out of a proper grid in such conditions would have been rather impractical, though this creates problems when comparing artifact densities recorded by the grid and transect survey collections.

Graph 22: Distribution of finds by period in the southern half of sector II



The majority of the finds collected on these field units also comprised shards datable to the Late Ottoman and Early Modern Period. But now the Late Byzantine and Early Ottoman periods comprise 25% of all collected finds and on certain field blocks, they represented 50% of the surface record. This is typical for field blocks surrounding the modern village. Debris discarded in recent centuries prevailed even on sites 5a and 6, where the concentration of earlier finds was greater and where material was collected by

grid units. It is noteworthy that the amount of the Roman finds is also slightly increased on field blocks in the southern part of sector II. These were the small clusters of fine table ware, earlier interpreted as a possible necropolis belonging to the inhabitants of site 5a-5b. Considering the small size of the assemblage and the predominance of the accompanying Late Ottoman-Early Modern material, it is no wonder that we became aware of the extent and location of the Late Byzantine-Early Ottoman cluster only after the study of the transect collections, towards the end of the second year's campaign.

As discussed in Appendix 1, the presence of the faint building remains on the southernmost field blocks in the sector, 100-160 meters southwest of the village was largely responsible for drawing our attention to the Late Byzantine-Early Ottoman site. Discussing the fragmentary building remains on field blocks 15 and 20, and 18 and 21, it was concluded that these were most probably two separate groups of structures, closely related and oriented identically. Predictably the cluster of Late Byzantine and Early Ottoman material was discovered partly overlapping with these remains, but also spreading over the neighbouring field blocks to the south, 19 and 72b (map III_44). There is little fluctuation in artifact density, even on the stretch separating the two groups of building remains, on field blocks 16b and 20a. Only in the northern end of the area covered by building rubble did the density of the Late Byzantine and Early Ottoman finds drop below 2 fragments per 1000 sq meters or less. It is as if the entire cluster has slid down the slope for several meters. There is doubtlessly a relation between the building remains and the surrounding cluster of potshards. Outside this area the density of surface finds suddenly drops below 6 fragments per 1000 sq meters; a situation confirmed by the total grid survey on field blocks in the northern half of sector II.

Looking more closely at the spatial distribution of the finds across the site area, one observes two separate cores. Both are located on the small terraces covered by field units 19 and 20, and 21 (map III_44a). The first is situated immediately below the western group of building remains. Field blocks 20 and 19 feature 16.9 and 27 fragments per 1000 sq meters. The second smaller core, corresponding to the eastern group of building remains on field block 21 and situated about 130 meters to the east, features over 22 Late Byzantine-Early Ottoman finds per 1000 sq meters. These modest concentrations could simply result from the fact these field blocks were bounded by terraces, preventing a wider dispersal of the surface finds, as well as from their considerably smaller size. On field blocks 15b and 18, covering most of the building remains on the upper terraces, the artifact density is lower fluctuating between 8.2 and 9.7 fragments per 1000 sq meters. On the intervening stretch between the two cores, on field blocks 16b and 20b, the transect survey recorded 6.7 and 7.5 fragments per 1000 sq meters. As discussed in Appendix 1, it is possible that this decrease in the quantity of surface finds was caused by erosion. Field blocks 16b and 20b are not terraced and a portion of the surface finds could have been washed away. However the almost complete absence of stone rubble on these field blocks is rather symptomatic. If the settled area spread continuously across this entire stretch, one would expect to find at least some traces of building material on field blocks 16b and 20b. They are the last class of surface finds to be removed by erosion. In fact except in cases of catastrophic land-slides, the effects of erosion can very often have the opposite outcome, exposing more material on the surface rather than decreasing its quantity[22]. This gives further support to the thesis that the Late Byzantine and Early

[22] J.L. Bintliff, A.M. Snodgrass 512, 1988.

Ottoman settlement consisted of two physically separate quarters: a western, spreading over field blocks 19, 20 and 15b and an eastern, confined to field blocks 21 and 18b.

Outside the area covered with building rubble, on field blocks 14, 15a-18a, the artifact density suddenly diminishes. Here Late Byzantine and Early Ottoman finds nearly disappear from the surface record, sharply delimiting the site to the north. This could well be related to visibility conditions and land use, for most of these fields are presently overgrown and often covered with considerable quantities of modern debris. Located by the dirt road that leads to the monastic complex and long since abandoned, they proved as convenient dumping yards for the remaining inhabitants of the village. Very similar is the situation on the valley's floor, to the south of the Late Byzantine-Early Ottoman site. The lush grasses covering the entire surface and the patches of dense, hydrophilic vegetation prevented a systematic survey. Artifact density declines more smoothly eastwards, on field blocks 72b and 73, neighbouring the village houses. These field blocks are also terraced, but the density of Late Byzantine and Early Ottoman finds drops below 10 fragment per 1000 sq meters, although they are still above the mean district value of 3.75 fragments per 1000 sq meters. It should be noted that above these terraces, on field block 72a, there are much better preserved house ruins oriented like the rest of the houses in the modern village. They were probably abandoned in the early decades of the 20th century at the latest, perhaps indicating a gradual eastward dislocation of the settlement.

Thanks to this sharp dwindling of the density of the Late Byzantine and Early Ottoman material outside the two southernmost rows of field blocks, the site limits emerge rather clearly. In Appendix 1 we noted that this area is also naturally delimited by two small limestone outcrops bounding the site on the western and eastern side. Excluding field blocks with less than 6 fragments per 1000 sq meters, the cluster of Late Byzantine and Early Ottoman finds measures roughly 200 by 50 meters or about 1 hectare. But the distribution of surface remains and primarily the building rubble suggested that certain portions of the site area were left vacant. If the observations presented are correct, about 60% of the site area was covered by dwellings.

The carpet of Late Byzantine and Early Ottoman material resurfaces on field blocks in the northern half of sector II, but it is considerably thinner and lacks a clear focus. The study of the finds gathered from the piles of building debris aligned along the dirt road leading to the monastery, revealed only a few fragments datable prior to the late 18th century. As on the rest of the field blocks in this sector, the collections were mostly made of Late Ottoman and Early Modern material. The scattered fragments of Late Byzantine and Early Ottoman finds on field blocks 8, 22-27 could represent the site halo delimiting the inner agricultural area of the village[23]. It extends for between 150 and 200 meters from the edge of the settlement spreading on terraces higher than the site. On these field units, the artifact density recorded by the individual transect collections never exceeds the mean district value of over 3 fragments per 1000 sq meters. Only on the small field units 8e and 8d in the sector's western half does the artifact density exceed the on-site threshold of 6 fragments per 1000 sq meters. This is however directly related to the very small size of these transects; in absolute numbers the transect collections from these units consisted of a couple of Late Byzantine-Early Ottoman finds (cf. maps III_44 and 44a). More commonly the artifact density ranged between 1.5 and 2.7 fragments per

[23] J.L. Bintliff, P. Howard, A.M. Snodgrass, 23-24, 2007.

1000 sq meters. This is confirmed by the distribution of this material on the gridded portion of the sector, on grids 1-4. On a number of grid units, the artifact density reaches the on-site threshold of about 6.5 fragments per 1000 sq meters, but these are isolated finds-spots rarely forming a continuous cluster and lacking a definite focus. We believe that this zone continues uninterrupted, from the northern edge of the site to the northern limit of the sector. Because of the low ground visibility, we failed to detect it on fields immediately to the north of the site. Including the zone of artifact densities ranging between 1.5 and 2.5 fragments per 1000 sq meters of transect survey, the Late Byzantine-Early Ottoman village features one of the more extensive site halos in the survey area, featuring a maximum radius of 200 meters and covering most of the sectors' northern half. Sporadic fragments were even found among the total collections from site 5a-5b and from site 6, immediately to the north of the modern village.

This pattern of distribution doesn't change dramatically if the transect collections are adjusted to represent 100% of the material counted (map III_44b). Recall that sector II featured the highest overall artifact density and the finds collected by individual transects, even though more intensive and augmented by repeated collections, still comprise not more than 30% of the number of counted artifacts. This predictably increases the maximum and overall density of the Late Byzantine-Early Ottoman material, but it doesn't influence the site limits or the on-site distribution. On the site cores, artifact density increases to over 150 fragments per 1000 sq meters on field block 20, 92 and 76 on field blocks 21 and 18b. Although the main concentration remains on the western core, the eastern core is now expanded, not only over field block 18b, but also over the peripheral field block 73 with 93 fragments per 1000 sq meters. Field block 19 covering the western core joins the zone of higher than average artifact density, featuring about 20 fragments per 1000 sq meters and covering most of the site area. This zone is now expanded over field block 16a with 45 fragments per 1000 sq meters. The sudden disappearance of this material on field blocks north of the site area could be related to low visibility, though field blocks 18a and 18b were both ploughed at the time of the survey, but didn't yield any Late Byzantine-Early Ottoman pottery.

There are no major changes in the halo zone. It is characterized by average artifact densities, ranging between 4 and 15 fragments per 1000 sq meters. The density on field blocks 8d and 8e remains considerably high, but this is simply resulting from the very small size of these units. It is nevertheless indicative that these concentrations were discovered close to the heaps of rubble aligned along the dirt-road with the monastic complex. Outside the area of sector II the density of Late Byzantine-Early Ottoman finds drops to zero. The isolated finds collected from sectors III, IV and V give densities lower than 3 fragments per 1000 sq meters.

App. II.11 The Late Ottoman and Early Modern Period (1800-1950)

Table 30: Amount and distribution of finds datable to the Late Ottoman and Early Modern Period

Total amount and percentage	ca 4 380, 26.5%
Mean density (overall, grid&transect)	4.8 per 100 sq m; 10.4 per 1 000 sq m
Min/Max density	0-37.7 per 100 sq m
Settlement area	ca 28 000 sq m
Total dispersal area	ca 900 000 sq m

It was rather surprising to discover that this wasn't the most numerous chronological group in the surface record of the first survey area. 4380 fragments were classed into some of the fabric categories datable to the Late Ottoman-Early Modern period. This represents about 26.5% of the total surface record, ranking this chronological group second only to the fabric groups datable to the Late Iron Age. Being present on the surface of nearly all field blocks and made highly obtrusive by the physical qualities of the fabrics, during the transect survey we expected this material to constitute the bulk of the surface record in the first survey. The fact that unlike recently unearthed material these finds lie on the surface freed from the soil matrix makes them even more visible during the transect survey and collections. These are doubtless the chief reasons for which we consistently overestimated the presence of Late Ottoman-Early Modern finds, while greatly underestimating the amounts of prehistoric material even on site locations. The great majority of field blocks with very high overall artifact density were in fact field blocks with high density of Late Ottoman-Early Modern debris. This was confirmed by the total collections from grids 1-4, 6 and 14 where this material comprised nearly 90% of the surface record.

Statistically the distribution of the Late Ottoman and Early Modern finds most closely resembles the distribution of the Roman finds (table 30). The difference between the mean overall densities recorded by grid and transect units is low. The fact that total collections by grid units were carried out on several field blocks where the Late Ottoman-Early Modern finds comprised over 90% of the total surface record had no particular effect on the mean overall density recorded by the grid survey. As in the case of the Roman assemblage, the ratio of finds collected by grid units to finds collected by individual transects is 4 to 1. This ratio is only lower for the Late Byzantine-Early Ottoman assemblage, but this is due to the specific circumstances in which this material was discovered and collected. Like the Roman assemblage, the Late Ottoman-Early Modern finds were found across the entire basin, with a total dispersal area of about 900 000 sq meters. In practice only field blocks with very low ground visibility lacked finds datable to the Late Ottoman and Early Modern periods. The difference between the minimum and maximum density is not very large. If it wasn't for the anomalous increase in the western half of grid 7, the maximal artifact density would certainly be lower than 20 fragments per 100 sq meters. Nevertheless even if the anomalous increase on grid 7 is excluded, the modest range between the minimum and maximum artifact densities is not dissimilar to that of earlier periods' assemblages. Recall that the maximum on-site density of the Roman assemblage was exactly 20 fragments per 100 sq meters. In the case

of Sopot where this material is obviously related to the Late Ottoman-Early Modern landscape, the unpredictable changes in the artifact densities stir but an additional curiosity concerning their possible causes. But in the second survey area where the context of the surface record was less clear, this tendency of the Late Ottoman-Early Modern material to emulate the distribution of archaeological finds creates considerable problems when deciding about the focus and the extent of the total grid survey.

Indeed if we pretended that the Late Ottoman-Early Modern assemblage was clearly determined on the bases of the fabric features and the spatial distribution, but wasn't dated and lacked the obvious relation to the modern day village, its pattern of distribution becomes indistinguishable from other periods' assemblages. There are considerable density peaks and depressions in the carpet of the Late Ottoman-Early Modern material and quantitatively one can observe the familiar phenomena of central site, satellites and off-site zone (table 31). There are nevertheless two important features that distinguish the distribution pattern of the Late Ottoman-Early Modern material from the assemblages representing the remains of earlier settlement. Unlike the latter, the high peaks in the density of the Late Ottoman-Early Modern material on field blocks 25 or 31 are limited to one or two neighbouring field units. They are often surrounded by low density zones, so that the characteristic site-halo is absent. The second distinguishing feature in the distribution pattern of this material is that clusters of high or very high artifact density appear unrelated, on a number of locations in the survey area. This isn't very obvious in the first survey area, where we can clearly observe linear tendencies in the distribution of the Late Ottoman-Early Modern material, but it becomes a very distinct characteristic in the second survey area.

Table 31: Mean district values for sectors II and III and various levels of density by field blocks, in 1000 sq meters.

	Field block 25	Field block 20b	Field block 27	Field block 31	Field block 34
Expected	21.5	21.5	21.5	9.6	9.6
Actual	72	15	28.8	90	0.65

Predictably the greatest amount of finds datable to the Late Ottoman and Early Modern period was collected from field units in the immediate vicinity of the modern settlement (map III_45). On certain field blocks in sector II, the transect survey recorded nearly 10 fragments per 100 sq meters; no wonder the Late Byzantine-Early Ottoman and earlier assemblages surrounding the village remained invisible during the transect survey[24]. These are field blocks 22 and 25 located in the northern half of the sector, by the local dirt road that links the village with the monastery. At the time of the survey, the fields were found fallow and a large portion of the surface finds consisted of Early Modern tiles. Artifact density stayed very high on most field blocks in the northern half

[24] For similar difficulties of recognizing and distinguishing minor rural sites in the close vicinity of larger ancient settlements and the importance of district off-site density, J.L. Bintliff, P. Howard, A.M. Snodgrass, 21-23, 2007. The problem has been observed almost three decades ago, but few advances towards its solution have been made, J.F. Cherry et al, 159-161, 1988; T.W. Gallant, "Background noise" and site definition: A contribution to survey methodology, 403-418, *Journal of Field Archaeology* 13-4, 1986.

of sector II, rarely dropping below 40 fragments per 1000 sq meters. There are visibly lower amounts on field blocks in the southern half of the sector over the Late Byzantine-Early Ottoman village, but the mean density in this part of the sector is still over 10 fragments per 1000 sq meters. It is noteworthy that densities considerably lower than the mean overall value were only recorded on the overgrown fields 16a and 17a, north of the Late Byzantine-Early Ottoman site (map III_46a). These fields have been abandoned for at least several years and the total amount of surface finds was not much greater.

Outside sector II, large quantities of Late Ottoman-Early Modern material were collected on field block 31, with nearly 9 fragments per 100 sq meters. On this field unit transect collections were more thorough, but given the proximity to the village houses such values are to be expected. Indeed similar densities were recorded by the total grid survey on field blocks in sectors V and VII. But in general the densities of Late Ottoman-Early Modern material are below the limit of 10 fragments per 1000 sq meters in most other sectors. Somewhat higher densities were recorded on field blocks in sector IV, immediately to the east of the modern village. On field blocks 75, 77 and 78, all three adjacent to the house yards, the transect survey recorded between 1.5 and 4 fragments per 100 sq meters. However field unit 76 south of the dirt road featured less than 1 shard per 100 sq meters. The difference could be related to the type of cultures grown on these fields. Field block 76 was a garden, while field blocks 77 and 78 were planted with cereals and vines. But this was evidently not a strict rule, as on field block 198 on the valley floor, a garden situated 250 and 300 meters away from field block 76, the artifact density again rose to over 4 fragments per 100 sq meters. Similarly the total grid survey on the two neighbouring vineyards in sector VII (field blocks 107 and 126) recorded a considerable difference in the amounts of the Late Ottoman and Early Modern finds. Field block 126 featured a three times higher artifact density, although it is at a slightly greater distance from the village.

In sectors III and V towards the foot of Prisoj, the density of the Late Ottoman-Early Modern finds dropped well below the average on the majority of the field blocks and on a number of field blocks this material was virtually absent (map III_46a). Except for field blocks 41-43 where we weren't allowed to carry out surface material collections, these fields are sterile and overgrown. One group includes field blocks 46-50 separating sectors III and V, the other consists of field blocks along the foot of Prisoj characterized by a thin soil layer. These parcels have been lying uncultivated over a longer period of time; the "green belt" on the thematic map roughly marks the zone of thinner, rocky soils. Note the slight increase on field block 40 covering the village cemetery. It features slightly over 10 fragments per 1000 sq meters, a considerable increase from the nearly sterile surroundings, but lower than most other field blocks surrounding the village. On this field the moderate density of Late Ottoman-Early Modern finds derives from the deposing of dishes or jugs (usually purposefully broken) near the graves.

While it is difficult to observe a close correlation between the presence of Late Ottoman-Early Modern material and the type of cultures grown, it is evident that this material is scarce or almost completely absent on overgrown fields. This observation finds further support with the examples of field blocks 88 in the central part of sector IV or on field block 92. These fields are overgrown oases in larger cultivated sections and while on surrounding field units the transect survey recorded artifact density close to or above the mean average of 10 fragments per 1000 sq meters, field blocks 88 and 92 were

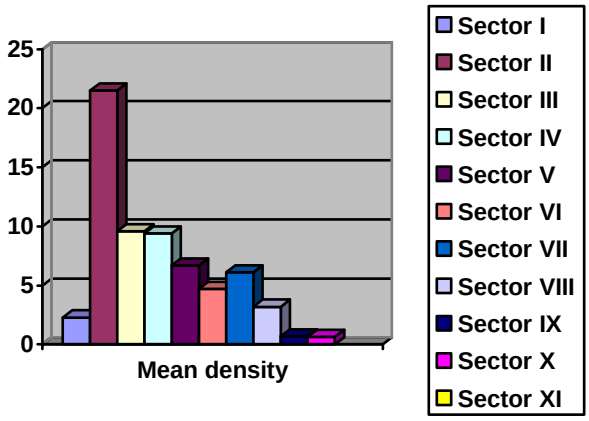
sterile or featured but a few tile fragments. Understandably this sudden disappearing of the off-site carpet from the past couple of centuries could be related to the very low ground visibility on these fields. But in certain cases, such as the fields near the foot of Prisoj or on site 5b featuring poor soils, the sparseness of this material could be an indicator of less intensive agricultural activities. This presupposes that the extensive carpet of Late Ottoman-Early Modern material found its way on the surrounding fields through the spreading of unsorted manure. It is indeed difficult to otherwise explain the relatively even spreading of these finds across nearly all cultivated fields surrounding the modern village. The practice of bringing manure mixed with household rubbish is historically and ethnographically attested in different periods of history and in different parts of the world[25]. As we'll see in Chapter V, it has been documented in villages in the region of Skopje in a late 19th-early 20th century context and it is well known to local farmers.

The carpet of Late Ottoman-Early Modern finds retains the density of about 10 fragments per 1000 sq meters in sectors VI and VII on the valley floor and at the eastern foot of Prisoj (map III_46a). In fact on certain field blocks in these sectors, the transect survey recorded over 10 fragments per 1000 sq meters. For example, on the group of field blocks 97-102 in the southern end of sector VII, we counted between 15 and 18 fragments per 1000 sq meters over an area of about 1 hectare. Even on field blocks 112 and 113 situated about 800 meters northeast of the village, artifact density remained above the limit of 10 fragments per 1000 sq meters. Only on field blocks in the northern end of sector VII and in the northern half of sector VI, at distances of over 1 kilometer from the modern village does the density of Late Ottoman-Early Modern material begin to decrease substantially below the mean overall value. Finds dating to the last couple of centuries are still present in the surface record but they produce densities consistently lower than 5 fragments per 1000 sq meters.

As one might expect, this tendency continues on field blocks in sectors VIII-X, east of the central valley (map III_46b). In fact the density of the Late Ottoman-Early Modern finds in the eastern survey sectors is considerably lower. It rarely exceeds 1 fragment per 1000 sq meters and there are large sterile stretches, often extending over several contingent field units. Again these sterile zones mostly coincide with overgrown or fallow fields, such as field blocks 142-145 in sector X or field blocks 190-193 in sector IX. It is this diminished presence of the Late Ottoman-Early Modern material that mostly contributes to the low overall artifact density in these sectors. Not surprisingly these same observations apply to sector XI in the upper course of the valley, where off-site debris from the last two centuries was absent even on cultivated fields. In this case the distance of over 2 kilometers from the village centre is surely the decisive factor.

[25] There is a recently published compilation of archaeological, historical, ethnographical and ecological studies of manuring in different historic and geographic contexts including an ethnographical study of this practice on the Methana Peninsula in Greece; R. Jones, ed. *Manure Matters: Historical, Archaeological and Ethnographic Perspectives*, Ashgate 2012; H. Forbes, Lost souls: Ethnographic observations on manuring practices in a Mediterranean community, 159-172, the same volume.

Graph 23: Density of LO-EM finds collected by transects, by sector (per 1000 sq m)



Except for the material dated to the Roman and Late Roman periods, this is the only group of finds that spreads over the entire survey area. Therefore its distribution pattern becomes more meaningful when looked at integrally. Once more it confirms the thesis that these are off-site finds, their quantity dwindling with increasing distance and hindered access from the settlement. By far the greatest density was recorded in sector II, featuring a mean density of almost 22 shards per 1000 sq meters. On the other two sectors surrounding the village, sectors III and IV, it drops to about 9 fragments per 1000 sq meters. As mentioned this is probably related to the larger amounts of architectural debris on field blocks in sector II. In sectors V-VII further away from the village, the amount of Late Ottoman and Early Modern off-site debris drops to between 5 and 6 fragments per 1000 sq meters. In sectors east of the central valley and in sector I, the artifact density drops below 3 fragments per 1000 sq meters. Thus the more substantial carpet of off-site material spreads within a maximum distance of 900 meters to 1 km from the modern village. Although field blocks on sectors I or IX are situated not much further from the village, they are separated from the inner village territory by ravines and the central valley and the discarding of debris on these location would simply require a greater effort[26]. In addition this part of the landscape is given to cultures that don't require particular investments in labour and manure, including certain sorts of wheat, barley and rye[27].

This pattern is further reinforced when the transect collections are adjusted to represent 100% of the finds counted (maps III_46c and 46d). There is a clear linear tendency of decrease along the west-east axis; field blocks in sector II featuring an even higher artifact density, reaching over 125 fragments per 1000 sq meters on nearly half of the units. Note that the drastic contrast between the northern and the southern half of the sector disappears, with increased densities on the narrow terraces occupied by the Late Byzantine-Early Ottoman village. This could result from the small areas of these field units compared to the rest of the field blocks in this sector, although the increased

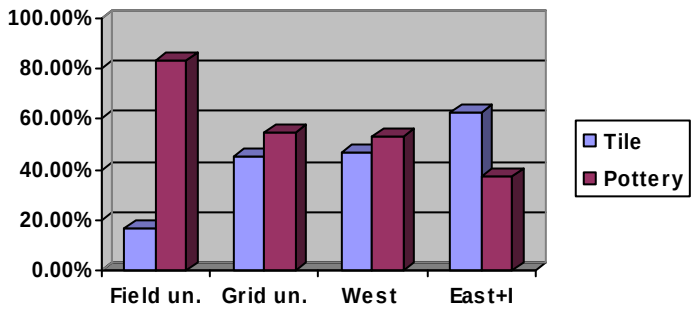
[26] P. Howard, Spatial analysis of Boeotia field-walking survey data, 111-128, eds. J. Bintliff, P. Howard, A. Snodgrass, 2007.
[27] Cf. H. Forbes, 168-169, ed. R. Jones, 2012.

presence of the Late Ottoman-Early Modern finds cannot be underestimated. It could mean that the terraces of the earlier village were turned into a cultivated land or more likely, dumping yards; at present, such is the case with the village houses abandoned in the last century. In sector III the intensified transect collections on field block 31 are unmasked and this unit joins the zone of average artifact density or between 14 and 48 shards per 1000 sq meters. Field blocks 44 and 44a barely stand out from their surrounding and there is an evident increase on field block 45c, in the northwest corner of the survey area. This is an uncultivated field and the increased density is the result of rubbish discard, building ceramics in particular.

In sectors IV the artifact density remain relatively high, especially on field blocks in the northern half of the sector, by the local east-west road. However in comparison to sector II, the artifact density is considerably lower, never exceeding the limit of 70 fragments per 1000 sq meters. On the floor of the valley, in sector VI, the pattern of gradual decline along a west-east axis is briefly interrupted by the very high density on field block 198, covering a small garden on the left bank of the valley. The rest of the field blocks in this sector feature average or lower than average densities of Late Ottoman-Early Modern material. Particularly low densities were recorded in the northern half of the sector, even on cultivated fields. North of the Skopje-Thessalonica highway, in sectors V and VII, the artifact density never exceeds the upper threshold of the zone of average density or 48 fragments per 1000 sq meters. The adjusted record of the individual transect collections shows that the concentrations on field blocks 100-102 in the southern half of sector VII were chiefly the result of the more thorough collections. They become quantitatively undistinguishable from the zone of average and lower than average artifact density covering most of sectors V and VII. The latter stretches for over 800 meters measured from the eastern periphery of the village, ending on field blocks 113a and 113b, at the southern foot of site 9. To the north, into the middle course of the central valley and in the eastern half of the survey, there spread a very thin and discontinuous carpet of Late Ottoman-Early Modern material (maps III_46d and 46e). This is also true for sector I. Except for one or two field blocks adjacent to the monastery, artifact density never exceeds the lower limit of the average range or 14 fragments per 1000 sq meters. In this respect the adjusted records of the transect survey have little effect on the distribution of the Late Ottoman-Early Modern off-site carpet.

As discussed in the preceding paragraphs, it wasn't possible to define a separate category of coarse fabrics among the Late Ottoman-Early Modern assemblage. To be sure certain fabric classes were evidently coarser featuring visible quantities of inclusions and rough texture, but there were no certain indications that they were used as separate functional categories. Therefore it was only possible to distinguish between pottery fragments and architectural ceramics. The strong presence of tile in the surface record became apparent in the early stages of fieldwork, though its date remained uncertain until the collected finds were fully processed. These were fragments of small-format roof tiles, with slightly curved profiles and cross-sections not wider than 2, 2.5 cm. They appear in three different fabrics, like the rest of the Late Ottoman-Early Modern material found across the surveyed area. Among the pottery fragments we could most commonly recognize dishes of various size, table and water jugs. Only in rare instances was it possible to recognize jars and fragments of storage vessels.

Graph 24: Distribution of Late Ottoman-Early Modern finds by basic functional classes



As shown on the graph the initial impressions regarding the predominance of architectural ceramics in the off-site record of the last couple of centuries were largely justified. When the results of the total survey by regular grid units are considered, tile represents about 45% of all Late Ottoman-Early Modern finds in the survey area and in sectors west of the central valley. On grid units in the eastern survey sectors and on fields near the monastic complex, the percentage of this class rises to over 60% of the collections of Late Ottoman-Early Modern material. However we were surprised to discover that tile comprises less than 20% of this material in the individual transect collections. This could merely reflect the fact that on most field blocks, the collections by individual transects were focused on diagnostic pottery material. Being one of the first classes of finds that we were able to identify, the architectural ceramics from the Late Ottoman-Early Modern period was often deliberately ignored.

For the greater part the total grid survey confirmed the transect survey records. Late Ottoman-Early Modern finds were present in nearly all total collections. On field blocks where the transect survey recorded higher concentrations of this material, such as field blocks 22-27 in sector I covered by grids 1-3 or field blocks 44-44a (grids 5a and 5b) in sector III, the total grid survey predictably recorded higher artifact densities, though not much higher than the densities recorded by the transect survey (map III_46f). For example, on field block 25 where the transect survey recorded 7.2 fragments per 100 sq meters, the total grid survey recorded a maximum density of slightly over 10 fragments per 100 sq meters. On grids 11 and 17 in the eastern sector where the transect survey recorded less than 1 fragment per 1000 sq meters, only a few of the total collections included 1 or 2 fragments datable to the Late Ottoman-Early Modern Period (map III_46h). The average quantities recorded by the transect collections on field blocks 113a and 68 covered by grids 6 and 14 were likewise confirmed by the total grid survey. Nevertheless there were discrepancies in one or two cases. Most notably on the western part of grid 7 covering field block 52, the density recorded by the total grid survey is many times higher than suggested by the transect survey records (map III_46g). Here on a group of about 15 contiguous grid units, the density of Late Ottoman and Early Modern material ranged between 20 and 37 fragments per 100 sq meters. Over 60% of these finds are tile fragments, the rest mostly consisting of fragments of fine table ware, storage and transport vessels. Considering the location of this field unit at the corner of two dirt roads leading outside the village, larger amounts of off-site debris are to be expected. However the sheer quantity and the increase from neighboring grid units are very surprising.

Collections from grids 6, 9 or 10 have also revealed dramatic fluctuations in the distribution of these finds, but never as drastic as in the western half of grid 7. Equally surprising was the fact that the transect survey barely recorded 1 fragment per 100 sq meters on field block 52. Similarly on field block 126 covering the Late Roman phase on site 8, the transect survey recorded less than 7 fragments per 1000 sq meters, while the total grid collections revealed densities of over 10 fragments per 100 sq meters over most of the field unit. As explained earlier it is likely that the low quality of the finds on this field was chiefly responsible for the large discrepancy between the transect and the regular grid collections. The true amount of the small, badly worn fragments became apparent only after the highly focused regular grid survey.

Looking at the distribution of this material within the limits of single field units, it is evident that it lacks a clear focus or patterning, which is one of the chief distinguishing features of on-site scatters [28](map III_46f-h). On some of the grids there is a more or less even carpet of Late Ottoman-Early Modern finds, while on others the fluctuations in the number of gathered finds are absolutely random. Admittedly there are examples of off-site scatters that assume roughly concentric distribution, but unlike genuine archaeological material these "clusters" (featuring the same artifact densities) recur on a number of field blocks in the survey area. Only in some of the cases where the grid covered two or more neighbouring field blocks do we see certain patterning in the distribution of this material. The above-mentioned grid 7 covering field blocks 52, 53 and 66 (the Early Iron Age site 6) is the most illustrative example (map III_46g). Here we see that the surprisingly large quantities in the western part of the grid are in fact limited to field block 52. The quantities and the distribution of these finds in the eastern and northern parts of the grid covering field block 66 and part of field block 53 are lower, similar to the scatters recorded on grids 8 or 9. The survey on grid 7 points to an important aspect of the dispersal mechanism of off-site debris. Although field blocks 52 and 66 are neighbouring parcels with no physical barrier in-between, the large concentration on field block 52 is not smeared beyond the limits of this field. This implies that the fields have different owners and/or that they are planted with different cultures and undergo divergent agricultural regimes. Each agricultural parcel has its own history of artifact discard and dislocations. This is illustrated far more clearly by the artifact density fluctuations across field units. The most drastic fluctuations in the density of the Late Ottoman-Early Modern carpet were recorded in sectors IV or VI, precisely in those sections of the surveyed landscape where we have the greatest variety in terms of land-use. The different agricultural strategies of individual farmers, the differences in wealth and the availability of manure contribute still further to the unpredictable fluctuations in the density of the off-site carpet[29]. But these factors produced only localized variations, not undermining the overall concentric pattern. The overarching tendency is clear: the greatest amount of the Late Ottoman-Early Modern off-site debris was located on field blocks closer to the village, with a gradual decline along a southwest-northeast axis and sharper decrease towards the barren slopes of Prisoj and on the fields across the dry valley.

[28] J.L. Bintliff, P. Howard, A.M. Snodgrass, 37, 2007.
[29] H. Forbes, 167, ed. R. Jones, 2012.