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SHOVEL-TEST SAMPLING AS A METHOD TO INVESTIGATE PREHISTORIC LAND-USE

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Shovel-test sampling was used as a method to investigate the prehistoric land-use of two prehistoric clusters in Yli-Ii (Finland). Starting from a single surface-visible pit dwelling, an attempt was made to define the boundaries of the clusters and to compare different activity areas. The dwellings in the investigated area had a very similar structure but different find assemblages and distribution. The results of two years of shovel-test sampling are in line with the results of the excavation. They confirm some kind of economic specialization not only inside the dwellings but also in the landscape around the dwellings.

Keywords: Shovel-test sampling, landscape, prehistory, economic specialization.

Yli-Ii vietovėje (Suomija) tyrinėjant priešistorinę žemėnaudą kaip pagrindinis tyrimų metodas buvo pasitelktas šurfavimas. Tyrimų atskaitos tašku tapo išoriškai matoma būsto vieta, kurios aplinkoje buvo pabandyta nustatyti žmogaus veiklos ribas ir palyginti įvairios veiklos požymių paplitimo skirtumus. Būstai tyrinėtoje teritorijoje buvo struktūriškai panašūs, tačiau radinių kompleksai ir jų paplitimas juose skyrėsi. Dvejų metų šurfavimo rezultatai patvirtino tam tikro lygio ekonominę specializaciją buvus ne tik pačiuose būstuose, bet ir jų aplinkoje.

Reikšminiai žodžiai: šurfavimas, kraštovaizdis, priešistorė, ekonominė specializacija.

Systematic shovel testing has never been popular among Finnish archaeologists. More than once, I caused colleagues to smile in disbelief when I explained what I was doing. I used shovel-test sampling as a method to investigate and compare the context of prehistoric dwelling depressions from a landscape perspective rather than from a site vs. non-site perspective. Even though my method was mostly based on an illustrative example that had never really been implemented (Foley, 1981), the results two years later show that it was not a waste of time to dig over four hundred test-pits around two dwelling depressions in the prehistoric villages at Kierikki, Yli-Ii.

RESEARCH STRATEGY

The shovel-test sampling was done in order to define the boundaries of the used area around prehistoric dwellings and to understand the prehistoric land-use in the region. McManamon (1982) applied shovel-test sampling successfully as an attempt to reconstruct prehistoric land-use. Due to the fact that systematic subsurface probing survey methods have not been widely used or reported in Finnish prehistoric archaeology it was difficult to know what to expect. Before the discovery of prehistoric dwelling depressions, the discovery of archaeological remains was mostly

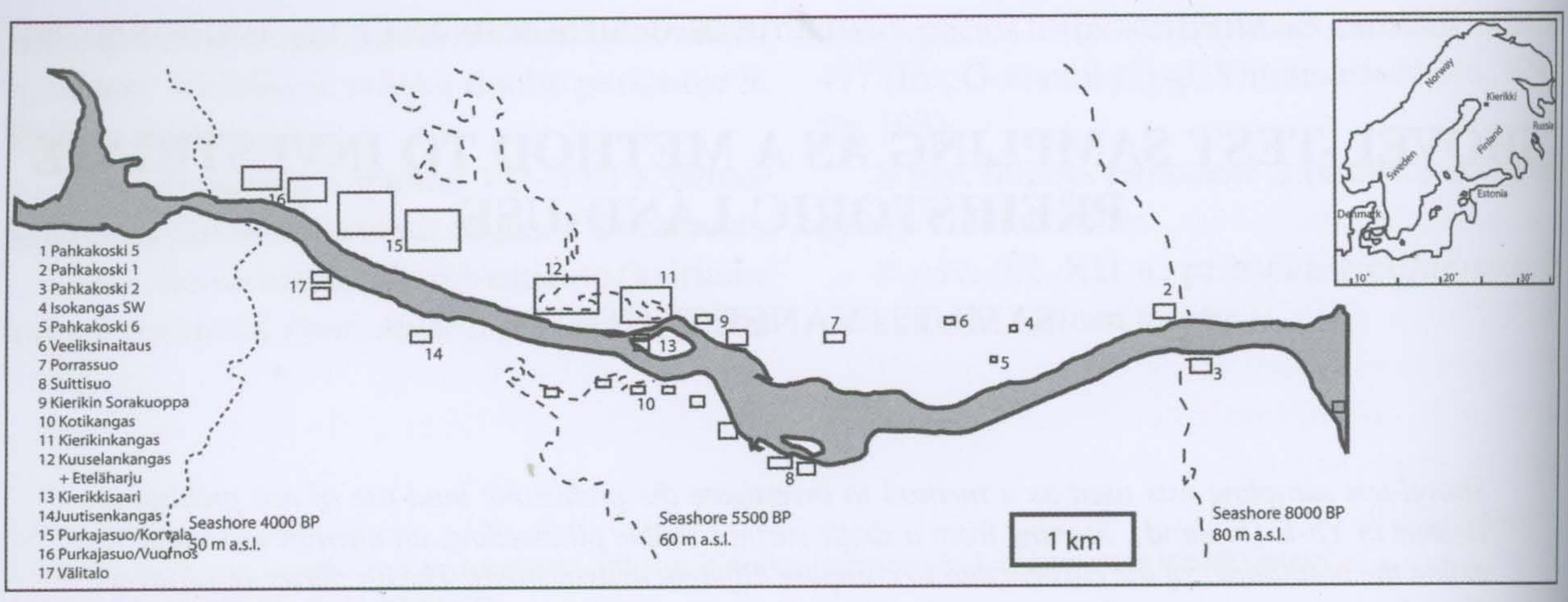

Fig. 1. Map with location of study area and overview of sites at the ancient river-estuary in Kierikki, Yli-Ii.

the result of intensive recent land-use such as forest ploughing and agriculture. Only in the 1990s, systematic surveying became more important due to the discovery of dwelling depressions.

In his study of Palaeolithic societies Wobst, (1974) concludes that careful investigation of habitats should be conducted to define activity-specific areas out of the hunters' camp. It has been suggested that to understand complicated prehistoric settlements, archaeologists should first try to understand simpler and more straightforward settlements and then apply the knowledge gained to the more complicated sites (Bogucki, Grygiel, 1981). Single period sites or shallow sites are also thought to have more reliable surface evidence (Renfrew, Bahn, 1991, 66-67). It thus makes more sense to conduct a systematic shovel-test sampling survey around a relatively simple settlement.

LANDSCAPE VS. SITE

The meanings of 'site' and 'landscape' are important problems in archaeology. Until the 1970s 'site' was connected to settlement and settlements consisted of dense artefact accumulations. With this perspective, every cluster of finds can be called a site. In the context of shovel-test sampling, Gallant (1986) defines site as part of a continuum of artefact distribution defined in relation to visibility and to the level of surface artefact density, which he also refers to as 'background noise'. For Gallant the 'background noise' is a valuable and unique source of information.

The approach to the landscape as a continuum of artefact distribution has also been called landscape archaeology. In an overview of European Regional studies Galaty (2005) mentions 'siteless surveys' as attempts to look for variation in density across the whole landscape. The landscape approach obviously makes the study of archaeological settlement much more complicated than a site-focused archaeology, but it also provides a more realistic understanding of ancient land-use. The term non-site archaeology has been used in this context as opposed to site archaeology (Galaty, 2005). However, the use is problematic, as the opposition between site and non-site is based on assumptions about the archaeological record. It seems as if site and non-site are two different things, while the continuum approach sees them as two parts of the same thing. I am using this continuum approach to the landscape using the term 'site' as a cluster of remains, a part of the landscape. In my fieldwork I systematically tested two clusters of remains on the prehistoric landscape at Kierikki, Yli-Ii (see Fig. 1).

SHOVEL-TEST SAMPLING AS LANDSCAPE APPROACH

Shovel-test sampling was discussed in a series of articles during the 1980s (Lynch, 1980; Nance, 1981; Stone, 1981; Krakker et al., 1983; Shott, 1985; Nance, Ball, 1986; Lightfoot, 1989). The main point on which all authors agree is that shovel tests are an imperfect means of archaeological site investigation for discovery. However, for much of the world, where surface visibility of archaeological resources is poor or nonexistent, this technique is accepted as a reasonable one (McManamon, 1994). Shovel probes are small test excavations usually spaced at set intervals, to get below the ground cover and identify artefact occurrences (Lynch, 1980). As such they can be compared with soil cores and soil augers. The advantage of shovel probes are that the volume of the investigated soil is larger than with augers or cores (McManamon, 1994).

Shovel tests have been used to detect artefacts, features and cultural layers. Shovel-test sampling strategies must consider the size and shape of the shovel tests, the intervals between the shovel probes, and their spacing along the investigated area. One way to increase the chance of discovering artefacts from shovel probes is screening. All these variables influence the amount of time and energy that has to be spent in the field. In order to reduce the costs and increase the usefulness of the technique it is important to carefully plan the strategy.

Unit sampling is used as a site discovery method in areas where decreased or nonexistent visibility makes surface inspection of archaeological remains impossible. In his article on the effectiveness of shovel probes, Lynch (1980) discusses the importance of artefact density. In order to discover a site the density of the finds has to be high enough so that at least one artefact is found per shovel probe. In other words, there must be enough probes relatives to artefact density to have at least one positive probe. One strategy to solve this problem uses a very small interval, meaning 5 m or less, but even then, light artefact scatters might easily be missed. Of course the spacing of the shovel-probes is usually based on earlier knowledge. If this knowledge is absent, one has to make some assumptions as a starting point for a research strategy. Stone (1981) writes that a random artefact distribution is a useful assumption if no better one is available.

An examination of the effect of test-unit size, spacing and patterning on the discovery of sites of varying size and artefact density shows that shovel-test sampling only reveals a very small percentage of the sites in a research area. Krakker, Shott and Welch (1983) propose statistical methods to estimate the actual number of sites, based on the achieved number during shovel-test sampling. They suggest a two-stage or stratified sampling design. A first-stage survey should be used to estimate the distribution and size of sites, artefact density. This information can then be used to achieve more accuracy in the second stage of the survey.

THE SURVEY AT KIERIKKI

I decided to start my shovel-test sampling around a single surface visible pit-dwelling. The nearest other visible remains are more than 200 m away. This first-stage survey would then give me an estimate of the distribution and nature of the remains on the landscape. My prior knowledge of prehistoric land-use in the area was limited and I was limited to an assumption of random artefact distribution. Because the goal of the test-pitting was to acquire more knowledge of prehistoric land-use it was important to work on a systematic basis. Every test-pit was considered as a separate unit.

A very low density of finds was expected outside the pit house, thus it was initially decided to use an interval of 2 m in the east-west and 3 m in the north south direction. Later on, larger inter-

vals of staggered units 4 m apart were used. That way every unit had six other units surrounding it and the largest area not tested was about 26 m^2. The south-west corner of each unit was used as a location relative to the associated excavated dwelling. In the second season of test-pit sampling, the find distribution of the first season was used as a starting point to design the second season's sampling strategy. In the second season, I used a staggered grid of units 4 m apart.

The investigated units were 50 cm by 50 cm and their depth varied between 10 and 80 cm depending on the presence of a hard layer of iron rich soil, or gravel. The soil extracted from the units was screened with a 2 mm screen. The small screen increased the chance of detecting very small lithic debris. The artefacts were collected and mapped per unit.

SETTING

The area under investigation in this article is the ancient river estuary of the river Ii in Yli-Ii, Northern Finland. The area was densely occupied by marine adapted hunter-fisher-gatherers between 6000 and 4000 years ago, when it was the river mouth (Fig. 1). The area had abundant resources: seals from the sea, fish from the rivers and lakes, and land mammals from the forested areas just beyond the shores. Recent research seems to indicate that due to the decreasing length of the shoreline in the Gulf of Botnia and the relative stability of the river estuary in Yli-Ii, the region was one of the richest areas in Northern Finland (Costopoulos et al., 2006).

The northern Finnish prehistoric archaeological record consists of dwelling depressions, stone cairns and Giant's churches, and cooking/hunting pits (Okkonen, 2003). Giant's churches are large structures of piled boulders, the largest up to 60 by 40 m, of which the function is unclear. The dwelling depressions are the result of dwellings dug in the ground to provide better insulation (for a description of semi-subterranean houses see Nuńez, Uino 1997; Pesonen 2002). Semi-subterranean houses in the region evolved from small circular houses with little internal structure, into large rectangular log-based structures, and eventually into multi-room dwellings. This evolution seems to indicate an increase in social complexity (Costopoulos, 2005).

The large highly structured dwellings are contemporary with the so-called Giant's churches (Nuńez, Uino 1997; Okkonen, 2003). Their exact purpose is unknown, but their importance since the moment they were built seems obvious. Modern hunters still use them as meeting places. It is clear that their construction involved more common labour and organization than anything that had been constructed before in the region. The increasing complexity is visible in artefact composition. Excavations of older settlements reveal large amounts of quartz, burned bone and typical Comb Ware, while younger settlements also have exotic goods such as Baltic amber, Russian flint and South-Finnish asbestos.

At the time of occupation, the region was situated at the mouth of the river Ii. Due to isostatic land uplift, the same region is now situated about 20 km inland and on an elevation between 45 and 70 m above sea level. It is generally assumed that prehistoric people followed the retreating shoreline, building new dwellings about every generation. Today the whole region consists of forested areas interspersed with wetlands. The forest is mainly pine and birch with very little lower vegetation, consisting of lingonberry and blueberry bushes.

The sandy soil in Finnish forests is acid, causing very poor preservation of all unburned organic material such as wood, bone and antler. Underneath a rather thin humus layer a grey podsol layer appears. From this layer all the iron and mineral particles have been leached down to the yellow-orange- brown enriched layer. The enriched layer is usually followed by a hard dark orange-brown layer of highly enriched soil.

THE DWELLINGS

The area where I conducted my research used to be a 2 km long peninsula extending into the sea about 5000 years ago. Its height is about 60 m above sea level and it has several dwelling remains spread over the peninsula. Recent excavations partly uncovered two of the large rectangular structures on the peninsula (Costopoulos, 2005). Their internal structure was similar; they were both rectangular, had two fireplaces on the main axis and a midden area separated from the main room. However, their finds content and distribution was completely different.

One of the dwellings contained only lithic material, flakes and spent tools, and the material was evenly spread over the whole dwelling. This dwelling did not have any other dwelling closer than 500 m. The other dwelling on the contrary contained mainly pottery and was unevenly distributed, the density of finds increasing from west to east. This dwelling was found in a cluster of three dwellings. The two excavated dwellings are about 800 m apart. In 2006 another dwelling was excavated on the same peninsula. Its content seems to indicate that it might have been a potter's dwelling as it contained traces of a firing platform or kiln, and of ceramics (Costopoulos et al., 2006). The dwelling is situated 500 m further upriver from the other dwelling that contained pottery (Fig. 2).

The shovel-test sampling from the last two years was conducted close to two of the excavated dwellings. The first season, about 10000 m^2 around the dwelling in area 1 was sampled. This area was chosen because of its isolation. The fact that the dwelling was isolated made the interpretation of finds around the dwelling easier.

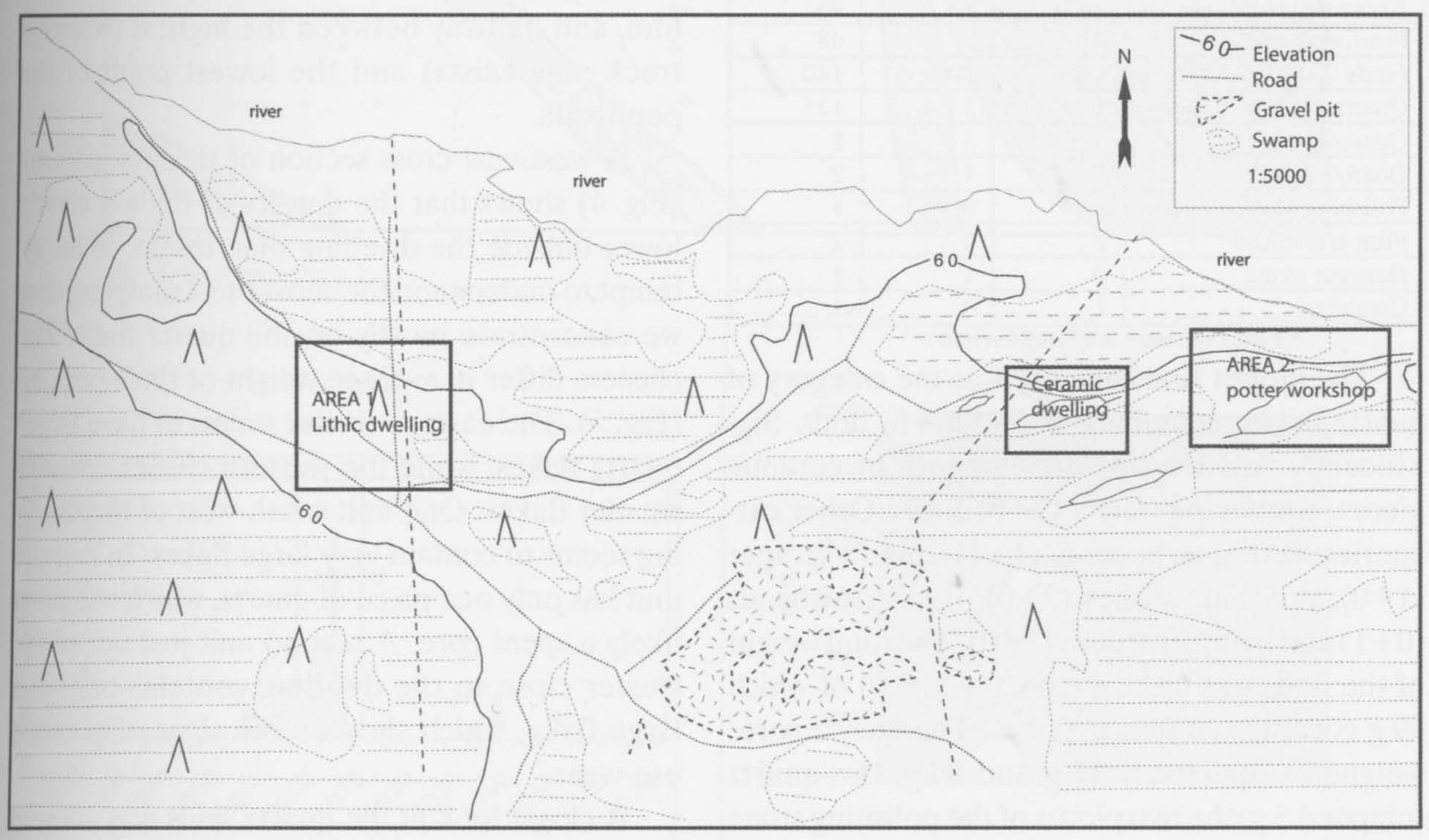

Fig. 2. Map of peninsula with distribution of remains.

RESULTS

Units were considered positive when they contained at least one artefact. Soil samples were taken for phosphate analysis, but the leaching process in Finnish soils makes phosphate analysis difficult. Positive units were divided in single positive units (surrounded by negative units), paired positive units (with only one positive unit adjacent) and clustered positive units (two or more positive units adjacent).

During the two periods of excavation 467 (387+80) units were excavated, with 48 (43+5) of those units containing traces of human activity. So we had an overall percentage of 10,3% (11.1+6.3) positive units. The total number of finds was 140 (130+10) with an average of 3.68 (3.02+2) finds per positive unit and 0.3 (0.34+0.125) finds per unit (Table 1).

Table 1. Overview of finds

	Area 1	Area 2	Total
Excavated units	387	80	467
Positive units	43	5	48
Finds	130	10	140
Quartz debris	120	5	125
Quartz cores	3	5	8
Quartz scraper	1	1	2
Polishing stone	1	0	1
Flint arrowhead	2	0	2
Hammer stone	0	1	1
Ceramics	1	0	1

The largest find category was the category of quartz flakes, containing 125 (120+5) finds. Significantly smaller was the category of ceramic pieces, containing only 8 (3+5) finds. Other categories were quartz cores (1+1), quartz scraper (1+0), polishing stones (2+0), flint arrowheads (0+1) and hammer stones (1+0). The total weight of the finds was 692.2 g (588.3 + 103.9) of which 99 g consisted of quartz flakes. The quartz cores weighed respectively 11 g and 87 g, the quartz scraper 4.5 g, the two pieces of the polishing stone 307.5 g, the arrowhead 2.1 g and the hammer stone 173.8 g. Charcoal and fire-cracked rock were not recorded due to the lack of context.

AREA 1: CLUSTERED QUARTZ DEBRIS

The positive units from the first excavation season can roughly be divided in three clusters. One cluster (West) contains five positive units and is located about 50 m north-west of the dwelling. The finds from this cluster are quartz flakes and two fragments of a single polishing stone. A second cluster (Door) is located right next to the dwelling at the western side where the entrance is thought to be. The cluster contains 16 units with quartz flakes and pieces of pottery. The third cluster (East) is located about 30 m south-east of the dwelling (Fig. 3).

The rest of the positive units were scattered around the whole area. Out of these, there were 7 single positive units, and 6 paired units. All the finds from these units were quartz flakes, except for one quartz scraper and a quartz core. The clusters are located on a line parallel with the wetland area, and thus the ancient waterline, and halfway between the highest (where a track now exists) and the lowest point of the peninsula.

A west-east cross section of the studied area (Fig. 4) shows that the density of finds is clearly lower outside the dwelling than inside. In an attempt to understand the shovel-test sampling data we concentrate mostly on the quartz finds. The clusters differ in average weight of finds per unit (Fig. 5). The eastern cluster seems to have larger quartz flakes, while the western cluster contains smaller flakes. One unit south-west of the dwelling seems to contain very large flakes. In fact the unit has only one piece of quartz, which was most likely a spent core. A second unit just out of the cluster close to the dwelling contains only one large flake, which shows some signs of possible use-wear.

A closer look at the quartz finds was allowed by subdividing the positive units of area A in the three clusters, east, door and west. The three clusters are in turn subdivided in single and paired

Fig. 4. East-V

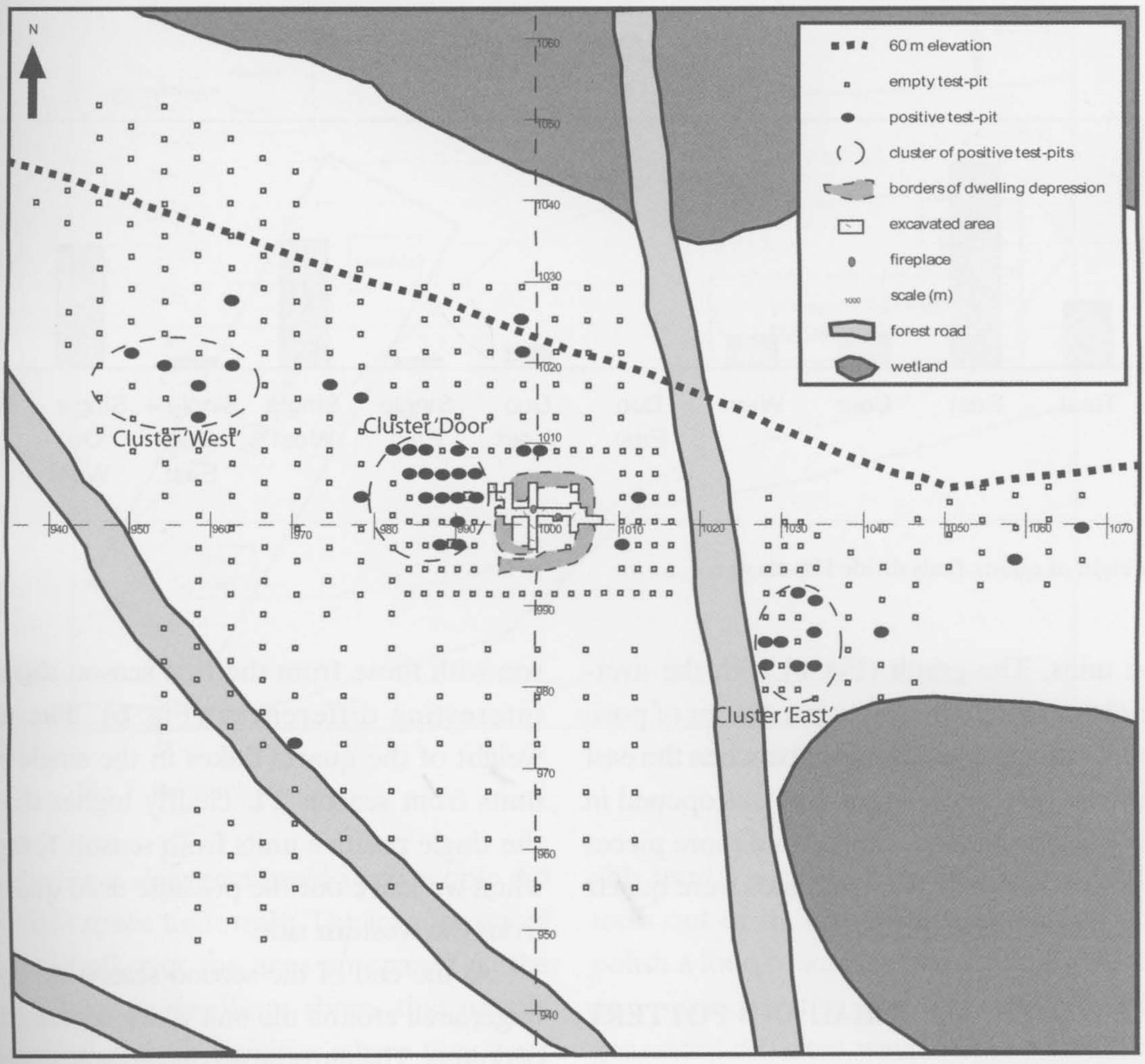

Fig. 3. Research area 1.

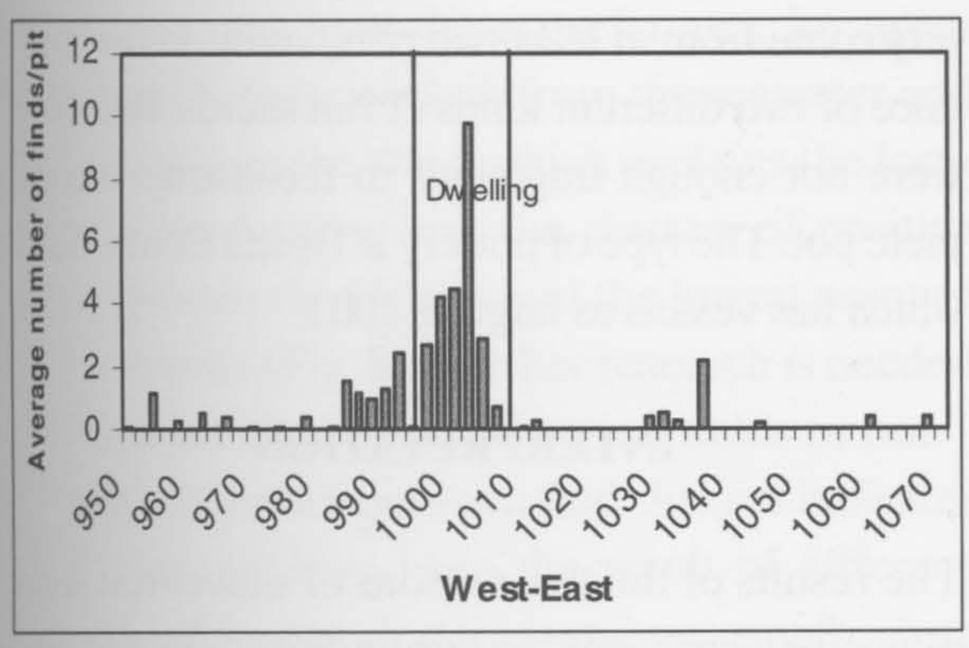

Fig. 4. East-West cross-section with artifact density.

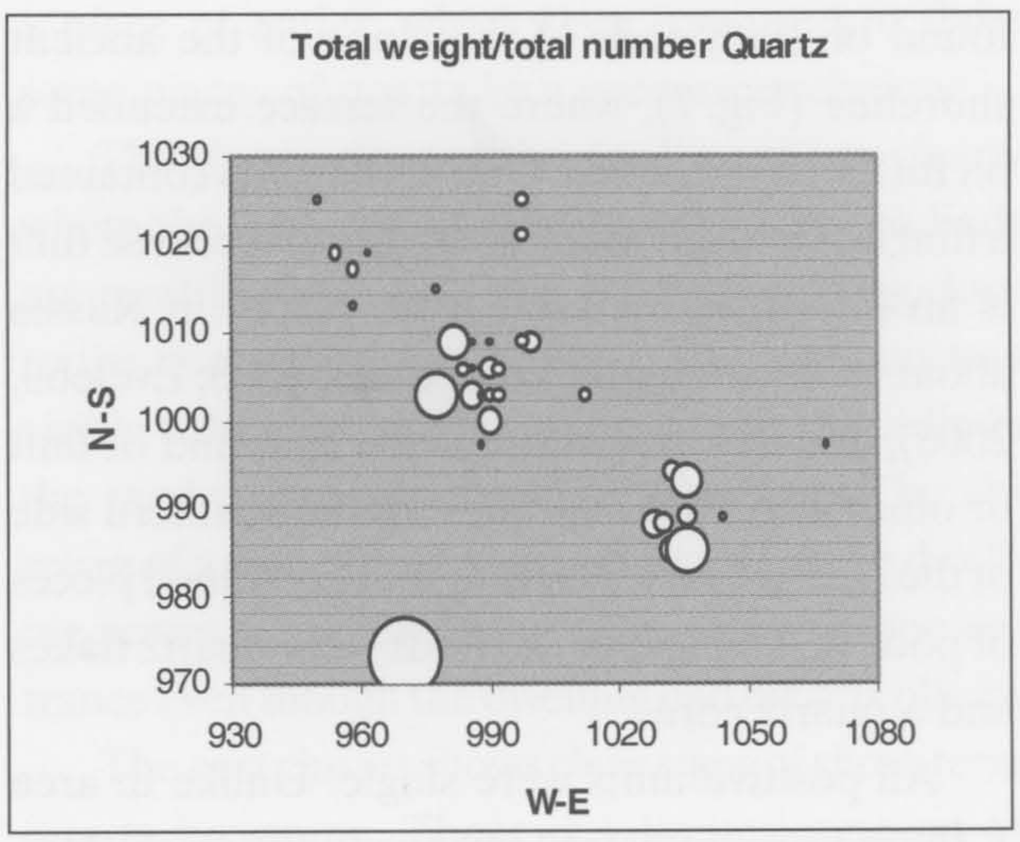

Fig. 5. Average weight of quartz flakes per unit.

Fig. 6. Weight of quartz finds divided by cluster.

positive units. The graph (Fig. 6) with the average weight of the quartz flakes per cluster of positive units confirms the difference between the east and the west cluster. A larger unit was opened in the west cluster in an attempt to find more pieces of the polishing stone. The only finds were quartz debris and fire-cracked rock.

AREA 2: EXOTIC MATERIAL AND POTTERY

The positive units from the second season were found on both ends of the slope of the ancient shoreline (Fig. 7), where the terrace extended a bit further into the sea. One of the units contained a flint arrowhead, which is significant because flint is an imported material from places in Russia about 1000 km away (Costopoulos, 2003; Zvelebil, 2006), and this arrowhead is the first find of flint or other imported materials on the southern side of the river estuary. Another unit contained pieces of pottery. The rest of the finds were quartz flakes and a quartz core.

All positive units were single. Unlike in area 1, there were no paired positive units or clusters. The comparing of the data from the second season with those from the first season shows some interesting differences (Fig. 6). The average weight of the quartz flakes in the single positive units from season 2 is clearly higher than from the single positive units from season 1, especially when we leave out the possible used quartz flake from the western side.

At the end of the second season we opened a larger area around the unit which contained pieces of pottery. The purpose was to get more understanding for the presence of pottery on the slope of the ancient shoreline. The result of this trowel excavation was about 2 kg of pottery pieces, some charcoal and one retouched quartz flake. The pieces of pottery come from at least two pots, visible in the presence of two different kinds of rim sherds. But there were not enough fragments to reconstruct a complete pot. The type of pottery is Typical Comb Ware, which has vessels as large as 100 l.

INTERPRETATION

The results of the two seasons of shovel-test sampling are significant for our understanding of prehistoric land-use. During the first season of exca-

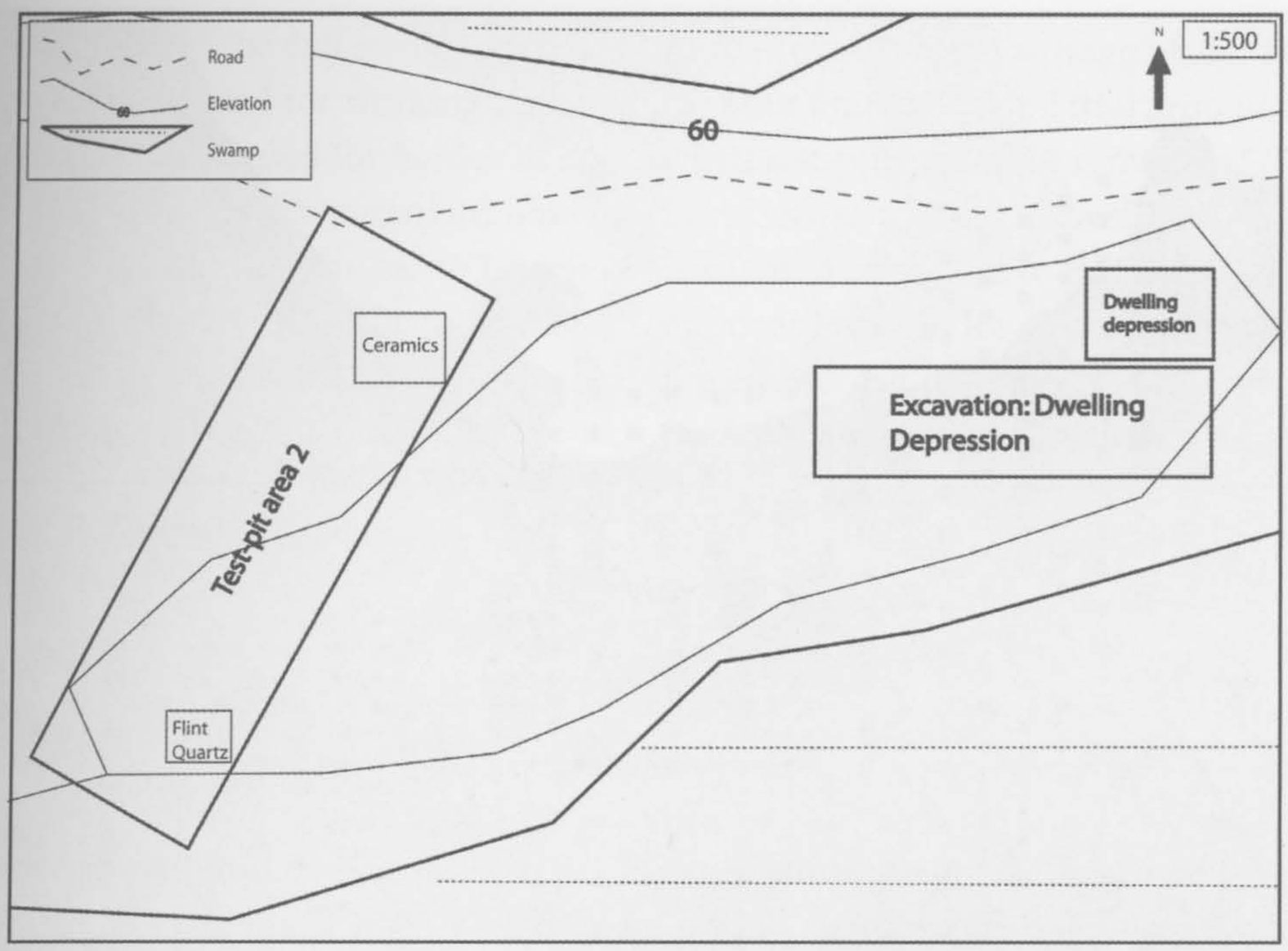

Fig. 7. Research area 2.

vation it became clear that prehistoric people did not use their space uniformly. The low density of finds spread all over the area compared to the density of finds in dwellings shows that people were conducting their activities where they were at the moment something needed to be done. Some areas with clusters of positive units seem to have been used several times or for a longer period but not as permanent activity locations. However, there seems to be a preference for areas which are both far enough from the seawater and protected from the wind, which explains the location of the dwelling and the clusters of positive units between the highest and the lowest point of the peninsula (Fig. 8). Further research is needed to check whether this explanation holds or not.

The difference between find clusters indicates that they may have been the result of different activities. The west cluster, containing small quartz flakes and pieces of a polishing stone, was probably used for reshaping pieces of quartz to make tools out of it. The polishing stone was used to polish a long concave surface, like a wooden stick or a piece of antler. Harder material would have generated different wear on the stone. One possibility is that the polishing stone was used to shape a piece of antler, which then was used to flake some pieces of quartz by a pressure technique.

The cluster close to the dwelling shows clearly where the entrance of the dwelling was. The finds are most likely scatter from quartz knapping close to the doorway of the dwelling. This doorway was visible before excavation of the dwelling as a dip in the sandy embankment of the dwelling. The absence of a find cluster at the other end of the dwelling seems to indicate that there was only one entrance even though the dwelling had two fireplaces.

The east cluster shows clear signs of short-term quartz knapping. There is a limited amount of large quartz flakes, a quartz scraper and a hammer

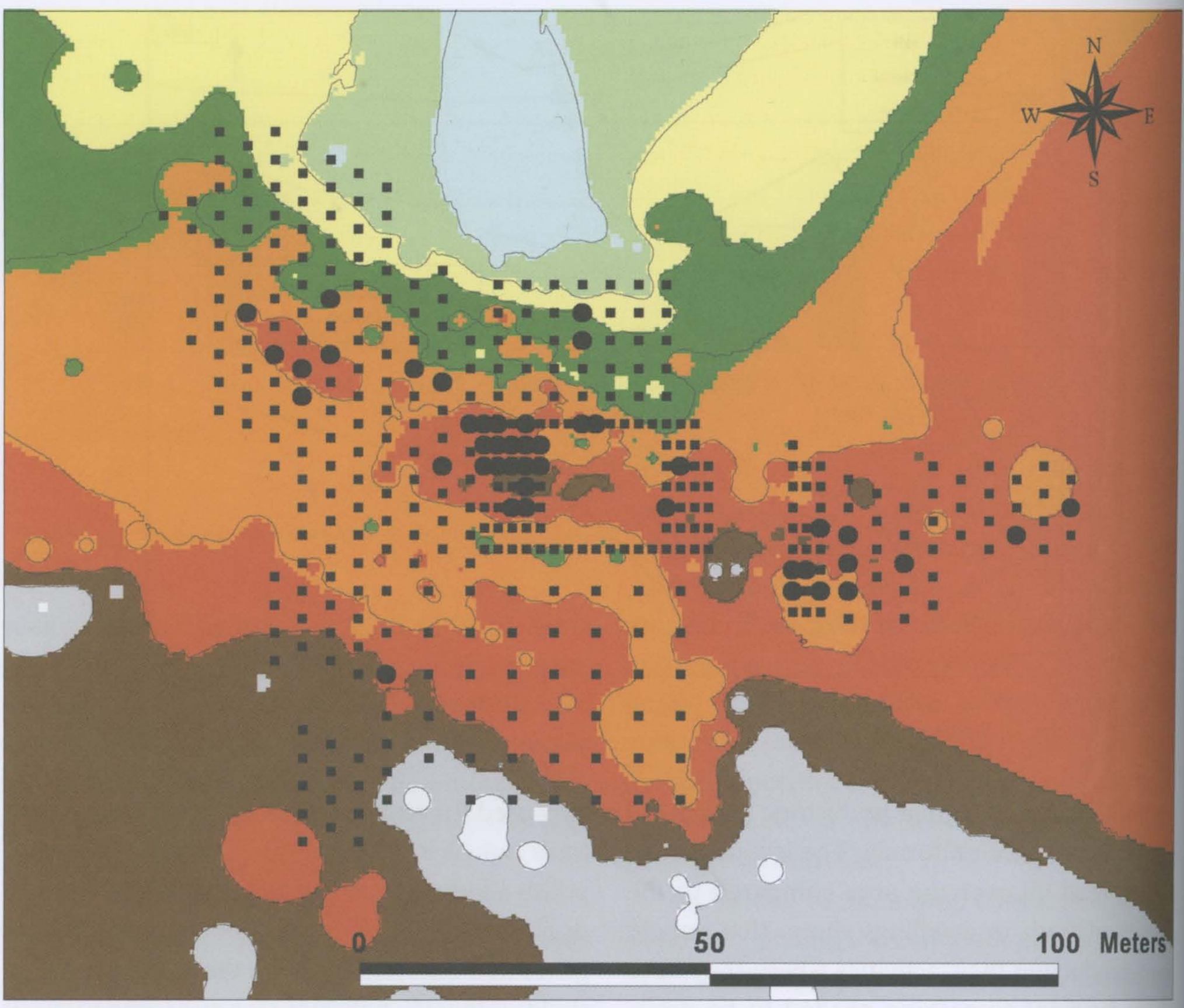

Fig. 8. Digital elevation model of Research area 1: Filled circles are positive test-pits, filled squares negative test-pits. Elevation ranges from green and blue (lowest) to grey and black (highest). The dwelling depression and the activity areas are situated midway between the highest and the lowest point.

stone. The percussion marks on the hammer stone are very shallow and few, indicating that it was only used for a limited period. The quartz finds from the single and paired positive units are more difficult to interpret. Almost none of them have clear traces of retouch or use-wear. But the fact that they are isolated might be significant. Microscopic study of those flakes shows some small signs of use-wear, which might also indicate short-term use or the working of soft materials. Another explanation could be that those pieces were lost or thrown away. Isolated small pieces can be broken edges from tools or natural formed stones.

The problem with the interpretation of quartz finds is that the raw material is highly unpredictable during the knapping process and that the edges of flakes are brittle. It is not unlikely that certain flakes are used for a couple of seconds or minutes leaving only minor traces of use-wear.

After that the flakes would be dull enough to abandon. If the flakes were used for working on soft materials they could be re-used for harder materials. In this sense it could be that part of the quartz finds from prehistoric excavations has to be reinterpreted as used flakes instead of just waste material from the knapping process. (Okkonen, pers. comm. 2006)

An interpretation of the finds from the second season is more difficult as all the finds come from single positive units. The flint arrowhead seems to indicate that some of the artifacts are just lost. It is in perfect condition and made from exotic material. It seems unlikely that someone would have thrown away a 'high-status' object like that. A possible explanation is that a hunter lost it after a sea-hunting trip while pulling his boat on the shore.

DISCUSSION

The results of two years of test-pit sampling do confirm largely the interpretation made after the excavation of different dwellings on the peninsula (Costopoulos, 2005). The finds indicate some sort of economic specialization. The most westerly dwelling was dominated by lithics, the same lithic domination was found through test-pitting around the dwelling. The potters' workshop (east of the peninsula) contained painted pottery, some sort of kiln and signs of experimentation with Asbestos temper in pottery. The edge of the terrace where the potters dwelling was situated might have been the place to pile the waste of broken pots and clay remains.

On the peninsula, a third dwelling was excavated. This dwelling was dominated by pottery but did not have indications of being a pottery workshop. There were clear signs of some kind of storage in the dwelling. Maybe the dwelling was a food processing and storage place. That suggests that the finds we would find around the dwelling when test-pitting will be remains of food processing activities. A fourth cluster of three dwellings is situated very close to the river and seems to be an ideal location for fishing and storage of fishing equipment. No excavation has been done so far but it seems reasonable to assume that the finds in and outside of the dwelling will be similar too.

The results of this test-pit sampling thus confirm the results of the excavations. We are dealing with some form of specialization. A strikingly similar situation has been recorded for the Norwegian Arctic prehistory. Some of the large rectangular dwellings with two fire places also indicate economic specialization (Simonsen, 1975). The specialized dwellings were usually situated close, but not in, clusters of semi-subterranean dwellings, a situation very similar as at Kierikki.

The north side of the river contains about 200 dwelling depressions organized in large clusters or 'villages' (Nuñez, Uino, 1998; Pesonen, 2002). The villages contain abundant exotic materials and a high diversity of finds in one and the same dwelling. The density of finds is relatively high also outside of the dwellings (Koivunen, 2002). The finds of the test-pitting thus do not only confirm the nature of the dwellings on the south side. They also add a significant difference between the archaeological remains on the south and the north side of the river.

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ŠURFAVIMAS KAIP METODAS TYRINĖJANT PRIEŠISTORINĘ ŽEMĖNAUDĄ

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Santrauka

Sistemingas šurfavimas niekuomet nebuvo itin populiarus tarp suomių archeologų. Todėl prisipažinimas, kad naudoju šį metodą, ne kartą kėlė kolegų šypseną. Šurfavimą pasirinkau kaip metodą tyrinėti priešistorinių būstų aplinką ir duomenis vertinau iš kraštovaizdžio perspektyvos, o ne kaip griežtą santykį tarp archeologinės ir nearcheologinės vietovės. Nors mano metodas pagrįstas iliustratyviu pavyzdžiu, kuris, deja, niekuomet nebuvo galutinai realizuotas (Foley 1981), kelerių metų šurfavimo rezultatai įrodė, jog iškastieji daugiau nei 400 šurfų aplink du priešistorinius būstus Kierikki, Yli-Ii nebuvo vien laiko švaistymas.

Tyrimai atlikti dabar 60 m virš jūros lygio esančioje vietovėje, kuri prieš 5000 metų buvo į jūrą nusidriekęs 2 km ilgio pusiasalis. Jame aptikta keletas įvairiai išsidėsčiusių būstų liekanų. Pastarųjų metų kasinėjimų metu buvo iš dalies ištirtos dvi didelės ir panašios struktūros: abi stačiakampio formos, su dviem židiniais ir nuo pagrindinės patalpos atskirta atliekų vieta. Tačiau radiniai būstuose ir jų paplitimas gerokai skyrėsi. Analogiškų būstų žinoma Pietryčių Suomijoje, Vakarų Rusijoje ir arktinėje zonoje Norvegijoje. Jų atsiradimas siejamas su padidėjusiu sėslumu ir ekonomine specializacija.

Šurfuoti pradėta vieno išoriškai pastebimo žeminės tipo būsto aplinkoje. Ši vieta pasirinkta dėl jos nuošalumo – kiti išoriškai matomi objektai buvo už daugiau nei 200 m. Tai palengvino radinių būsto aplinkoje interpretaciją. Išankstinės žinios apie priešistorinės veiklos paplitimą kraštovaizdyje buvo ribotos. Todėl siekiant išvengti atsitiktinumo faktoriaus radinių išsidėstyme reikėjo dirbti sistemingai.

Dvejų metų šurfavimo rezultatai buvo reikšmingi priešistorinės veiklos pėdsakų paplitimo kraštovaizdyje tyrimams. Jau per pirmąjį sezoną tapo aišku, kad priešistorinės bendruomenės erdvę naudojo skirtingai. Šurfai su radiniais (teigiami) ir be jų (neigiami) buvo pasiskirstę netolygiai. Kai kur teigiami šurfai sudarė koncentracijas. Nustatyta, kad pirmenybė teikta vietoms, kurios buvo tolokai nuo jūros ir apsaugotos nuo vėjo, – būstai ir šurfai su radiniais išsidėstę aukščiausiose ir žemiausiose pusiasalio vietose.

Šurfavimo rezultatai didžia dalimi patvirtino būstų tyrinėjimų pusiasalyje rezultatus. Radinių pasiskirstymas byloja buvus tam tikro lygio ekonominę specializaciją. Toliausiai į vakarus nutolusiame būste dauguma radinių buvo akmeniniai, pastarieji dominavo ir būsto aplinkoje kastuose šurfuose. Pusiasalio rytinėje dalyje buvo gaminami puodai. Čia rasta dekoruotos keramikos, jos degimo vietų ir eksperimentavimo su asbestinėmis priemaišomis molio masėje požymių. Terasos, ant kurios koncentravosi su keramikos gamyba susijusi veikla, pakraštys galėjo būti vieta, kur pilamos indų duženos ir nepanaudoto molio liekanos.

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