

ARHEOLOOGILISED
VÄLITÖÖD
EESTIS

ARCHAEOLOGICAL
FIELDWORK
IN ESTONIA

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Koostanud ja toimetanud
Ülle Tamla

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Esikaas: 13.–14. sajandist pärit ribiline väike klaaspudel Tartu vanalinnast.

Cover: Fragment of a 13.-14 cc small glass bottle (Ribbenflasche) from Old Tartu.

Tagakaas: Tervena säilinud keskaegne nahkjalats Tartu vanalinnast.

Back cover: Well preserved leather shoe from Old Tartu.

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TARTU ÜLIKOOLI
RAAMATUKOGU
SUNDEKSEMPLAR

METALLURGIC COMPLEX IN TÕDVA VILLAGE, HARJUMAA

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Tõdva has been mentioned already in *Liber Census Daniae*, compiled in the 1st quarter of the 13th century. It mentions a separately standing village of 15 ploughlands, named *Tedau* (Johansen 1933, 619). This village has been related to the earliest location of the Saku estate, and suggested that the name was an adaptation of a titled family, *Tödwen* (see Johansen 1933, 619; zur Mühlen 1985, 597). A variety of archaeological sites from different periods is known from the Tõdva village and its vicinity, including settlement and sacrificial sites, cult stones and stone graves. The sacrificial spring of Kortna (reg. no. 18932), the cult stone named *Ussikivi* (Snake stone; reg. no. 18923) and the stone graves of Tõdva (reg. nos 18928, 18929) are the best known of them. The description of the Hageri parish, compiled by Rudolf Tamm in 1922, records that a whole sword was found in the graves (Tamm 1922, 13); Jaan Jung has mentioned spearheads and sword hilts found there (1910, 94). From the destroyed part of one of the stone graves of Tõdva a Viking Age spearhead was found in 1970.¹ Besides it is known that from the sand hill in front of the Tõdva (Traani) inn, which people called Tõdva inn hill and regarded as a plague cemetery, two battle axes and skeletons have been found (Tamm 1922, 32; Kirjand, 12). Regardless of the fact that most of the archaeological sites of the Saku commune are located in a compact group in the village of Tõdva and its vicinity, extensive construction activities are foreseen in the district in the nearest future.

INVESTIGATIONS ON THE LANDS OF ILDASE FARM IN THE TÕDVA VILLAGE

In August 2007 preliminary investigations and archaeological monitoring were carried out on the settlement site of the I–II millennium (reg. no. 18927) on the lands of the Ildase farm. The work was supervised by Mauri Kiudsoo, assisted by Irita Kallis. The aim of the work was to establish the state of preservation and the nature of the cultural layer of the settlement site, considering the planned

¹ http://register.muinas.ee/pdetail01.asp?halu=1&sele=22&lb=2&radiob2=0&text7=&butt=Edasi&mo_id=18935.
http://register.muinas.ee/pdetail01.asp?halu=1&sele=22&lb=2&radiob2=0&text7=&butt=Edasi&mo_id=18935.

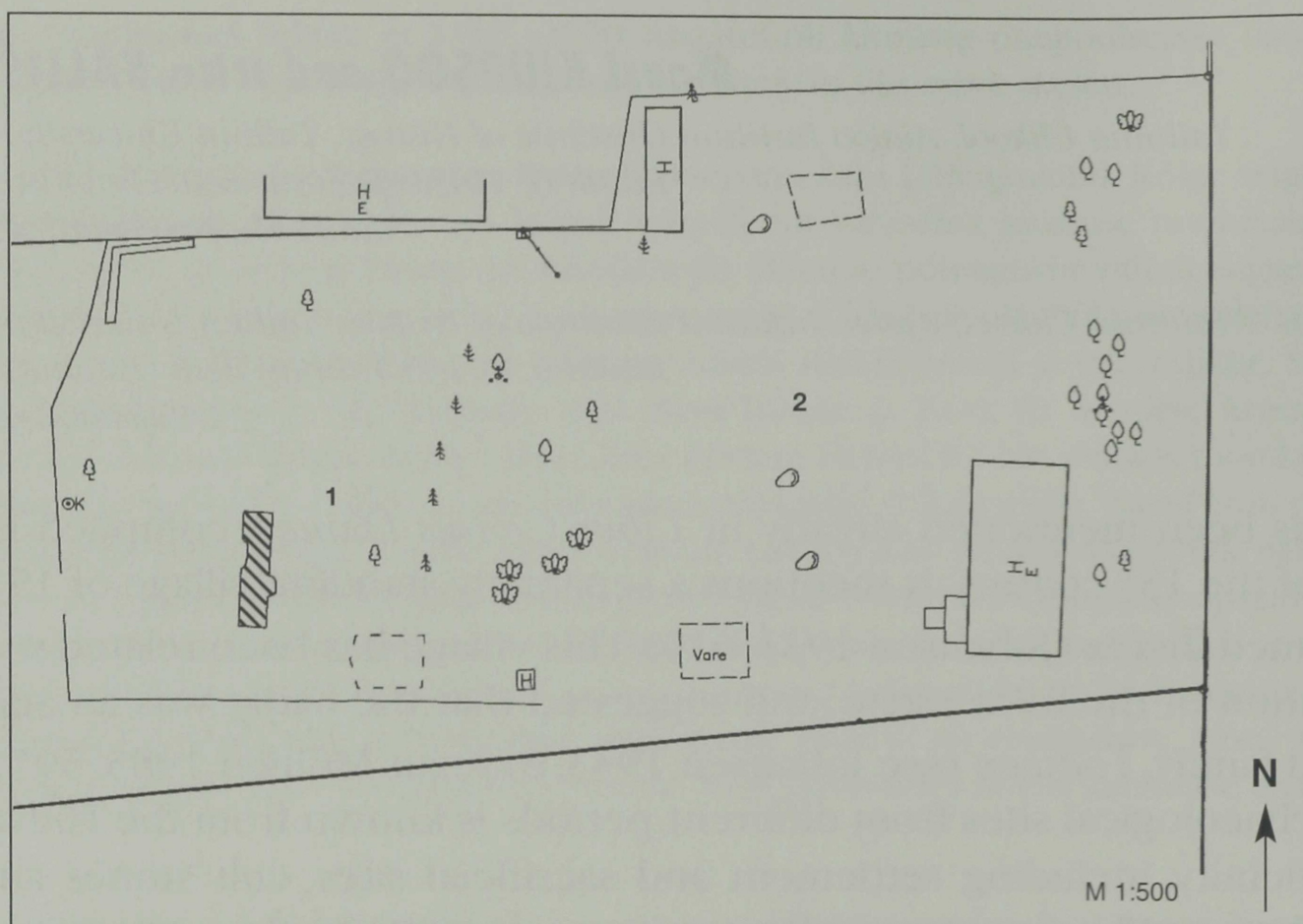


Fig. 1. Location plan. 1 - excavation plot, 2 - farmyard of the Ildase farm.
 Jn 1. Asendiplan. 1 - kaevand, 2 - Ildase taluhoov.

Drawing /joonis: Ekke Lepp, Irita Kallis

dwelling-house and communications to be built in the protected area. At the depth of only 25–30 cm four patches of burnt stones were discovered, at first sight resembling remains of *keris*-stoves, typical to Estonian ancient settlement sites. Suspicions, however, arose when we observed that the patches were located in a line, at a distance of only 1.5 m from each other. The absence of finds typical to prehistoric settlements beneath the sod layer as well as upon stony patches was also unusual: only one Russian Orthodox cross (AI 6870), dating from the late 17th – early 18th century (Zariņa 1987, 41), was discovered with the help of a metal detector. To investigate the origin and date of the mysterious stone constructions the National Heritage Board ordered a trial excavation on the site. The excavation of 26.2 m² (Fig. 1: 1) was carried out on a moraine ridge where the new dwelling of the Ildase farm was intended to be built.

SURPRISING DISCOVERY

The trial excavation revealed stone constructions related to ancient iron-smelting activities, located closely side by side: furnaces and reheating forges. Deciding by the soil stratigraphy in the communication tracks dug on the site, traces of iron-smelting were preserved all over the farmyard (Fig. 1: 2). Archaeologist Jüri Peets (AI), who has thoroughly studied early iron-working and consulted the archaeol-

ogists on the spot, confirmed this opinion. He checked the site with soil auger and discovered a high concentration of ore and iron particles, suggesting iron smelting as well as early iron-working. The site for iron smelting was probably chosen for practical reasons: the moraine ridge was not suitable for tillage.

Besides the abovementioned finds, the trial excavation revealed pottery fragments from polished pottery and vessels decorated with net ornament (Fig. 2). Such pottery with rhombic checker ornament is usually dated to the 11th–12th centuries, but the 10th century cannot be excluded either (Tvauri 2005, 107, 126).

The finds directly related to iron production included lumps of bog ore (Fig. 3) and slag. Unlike the ancient iron-smelting sites of East and North-East Estonia, the finds from Tõdva did not include fragments of clay tuyeres. Since these are characteristic primarily to iron-smelting sites of NW Russia, Ancient Ryazan, the North Ukraine and Central Europe, it has been assumed that such iron-smelting technology was of eastern or southern origin. In Finland and Scandinavia such finds are missing (Peets 2003a, 217). Slag-pit furnaces that were dug in the ground and were the first to be discovered in Estonia also seem to



Fig. 2. Tõdva. Pottery fragments with polished surface and rhombic decoration.

Jn 2. Tõdva. Kiilapinnalise ja võreornamendiga savinõukillud.
(AI 6870: 100.)



Fig. 3. Lump of bog ore from Tõdva.

Jn 3. Soomaagi kamakas Tõdvalt.



Fig. 4. A conical slag pit beneath the remains of iron-smelting furnace discovered in Tõdva.

Jn 4. Tõdva. Rauasulatusahju jäänuste alt paljandunud koonuseline šlakikogumisauk.

refer to similarities with Scandinavia.¹ These furnaces were built of (large) stones and they lacked slag-tapping openings (Fig. 4). The significance of the discoveries in Tõdva lies in the fact that this is the only known metallurgic complex dating from the last centuries of the prehistoric period preserved on the eastern shore of the Baltic Sea. Concerning iron smelting in the Viking and Late Viking Age Estonia, the period has been hitherto called 'empty centuries' (Peets 2003b, 82).

IRON TRADE

In the middle of the 11th century the trade of the Baltic Finns flourished. This is among other facts reflected by the considerable amount of silver hoards discovered here. While in other Nordic countries silver hoards were not so extensively gathered anymore in the second half of the 11th century and collecting silver ceased altogether by the beginning of the 12th century, a number of large silver hoards of this period have been discovered in Estonia (Molvõgin 1993, 287–288). As many as fifty hoards dating from the last four decades of the 11th century and the beginning of the 12th century have been found. This exceeds the number of hoards of the period in any other Baltic country several times (Leimus 2003, 45). It is true that a considerable number of hoards from that period has come to light also from Gotland, but in view of the enormous quantities of silver that reached this most important trade centre of the Viking Age during the previous period², a couple of dozen hoards (Jonsson 1986, 23–24) is not a particularly impressive amount. The abovementioned abundance of silver in the Late Viking Age, however, does not concern the whole eastern shore of the Baltic Sea. The flow of fresh silver, although in decreased quantities, continued only in Estonia until the second half of the 12th century (Molvõgin 1993). In context of Estonia the present-day county of Harjumaa stands out for the density of hoards of that period, and finds of the 12th century are few beyond the limits of ancient Harju and Rävala. The metallurgic centre of Tõdva was located on a strategically vital position in the Late Iron Age, between the waterways of Keila and Pirita. The silver hoards dating from the last centuries of the prehistoric period have come to light from the ancient villages located in the river basins: hoards of Arabian dirhams of the 10th century are concentrated on the lower and middle reaches of the Keila River, while the hoards of the 12th century are mainly found on the middle and upper reaches of the Pirita River. It is also possible that the road connecting the Lohu hillfort with

¹ Unlike the countries on the other shore of the Baltic Sea no pit furnaces had been hitherto discovered in Estonia (Peets 2003a, 220).

² The precise total of coins of the 8th–11th centuries found in Scandinavia has so far not been estimated, but we can surely speak about several hundred thousand coins. Due to the hoards continually found from Gotland this number increases every year (Leimus 2003, 45). The majority of the Viking Age hoards of Scandinavia come from Sweden, especially from the relatively small island of Gotland. The number of coins found there exceeds the total number of coins found from mainland Sweden, Denmark and Norway (Leimus 2006, 28 and the references there).

Tallinn at the end of the prehistoric period also passed through Tõdva (see Raid 2005, 153).

The abundance of Viking Age silver in the Nordic countries has been discussed for centuries, and it has been mainly explained by the Viking raids. Nowadays, however, the prevailing opinion is that most of the silver arrived as a result of international trade. All present-day outstanding numismatists point out that raids and ransom or any other sort of taxation played no role in the flow of coin silver, and only trading could move precious metals from one place to another (Leimus 2006, 19, 29, and the references there). In view of all this we may assert that trade in Harjumaa was, at least since 1060, extraordinarily lively and extensive and functioned successfully due to tight economic connections between partners.³

But what did the inhabitants of ancient Harjumaa/Rävala trade with? The eastern coast of the Baltic provided highly valued furs, grain and wax, possibly also slaves. But the most important article of trade was still iron. The possibility that Estonians may have exported iron and/or iron artefacts already in the 11th century has been hypothetically suggested by Ivar Leimus (2003, 52) and, with conviction, by Kristina Creutz (2003). Unfortunately until the discovery in Tõdva in 2007 there was no direct evidence to confirm or refute these opinions.

Since the iron-smelting complex of Tõdva includes, besides iron-smelting furnaces, also reheating forges, it may be suggested that the production of these furnaces was worked into currency bars on the spot, immediately after the end of the smelting process. Technologically it meant that shapeless, porous iron bloom rich in slag from a furnace was reheated in a neighbouring forge and hammered on an anvil stone into a regular currency bar (see e.g. Peets 2003b, 151). Iron production oriented at trading was not exceptional, at least in the context of the Baltic countries. Regarding Estonia a hypothesis should be mentioned, according to which nearly a half (about 2000 tons) of iron produced in early medieval Saaremaa and Virumaa was exported (Peets 2003b, 135–136). The most vivid example of iron trade in the Nordic countries is Denmark: the first half of the I millennium AD was a period of active iron production, during the period 700–1200 (1300) iron artefacts as well as currency bars were imported, mostly from Norwegian and Swedish iron-smelting centres and workshops (see Buchwald 2005, 9, 205–229, 294, 329). Countries and regions (e.g. Aruvalla) to where Tõdva traded its iron production is a subject for further research.

³ Economists assert that influx of money into some country means positive balance of trade of that country in regard to the country exporting money (see also Leimus 2007, 28).

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METALLURGIAKOMPLEKS HARJUMAAL TÕDVA KÜLAS

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2007. a augustis toimusid eeluuringud ning järelevalvetööd Tõdva külas Ildase talu maale jääval riikliku kaitse all oleval I-II aastatuhandest pärit asulakohal. Uuringute eesmärk oli muinasasula kultuurikihi säilivuse ja iseloomu kindlaks tegemine seoses kaitsealusele territooriumile planeeritud eluhoone ning sellega liituvate kommunikatsioonitrasside rajamisega. Juba 25–30 cm sügavusel satuti neljale põlenud kividega alale, mis esmapilgul näisid sarnanevat Eesti muistsetele asulakohtadele iseloomulike kerisahjude jäänustega. Ometigi tekitas avanenud pilt kõhklusi põhjusel, et kivised alad paiknesid ühel joonel ja jäid üksteisest vaid pooleteist meetri kaugusele. Lisaks sellele oli ebatavaline ka muinasasulatele iseloomuliku leiumaterjali puudumine nii murukamara all kui ka kivivarede peal. Selgitamaks paljandunud mõistatuslike kivilademete päritolu ja ajalist kuuluvust, kohustas Muinsuskaitseamet välitööde juhatajat rajama objektile proovikaevandi (jn 1: 1).

Proovikaevandis (26,2 m²) paljandusid tihedalt üksteise kõrval asetsevad muistsele rauatootmisele osutavad ehituskonstruksioonid – sulatusahjud ja väliääsid. Ühtlasi selgus, et märke varasest rauasulatusest on säilinud kogu Ildase taluhoovi alal (jn 1: 2). Rauatöötlemiseks sobiv koht valiti omal ajal tõenäoliselt pragmaatilise kaalutlusega: moreenpõndak ei passinud maaharimiseks.

Lisaks mainitud leidudele avastati proovikaevandist savinõude kilde, mille hulgas olid esindatud nii kiilapinnalised kui ka võreornamendiga kaunistatud nõude variandid (jn 2). Võremustriga ilustatud keraamika dateeritakse üldjuhul 11.–12. sajandiga, kuid ei välistata ka 10. sajandit.

Otseselt rauatootmisega seonduvatest leidudest avastati erineva suurusega soomaagi kamakaid (jn 3) ning šlakki. Vastupidiselt Ida- ja Kirde-Eesti muistsetele rauasulatuskohtadele puuduvad Tõdva leiumaterjalis savist õhutusdüüsid. On arvatud, et selline tootmistehnoloogia oli kas ida- või lõunapoolse päritoluga. Soomes ja Rootsis kõnealused leiud puuduvad. Sarnasusele Skandinaaviamaade rauatootmisega osutavad Eestis esmakordselt avastatud maapinda süvendatud rauasulatusahjud. Need on laotud (suurtest) kividest ning neil puudub šlaki väljalaskeava (jn 4). Tõdval tehtud avastusel on eriline tähendus, kuna see on teadaolevalt ainus Läänemere idakalda muinasaja lõpusajandest säilinud metallurgiakompleks. Mis puutub rauasulatamisse viikingi- ja hilisviikingiaegses Eestis, siis iseloomustatakse seda perioodi tänini terminiga “tühjad sajandid”.

Juba ammu on diskuteeritud Põhjamaade viikingiaegse hõbedarikkuse üle ja nähtud ühe peamise põhjusena röövretki. Tänapäeval ollakse valdavalt seisukohal, et enamik hõbedat jõudis sihtkohta rahvusvahelise kaubavahetuse tulemusena. Kuid millega muistsed harjulased/rävalased siis kauplesid? Läänemere idakaldalt võis saada kõrgelt hinnatud karusloomanahku, välistada ei saa ka kauplemist teravilja, vaha ja orjadega, kuid tähtsamaks kaubaartikliksi oli ikkagi raud. Seda, et eestlased võisid olla raua ja/või raudesemete eksportijad juba 11. sajandil, on välja pakutud ka varem. Paraku polnud kuni 2007. aastal Tõdval tehtud avastuseni olemas otseseid tõendeid taolise arvamuse toetavaks või kummutavaks kontrollimiseks.

Kuna Tõdvalt välja kaevatud rauasulatusahjudega liituvad omakorda väliääsid, siis võib kindlalt väita, et sealsete ahjude toodang töödeldi kaubarauaks kohapeal, vahetult pärast rauasulatusprotsessi lõppu. Kaubandusele orienteeritud rauatootmise näol pole Läänemereamaade kontekstis tegemist mingi erandliku nähtusega, vaid pigem vastupidi. Eestiga seonduvalt tuleks mainida hüpoteesi, mille järgi olevat ligemale pool (u 2000 tonni) varakeskaegsel Saare- ja Virumaal toodetud rauast maalt välja veetud. Põhjamaade rauakaubanduse ilmekamaks näiteks on Taani: kui esimese aastatuhande

esimesel poolel võib seal täheldada väga aktiivset rauatootmise perioodi, siis ajavahemikul 700–1200(1300) toodi nii valmis raudesemed kui ka toorraua kangid enamasti Norra ja Rootsi rauasulatuskeskustest ja -töökodadest. Kas ka meil on võimalik välja selgitada, milliste maadega Tõdva (ja üsna tõenäoline, et veel mõni teinegi piirkond) kohapeal valmistatud rauaga kauples, näitab edaspidine uurimine.