Saare (*14*, Bez. Põlva, M. Aun), die Burgen in Varbola (*5*, Bez. Rapla, J. Selirand und E. Tõnisson), in Pada (*11*, Bez. Rakvere, T. Tamla) und in Purtse (*12*, Bez. Kohtla-Järve, T. Tamla), die jungeisenzeitlichen Siedlungsplätze in Kääpa (*15*, Bez. Võru, S. Laul) und in Olustvere (*17*, Bez. Viljandi, A. Lavi) und auch der mittelalterliche Dorffriedhof in Otepää (*16*, Bez. Valga, A. Molvõgin). Das Staatliche Historische Museum führte die Ausgrabungen an der Begräbnisstätte in Kõmsi durch (*4*, Bez. Haapsalu, M. Mandel), das Tallinner Stadtmuseum an dem Steinkistengrab in Proosa (Saha-Loo; *7*, Bez. Harju, K. Deemant), das Staatliche Projektierungsinstitut für Kulturdenkmäler (gegründet bei der Reorganisation der Republik-Restaurierungsverwaltung) an der Nikolaikirche in Tallinn (*6*, J. Tamm), der wissenschaftlich-methodische Rat für Museen und Kulturdenkmäler des Kulturministeriums der Estnischen SSR auf dem Burgberg Tartu (zusammen mit dem Tartuer Stadtmuseum; *13*, A. Mäesalu) und auf dem jungeisenzeitlichen Siedlungsplatz in Kuusalu (*8*, Bez. Harju, A. Kraut). Die vorliegende Publikation enthält Vorberichte über die Resultate von 9 Expeditionen und über die Ausgrabungen der Grabstätten in Lahepera im Jahre 1978.

https://doi.org/10.3176/hum.soc.sci.1980.4.05

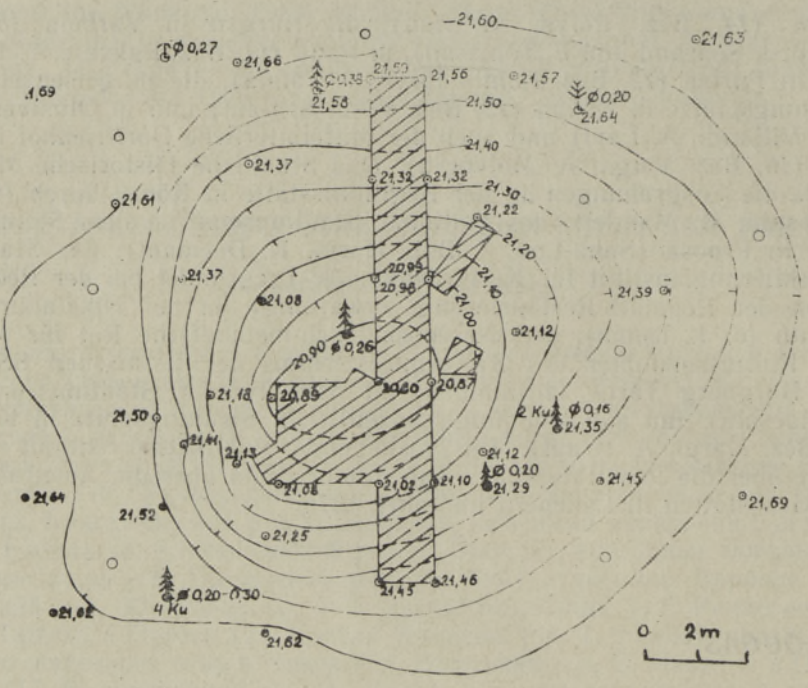
V. LÕUGAS

ARCHAEOLOGICAL EXCAVATIONS IN THE KAALI CRATER AREA

In 1979 it was planned to complete a cycle of arhaeological trial excavations in the Kaali crater area[1] and, thereafter, to prepare for extensive excavations in the lake at the bottom of the main crater. One of the objects of the last year's trial excavations was a crater-like depression at the west side of the crater field, determined as crater N 9 by Moscow scientists (Pl. I, *1*). We hoped to discover here an untouched cultural layer and archaeological finds that would help to date the depression. Crater N 9 is situated west of the Leisi-Masa road in the forest (Fig.), at a distance of ca 100 m NW from crater N 6. This is a regular depression (about 11 m in diameter of 95 cm in depth) covered with dense turf. In the middle of the depression there grows a fir tree. We dug a north-east oriented trench of 10 m in length and 2 m in width, and enlarged it in the middle of the depression by a 2×2 m «tooth» in a westerly direction. The layer of humus in the trench was only 40 cm thick; immediately under it there was a thin layer of morainic clay, and in the centre of the depression there was a funnel-shaped hollow of more than 2.5 m in depth. Since the deepest bottom of the funnel happened to be directly under the fir tree, it was not excavated. The whole funnel was filled with pebbles of different size — from small stones to quite big ones, with dark-coloured humus in between. There we got only 3—4 animal teeth and at the depth of 1.5 m a half of a quern.[2] There were no mixed strata outside the funnel, and this makes the meteoritic origin of this depression questionable. The depression was evidently filled at the end of prehistoric time or during the historic time.

The main crater was surrounded by a simple stone perimeter wall.

[1] Lõugas, V. Archaeological research at Kaali meteorite crater. — ENSV TA Toim. Ühisk., 1978, N 1, pp. 64—66.
[2] AI 5048.



Crater (?) No. 9.

In this year we decided to open a sector of a 470-metre-long stone wall. The width of the wall, made of big pebbles up to 1.8 m in diameter, is 2.3—2.8 m. The foundation of the wall, where the stones are mainly in one (or two) layers, is better conserved at the west, north-west and south-east of the crater. In the north and north-west of the crater the wall runs under a stone fence erected in the 18th century or earlier (Pl. I, *2*), surrounding a former manor yard. We uncovered the base of the stone wall at a stretch of 10 m in length, a 3-metre-wide strip inside the wall and a 5-metre-long and 1-metre-wide sector in front of the wall (Pl. II, *1*). Behind the wall we did not succeed in discovering any definite remainders of reconstruction. Of the finds there may be mentioned only several potshreds all from the same vessel. By its shape and decoration this vessel differs from prehistoric ceramics of Saaremaa and may easily originate from the historic time. Behind and inside the wall we found an abundance of animal bones. In front of the wall there were no bones. Among the bones there were many teeth and fragments of skulls. This shows that the bones got there as a result of some choice. Prof. K. Paaver (Tartu), who examined these bones and determined them, stated that they belong to domestic animals exclusively. Most of all they were bones of horned cattle, followed by those of horse, pig, sheep and dog. Evidently those animals were sacrificed at that spot. It may have been done at the time when the church surveillance prohibited sacrifice in the lake. The foot of the former circular wall limited the place of sacrifice — the sacrificial animal had to be put behind it.

The first trial pumping in the «Lake of Kaali» was undertaken in the late autumn of 1978. It was successful, notwithstanding the extraordinarily rainy autumn and the high level of subsoil water. While boring trial wells it turned out that the deposits of the lake are exceedingly rich

and include much organic material. Since the last field work, the age of the crater has considerably grown (about 1000 years or more); in 1978 we could not yet determine how thick a layer had been generated in modern times when the shores of the lake were subjected to intensive human action. Not knowing this we could not guess how much mud we would extract from the lake by pumping. We decided to obtain this information while digging in 1979 with the help of a caisson. We used a Ø 2-metre caisson, constructed in the kolkhoz «Saare Kalur». One end of the caisson was thrust into the mud. After that we pumped the water and liquid mud out of the caisson and removed from it the stones thrown into the lake. The thicker mud was lifted out by buckets and washed with water on a sieve (Pl. II, *2*). Descending thus bit by bit, the caisson finally stopped at a depth of 2 m, on a thick oak trunk that had fallen radially into the lake. We sawed the trunk through, taking samples for ^{14}C and dendrochronological datings. Deeper we struck a veritable layer of wood — trunk upon trunk of deciduous and coniferous trees, with branches, leaves and other organic material in between. At a depth of 4 m we came across another (this time 1 m thick) oak trunk. There was no hope to saw it through, and here the trial digging broke off, the more so since we had long ago reached a layer that could not be removed from the lake without archaeological excavations. At digging, we ascertained that the mechanically removable layer of mud is 1—1.5 m thick. Under it there is a pile of trees that had fallen into the lake at the time when the woods growing on the bank of the lake were still inviolate, or taboo. The field work having been ended, we asked K. Aluve to determine, by means of the dendrochronological method, the age of the oak found at the depth of 2 m. As it proved, the tree had started to grow in 1181 and had fallen from the stem in 1426. The latter date — the 15th century — may be approximately stated as the limiting date, after which no trees had fallen into the lake. A manor house was built at the crater, the crater itself being in the yard. Besides, after the acceptance of Christianity by the inhabitants of Saaremaa in 1227 and after their repeated defeats, the holy oak grove on the shore of the lake had considerably lost its inviolability, or taboo.

At excavations in 1979 we discovered that the layers of rich organic matter decaying in the lake, produce intensely sulphurated hydrogen, which may amass in lethal concentrations in the holes dug in the mud. This fact is a telling argument for the assertion that in old times the «Lake of Kaali» was considered holy, inviolable. Of course, the depth of this lake of «heavenly origin» was really inaccessible, taking the life of the people who, disregarding the taboo, endeavoured to cast a glance at its bottom. Believing that the main crater of Kaali represents one of the most original and rarest places of sacrifice in northern Europe, we have planned wide-scale archaeological research work in the lake to be carried out in the near future.

V. LOUGAS

ARHEOLOOGILISED KAEVAMISED KAALI KRAATRIVÄLJAL

1979. aastal teostati Kaalis proovikaevamisi kolmel objektil. Kraatriks nr. 9 (joon.; tahv. I, *1*) peetud lohus ei avastatud meteoriidikraatritele tüüpilist stratigraafiat. Kivitäidisest leiti pool käsikivi ja mõned loomahambad. Peakraatrit ümbritsevale 470 m pikkusele müürialusele (tahv. I, *2*; II, *1*) rajatud kaevandist saadi mõningaid eseme-

leide ja arvukalt loomaluid, mille koostis ja paiknemine osutavad, et kraatrit on võidud kasutada ohvripaigana. Kessooniga (tahv. II, *2*), mille läbimõõt oli ligi 2 m, läbiti järves ülemine, 1,5 m paksune mudakiht, mis on järve valgunud viimaste sajandite jooksul, ning võeti selle all paiknevast tüsedast puidu ja muu orgaanilise ainega küllastunud kihist dendrokronoloogiliseks dateerimiseks tükk tammetüve. K. Aluve määras selle kasvuajaks aastad 1181—1426. Kaevamine katkestati 4 m sügavusel.

В. ЛЫУГАС

АРХЕОЛОГИЧЕСКИЕ РАСКОПКИ НА КРАТЕРНОМ ПОЛЕ КААЛИ

В 1979 г. в Каали продолжались археологические исследования трех объектов. В предполагаемом метеоритиками кратере № 9 (рисунок; табл. I, *1*) не было обнаружено характерной для метеоритных кратеров стратиграфии слоев. В заполненной камнями яме были найдены жернов и зубы животных. Во время раскопок основания круговой каменной стены (табл. I, *2*; II, *1*) длиной 470 м вокруг главного кратера собраны отдельные находки и множество костей домашних животных, видовой состав которых и стратиграфия указывают на то, что главный кратер мог служить местом жертвоприношения. С помощью кессона диаметром почти 2 м в озере был пройден верхний слой ила толщиной 1,5 м (табл. II, *2*) и из подстилающего слоя изъята колода дубового ствола, датируемая 1181—1426 гг. (К. Алувэ). Раскопки были прекращены на глубине 4 м.

K. DEEMANT

AUSGRABUNGEN DES STEINKISTENGRABES VON PROOSA

1979 wurde in Proosa eine neue, 16 m nördlich von dem Nordrand der 1974 gegrabenen Fläche[1] gelegene Grabungsstelle (94 m²) angelegt, die den NW-Teil der zu untersuchenden Kalksteinanhöhe einnahm.

Im Laufe der Untersuchungen wurde ein durch Bulldozer zerstörtes Steinkistengrab aufgedeckt. Nur der östliche Teil der aus Granitsteinen gebauten Ringmauer (Durchmesser ca. 8 m) hatte sich erhalten (Taf. III). Der Grabhügel bestand aus Erde und Steinen, wobei Granitsteine meist im NO-Sektor des Hügels auftraten. In der Grabmitte befand sich eine aus horizontalen Kalksteinen gesetzte, nord-südlich gerichtete Kiste (Länge 1,95 m, Breite 0,9 m). Die die Kiste abdeckenden Kalksteinplatten waren zerbrochen. In der Kiste wurden das Bruchstück eines zu ungewissen Zwecken bestimmten Knochengegenstandes (Taf. IV, *1*) und etliche ungebrannte Knochen entdeckt. Wahrscheinlich war das Skelett durch spätere Nachbestattungen durcheinandergebracht worden. Die im NO-Teil des Steinkistengrabes gefundenen Bruchstücke von drei Eisengegenständen (Taf. IV, *2—4*) könnten Kopfteile der Hirtenstabnadeln sein. Hirtenstabnadeln, die hauptsächlich im 1. Jh. u. Z.[2] benutzt worden sind, datieren die Beisetzungen im Steinkistengrab in dieselbe Zeitspanne.

Das Steinkistengrab enthielt aber auch um einige Jahrhunderte jüngere Brandbestattungen. Am häufigsten kamen die der späteren Belegungsphase entstammenden gebrannten Knochensplitter in der Mitte der Grabstätte vor. Datierende Funde sind das Fragment einer bronzenen

[1] Deemant, K. Über die Ausgrabungen des Steingräberfeldes von Proosa. — ENSV TA Toim. Ühisk., 1978, Bd. 27, Nr. 1, S. 81, Abb.

[2] Шмидехельм М. Х. Археологические памятники периода разложения родового строя на северо-востоке Эстонии (V в. до н. э. — V в. н. э.). Таллин, 1955, S. 77.