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A MEDIEVAL SHIP FROM THE PÄRNU RIVER

In May 1990 a wreck of an unknown ship was discovered in the course of the dredging of the left bank of the Pärnu River just by a newly-built pier of the yachtclub. The wreck lay embedded under a 30—40 cm layer of mud at the depth of 1.5 m of water. Before dredging was stopped temporarily, a certain amount of fragments of the ship's planks and ribs were taken ashore by an excavator.

On May 24, 1990, a preliminary inspection of the wreck site was carried out by the researchers of the Estonian Maritime Museum. Having seen that the ship's wood was black oak, the researchers decided that the find would need most serious attention and detailed investigation, so the digging of the river bottom could not be continued.

In July a thoroughgoing research of the wreck was made. The site of the object was explored by means of iron rods and the measurements of the find were ascertained.

In August some of the mud covering the wreck was removed by means of a water-dredge to make it possible to fix the state of the compactness of the find. A narrow longitudinal trench was dug across the wreck in east-west direction. The river mud was found to be fine-grained and easy to remove. The total area of the compact part of the wreck, a probable fragment of the ship's side, was determined to be 8.5 m $\times$ 3.5 m at the maximum. Fragments of Dutch clay pipes, various iron nails, and pieces of medieval Rhine pottery were found in the course of dredging. A sample of wood from one of the ship's planks, analysed in the Laboratory of the Institute of Geology, showed the wreck to date with the probability of 95.4% from 1285 to 1398 AD, the age of the wood correspondingly 615 $\pm$ 35 BP. The result of this analysis (Tln-1473) has been corrected applying the method of Stuiver & Pearson, 1986.

A complementary ^{14}C analysis of the wood of the ship's frame was made at the Institute of Zoology and Botany of the Estonian Academy of Sciences in Tartu. This analysis (TA-2282) dated the wood to the period from 1250 to 1330 AD, with an age of 600 $\pm$ 40 BP.

As an indirect evidence of the ship's age, some fragments of Rhine pottery, found on the wreck, could be taken into consideration. Two pieces of a small earthen jug, a fragment of its neck and a part of the handle damaged by fire, were dated to the 14th century.

Although there is possibly no direct connection between the pottery and the wreck, one should bear in mind that the wreck lay underneath the pieces of pottery and therefore could not be substantially younger.

In conclusion it was considered that the ship could be dated to the turn of the 13th and 14th centuries, being thus the oldest wreck ever found in the waters of Estonia.

The excavation of the wreck had primarily been planned to be done by the Estonian Maritime Museum in May 1991. For some technical reasons the Museum's research vessel *Mare* was not in working order by that time and the authorities of the town of Pärnu suggested that excavation should be done by the diver's club *Süvala* from Saaremaa. In June 1991 the wreck was excavated extremely rapidly without any previous preparation. This affected on the quality of the excavation from the point of view of the further investigation of the find. Thus, the number of artefacts, most necessary for more precise dating of the ship

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and expected to be discovered in the course of the excavation, turned out to be very small.

The research carried out by the Maritime Museum determined that the fragment of the wreck (maximum measurements 7.90 m in length and 3.75 m in width) belonged to the ship's side. The manner of building of the ship is quite robust. The planks were made by splitting oak trunks tangentially. The type of the ship's planking is clinker. The overlapping edges of the planks are joined by means of twice bent iron nails. The wreck has outer planking only. The ceiling planking is missing.

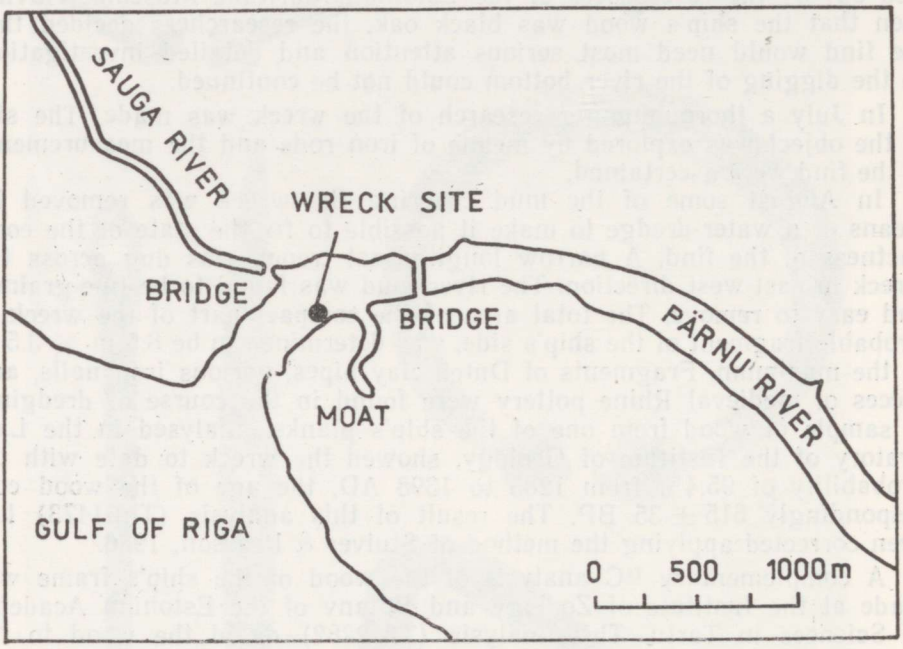

Fig. 1. The wreck site.

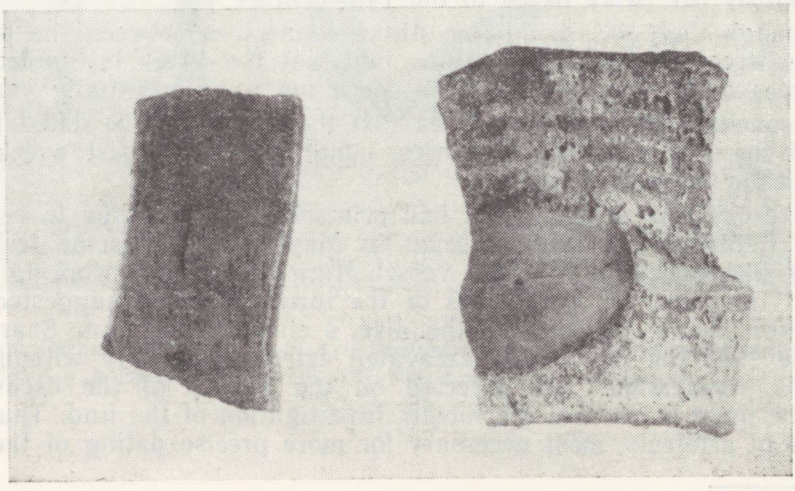

Fig. 2. Fragments of Rhine pottery.

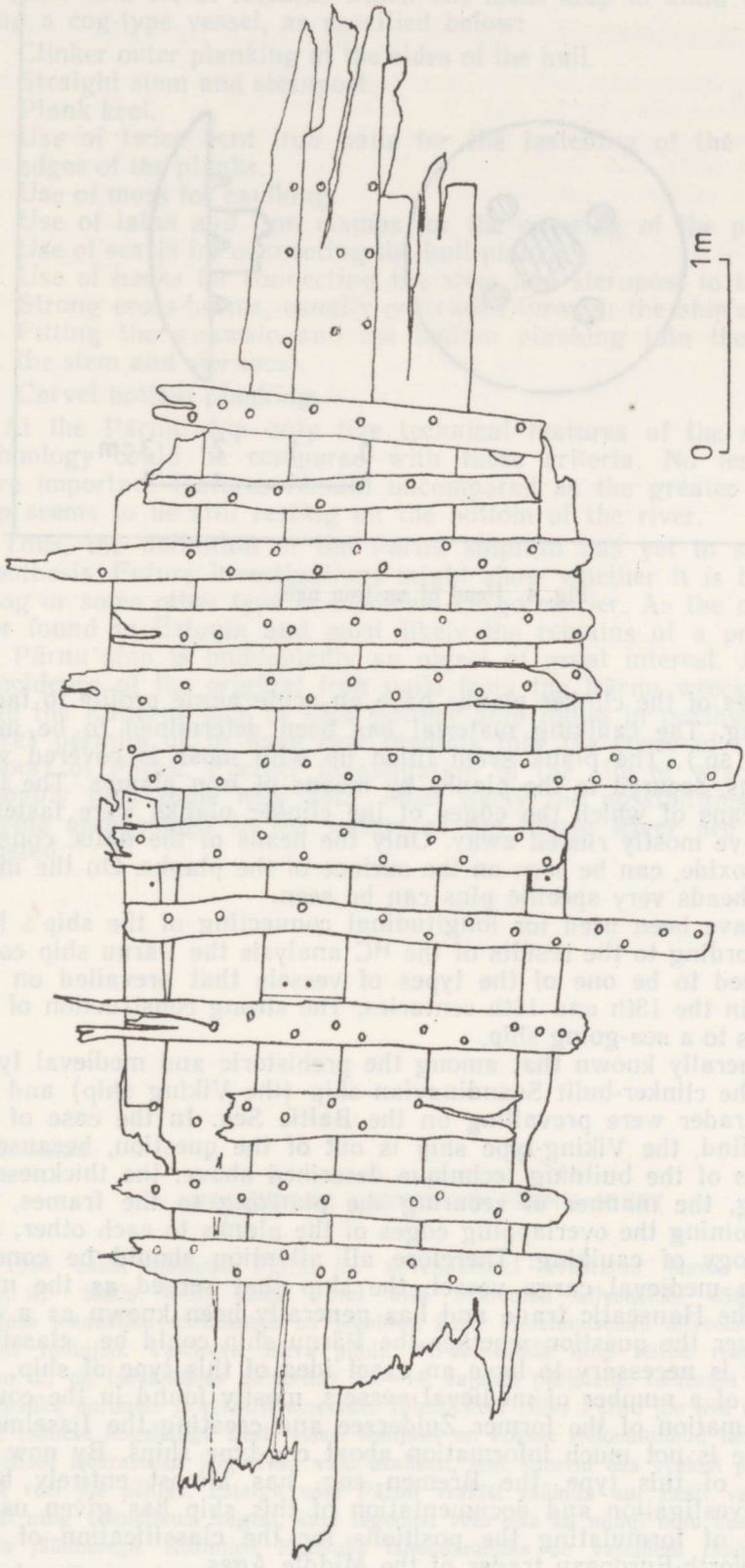

Fig. 3. Fragment of the ship's side.

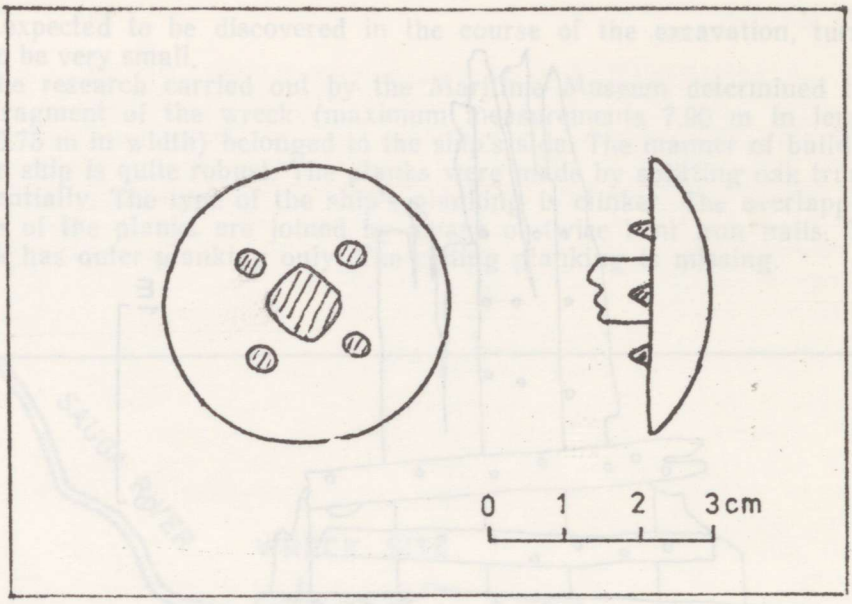

Fig. 4. Head of an iron nail.

The edges of the clinker planks have an acute angle profile to facilitate caulking. The caulking material has been determined to be moss (*Sphagnum* sp.). The plank seam filled up with moss is covered with wooden laths, secured to the planks by means of iron clamps. The iron nails by means of which the edges of the clinker planks were fastened together, have mostly rusted away. Only the heads of the nails, consisting of iron oxide, can be seen on the surface of the planks. On the inner side of the heads very specific pins can be seen.

Scarfs have been used for longitudinal connecting of the ship's hull planks. According to the results of the ^{14}C analysis the Pärnu ship could be determined to be one of the types of vessels that prevailed on the Baltic Sea in the 13th and 14th centuries. The strong construction of the wreck points to a sea-going ship.

It is generally known that among the prehistoric and medieval types of vessels the clinker-built Scandinavian ship (the Viking ship) and the Hanseatic trader were prevailing on the Baltic Sea. In the case of the Pärnu shipfind, the Viking-type ship is out of the question, because of the elements of the building technique described above: the thickness of its planking, the manner of securing the planking to the frames, the method of joining the overlapping edges of the planks to each other, and the technology of caulking. Therefore all attention should be concentrated on a medieval cargo vessel, the ship that served as the main carrier of the Hanseatic trade and has generally been known as a cog.

To answer the question whether the Pärnu ship could be classified as a cog, it is necessary to have an exact idea of this type of ship.

In spite of a number of medieval vessels, mostly found in the course of the reclamation of the former Zuiderzee and creating the Ijsselmeer-polder, there is not much information about cog-type ships. By now the only wreck of this type, the Bremen cog, has almost entirely been restored. Investigation and documentation of this ship has given us an opportunity of formulating the positions for the classification of this important North-European trader of the Middle Ages.

There is a set of features which one must keep in mind when classifying a cog-type vessel, as specified below:

1. Clinker outer planking at the sides of the hull.
2. Straight stem and sternpost.
3. Plank keel.
4. Use of twice bent iron nails for the fastening of the overlapping edges of the planks.
5. Use of moss for caulking.
6. Use of laths and iron clamps for the covering of the plank seams.
7. Use of scarfs for connecting the hull planks.
8. Use of hooks for connecting the stem and sternpost to the keel.
9. Strong cross-beams, usually protruded through the ship's sides.
10. Fitting the gunwale and the bottom planking into the rabbets of the stem and sternpost.
11. Carvel bottom planking.

At the Pärnu ship only five technical features of the shipbuilding technology could be compared with these criteria. No less than six more important features remain uncompared as the greater part of the ship seems to be still resting on the bottom of the river.

Thus, the definition of the Pärnu shipfind has yet to stand as an hypothesis. Future investigations might show whether it is the wreck of a cog or some other type of medieval cargo carrier. As the oldest wreck ever found in Estonia and most likely the remains of a probable cog, the Pärnu ship is undoubtedly an object of great interest. A particular coincidence of the original iron nails from the Pärnu wreck with those from the Kollerup cog (a 13th century ship found in northwestern Denmark) permits us to have new insights into the trade of the medieval seaport of Pärnu. Further investigation of the site of wreckage would probably give some new data. Most likely the possibilities offered by marine archaeology in the waters of the Pärnu River are not yet exhausted.

Vello MÄSS

KESKAEGNE LAEVALEID PÄRNU JÕEST

1990. aasta maikuus Pärnu jõe süvendamisel avastatud laeva küljefragmendi (joon. 3) tõstis 1991. aasta suvel üles Saaremaa allveeklubi «Süvala». Laevajäänuse teadusliku uurimisega on tegelnud Eesti Meremuuseumi allveearheoloogia osakonna töötajad. Vastavalt laeva puidu ^{14}C-analüüsile ning leitud reini keraamikale (joon. 2) on laevajäänus dateeritav 13.—14. sajandi piirimaile. Lähtudes Bremeni koge teadusliku uurimise ja rekonstrueerimise tulemustest võiks Pärnu jõe leiu näol olla tegemist esimese kogeleiuga Eesti vetes. Kahjuks on kogele iseloomulikud laevaehitustehnoloogilised iseärasused jälgitavad vaid osaliselt, sest suurem osa vrakist puhkab tõenäoliselt veel jõe põhjas. Esialgu võib Pärnu vrakist rääkida kui Eesti vanimast laevaleiust ning võimalikust kogest, kuid tegemist võib olla ka mingi muu keskaegse kaubalaeva jäänustega. Küsimuse lõplikuks lahendamiseks on vajalikud täiendavad allveearheoloogilised uuringud.

Велло МЯСС

СРЕДНЕВЕКОВОЕ СУДНО СО ДНА РЕКИ ПЯРНУ

В ходе дноуглубительных работ на реке Пярну в мае 1990 г. была обнаружена часть борта затонувшего судна (рис. 3). Летом 1991 г. она была поднята на поверхность водолазами Сааремааского клуба «Сювала». Научным изучением находки занимались сотрудники отдела подводной археологии Морского музея. Согласно ^{14}C-анализам и найденной рейнской керамике (рис. 2), судно датируется рубежом 13—14 вв., т. е. мы имеем дело с древнейшим из известных в Эстонии судов. На основе результатов научного исследования Бременского когга можно предполагать, что обнаруженный остов принадлежит судну того же типа. К сожалению, на остове представлено менее половины присущих судам типа когга технологических особенностей. А поскольку бóльшая часть судна, по всей вероятности, все еще покоится на дне реки Пярну, то сомнения относительно его типа — когг или какое-нибудь другое средневековое торговое судно — разрешат, видимо, дальнейшие подводно-археологические работы.

Lühendid — Abkürzungen — Сокращения

AI = Eesti Teaduste Akadeemia Ajaloo Instituut — Institut für Geschichte der Estnischen A.d.W. — Институт истории Академии наук Эстонии

AM = Eesti Ajaloomuuseum — Estnisches Historisches Museum — Эстонский исторический музей

PäM = Pärnu Muuseum — Pärnuer Museum — Пярнуский музей

TLM = Tallinna Linnamuuseum — Tallinner Stadtmuseum — Таллиннский городской музей

TMN = Eesti Kultuuriministeeriumi Teaduslik-Metoodiline Nõukogu — Wissenschaftlich-methodischer Rat am Estnischen Kulturministerium — Научно-методический совет Министерства культуры Эстонии