

CLAY PIPES FROM THE MAN-OF-WAR KRONAN

by Arne Åkerhagen, December 1998

The man-of-war [Kronan](#) went down on August 1, 1676, outside Hultestad on the east coast of Öland and was rediscovered by Professor Anders Franzén and his divers on August 8 1980.

Since 1981, underwater archaeological excavations on the wreck of the Kronan have been carried out under the guidance of the marine archaeologist Lars Einarsson. Kronan is not only a shipwreck, but also a time capsule of Swedish seventeenth-century history. Unlike the man-of-war [Vasa](#), which was not fully equipped when it went down, Kronan represents a seventeenth-century community in miniature. The wreck contains a treasury of social history for the period (Einarsson 1996).

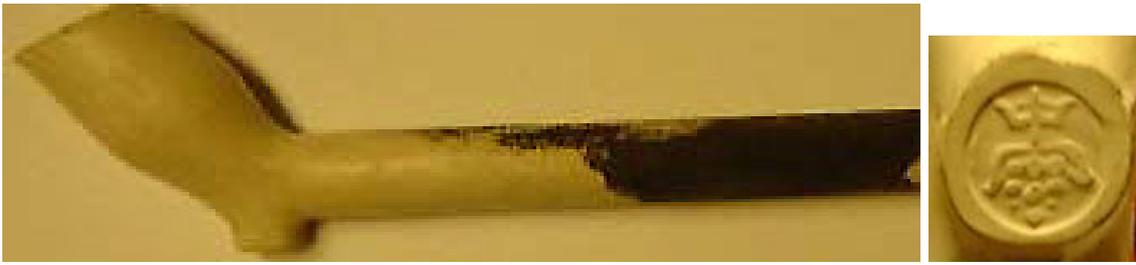
A wide range of objects have been recovered and preserved by the conservator Max Jarehorn during the past few years. In addition to a large number of canon and hand weapons, navigational instruments, writing and drawing tools, there were personal objects belonging to both the crew and officers. These included their clothing and dress fittings, tin objects, working tools for a number of professions, including carpenters, sailmakers and musicians, as well as gold coins, silver, and copper. It is, however, the clay tobacco pipes and tobacco that will be dealt with in this report.

The keel of the Kronan had been laid in 1665 but the ship was not fully fitted until 1672. The date of the wreck is well documented and so the pipes constitute a group of closed finds dating to no later than 1676. This precise dating means that both in England and Holland the date of manufacture of certain pipe styles has to be reviewed. The author has had the privilege of studying the clay pipe finds up to the 1998 excavations.

A total of about 136 pipe bowls have so far been recovered from the wreck. Approx. two-thirds of the pipes are of English and approximately one-third of Dutch manufacture. The majority of the English pipes appear to be from Yorkshire in North East England, with a few from the London area. The Dutch pipes are of Gouda type and their quality varies from very good to bad. Among the very good ones, are the polished Dutch pipes with clear markers marks under the heels.



Dutch pipe of high quality manufactured in Gouda approx. 1670



Dutch pipe manufactured by Jan Proefhammer in Gouda, active as from 1660

Study of the pipes has revealed a number of interesting details about them. A number of the broken pipes have clear "bite marks" on the stem caused by wear from the teeth. This shows that the pipes had continued to be smoked even after that they had been broken. Another observation is a peculiar damage on Dutch pipes where the surface has "blown up" and small pieces flaked off. This seems to have been caused by hidden impurities in the clay, which have expanded during burning more than the clay could take. They are most probably iron impurities. The phenomenon has also been noted on pipes in the private collection of the author. Further investigation of this phenomenon is being carried out.



Impurities on the pipes from Kronan



Impurities on the pipes of the author

Among the English pipes, there is a type known as the "Yorkshire bulbous". This type of pipe has a thick round bowl with a broad, flat heel. It was a regional style produced during the second half of the seventeenth century and takes its name from the county of Yorkshire, where it was most commonly made and used.

In an officer's coffer 21 of these distinctive pipes were found. Twenty of them were found together at the very bottom of the coffer, while one was easily available in the upper part of the coffer. Out of the 20 pipes, nine were complete and whole.

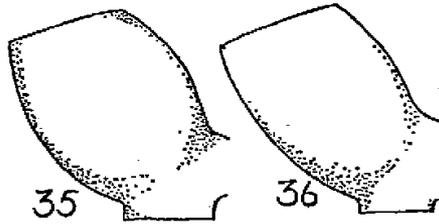


The author with one of the "bulbous" pipes



Yorkshire bulbous from different angles

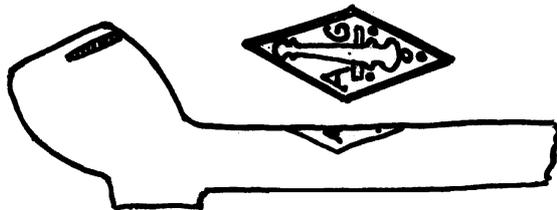
J E Parsons (1964) has dated the manufacture of Yorkshire Bulbous pipes to c1650-90 and notes that these pipes usually had the manufacturer's initials stamped under the heel or on the upper side of the stem.



York bulbous according to a sketch of E Parsons

All the bulbous pipes from the Kronan have so called milling as decor around the upper edge of the bowl. Only one of them has a maker's mark, which had been placed on the upper side of the stem.

This is a lozenge shaped mark containing a cannon, which is flanked on either side by letter AG. A similar lozenge shaped mark containing a cannon flanked by the letters CC has been found in the Durham area of England (Oswald, 1975, Fig 13.22). This is also thought to have been a Yorkshire product.



Cannon decor on the pipe from Kronan



Oswald's cannon decor

Some of the other English pipes on the Kronan appear to originate from London. Most of them are of London Type 15 and 18, which were manufactured c1660-80 (Atkinson & Oswald 1969, Fig 1).



London type 15 pipe



Type 18 pipe

One pipe of London Type 18 had a round piece of wood in the bowl with a hole in the middle. What it was used for is somewhat unclear. It cannot be a spark cover since it would burn out. But it could have been a cover for the tobacco. This pipe also shows bite marks on the stem, which is not unusual. Several pipes have been found with similar marks. This proves that the pipes were not "disposable items". But they were used as long as they could be kept between the teeth.



A pipe of the type 18 with bite marks and "Tobacco cover"

BITE MARKED PIPES

It is often said that clay pipes were a "disposable commodity" but the evidence from the Kronan suggests that this was not always the case. It is true that the pipes were somewhat fragile but it as they broke and there was a piece of the stem left, they were still used. A broken pipe will last longer then a whole one with a long stem and it is easier to carry with you. They would have been rather hot to keep in the hand so people probably used some kind of gloves or held the pipe between the teeth until they had finished smoking.

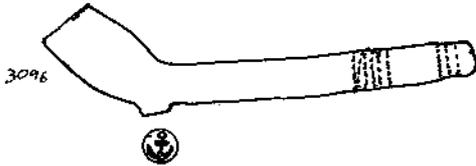
Several of the pipes found on Kronan show clear bite marks on the stem. It seems likely that pipes with bite marks were used by a lower group within the social scale of the ship, that is, the crew. It hardly seems probable that the officers would go around smoking broken pipe stumps.



Piece of stem with clear
with bite marks, scale 1:1.



Pipe of Yorkshire type with bitemarks,
scale 1:2.



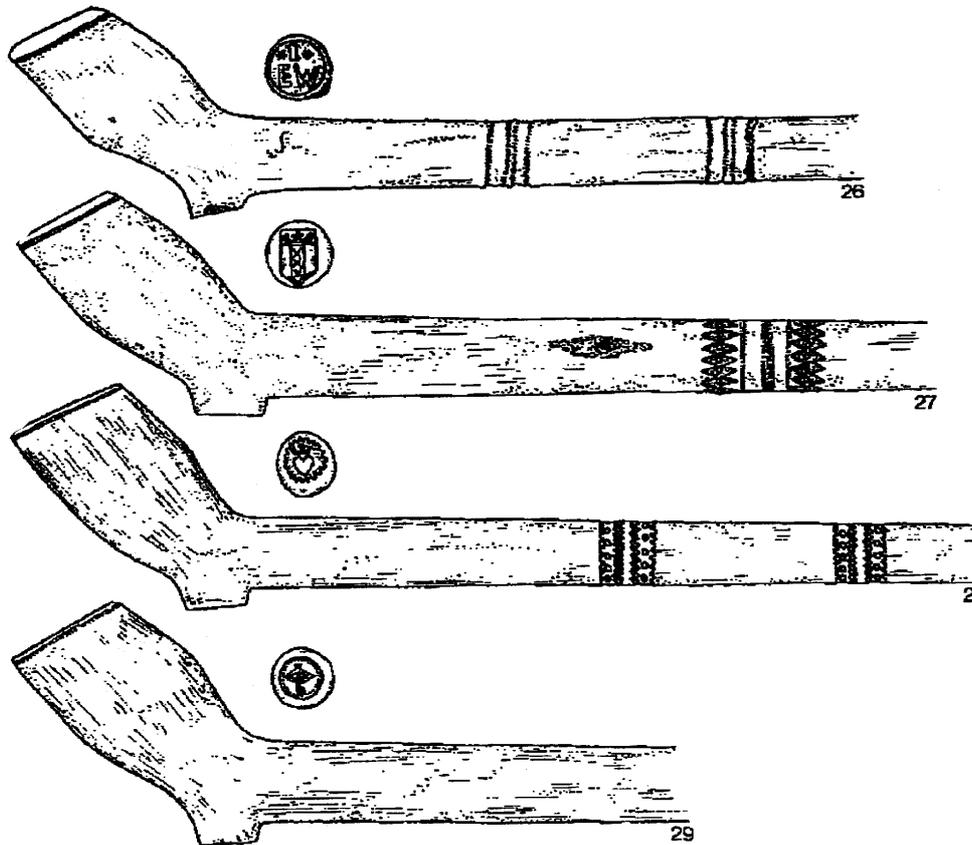
Gouda pipe with bite marks,
scale 1:2.



English pipe with bite marks,
scale 1:2.

DUTCH PIPES WITH HEEL MARKS

The pipes of Dutch manufacture found on the Kronan are of the type shown below taken from Don Duco's book "The Nederlandse Kleipijpen".



Typical Gouda pipes from 1640-75

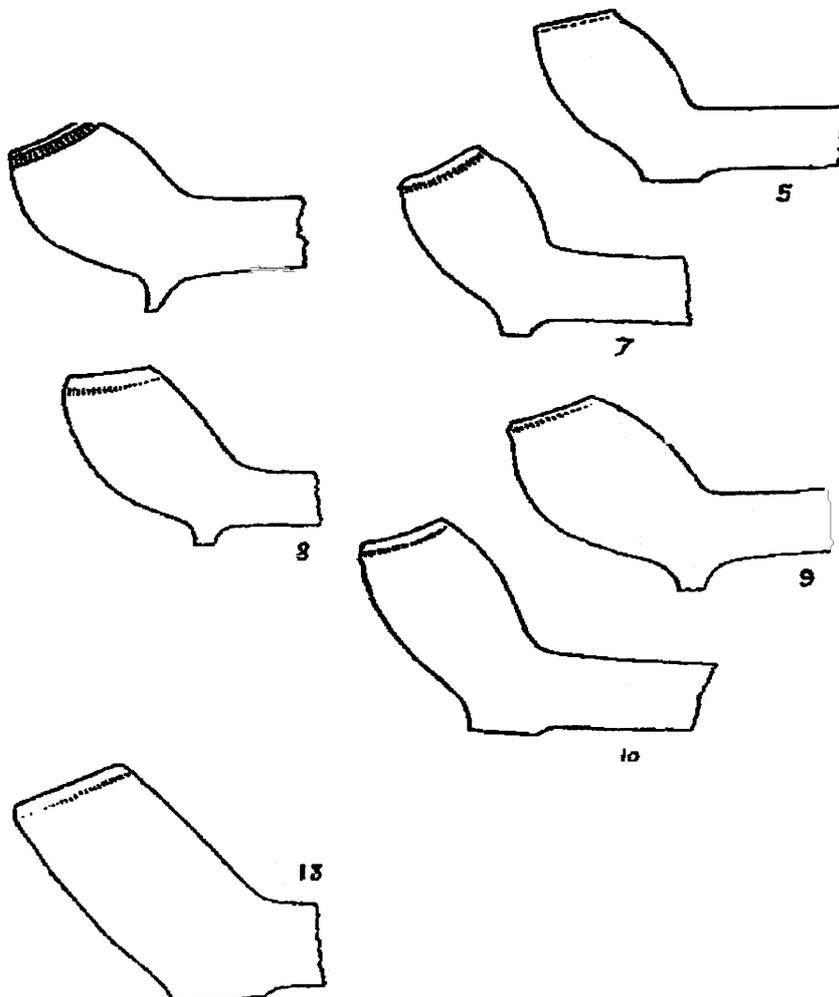


Heel marks on Dutch pipes from Kronan

ENGLISH PIPE TYPE

Besides the "Yorkshire bulbous" pipes there were also other styles of English pipes found on the Kronan. Some of these can be related to the drawings shown below which are taken from Atkinson/Oswald's book "London Clay Tobacco Pipes".

The pipes numbers 6, 8 and 9, with a spur rather than a heel, are also common in North East England, which is the same area as the bulbous pipes. One interesting aspect of the English pipes from the Kronan is that there are about as many spur pipes as heel pipes on the wreck. Although spur pipes were produced in both London and Yorkshire they were never as common as the heel types. This might suggest that either the spur pipes were particularly favoured by the crew or that some of these pipes were in fact produced elsewhere.

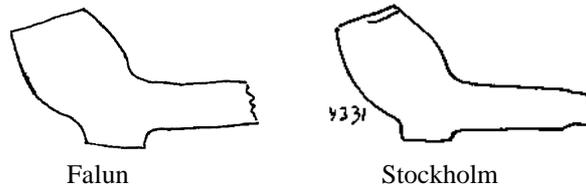


Typical London pipes from 1640-80.

COMMENTS

A question that will probably never get an answer is *How did the pipes come onboard the Kronan?*

Yorkshire bulbous pipes have been found on the man-of-war Vasa 1961, in Falun 1986, and in the cellar of the Musical Academy in Stockholm in 1996. Other finds are unknown to the author.



Haninge, December 1, 1998

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Literature

Atkinson D & Oswald A, 1969, 'London Clay Tobacco Pipes'. in *The Journal of the British Archaeological Association*, volym 32 ,sid 171-227.

Oswald A, 1975, *Clay pipes for the archaeologist*, British Archaeological Reports, British Series No 14, Oxford.

Duco D H, 1987, *De Nederlandse Klei pijp*, Pijpenkabinet, Leiden.

Parsons J E, 'The archaeology of the clay tobacco-pipe in North East England', *Archaeologia Aeliana*, 4th Series, XLII, 231-54.

Einarsson L, 1996, *Fact Sheets* regarding Kronan issued by Kalmar County Museum.