

Marcis Kalniņš

Riga, Latvia

Silurian Flint as Raw Material in the Neolithic (5400-1800 BC) in Present-day Latvia

For tool production in present-day Latvia starting from the Mesolithic along with imported Cretaceous and Carboniferous flint was used “local” raw material – Silurian flint as well. Silurian flint by its physical and knapping characteristics differ from imported. It is “softer” and less homogeneous, therefore it has been described by researchers as poor quality raw material. It has been observed that in present-day Latvia pebbles of Silurian flint occur most commonly in the northern part of the country and pebbles of flint thought to be of the same geological age occur on the beaches of the Kurzeme Peninsula.

Neolithic artefacts and production waste showed that in present-day Latvia Silurian flint mainly was used during the Middle Neolithic (4100 – 2900 BC). Small number of artefacts made from Silurian flint was found in the Late Neolithic sites as well. However in the Early Neolithic sites this raw material has not been found yet. Size of Silurian flint pebbles are rarely greater than 10 cm, therefore it was mainly used for small scale tool, such as scrapers and arrowheads, production.

Geographical distribution of debitage and artefacts produced from Silurian flint pointed out that most widely it was used in sites in the coastal belt of the Kurzeme Peninsula by the users of Comb Ceramic and Early and Late Sārnate Ware. Small count of artefacts produced from this type of flint were found in inland sites in western and eastern Latvia as well, particularly in the environs of Lake Zebrus and Lake Lubāns. In western Latvia artefacts were found in context with already mentioned ceramic types, however in eastern Latvia they were found in context with Comb Ceramic and Piestiņa Ware. Ceramic wares such as Piestiņa in eastern Latvia and Early/Late Sārnate in the west manifest a combination of traits deriving from Comb Ceramics as well as from the Narva Ceramics of the Early Neolithic.

Analysis of debitage and artefacts from Silurian flint revealed differences in knapping techniques used by Comb Ceramic users and Early/Late Sārnate Ware users in the western Latvia. The first difference was way how Silurian flint pebbles were splitted into flakes, what was main blank type during the Middle Neolithic in present-day Latvia. The Comb Ceramic users reduced pebbles to platform cores, however the Early and Late Sārnate Ware users used pebbles cortex as platform. In that way, Early and Late

Sārnate Ware users produced much thicker and in size larger tablets shape flakes. The second difference is that only Comb Ceramic users produced biface arrowheads from Silurian flint. Most of these arrowheads were produced using percussion and pressure flaking together. However Early and Late Sārnate Ware users produced biface arrowheads from Cretaceous flint and mostly only with bifacial pressure flaking along the edges. That the users of Comb Ceramic in western Latvia in particular used Silurian flint for biface production using percussion and pressure flaking most probably can be explained in terms of the fact that this is the periphery of the area of distribution of Comb Ceramics, where was inadequate access to Cretaceous and particularly Carboniferous flint, which related with tradition of biface arrowhead production using percussion and pressure flaking techniques in eastern Latvia.

Silurian flint as raw material is highlighting spatio-temporal pattern of cultural traits, technology transfer inside and between cultures, as well as trading network role for distribution of different flint knapping technologies that were used in present-day Latvia and adjacent areas during the Neolithic.