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**Sinope and Heraclea Pontica: Observations on their Influence on Roofing Tile Production in the Pontic Region**

The production and export of roofing tiles played a major part in the economy of Sinope and Heraclea Pontica. The study of roofing tiles from these two centres in the Greek colonies on the northern Black Sea coast has resulted from the accumulation of data about their shapes, their use with local production and other imports, their influence on the local production and certainly the analysis of the stamps on Sinopean pan tiles and Heracleian pan and cover tiles. An important place is reserved for the stamps on Sinopean tiles from Histria and Callatis as well, because it is assumed that at least some of the front tiles with meanders that were discovered in Histria were imported from Sinope.

This paper offers observations of roofing tiles in the Western Pontic cities of Odessos, Mesambria and Apollonia Pontica and the influence Sinope and Heraclea Pontica had on them. The evidence available so far allows such observations to be made for the period from mid-4<sup>th</sup> to late-3<sup>rd</sup> c. BC.

First, the paper presents data about stamped Sinopean tiles from Dionysopolis, Odessos and Apollonia. It is interesting to note the presence of Sinopean pan tiles in the Getic capital Helis (near the town of Ispirikh in northeastern Bulgaria). Although limited, this evidence offers strong proof of the importation of pan and cover tiles from Sinope. Still more limited is any evidence of stamped tiles from Heraclea Pontica in Mesambria and Apollonia Pontica. However, it should be stressed that evidence depends on the state of research and the possibilities for further investigations in those cities, and that probably a large portion of the information has been lost.

Second, evidence of the use of roofing tiles in the listed Greek cities is presented; this restores at least part of the overall picture. Due to observations of intact specimens from the necropoleis of Apollonia Pontica and Mesambria, as well as the result of investigations of sites in the territories of the poleis, the shapes and dimensions of the tiles have been established. Within that period, the use of Corinthian pan and cover tiles has been determined, as well as that of Laconian cover tiles, thus illustrating the existence of Corinthian and mixed roofing systems. The shapes and sizes of the pan and cover tiles attest to the use of standards regarding roofing tiles in Olbia. This differs from tiles used in the Bosporan Kingdom.

Here, it is appropriate to mention that the production of *moschos* was possible to determine due to its specific clay. It is represented among the materials from Olbia, Odessos, Mesambria and Apollonia Pontica and is found in Corinthian pan and cover tiles, front pan and cover tiles, and *simai*. All these items are represented in the above-listed cities, clearly demonstrating the scope of tile production and trade, as well as the use of specific standards.

Another important group of materials in use in the western Pontic cities is the so-called "Heraclea Series," that includes Corinthian pan and Laconian cover tiles, front pan tiles with meanders, and front cover tiles. This group is represented at numerous sites, including the Getic capital Helis, Dionysopolis, Mesambria and its immediate surroundings, and Apollonia Pontica. Descriptions of some of the tiles discovered in Olbia and Histria suggest that the Heraclea Series was represented there as well. Some

constructive specifics in the shape of the pan tiles contradict their identification as a production of Heraclea itself, but the presence of large amount of black inclusions speaks of technology or sources of clay that resemble the Heracleian. The accumulation of archaeological finds in recent years has been accompanied by archaeometrical investigations of sources of clay around Apollonia Pontica and Mesambria. The results, in particular those from the region of Mesambria, were compared to samples taken from tiles and are encouraging for the localization of at least part of the production in the area.

The opinion voiced by leading experts that the production of roofing tiles in Olbia was influenced by Sinope, and that in Chersonesos by Heraclea, could be indirectly confirmed by the development of the use of tiles in Odessos, Mesambria and Apollonia Pontica. They were all using the same metric standards – a sign of the influence that only leading economic and productive centres such as Sinope and Heraclea could have exercised in the region.