

Objective of the project

The geographical positioning of Cyprus at a historical meeting point of trade routes linking Europe, Africa and Asia, the long periods of influence from and dependence on neighbouring political, economic and cultural powerhouses, and the ethnic diversity of the island's inhabitants have all contributed to both the shaping of the unique nature of the island and to its stormy past. It also accounts for the constant and intense flow of people and goods across its lands. After the death of Alexander the Great in 323 BC, Cyprus was embroiled in the conflicts of his successors, before the Ptolemies definitively assumed control of the island in 294 BC. The policies of the new leaders put an end to the political, economic and cultural fragmentation of the island into small units, leading to the emergence of a single, centralised model of governance. The end of the Hellenistic period on the island came with its capture by the Romans in 58 BC.

The most rapidly developing polis in this period was that of Nea Paphos, which was founded at the end of the 4th century BC and possessed a modern port. At the end of the 3rd century BC, it became the most important of the island's poleis, with its greatest attribute being its strategic location, both from a military and economic standpoint, largely due to its proximity to Egypt and dense forestation of the Nea Paphos region, which provided wood supplies for constructing a fleet. Its economic importance is attested by the discovery of numerous fragments of transport amphorae, both imported and presumably manufactured locally. Amphorae, large clay vessels, were used mainly as containers for transporting and storing consumable products. They are an excellent source of information for detailed research, e.g. into the local production of ceramics, as well as its organisation, the contents of amphorae, and the city's economy.

The aim of the project is to identify and characterise transport amphorae discovered in Nea Paphos, both imported and, in particular, produced in the region of Nea Paphos, based on the characteristics of the fabric, shape and dating; also, to investigate the contents of selected examples. The next aim is to define the Nea Paphos economy from the point of view of its role in sea trade (importer, producer, exporter, transshipment point), directions of the trade, the city's role in financing it, and the organisation of local transport amphora production.

Basic research

Data source: The studies will involve unpublished Hellenistic transport amphorae uncovered in the ancient Nea Paphos during excavation work at *Maloutena* (University of Warsaw, led by W.A. Daszewski until 2008, currently by H. Meyza), *House of Orpheus* (University of Cyprus, led by D. Michaelides), and Agora (Jagiellonian University, led by E. Papuci-Władyka), on permission from the Department of Antiquities of Cyprus. The sites are located within the walls of the ancient city of Nea Paphos. Today it is an Archaeological Park, whose monuments are inscribed on the UNESCO World Heritage list. Such choice of material will enable the study of a representative assemblage of amphorae used in one city at a given time. *Documentation:* The amphorae are kept in storerooms of the District Archaeological Museum in Paphos, where a part of the research will be conducted. It will begin with documenting amphorae: describing their shape, dimensions, and characteristics of the fabric. This information will be placed in an electronic database. Each copy will be drawn and photographed. *Provenance of amphorae:* Some of the most important information sought in the project is concerned with the production sites of the analysed amphorae, in order to determine **from where** they arrived in Nea Paphos. This can be answered through the analysis of mineral composition of the fabric, which, when compared to the geology of different areas (mainly Mediterranean) will indicate the area where such fabric could have been obtained. Experts in respective laboratories will carry out petrographic studies (thin section method), as well as a chemical analysis of the amphora fabric (*XRF* and *NAA*). These will be preceded by a preliminary analysis of amphora fabric in Paphos and sampling of selected objects. Amphorae's place of origin may also be indicated by their shape and, for some of them, a stamp – features specific to individual production centres. It is important to distinguish between amphorae imported to Paphos from various centres outside and on the island, but also define which examples could have been produced in the city itself. *Dating of amphorae:* studies will be conducted to determine the age of amphorae, in order to answer the question of **when** they were used in Nea Paphos. The examination will involve only amphorae discovered in Hellenistic deposits, or in the company of other monuments dating back only to this period; which suggests that they were not in use at later times. The age of an amphora will also be determined based on the features of its shape and fabric through a comparison with amphorae discovered at other archaeological sites (e.g. in ceramic workshops), where the dating has already been defined. *Number of amphorae:* The research will also aim to define **the number** of amphorae from production centres that were in use in the city in early, middle and late Hellenistic period. As they have survived in fragments, the rims and toes will be counted, before conducting statistical calculations (e.g. Kendall's tau method, Robinson's compliance factor, and Kintigh's equality of occurrence) in order to determine the proportion of amphorae from that centre to the total assemblage from the three periods. The findings will be used to describe the dynamics of Paphian trade. *The contents of amphorae:* transport amphorae provide evidence that main products in circulation were wine and olive oil, but also pitch, used e.g. in ship construction. Most of the information about the content comes from ancient written sources. On/inside the amphora walls, traces of organic residue remain, whose composition can be determined through chemical tests, although they are still rarely undertaken. The project will examine organic residue from selected examples (using GC and GC-MS methods) to determine **what products** were contained in specific types of amphorae. *Economy of Nea Paphos:* Results of detailed studies will be applied to the economic model developed by M. Lawall for the transport amphorae discovered in Athens, Troy and Ephesus. It illustrates the economic issues of each of these centres and the relations between them. Its elements include: the city's place in the exchange of goods by sea (manufacturer, exporter, importer, transshipment port), the directions of the flow of goods, the city's role in financing trade, and the organisation of amphora production. Adding information to the model based on amphorae discovered in the area of Nea Paphos will, on one hand, help illustrate the economy of the city, and on the other – extend the territorial scope of the discussion. The findings of research undertaken within the project will be presented at academic conferences, in articles, and in an English language monograph. For the purposes of promotion and information, a website of the project will be created.

Reasons for choosing the research topic

- Studies conducted so far on Hellenistic amphorae discovered in the area of Nea Paphos and on its economy are selective in their nature. The attention of researchers has been focused primarily on stamped amphora handles (more than 2,000 examples, which

on average accounts for approx. 10% of the discovered material), while unstamped fragments have been examined to a very small extent (tens of examples). Most fully identified and discussed fragments are from Rhodes, based on which it has been concluded that Rhodes was the main trading partner of Nea Paphos in the Hellenistic period. Meanwhile, a preliminary study of a full assemblage of amphorae discovered in the area of Nea Paphos indicates that the relations of the two centres were much more dynamic, and that Rhodian products were largely forced out of the Paphian market after the first half of the 2nd century BC by Koan and Knidian style amphorae, most likely produced locally. Among the amphorae uncovered in the area of Nea Paphos there are examples from centres other than Rhodes (in the literature only stamped fragments of some of them are mentioned), as well as a large group of unknown provenance. Identification and analysis of these objects will shed new light on the economy of Nea Paphos and the Mediterranean basin in the Hellenistic period.

- Confirming and describing the characteristics of amphora production in the area of Nea Paphos will allow in the future to identify the vessels not just at sites in Cyprus, but also in other centres within the Mediterranean basin, and will help determine the direction and scale of export and import of Paphian products.
- The application of Lawall's economic model will allow the findings to be presented in a clear way, easy to use by specialists from other disciplines, such as ancient historians and economists, enabling a dialogue between scholars.
- The analysis of organic residue from amphorae (still rarely undertaken) will help determine the types of products that were transported and/or stored in the analysed examples, but also serve the discussion on agricultural crops or products manufactured and circulated in the ancient world, as well as the ancient diet.
- The proposed studies of the Hellenistic amphorae, involving multiple aspects and applying methods from various scientific disciplines (archaeology, geology, chemistry, statistics, economics) have not yet been conducted on the Paphian ground, or even in Cyprus, and are therefore innovative in nature.
- The research undertaken within this project will contribute not only to improving the awareness of cultural heritage and history of Cyprus, but also enable a continued long-term participation of Polish specialists in the process.
- Furthermore, the research will promote Polish science home and abroad, and will result in international and interdisciplinary collaboration.