Eötvös Loránd University
Faculty of Humanities

PhD Thesis
Summary

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The trade of Pannonia in the light of amphorae
(1st - 4th century AD)

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I. Previous research and research aims

The comprehensive research of clay vessels (amphorae), made for the long-distance transportation of imported liquid and consistent goods (wine, oil, fish sauce, fruit products, alum and oyster (?)), which appeared in Pannonia from the beginning of the 1st century AD has been started in the 1970s. Previous research included the regional collections undertaken in southern Pannonia by Olga Brukner, along the Amber Road by Tamás Bezeczky, and the work of Márti H. Kelemen, which covers the whole province. Recently, parallel to this thesis Anna Nagy has collected data in Szombathely and county Baranya.

The transportation of wine, oil, fish-based products, exotic (preserved) fruits and olives were widespread from the Bronze Age in the Mediterranean and they were often packed into amphorae. This made possible for archaeological research to outline extended trade networks, politico-economical events and cultural changes. The primary aim of my thesis was to show the widest possible spectrum of amphorae, which arrived to Pannonia; to analyze their trade and economic aspects, occasionally pointing to political, military events and cultural movements, connected to amphorae. The interpretation of these factors helps a better understanding of the role of the province within the Roman Empire and the life of the inhabitants in the 1st to 4th centuries AD. It is important to underline that the main concern of amphorae finds in the research of Pannonia are related to the trade of the goods transported in them, which are good indicators of the culinary habits, economic relations and the emergence of the imperial tendencies. It was not possible to keep the chronological limitations pragmatically, since both the vessel forms and the history of the province required to review the history of the 1st century BC and it was also somewhat relevant to refer to finds from the 5th century AD or later. However, my time frame, which was set between the 1st and 4th century AD indicates the chronological limits, within which, according to my opinion, it is possible to talk about amphora trade.

II. Methodology and Structure of the Thesis

The basis of the thesis is the data collected between 2000 and 2013 and recorded in an Access database. That database contains the published amphorae material from Pannonian sites and those unpublished finds, which I had access to. All together I have analysed 2559 amphora finds from 49 Pannonian sites in this thesis. This is twice as many amphora finds as it was published previously from the province. Accordingly it was possible to double the number of identified types, which helped to improve our understanding of the trade of the province and
the supply of the army, stationed in Pannonia. In the data collection, just as in my MA thesis –
I have applied the internationally used Hamon – Hesnard method. According that, primarily
the diagnostic finds are counted of, mainly sherds where the exact typological classification
had bigger likelihood (rim-, handle-, spike and bottom sherds) or had epigraphic data on them
(they have inscriptions or stamps). During the data collection I have made photo-
documentation and/or drawings about the sherds. I have also collected samples from the
amphora finds and examined them under microscope in tenfold and twenty-fold
magnification. A photo-documentation was made about the samples, so in the analysis it was
be possible to compare them to each other and to data from other databases.

The order of the typological classification of the amphorae in the thesis considers the
place of production and the chronological framework. On the basis of that in the second
chapter of the thesis I have the following sub-chapters for the different kind of amphora types:
1) Panprovincial type: Dressel 2-4, of which variants were produced in the whole Roman
empire. Here I separately discussed the subtypes, found in Pannonia, which made in the
eastern or western half of the Empire. 2) Types made in the Eastern Mediterranean and Asia
Minor, more particularly Aegan, Cretan, the products of the western and southern coast of
Asia Minor, the Levant and finally the types datable to the Late Roman period. Here all
together there are 20 (+1) types. 3) The products made on the Adriatic coast and in the
Western Mediterranean; here Italian, Histrian, Gaulish and Hispanic amphora types are
discussed in order. In this sub-chapter I introduce 23 amphora types. 4) The products of the
Black Sea coast and the amphorae (supposedly) made in the Danube region got into the same
section since the two areas had strong regional connections. Here I review 4 types from the
Black Sea coast and 2 types, which presumably were produced in the Danube region. 5) In the
typological classification the next area, I discuss is the North African region, of which
production in form is differ from the hitherto listed types. For the time being I could separate
products, which belong to 7 different types, or rather group of forms in the Pannonian
material. 6) In several cases, for the present, we do not have any base in respect of the
production site of otherwise well described amphora types; in this sub-chapter I revied 2 such
types. 7) Finally I deal with the (temporarily) not correctly identifyable sherds, since in the
amphora research the full spectrum of forms, which made in the area of the Roman Empire is
not known, the identification and description of these is constantly happening. The common
characteristics of these finds is that on the basis of the quality of their material their local
production can be excluded and on the basis of their forms they supposedly functioned as
transporting vessels. Conceivably, these sherds in course of time could help the development of new research directions, this is why I featured them in this thesis.

The typological classification of the finds is followed by the analysis of the material according to sites in Chapter 3. The sites were listed according to the important routes of the Pannonian road-network, considering the former function of the sites (provincial centres, military forts and their *vici*, villas or villa-like environment). Sometimes I could only made an attempt to determine the function of the site. Within thesis I could broaden the site cadastre of the amphorae finds by 8 further sites.

The fourth chapter of the thesis contains the results of such background research, which were vital regarding the arrival of amphorae to the province. Hence it was important to examine the methods, which were needed for the reconstruction of their transportation (on sea, river and land). Here I have also discussed the finds from the Barbaricum, which somewhat illuminate the transit-like nature of the province. In this chapter I tried to collect the epigraphical data and ancient sources on which this research is based. Similarly to the transportation routes and methods it was important to deal with the individuals, who took part in the transportation and other momenta of commerce from the wholesalers/military subconstarctors through to commercial organisations to the consumers. Their recognition is mainly based on the inscriptions, although their occurrence is quite incidental in case of Pannonia. The last sub-chapter of this chapter deals with the superior commercial division into which Pannonia is belonged, namely the *publicum portorii Illyrici* customs district. I also cover the rate of the customs, which for the time being cannot be determined safely.

The fifth chapter of the thesis contains the results that can be drawn from the foregoing and synthesize the commercial-economic tendencies observable in Pannonia. This followed by three such an appendicis, which summarize the results of some particular research or if necessary confirms by further information some formerly discussed issues. Hence Appendix 1 contains the results of the so far unpublished results of the petrographical analysis, made jointly with the Department of Petrology and Geochemistry of the Eötvös Loránd University, into which Dr György Szakmány és Dr Sándor Józsa took part. This microscopical examinations provided important data for the production place of particular amphora types and for the production technology. During the preparation of the thesis another petrographical research was undertaken in the cooperation of the Museum of Aquincum, the Università degli Studi di Pisa and the Università degli Studi di Genova DISTAV Department, during what we have examined the finds from the villa of the Meggyfa Street in Budapest. In Chapter 2 I have refered to this published results at the appropriate types. In the Appendix 2 I
have summarized the knowledge about the viticulture and wineculture of Pannonia, which provided important information about the changes in the amount of amphorae containing wine from the middle of the second century AD. In Appendix 3 I deal with a complementary topic, the Roman barrel finds in Pannonia, since the information, collected about them can help in the appropriate interpretation of the of the wine imported in amphorae.

The text of the thesis are closed by the bibliography, the catalogue of finds, the drawings and photographs of the partly unpublished amphora finds, the plates of the samples made by a microscope together with maps about the geographical range of the major types.

III. The Results of the Thesis

The amphora finds, noticeable from the earliest (Tiberian and Claudian) period usually turned up along the main procession roads, which in this case are the roads along the Save and the Drave, just as the Amber Road. This group of finds are cannot be interpreted any more as individual gifts to the local Celtic aristocracy. On the basis of their small amount it is probable that they were not for the persistent supply of the whole army, but they were demanded by officers, who arrived from the Mediterranean, the general staff in a region, where there were no wine production and olive plantations could never come to stay. This region had no sea, so it was not possible to make classic fish sauces in situ. It is important to emphasize, that the amphorae are foreign objects, foreign goods and by this they carry foreign culinary habits in the area of the future Pannonia in the age of the conquest of the province.

From the late Claudian period and from the reign of Nero the sites along the Danube were closing up to the Amber Road, as well. By the age of Domitian the two main transport routes became equally important. The age of Hadrian and the Early Antonine period are clearly shows a peak in the amount of imported goods, transported in amphorae. To sum up, the period between Tiberius and the Hadrian/Antonine period, this can be the 1st period of the amphora trade of Pannonia into which the 72.6% of the material collected from the province belong. The finds have a diverse spectrum in terms of their forms, with 45 different types from 43 sites. In the initial cycle of this period (1A) the Hispanic and Gaulish products were still present. From the Flavian period they were clearly took over by the North-Italian and Histrian production. The share of these two in the Pannonian market are about 50 per cent over against the Gaulish and Hispanic goods of the early period, of which share is about 11 per cent. The eastern and Aegean import in this period is 19.6 per cent. In the first period we could still take into account such luxury products as the dates/figs from the Levant,
transferred in Camulodunum 189 type amphora or olives, transported in the Schörgendorfer 558 type amphora.

By the late Antonine period the number of amphorae along the Amber Road drastically drops/their import stops, in the centres along the *limes* their number stagnates. I could separate 22 types from 27 Pannonian sites, which were datable between 150/160 AD and 260/270 AD. The vigorously decadent tendencies are particularly shown by the fact that only 18.4 per cent of the amphora finds are datable to this second phase. 57.5 per cent of this amount are wine and oil amphorae from the Aegean and 29.5 per cent are oil amphorae from Hispania. The Marcomannic Wars show a definite break in the volume of the import. In the same time, from then on a new supply road came into view: products from the Black Sea coast appear (mainly vessels for transporting wine and fish sauce), which have a share of 6.8 per cent of the market. In the case of Pannonia it is possible that they arrived on barges on the Danube to their currently known Pannonian find spots, Aquincum and from there to Albertfalva. The presence of the North African amphorae is a novelty, compared to the 1st period. Their share is about 2.9 per cent in the recorded material. The drastic drop in this 2nd phase can be interpreted by the more standardized military supply system, which focused on local provisioning and low-quality supply. It is widely possible that the inhabitants of Pannonia in this period partly unclaimed these amphora-borne commodities, or more likely, they couldn’t afford consuming these luxurious goods. It is highly likely that Pannonia was self-sufficient in the case of wine or it was easily available in barrels from the neighbouring provinces.

On the basis of amphorae stamps, which refer to the place of production, it seems that the last period of military supplies, which arrived in amphorae can be dated to 250/270 AD. By this period the amphora import drastically drops, and is virtually non-existent on the Amber Road. The hinterland looks like a ‘deserted island’ on the maps, with only some sparse finds. It is especially true to the area south of the Lake Balaton and until to the river Drave, where it after an aimed research it has been proven that there were virtually no amphorae in the finds material. This does not necessarily means the absolute absence of the products imported in amphorae in this area, since it is possible that in smaller quantities (in jars or smaller vessels) some of these imported goods has arrived to this area, as well. Nevertheless the presence or absence of these products is an important factor, since the amphorae do not appear randomly or as a trial on the market, but to satisfy the demands of particular circle of consumers.
Hence, the last, third period of the amphorae import in Pannonia starts in the middle – third quarter – of the third century AD and in my opinion it is discernible until the end of the fourth century AD. Only 1 per cent of the total amount of amphora material belongs to this period, although it very hard to associate content to the types of this period, therefore it is difficult to estimate the real amount and importance of the imported goods. The Late Roman types, which appear in this period are on the typical Mediterranean spectrum, which is associated to supplying the army. On the provincial level, the change of the culinary culture could determine this picture, but this was also part of the greater process, which characterised the whole Roman Empire and in which background there was the economical division of the Empire, caused by the external and internal insecurity.

The investigation of the composition of finds from Pannonia and from the sites along the transportation routes ran to the province (mainly from the Adriatic Sea) showed that it is incorrect to suppose only direct commercial contacts between Pannonia and the other provinces of the Roman Empire. I have found more valuable to investigate the character of the commercial connections of the province through the contacts of the military, the clerks and the customs district of Illyricum. In the province no inscriptions were found, which mentioned an ~olearius~ or a ~vinarius~, however it was possible to make some attempts, with the help of the inscriptions referring to ~negotiatores~ and known merchant families, to outline that social stratum, which were engaged in the trade of the goods, transported in amphorae and also were consumers of these products. The offsprings of these families were often held the particular function of the ~officium consularis~, who ran the provincial military supply and also appeared in the governance of major Pannonian settlements. Among the consumers of the products, arrived in amphorae, the members of the provincial elite and civil servants can be suspected.

However the greater part of amphora material of Pannonia arrived as military supply to the province, which is shown by the geographical range, just as by the distribution and quantities of the finds. The contacts and common interest of the military personnel, the ~conductores~ in the customs offices and the merchants could be a determining factor in the acquisition of the military supply (as, among others, in the cases of C. Calcinius Tertianus or T. Iulius Capito). In the period, which followed that, from the 180s AD, the customs policy, the system of the military supply and the combination and quantity of amphora finds have changed, and these were connected to each other.

It is still impossible to satisfactorily determine the rate of the customs, paid after the products arrived into Pannonia, but several factors together points to the fact that it could be
higher than the customs in Gaul, Hispania, Egypt or in the Eastern provinces (2-2.5 per cent), but perhaps it was not the same as the octava (12.5 per cent) collected at the external frontiers of the empire from the Severan period. The relatively high customs rate could explain why the Histrian and North Italian products took over from the goods of Gaul and Hispania. However, the presence of Aegean and Eastern Mediterranean amphora types, which were in circulation in the same period does not support this hypothesis.

Consequently, there are four main conclusions can be drawn from the examination of the Pannonian amphora material:

1) Olive oil and fish-based products depended of necessity on import in the entire period of the Roman rule in Pannonia.

2) As the amphora finds appeared in connection of the appearance of the Roman troops – especially with their general staff –, they disappear at their departure, after the capitulation of parts of the province. The Pannonian amphora import followed the economic tendencies, which worked in the whole Roman empire, and the phenomena which can be observed in the province should be interpreted in an organic unity with that.

3) The Mediterranean diet did not root deeply, it did not become natural in the whole province. The important elements of this diet were always depended on import and the social strata (military with Mediterranean culture, the provincial elite), who kept up this did not preserve in the province.

4) It is important to keep in mind the possibility that the products, transported in amphorae could appear occasionally, when an outstanding occasion (official inauguration, anniversary, funeral, the occasion of the setting of a client relationship, or as offerings for the gods) could provide a motivation for the transactions of special orders, pruchases and giving presents.

IV. The Author’s List of Publications and Presentations within the Topic


Hárshegyi P. – Vámos P., Új eredmények egy régi anyag kapcsán: Módszertani és csapatörténeti megjegyzések az aquincumi Selmeci utcai fazekasműhely leletanyagának


**Conference Presentations:**

**2014:** *Supplying the Roman Army on the Pannonian Limes: Amphorae on the Territory of Budapest*

Rei Cretariae Romanae Fautorum, Xanten/Németország

*Katonai csapatellátás a pannoniai timesen: római amphorák Albertfalváról (Budapest, XI.)*

Fiatal Római Koros Kutatók VIII. Konferenciája, Budapest/Magyarország

*Pannonia amphorakereskedelme a markomann háborúk előtti időszakban: Petőháza-Lésalja dülő római villa példája*

„Gömöri 70” Tudományos konferencia Gömöri János 70. születésnapjának tisztelésére, Sopron/Magyarország

**2013:** *Fekete-tengeri és al-dunai amphorák Pannoniában (Kr.u. 2.-3. század)*

XI. Erdélyi Magyar Régészeti Konferencia, Csíkszereda/Románia

**2011.:** *Facing toward the Danubian Frontier: "amphores gauloises” in Pannonia*
2006: Roman Amphorae from the East along the ripa Pannonica
Rei Cretariae Romanae Fautorum, Durres/Albánia

Új eredmények egy régi anyag kapcsán: Módszertani és csapattörténeti megjegyzések az aquincumi Selmeci utcai faze kasműhely leletanyagának vizsgálata során
Fiatal Római Koros Kutatók I. Konferenciája, Győr/Magyarország (Vámos Péterrel közösen)

Posters:

2012: Amphorae as Grave Goods in Aquincum (Pannonia Inferior)
Rei Cretariae Romanae Fautorum, Catania/Olaszország

2008: Amphorae from Early Roman Contexts: The case of Víziváros (Budapest, Hungary)
Rei Cretariae Romanae Fautorum, Cadíz/Spanyolország

Pannoniai osztrigaleletek
Fiatal Római Koros Kutatók III. Konferenciája, Szombathely/Magyarország