

# Mélanges de l'Ecole française de Rome

*Antiquité*

*MEFRA*

*120-1      2008*

# Early Roman *horrea* at Nauportus

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One of the most important old routes connecting the Italian peninsula with the central Danube region started in Aquileia and crossed the low passes between the Julian Alps and the Dinaric Mountains. Then it descended down to the Ljubljana basin, to the sources of the Ljubljana river; this is where an old navigable route began, enabling transport far to the East

along the Ljubljana, Sava and Drava rivers (fig. 1).

The settlement of Nauportus arose proximate to the sources of the river Ljubljana, in the area of present-day Vrhnika. Nauportus is known already from classical literary sources, as well as from significant Early Roman epigraphic monuments. The Greek geographer Strabo

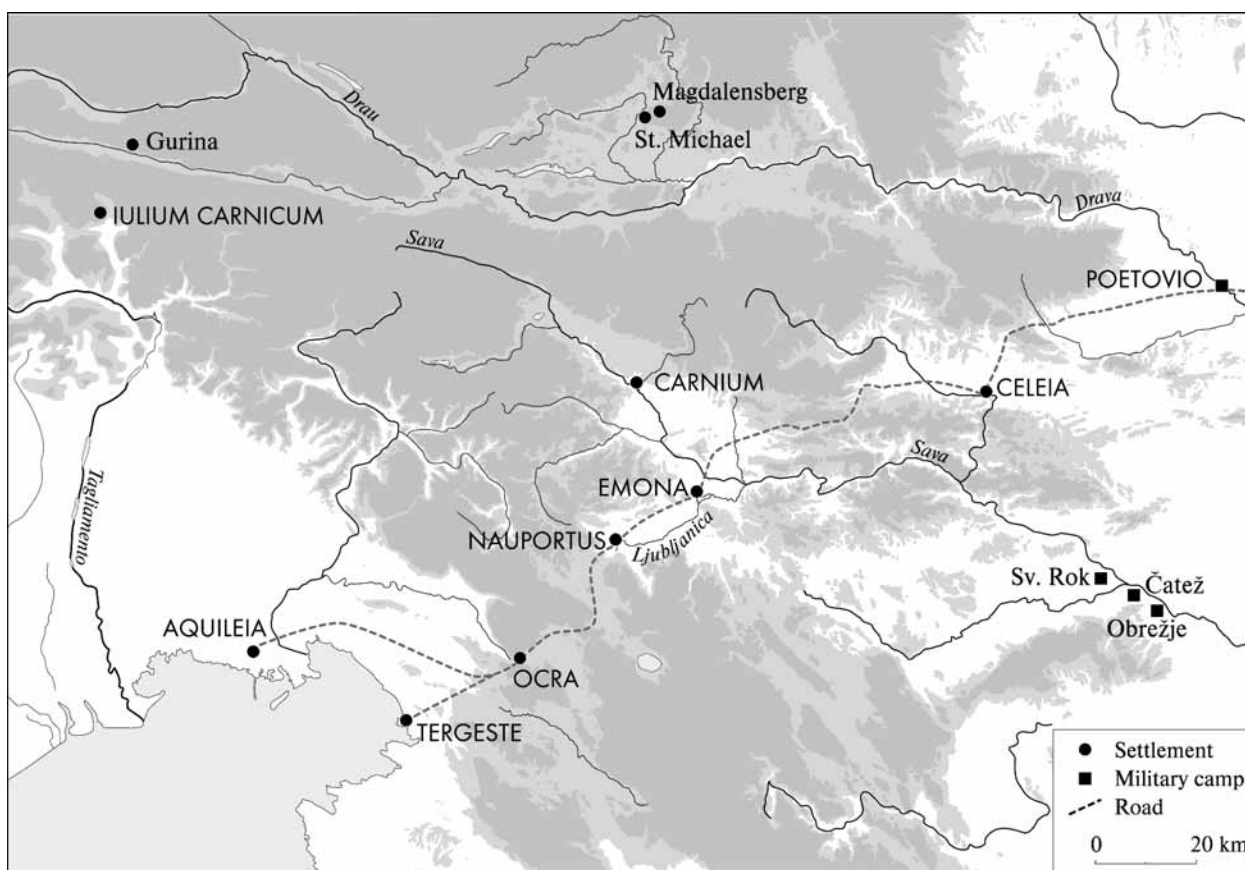


Fig. 1 – Ground plan of the architecture at Dolge njive on the basis of geophysical prospecting, archaeological excavations and reconstruction of the courses of the walls (after Mušič, Horvat 2007, 256, fig. 39).

reported that in the 2<sup>nd</sup> century BC, goods were transported by wagons from Aquileia to Nauportus, a settlement of the Taurisci; and from there by boats along rivers to the Danube.<sup>1</sup> The settlement name and historical analogies provide the basis for inferring that a toll station existed at Nauportus, and it lay in the hands of the Celtic tribe of the Taurisci. However, the position of the Celtic Nauportus dating to the 2<sup>nd</sup> century BC is not known.<sup>2</sup>

The settlement attained the status of *vicus* in the territory of Aquileia from the middle of the 1<sup>st</sup> century BC onwards. The historical and epigraphic data lead to the conclusion that immigration from Italy was quite considerable from the very onset and throughout this period, and that merchant families from Aquileia played a leading role.<sup>3</sup>

The Early Roman settlement was situated in the plain, where the Ljubljanica bends towards the marshy plain of the Ljubljansko barje (fig. 2). A Roman road from Aquileia to Emona, which was probably constructed under Augustus,<sup>4</sup> led along the western bank of the Ljubljanica through the settlement area at Breg. This part of the settlement, with its origins in the Middle Augustan period, was uninterruptedly occupied through to the 4<sup>th</sup> century.<sup>5</sup>

The other Early Roman settlement area lay along the eastern bank at Dolge njive, delimited by the meandering Ljubljanica river. Several limited archaeological excavations were carried out here in the years 1884-86, 1934, 1936, and 1969; an early Roman trading post, that is, a market place surrounded by storehouses, was discovered here. A defence wall with towers protected the entire complex. The origins of the site were dated to the Early Augustan period, with its discontinuation in the mid 1<sup>st</sup> century AD at the latest.<sup>6</sup>

The site at Dolge njive was investigated again between 2003 and 2004 using a variety of geophysical methods: geoelectric resistivity, electrical conductivity, magnetometry, and Ground Penetrating Radar (GPR) (fig. 3). The results from geophysical prospecting were combined with the ground plans resulting from former excavations and a new ground plan of the



Fig. 2 – The Roman sites in Nauportus (after Mušič, Horvat 2007, 220, fig. 1).



Fig. 3 – The important settlements and the main traffic route in the southeastern Alpine area during the Augustan era.

1. Šašel Kos 1990. Strabo 7, 5, 2, c. 314.

2. Šašel 1966; Šašel Kos 1990, p. 20, 146-147.

3. Šašel Kos 1990; Šašel Kos 1998; Šašel Kos 2000, p. 294-297.

4. Šašel 1975-76, p. 604-606.

5. Horvat, Mušič 2007.

6. Horvat 1990.

site was engendered, one with good interpretative potential (fig. 4).<sup>7</sup>

#### INTERPRETATION OF THE ARCHITECTURE AT DOLGE NJIVE

##### Chronology

The majority of small finds from the excavations in 1934 and 1936 is lacking detailed stratigraphic data. The excavations of the southeastern tower and adjoining defence walls in 1969 revealed material originating from the fill between the foundation stones of the wall, from the walking surface and from the ruins. Most of the material from Dolge njive can be dated only typologically, using the comparison with the well stratified sites in Magdalensberg, Ljubljana – Emona and Kranj – Carnium.<sup>8</sup> The oldest material, which is found throughout the settlement, is represented by the late forms of the black glazed pottery and regional La Tène ware. It follows that the defence wall and the majority of buildings (at least partly excavated buildings 1–5 and 11–15) were constructed in the Pre-Augustan or Early Augustan period at the latest. The settlement was occupied at least to the end of the Augustan period, which is documented by middle and late Augustan terra sigillata.<sup>9</sup>

##### Position, fortification and river port

The Ljubljanica river flows along two sides of the settlement at Dolge njive; while along the eastern and probably also the southern sides ran a defence ditch filled with water.

The position of Dolge njive is highly comparable with the positioning of Roman towns in the north Italian lowlands; often they were situated near water, even in the hook of a riverbend. The riverbanks were consolidated, piers

were constructed, and various port buildings stood in the vicinity, among others also storehouses. The water courses flowing around the settlements were important as navigable routes, for the defence of the towns, and sometimes they also served as drainage ditches. Regulation efforts and the digging of new channels are traceable from the 2<sup>nd</sup> century BC onwards.<sup>10</sup>

The size of the Dolge njive site is 130 × 144 m. The defence wall was 2–3 m wide at the southern and eastern sides, while the back walls of the buildings formed a less than 1 m wide defence wall at the west and north ends. Four square towers protrude beyond both the exterior and interior faces of the wall. This type of tower is well-known from the defence walls of Roman towns dating to the Republican and Early Imperial periods.<sup>11</sup>

The northern gateway was in the form of a tower with a 5 m wide passage. The covered entrance passing through a tower is known primarily from the 1<sup>st</sup> century BC.<sup>12</sup> It is similar to those entrances in the form of a tower and with an open, interior court – *cavaedium*, which were in use from the 3<sup>rd</sup> century BC onwards.<sup>13</sup>

The eastern gateway was asymmetrical. A large, hollow tower stood on the southern side, while a smaller, massive tower stood on the northern side.

The simplicity and expressed functionalist character of the fortification at Dolge njive have their origins in the fortifications of Roman towns in Republican Italy. This is also in accordance with the dating of construction at Dolge njive to the Pre-Augustan or Early Augustan periods, which is based on the chronology of pottery.

The river port was situated north of the settlement. A paved road led through the northern gateway to the bank of the Ljubljanica. Positioned approximately in the line of the road, two broad rows of wooden posts stood in the river. Presumably these were the remains of a rectangular

7. Detailed analysis : Mušič, Horvat 2007.

8. Schindler 1967; Schindler 1986; Scheffenecker, Schindler-Kaudelka 1977; Schindler, Scheffenecker 1977; Schindler, Schindler-Kaudelka 1997; Vičič 1993; Vičič 1994; Sagadin 2003.

9. Horvat 1990, p. 126–131, 229–234; Mušič, Horvat 2007, p. 254–261.

10. Uggeri 1990; Rosada 1990, p. 370–372; Conventi 2004, p. 234–235. Aquileia : Carre, Maselli Scotti 2001; Carre

2004. Altinum : Tirelli 1999, p. 12–18; Tirelli 2001. Opitergium : Cipriano, Sandrini 2001.

11. E.g. Nîmes : Varène 1992, p. 149–151; Cosa : Fentress 2003, fig. 2; Aosta, Torino : Mansuelli 1971, pl. 7, 9; Emona : Plesničar Gec 1999, p. 43–60; Gurina : Gamper 2004, p. 159–163.

12. Brands 1988, p. 29–33 : *Kammertore*.

13. Gros 2002, p. 32, 37–39; Brands 1988, p. 16–33; also Rosada 1990, p. 379.

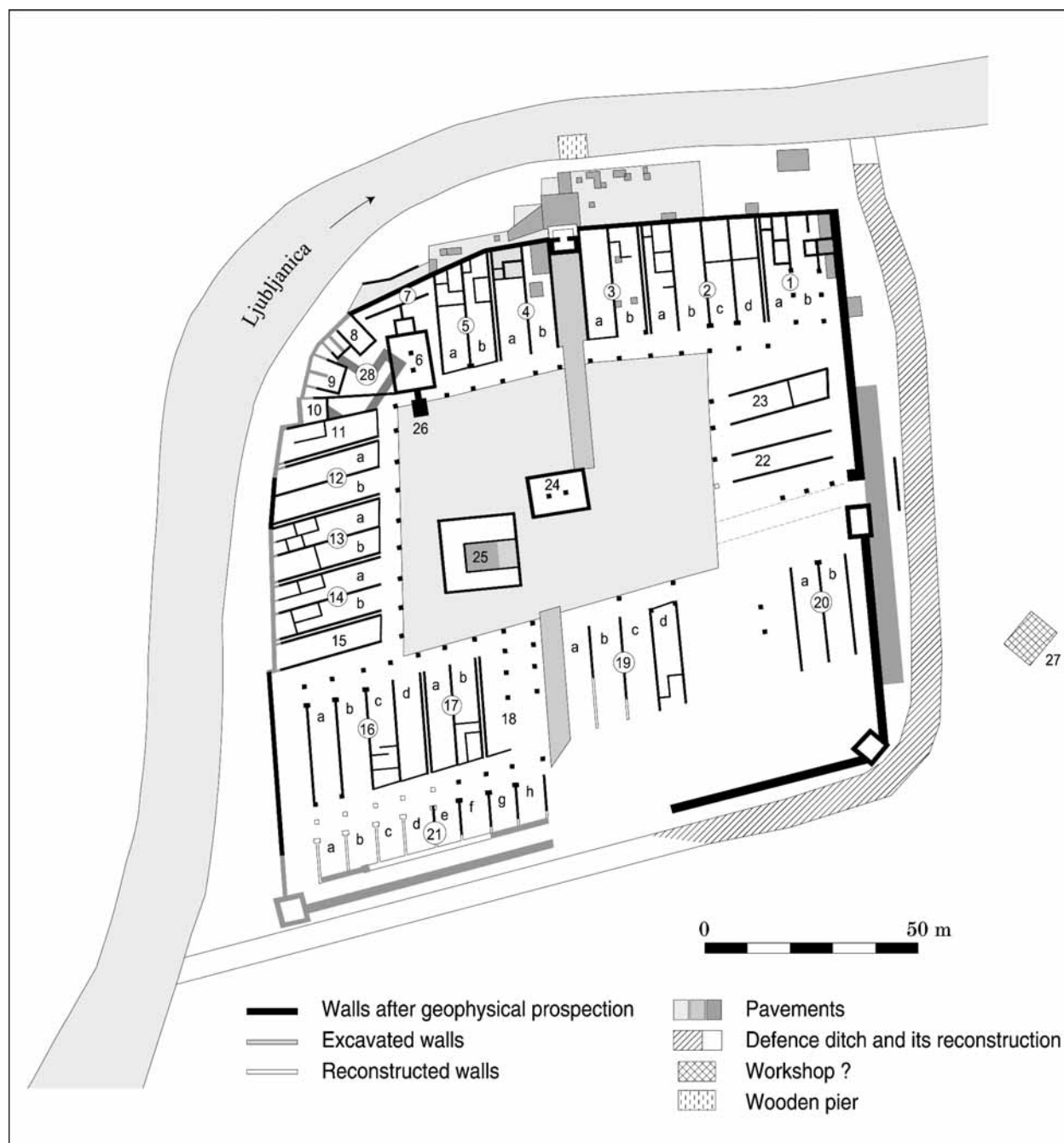


Fig. 4 – The results from geoelectric mapping on an aerial photograph (after Mušič, Horvat 2007, 224, fig. 4A).

wooden pier measuring  $6 \times 4.5$  m.<sup>14</sup> The tract between the defence wall and the river was paved.

### Market

The market does not have the canonical characteristics of a Roman forum, which is

rectangular in form and enclosed with a portico, with a dominant temple and basilica.<sup>15</sup> It has an irregular form of a parallelogram and is surrounded by a colonnade. It is not large in comparison with town forums ( $75/77 \times 51/59$  m); however, it covers about 30% of the settlement surface (approximately 5.500 m<sup>2</sup>, with the

14. Logar 1986.

15. Cf. Gros 1990; Gros 2002, p. 207-234.

portico), which is a lot more than is usual in Roman towns. The relatively small building 25, which is interpreted as a sanctuary (see below), is situated in the corner of the market and does not hold a dominant position.

Nauportus was a *vicus* with minimal autonomy and did not necessitate any larger religious or administrative buildings. The market, surrounded by storehouses and *tabernae*, bespeaks the highly economical role of the settlement. Several forums in the northern Adriatic region also held distinctive economic functions during the Republican period.<sup>16</sup>

### Horrea

The largest area within the settlement is built-up with rows of buildings with long and narrow rooms, wide entrances and a portico. They occupy about 30% of the area, that is, about 5.500 m<sup>2</sup> (buildings 2–5, 11–17, 19–20, 22–23; without the portico).

The rows of buildings are positioned around the market. The double walls can be interpreted as narrow passages – *ambitus* – separating two individual buildings. Several buildings are composed of two long and parallel rooms (3–5, 12–14, 17, 20), each denoted by the letters *a* and *b*. Structures 2, 16 and 19 are composed of a row of four rooms (a–d), while buildings 11, 15, 22 and 23 comprise of only one room. The width of the individual rooms is uniform and measures about 6 m, the lengths vary from 22 to 26 m.

The entrances face towards the market and cover the entire width of the rooms. It seems that the ends of the walls at the entrances, for the most part, are somewhat widened. Rooms 16a–b, 20a–b, 22 and possibly also 19c, open wide on both of the shorter sides; that is, they have double entrances.

The columns of the portico stand in line with the walls of the storehouses. The distance between the columns is approximately 6 m and they are about 4 m away from the entrances.

A few entrances were walled in with shallow foundation walls and some of the large rooms

were additionally subdivided by partition walls with shallow foundations.

Comparisons with similar buildings at other Roman sites confirm that these at Dolge njive were probably storehouses – *horrea*.

Roman civilian storehouses were built in two ways. The majority of storehouses were constructed as a building with rectangular rooms (15 m long at most) arranged around a central court (or less frequently, around a central corridor). These types of storehouses are known from e.g. Ostia and Rome.<sup>17</sup> The Romans adopted the type of courtyard storehouses from the Greek world, perhaps already in the 2<sup>nd</sup> century BC.<sup>18</sup>

Dolge njive presents the other form of Roman civilian storehouses : very long rooms (20 m and more) that are all lined in a row. Rickman postulates eastern, Hellenistic origins for this type. At Masada, two storehouses with rooms in a row were built probably in the years between 37 and 31 BC.<sup>19</sup> The type was well known throughout the Roman world primarily in ports; the entrances to the rows of storehouses were frequently open towards the piers in the ports. The type appears in the various parts of the Empire during the large chronological span between the 1<sup>st</sup> century BC and through to the 2<sup>nd</sup> century AD.

In Valentia, a building was discovered dating to the Late Republican period and interpreted as a storehouse : four long rooms (6 m wide, more than 15 m long) all set in a row and with wide openings on to the portico.<sup>20</sup>

Vienna in Gallia Narbonensis revealed a large storehouse complex dating to the second quarter of the 1<sup>st</sup> century AD. At least four groups of large rooms in double rows were positioned along the left bank of the Rhône; they occupied an enormous area of somewhere between 4 and 6 ha. The reconstruction of the ground plan of one of the groups shows two parallel rows comprising of 21 rooms separated from each other by a 12 m wide road. The total size of one group, estimating from the publication, measures about 340 × 80 m. According to the publication, the size of the individual rooms measures approximately 12/

16. Zaccaria 1999, p. 76-78; Maggi 2003, p. 235-236.

17. Rickman 1971, p. 15-122.

18. Rickman 1971, p. 153-155; Virlovvet 1995, p. 90.

19. Rickman 1971, p. 153-154, fig. 34.

20. Ribera i Lacomba, Calvo Galvez 1995, p. 20-21, fig. 1.

15 × 30 m. The entrances open wide onto the central road.<sup>21</sup>

The expansive storehouse complexes, in which rows of long rooms predominate, are discernible in the partially sunken port quarters of Puteoli. The individual buildings are not well researched and dated. Large parts of the Puteoli port were constructed during the Augustan period, and the port continued to operate all through to the Late Antiquity.<sup>22</sup>

Storehouses from Patara and Myra (ancient Lycia) also stood in the ports, or nearby. They were built by Hadrian in 128 and they are likely connected with the collection of annona. The storehouse from the town of Cuicul (today Djemila, Algeria), built in the year 199, is not positioned in a port but it is also linked with the collection of annona.<sup>23</sup>

Storehouses in rows, which have rooms that do not exceed a length of 15 m are known from the port of Claudius in Portus,<sup>24</sup> the port of Traianus in Portus<sup>25</sup> and the Severan port in Lepcis Magna.<sup>26</sup>

Of great significance for the architecture at Dolge njive is the military supply post discovered at Melun along the Seine (France), which dates to the second decade AD. Two rows of wooden buildings were excavated; all interpreted as storehouses. The best preserved row, measuring 140 m long, comprises of 21 rooms, 22 × 6 m in size, all in the form of parallelograms. The rooms all had wide openings on each of their narrower sides, and a double portico ran alongside on each side (entire width 34 m).<sup>27</sup>

Long and narrow storehouse rooms, with openings on each end (as at Dolge njive and Melun), are also known in Rome in the *horrea Lolliana*. The ground plan of this storehouse, which M. Lollius (the consul in 21 BC) had built, is known only from Severan Marble Plan of Rome.<sup>28</sup>

The accordance between the storehouses at Dolge njive and that of the row type is determined with the distribution and dimensions of the rooms, as well as the accompanying portico and the port position. There are also a few particularities. Most of the storage rooms at Dolge njive are built in pairs or in groups of four, for which we lack any close analogies. The entrances are wide, as is the custom for *tabernae* and rare for storehouses; this seems to indicate a mixture of their functioning for storage as well as trade.<sup>29</sup> A few of the rooms have wide entrances at both shorter ends, this being a relatively rare characteristic.

### Tabernae

The long and narrow building with eight rooms (21), according to its form and dimensions (6 × 8.5 m), probably functions as a row of *tabernae*.<sup>30</sup>

### Sanctuary

A final interpretation of the building 25 on the basis of geophysical prospecting is not possible; however, certain characteristics are discerned. The rectangular bi-level plateau is similar to the podium of a temple with a stairway on the eastern side. The peripheral wall, with shallower foundations than the plateau, could have served as the outer wall of the colonnaded ambulatory. The form and dimensions of the foundations are close to the particular type of sanctuaries with ambulatories in which the Celtic tradition mixes with Roman "Classicistic" elements. Building 25 is generally comparable with the following temples : Celje – sanctuary with ambulatory 3 (late Tiberian),<sup>31</sup> Augst – Sichelen 2 (in use from the mid 1<sup>st</sup> century onwards), Kornelimünster – temple F 1 (built during the time of Vespasianus),

21. Helly-Le Bot 1989. During the second half of the 1<sup>st</sup> century, a large storehouse of the courtyard type was built along the right bank of the Rhône in Vienna (present day Saint-Romain-en-Gal) (Laroche, Savay-Guerraz 1984, p. 85-90).

22. Camodeca 1994, p. 112-113, t. 1.

23. Rickman 1971, p. 137-144.

24. Keay *et alii* 2005, p. 278, figs. 5.9, 5.10 (Foro Olitorio); figs. 5.13, 5.14 (around the interior port).

25. Rickman 1971, p. 123-132; Keay *et alii* 2005.

26. Rickman 1971, p. 132-136.

27. Galbois, Petit, Reddé 2006.

28. Virlovet 1995, p. 98, 108-113, fig. 11; Rickman 1971, p. 108-112, fig. 23.

29. DeLaine 2005, p. 39-45; *Horrea Agrippiniana* in Rome : Astolfi, Guidobaldi, Pronti 1978; Melun : Galbois, Petit, Reddé 2006; Vienna : Helly-Le Bot 1989.

30. Baratto 2003; DeLaine 2005, p. 32-35.

31. Krempuš, Gaspari, Novšak 2007, p. 41-43, fig. 3.

Trier – the temple for Mars at Irminenwingert (approximately 2<sup>nd</sup> century), Trier – Altbachtal, temple with ambulatory 2 (the first seven decades of the 3<sup>rd</sup> century).<sup>32</sup>

## CONCLUSION

Dolge njive formed the central part of the *vicus* Nauportus during the Early Roman period. The position of the site in the hook of the riverbend and along the fringes of marshland qualified it to function excellently for river traffic as well as for defence purposes. At the same time, it was less convenient for land-based traffic on the opposite riverbank. During the time that the Romans were building at Dolge njive, the desire for a strong defensive capacity was quite evident. A defence wall, water-filled defence ditch and the river surrounded the site from all directions.

The plan of the entire settlement and the individual buildings, storehouses and *tabernae* correspond with the examples found in the Late Republican towns in northern Italy, as well as with the architecture of the ports throughout the whole Empire. The economic role of the settlement is clearly manifested in its architecture; the settlement was a trade, traffic, storage and reloading post as well as a river port.

The beginning of the settlement at Dolge njive is attributed to the Pre-Augustan or Early Augustan period on the basis of small finds; furthermore, it approximately corresponds with the dating of the first epigraphic monuments from Nauportus, which Šašel Kos attributes approximately to the Caesarean period, or the time of Octavian at the latest.<sup>33</sup>

Small finds show that the settlement at Dolge njive was abandoned during the first half of the 1<sup>st</sup> century AD.<sup>34</sup> There are no traces of any larger building reconstructions on the new ground plan, which can be also a confirmation of the relatively short life-span of the site. Nonetheless, the

interruption at Dolge njive does not bespeak the decline of Nauportus in its entirety, especially regarding the continuity of the settlement from the end of the 1<sup>st</sup> century BC through to the 4<sup>th</sup> century AD on the opposite bank of the river.<sup>35</sup>

The narrow chronological span of the site at Dolge njive is certainly an expression of the more general course of events in the southeastern Alpine region.<sup>36</sup> During the 1<sup>st</sup> century BC, Aquileian merchant families maintained control over the *vicus* via freed men; they also controlled the transit of the long distance traffic that passed by Nauportus.<sup>37</sup> Nauportus was such a highly significant post for Aquileia that the Aquileian town territory extended out like a shank, reaching 100 km eastwards along the main traffic route, so that Nauportus could be included.<sup>38</sup>

Roman merchants advanced along all important routes into southern Pannonia and the Norican kingdom during the 1<sup>st</sup> century BC (fig. 1). At the Odra pass (today Razdrto below Nanos), that is, along the route linking Aquileia with Nauportus, a Roman post was situated there already at the end of the 2<sup>nd</sup> and at the beginning of the 1<sup>st</sup> century BC.<sup>39</sup> A trading post with strong Italian elements stood in Emona in the Early Augustan period at the latest. Emona lies at a significant crossing of routes in central Slovenia.<sup>40</sup> The settlement at Kranj – Carnium, fortified with a stone defence wall and rectangular, protruding towers, dates to the Middle Augustan period. Kranj is situated along the route linking the region of central Slovenia with Carinthia / Noricum.<sup>41</sup>

The *vicus* Iulium Carnicum, controlled by merchant families from northern Italy, developed in the Late Republican period along the route over the Monte Croce Carnico pass / Plöckenpass leading into the Norican kingdom.<sup>42</sup> On the Norican side of the pass, in the valley of Gailtal, Italian merchants dominated a trading post at Gurina already in the Late Republican period.<sup>43</sup> The most important stronghold for the Italian

32. Trunk 1991, p. 80-85, 172-173, 204-206, 226-230; Gros 2002, p. 199-203.

33. Šašel Kos 1998; Šašel Kos 2000, p. 294-297.

34. Horvat 1990, p. 126-131, 229-234; Mušič, Horvat 2007, p. 254-261.

35. Horvat, Mušič 2007.

36. Šašel Kos 1997; Šašel Kos 2000.

37. Šašel Kos 1990.

38. Šašel Kos 2002.

39. Bavdek 1996.

40. Vičič 1993; Vičič 1994; Šašel Kos 1998, 104-105; Šašel Kos 2000, 294-297.

41. Sagadin 2003 and unpublished data.

42. Šašel Kos 2000, p. 289-291; Zaccaria 2001; Vitri 2001.

43. Jablonka 2001; Gamper 2004.



merchants was in the centre of the Norican kingdom at Magdalensberg. The early phase of the forum at Magdalensberg, which dates to the Late Republican and Early Augustan periods, seems similar to the complex at Dolge njive. The forum is surrounded by small buildings – «cellars» – and long buildings in rows where the blacksmith's workshops operated.<sup>44</sup> Dolenz compares Dolge njive with the remains at St. Michael am Zollfeld, situated along a traffic route below Magdalensberg. Large buildings were discovered here – presumably storehouses – dating to the Early Roman, most likely the Augustan period.<sup>45</sup>

In comparison with other Early Roman trading posts in the eastern Alps, the main characteristic of Nauportus is its key position at the junction between land routes leading from northeastern Italy and Istria and water routes leading eastwards. After the existence of the large storehouses and the river port at Dolge njive, it can be inferred that Nauportus was a reloading trading post, where long distance transit traffic and trade could operate. The extensiveness of the complex demonstrates the exceptionally large amount of traffic and goods, particularly in the Augustan period.

During the time of Caesar, Roman authority consolidated along the northeastern borders of Italy and Roman influence systematically spread to the eastern Alps and Illyricum.<sup>46</sup> During the Octavian and Augustan periods the Romans comprehensively proceeded to occupy the eastern Alps, the middle Danube region and the western Balkans through the Octavian wars in the western Balkans (35-33 BC), the peaceful annexation of Noricum (15 BC), the Pannonian war (14-9 BC) and the Pannonian-Dalmatian rebellion (6-9).<sup>47</sup> This historical background is likely to hold the key to understanding the presence of the large storehouses at Dolge njive

during the Augustan period. In light of this, the conscientious defence of the trading post begins to make sense.

In addition to the regular merchant traffic, military shifts and supplies also passed through Nauportus. A hoard of lead sling shots was found in the storehouse room 4a.<sup>48</sup> The traces of military transports are also apparent in numerous finds of weaponry and military equipment from the Ljubljana riverbed, for the most part dating to the Augustan period.<sup>49</sup> Further down along the Sava, in the Brežice gateway entering into the Pannonian plain, a whole series of military camps dating to the Augustan period are known.<sup>50</sup> These only further substantiate the high significance of the navigable route of Nauportus – Ljubljana – Sava – Danube. Nauportus had to have played a very important role in supplying the legions in the regions of the middle Danube and the northern Balkans.<sup>51</sup> Furthermore, it is entirely probable that the supplying of the army was in the hands of Aquileian merchants who controlled Nauportus.<sup>52</sup>

The trading post at Dolge njive was abandoned during the peaceful times of the 1<sup>st</sup> century AD. The nucleus of settlement transferred during the 1<sup>st</sup> century AD to the area of Breg, which lies along the Roman road westwards of the Ljubljana. Large storehouses stood at Breg during the second half of the 1<sup>st</sup> and the 2<sup>nd</sup> centuries, however these are of a different architectural type from those at Dolge njive and lack any traces of defence structures.<sup>53</sup> The river traffic along the Ljubljana was significant throughout the entire Roman period.<sup>54</sup> Nonetheless, the shift of the central core of settlement indicates that land routes gained on importance, and that the functions of the settlement underwent a certain change.

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44. Piccottini 1991; Dolenz 1998, p. 15-35.

45. Dolenz 2005, p. 41, 45-46, 49-50, figs. 6, 8, 10.

46. Šašel Kos 2000.

47. Šašel Kos 1997.

48. Horvat 1990, p. 106, 209, pl. 9 : 5-7.

49. Istenič 2006.

50. Guštin 2002; Mason 2006; unpublished data.

51. Egri 2006.

52. Cf. Whittaker 1989, p. 69-73; Whittaker 1994, p. 99-112.

53. Horvat, Mušič 2007.

54. Cf. Šašel Kos 1994.

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# Early Roman *horrea* at Nauportus

Jana HORVAT

## CORRIGENDA

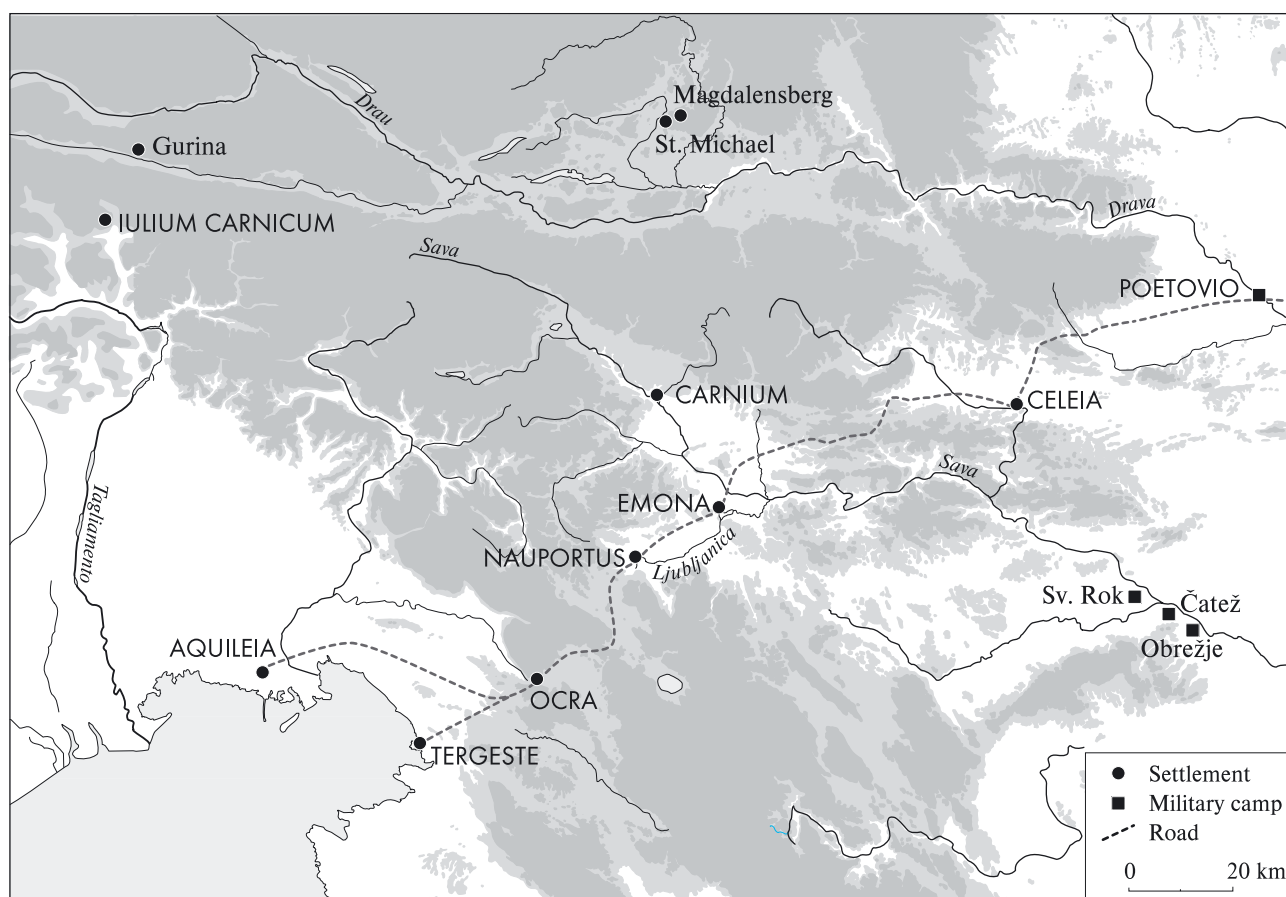


Fig. 1: The important settlements and the main traffic route in the southeastern Alpine area during the Augustan era.

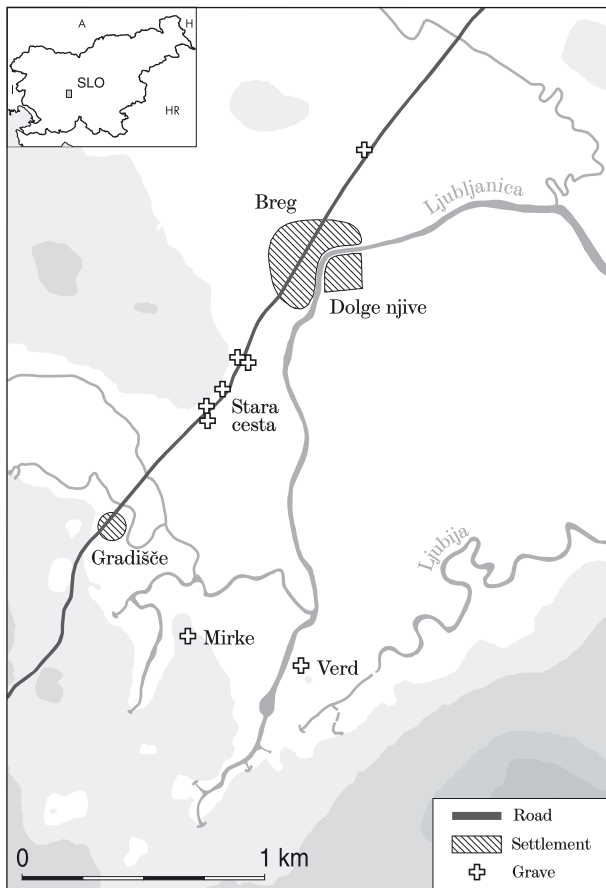


Fig. 2: The Roman sites in Nauportus (after Mušič, Horvat 2007, 220, fig. 1).



Fig. 3: The results from geoelectric mapping on an aerial photograph (after Mušič, Horvat 2007, 224, fig. 4A).

