DOI: http://dx.doi.org/10.5334/ai.0607

At the edge of empires: the Noviodunum project, Romania

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The Roman fortress of Noviodunum on the lower Danube guarded the border of both the Roman and the Byzantine empire against barbaricum – the lands of the so-called barbarians – to the north and east. In a new collaborative project, Romanian archaeologists and colleagues from the Institute of Archaeology and the universities of Cambridge and Southampton are beginning to investigate both the site and its relationship with its hinterland and the wider imperial frontier zone.

The site of Noviodunum is situated on a small hill close to the southern bank of the River Danube, just east of the modern town of Isaccea in the Dobrogea region of southeastern Romania (Fig. 1). The Danube now forms the border with the Ukraine here, but in the past it formed the northern frontier of the Roman and Byzantine empires in this region, and later that between Ottoman-dominated Dobrogea and Russian-dominated Bessarabia. Each left its mark on the site: Roman, Byzantine, Ottoman and twentieth-century defences overlie each other at this key position, the last easy crossing of the Danube before it enters the multitude of channels and marshes of its delta. During the Roman period, not only were various units of the Roman army based at Noviodunum, such as the *Legio I Iovia Scythica*, but it was also the base of the Roman lower-Danube fleet, the *Classis Flavia Moesica*, later known as the *Classis Ripae Scythicae*. Alongside the military installations there was a large civil settlement and an extensive cemetery. The fortress was paired with another Roman fort at Aliobrix across the river, in the suburbs of the modern town of Orlovka in the Ukraine (Fig. 1). The site of Noviodunum is now a national archaeological reserve and the subject of several research projects, including ours.[1]

Figure 1 *Southeastern Romania, showing the location of Noviodunum and other sites mentioned in the text.*

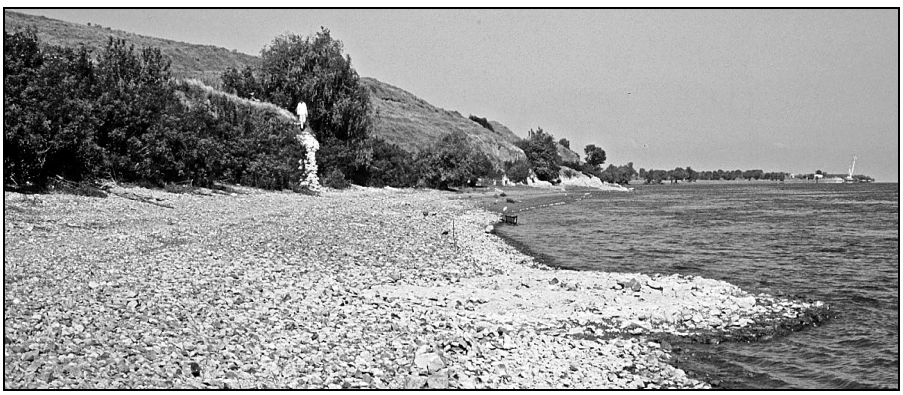

Figure 2 *One of the bastions of the late-Roman fortress still visible in 2000 on the shore of the Danube at Noviodunum.*

Previous investigations

Archaeological interest in the site dates back to the nineteenth century, when two Romanian archaeologists, Pamfil Polonic and Grigore Tocilescu, visited it and produced sketch plans. The earliest modern excavations were undertaken in the 1950s on the shore of the Danube. Erosion of the river bank had revealed several structures, including part of the walls surrounding the Roman fortress, some bastions, a gate, Roman baths and a possible church.[2] Lack of stratigraphy on the shore forced the excavators to rely on structural relationships and samples of mortar to phase the remains, traces of which can still sometimes be seen on the shore beach (Fig. 2). Further work was undertaken on the shore in 1970–71,[3] as well as limited excavation elsewhere on the site, which revealed, among other finds, a statue of a lion.[4]

To the south of the site, along the line of the main Roman road, there are several burial mounds, some of which have been excavated over the past 40 years, mainly under the direction of the Romanian archaeologist Gavrila Simion.[5] Mound XXX was particularly rich in artefacts and contained, among other things, a complete marble statue of a woman (Fig. 3), the marble torso of a man, and a large marble sarcophagus containing many objects, including the preserved hair of the deceased.[6] At Noviodunum itself, our Romanian colleague Victor Baumann has been concentrating for several years on a large late-Roman tower on the southern side of the site (Figs 4, 5A). It is a massive structure that dominates the rest of the site to the south and is to be conserved and opened to the public.

Lumps, bumps and ditches: surveying the topography

Our first aim has been to carry out a topographic survey of the entire site using two total stations.[7] Over 23,000 readings have been taken so far, mostly at 5 m intervals, although we take extra readings where necessary to model the topography accurately (Fig. 5). The mainly open nature of the site (Fig. 4) is ideal for this type of survey, although thistles, cows, sheepdogs and the heat – often over 40°C – make surveying hazardous and arduous work.

When completed, the survey will provide the framework within which the

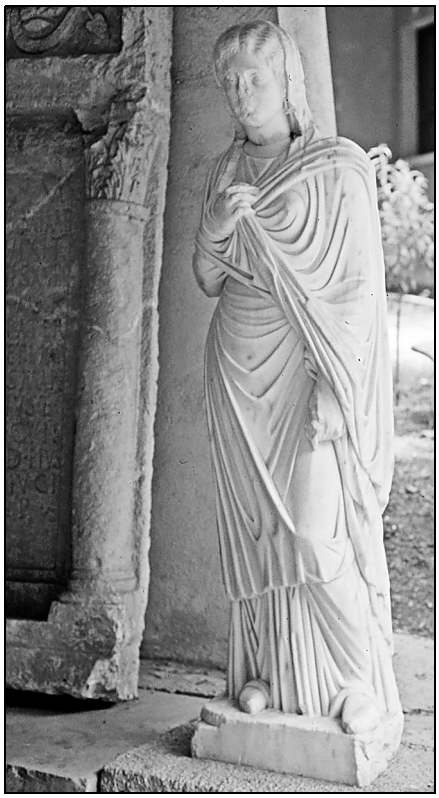

Figure 3 *The Roman marble statue found in burial mound XXX at Noviodunum by Gavrila Simion.*

project can proceed. However, even at its present stage the survey raises questions about the site and current interpretations of it. The most recent detailed survey to be published was carried out by the Romanian archaeologist Alexandru Ştefan in 1973, derived from aerial photographs and ground inspection.[8] He proposed that, outside the main fortified promontory, the civil settlement was defended by three lines of ditches and banks (Fig. 6). However, our topographic survey, together with other on-site observations, brings this interpretation into question. For example, his outer defensive line (Fig. 6, III) looks somewhat different on our survey (Fig. 5E): no bank survives and the large natural valley (F) makes the construction of a bank and ditch there unlikely. The complex pattern of channels near H (which continues into the unsurveyed area) also looks very unlike defences. We are investigating the nature and origin of these features, but it seems probable that they are in fact natural.

Picking up the pieces: the field-walking survey

To begin to understand the development of the site, a fieldwalking survey was started in 2002. So far, only two fields have been walked systematically (Fig. 5), in lines 5 m apart and divided into sections 20 m long. All pottery, ceramic building materials and other finds were collected, and the number of large stones (which may be building rubble) was counted, in a band approximately 1 m wide. In all, some 5300 sherds of pottery and 92 kg of brick and tile were collected from both fields, together with fragments of glass bracelets, two Byzantine coins and various iron artefacts. All of this material took only a day and a half to collect, but two weeks to wash and process.

The pottery and tile have been analyzed by Robin Symonds of Museum of London Specialist Services. He divided the pottery into Roman wares (at Noviodunum this is material up to the early seventh century AD, there being almost no pre-Roman pottery) and Byzantine and post-Byzantine wares (most of which date to the reoccupation of the site in the tenth to twelfth centuries). The Roman material includes large quantities of amphorae – large vessels used for storage and transportation – which are good indicators of the sources of imports to the site. Most of them are of relatively local Balkan origin,[9] although one was from Rhodes and some are thought to come from elsewhere in the Aegean area.[10] As well as the amphorae, some fine wares were found. They include a red glossy ware (terra sigillata), some of which may be from Gaul, although most of them appear to be of eastern Mediterranean origin.[11]

Our analysis of the pottery from the site has only just begun, but it will be a key part of the project, not only because it provides dating evidence but also because it enables us to investigate Noviodunum's relations with its hinterland and the wider world, for example with a pottery production site at Telița–Valea Morilor (Fig. 1).[12]

"Electrocuting the grass": the resistivity survey

In 2002 we conducted two resistivity surveys on the site (Figs 5, 7).[13] The eastern survey produced only random signals, but the second (western) one produced an interesting result. We hoped that it might detect and confirm the presence of a feature that Ştefan had noted on an aerial photograph and had interpreted as the western wall of the Roman fortress (Fig. 6, line 0–0′). Our results, when overlain on the contours of the topographic survey, revealed a dark tract that may represent a wall or layer of rubble running diagonally across the area (Fig. 5). Close examination of the contour lines showed a low bank in the same area, which had previously gone unnoticed.

The resistivity survey suggests too that the feature has a corner in the southwest of the area (Fig. 5: inset), and it is also suspiciously parallel to a defensive ditch and bank of the Ottoman fortress. So, although we have confirmed the existence of this feature, its interpretation remains open. In 2003 we intend to expand the area surveyed and hope that the wider picture revealed may make the feature easier to interpret.

Drilling for data: the auger survey

It was known from previous excavations by Romanian archaeologists that deposits on the site were, in some places at least, several metres deep. Additionally, Adrian Popescu suggested that the low-lying area to the west (Fig. 5D) was a possible location for the Roman harbour, now silted up. Our observations in 2000 had also raised doubts about the outer "defences" (see above) and I suggested that they might in fact be old water channels. We decided, therefore, to take a series of sediment samples using a hand auger. The survey was supervised in the field by Ash Rennie and

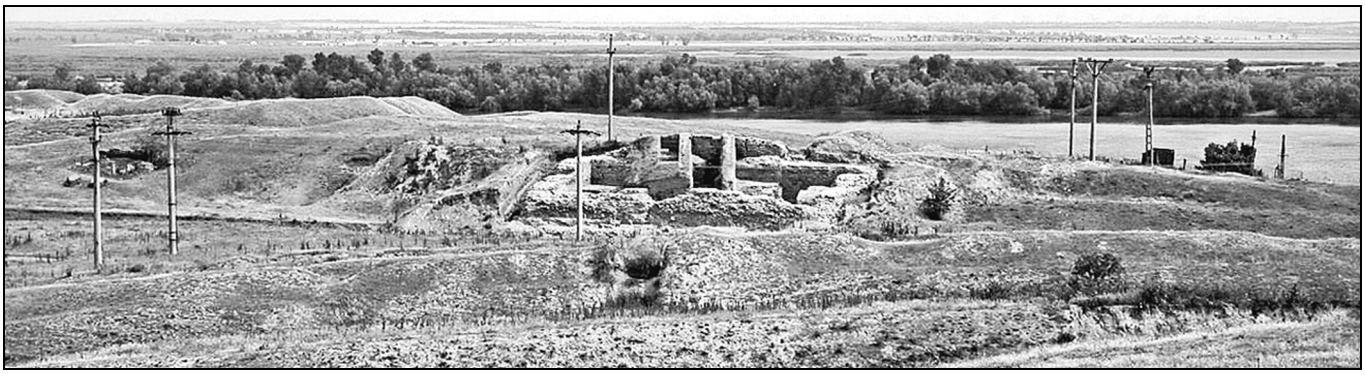

Figure 4 *A view across Noviodunum from the south, showing the topographic complexity of the site. In the centre is the late-Roman tower under excavation by Victor Baumann in June 2002, and to the left the grass-covered remains of the Ottoman fortress are visible (see A and B in Figure 5).*

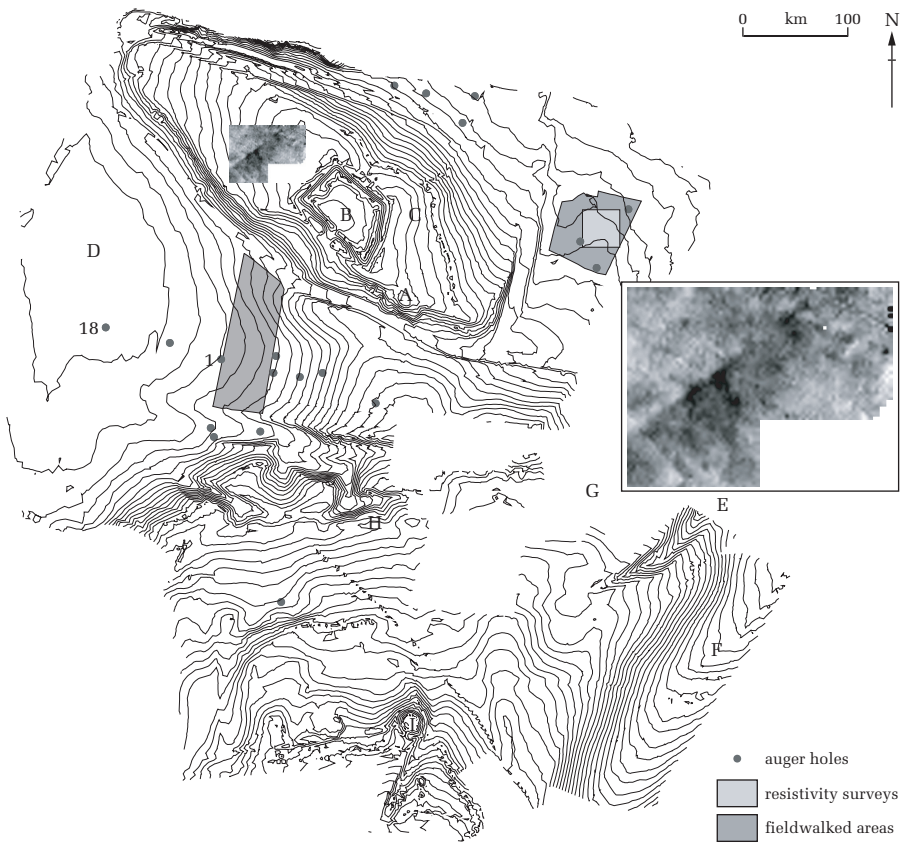

Figure 5 *The topography of the site at Noviodunum as revealed by survey up to the end of the 2002 field season: (A) the late-Roman tower; (B) the Ottoman fortress; (C) the Roman fortress; (D) possible location of a harbour; (E) part of the outer defences of the civil settlement; (F) valley southeast of the main site; (G) modern quarry; (H) area of the civil settlement; (I) probable burial mound of unknown date that has been remodelled and used as a military command and control point for twentieth-century slit trenches.*

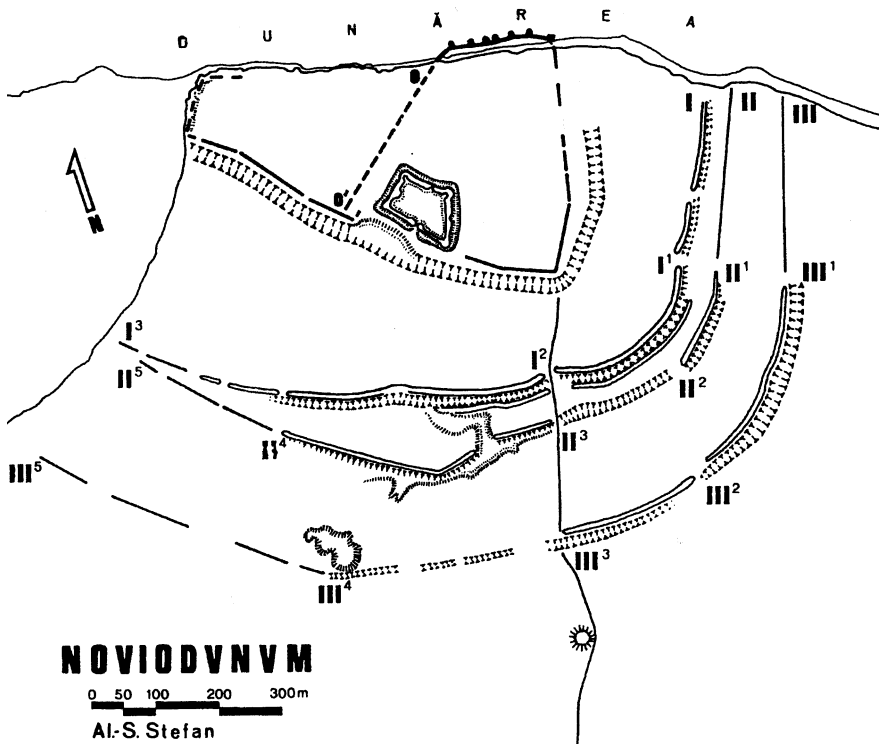

Figure 6 *Plan of the site of Noviodunum published in 1973,[8] showing (labelled I, II, III) what he believed to be three lines of ditches and banks defending the civil settlement.*

the results examined by him and Jane Sidell (both of the Institute of Archaeology). Nineteen samples were taken (Fig. 5), some to a depth of 4.5 m (Fig. 8).

In the area of the putative harbour, the deposits were over 4 m deep and surprisingly homogeneous. They appear to consist of soil eroded from the higher parts of the site to the east and south. The sample taken at the lowest point of the "harbour" area (Fig. 5: 18) contained some more clayey sediment at the very bottom, which may represent riverine deposits. A nearby auger hole produced a small sherd of Roman pottery at a depth of 4 m. Further evidence for erosion of the site is provided by the Byzantine cemetery (Fig. 5: south of G) which has recently been undergoing rescue excavation. Here the burials are only 20–30 cm below the present surface, suggesting a considerable loss of soil since the twelfth century. These findings raise many questions about the site: when and why did this erosion take place, and how it has affected the surviving deposits in the present landscape. In 2003 we plan to excavate a 5 m-deep test pit by machine, and to take more auger samples for the recovery of further sedimentary evidence that may help us explain the changes that the present landscape has undergone.

There is no doubt that the wider landscape around the site of Noviodunum has also changed significantly since Roman and Byzantine times, especially recently. The most obvious difference is the large-scale reclamation of the Danube flood plain for agriculture, which has left sites such as the Roman fortress at Dinogetia (Fig. 1) surrounded by fields rather than water; and aerial photographic evidence shows that the site of Noviodunum itself was under cultivation as recently as the 1950s.[14] In the longer term we hope to investigate some of these aspects of landscape change.

Figure 7 *The western resistivity survey under way at Noviodunum, July 2002; River Danube beyond.*

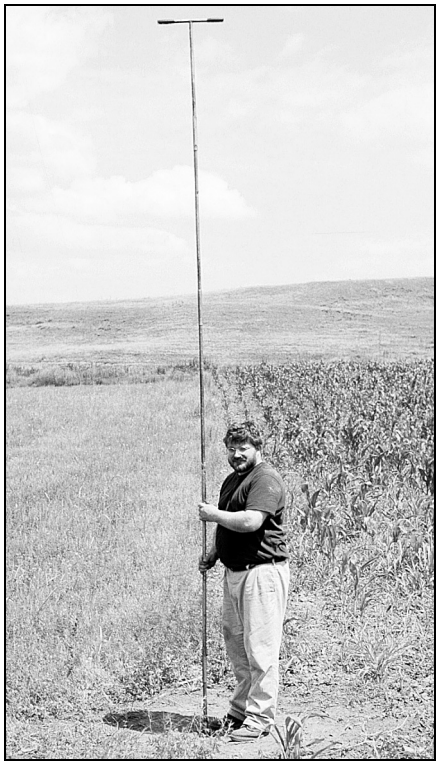

Figure 8 *Taking sediment samples in the area of the putative Roman harbour at Noviodunum, using a hand auger down to a depth of 4.5 m (auger hole 1 on Fig. 5).*

Conclusion

After two short seasons of fieldwork, we cannot expect to reach any firm conclusions about the archaeology and history of the site of Noviodunum. Indeed, our work so far seems to have raised more questions than it has answered. But our initial surveys have already shown that some of the accepted ideas about the site need to be revised. The project is beginning to provide detailed new evidence and a strong framework for further surveys, and excavations, in future years.

Notes

1. The Noviodunum Archaeological Project (NAP) is co-directed by myself, Adrian Popescu of the Fitzwilliam Museum, University of Cambridge (formerly of the Institutul de Arheologie "Vasile Pârvan", Bucureşti), and Timothy Sly of the Department of Archaeology, University of Southampton, in close collaboration with Victor Henrich Baumann of the Romanian Institutul de Cercetări Eco-Muzeale in Tulcea. We made preliminary visits to the site in 1998 and 1999, and have so far undertaken two seasons of fieldwork, in the summers of 2000 and 2002. Financial support has been provided by the Institute of Archaeology and the Graduate School at UCL, and the Department of Archaeology of the University of Southampton.
2. I. Barnea, B. Mitrea, N. Aghelescu, "Săpăturile de salvare de la Noviodunum", *Materiale şi Cercetări Arheologice* **4**, 155–74, 1957; I. Barnea & B. Mitrea, "Săpăturile de salvare de la Noviodunum (Isaccea)", *Materiale şi Cercetări Arheologice* **5**, 461–73, 1959.
3. I. Barnea & Al. Barnea, "Săpăturile de salvare de la Noviodunum", *Peuce* **9**, 97–105, 503–518, 1984.
4. I. Barnea, "Noi descoperiri la Noviodunum", *Peuce* **6**, 102–121, 1977.
5. E. Bujor & G. Simion, "Săpăturile de salvare din cimitirul roman de la Isaccea (r. Tulcea, reg. Constanta)", *Materiale şi Cercetări Arheologice* **7**, 391–9, 1961; G. Simion, "Descoperiri noi în necropola de la Noviodunum: raport preliminar", *Peuce* **9**, 75–96, 481–502, 1984; G. Simion, "Ensemble funéraire de la nécropole tumulaire de Noviodunum (Isaccea)", *Dacia*, *New Series* **38–39**, 121–49, 1994–95.
6. See Simion 1994–95 (*n.* 5 above).
7. A total station is an electronic surveying instrument able to take rapid and accurate 3-D measurements over long distances, through the use of prisms and an infra-red laser.
8. Figure 6 in Al-S. Ştefan, "Noviodunum. Studii de foto-interpretare arheologică", *Buletinul Monumentelor Istorice* **42**(1), 3–14, 1973.
9. The Balkan amphorae mainly consist of type A vessels as defined by Tomber & Williams; see pp. 46–47 in R. Tomber & D. F. Williams, "Late Roman amphorae in Britain", *Journal of Roman Pottery Studies* **1**, 42–54, 1986.
10. The amphora from Rhodes belongs to class 9 (Camulodunum 184) as defined by Peacock & Williams and the others of probable Aegean origin belong to the so-called "hollow foot" (Kapitan II) type of Class 47; see pp. 102–104 and 193–5 in D. P. S. Peacock & D. F. Williams, *Amphorae and the Roman economy: an introductory guide* (London: Longman, 1986).
11. See pp. 316–70 and 408–409 in J. W. Hayes, *Late Roman pottery* (London: British School at Rome, 1972).
12. See pp. 269–437 in V. H. Baumann, *Aşezari rurale antice în zona gurilor Dunării* (Tulcea: Institutul de Cercetări Eco-Muzeale, 1995).
13. Resistivity survey is a technique that enables subsurface features to be mapped by measuring the resistance of the soil to the passage of an electrical current. It provides an indirect measure of the amount of moisture in the soil and can reveal solid structures such as walls (which retain less moisture and have higher resistance than the background resistance) and ditches or pits (which often retain moisture and have a lower resistance than the background). By taking readings in a 1 m grid, it is possible in favourable circumstances to map subsurface features without excavation.
14. See Figure 5 in Ştefan 1973 (*n.* 8 above).