

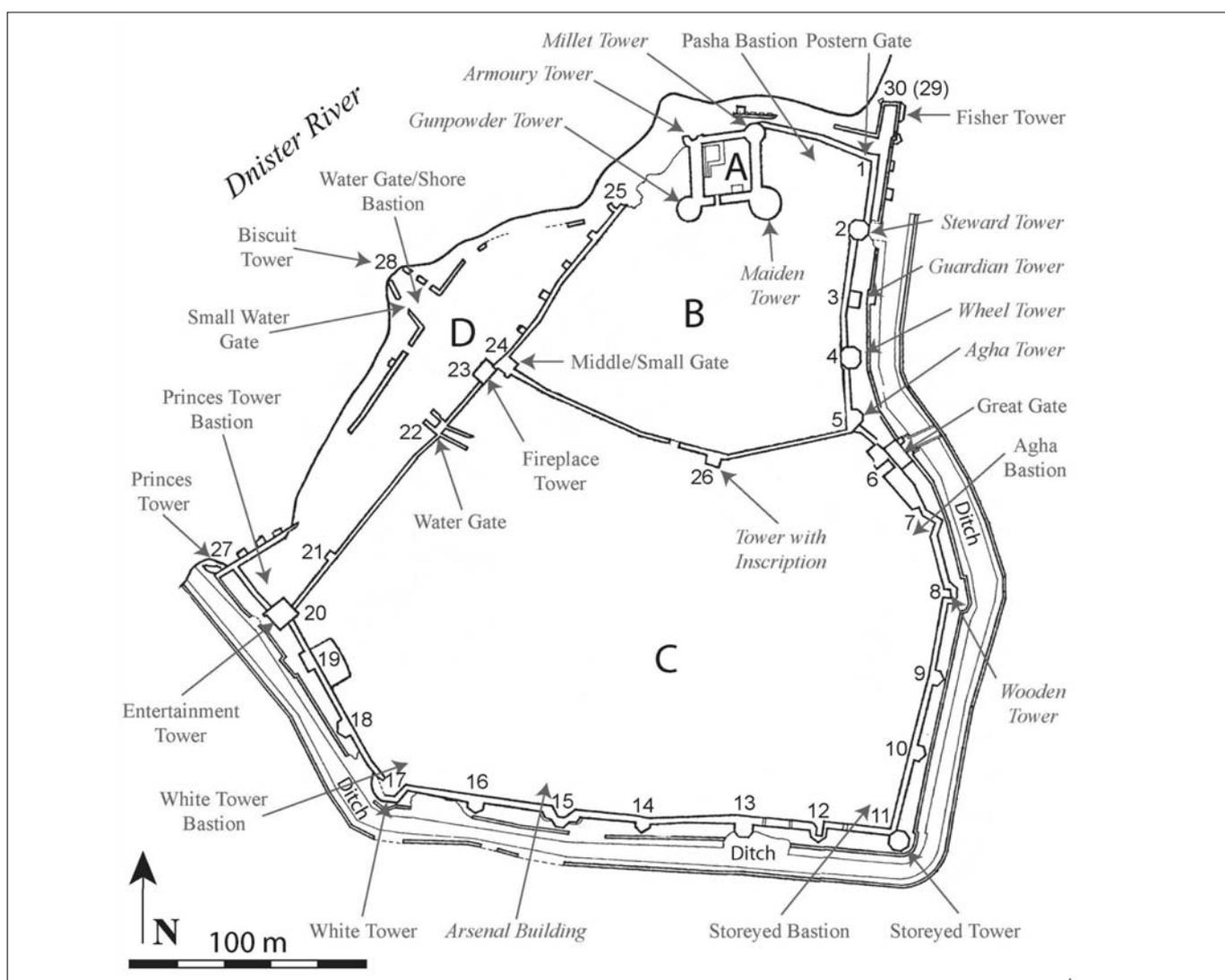
Historical-archaeological investigation of Akkerman fortress, Ukraine 2007

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Our study of the Ottoman period in the life of the northern Black Sea fortress of Akkerman on the Dnister estuary was given an extra fillip this season by the wide interest in varied aspects of Ottoman borderlands evidenced at the British Academy-sponsored workshop ‘The Frontiers of the Ottoman World’, held in London in February 2007 and organised by the British Institute at Ankara. Our spirits were somewhat dented, however, when we arrived on site to see the effects of a fire deliberately set by a film crew on one of the bastions (no. 30 on the plan below) that caused its

internal wooden beams to smoulder for weeks and threatens permanent damage to this feature. Although Akkerman was listed as an endangered site in 2004 by the World Monuments Fund, the situation has not visibly improved, and its value as an unregulated tourist resource continues to trump all other considerations.

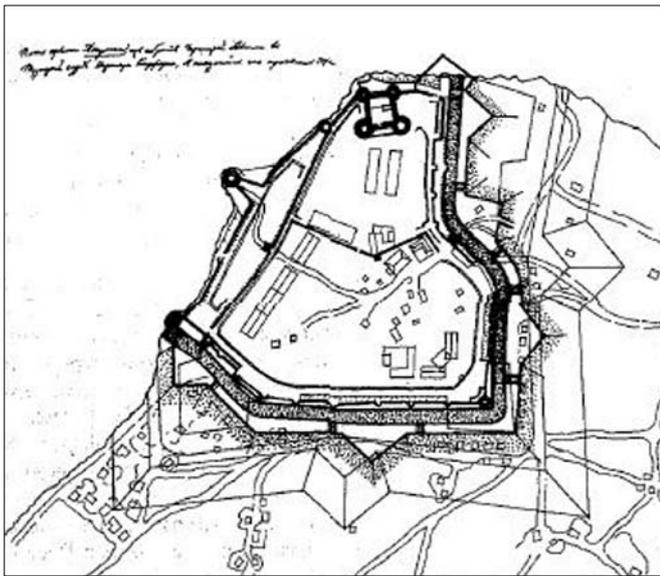
As in 2006, Svitlana Bilyayeva led the excavation of the ‘barbican’ in the port yard on the shore of the Dnister, working there with her team for almost 12 weeks and paying short visits to the site subsequently to oversee conservation work undertaken by Oleksandr Bilyayev. Ottoman historians Caroline Finkel and Victor Ostapchuk spent nearly three weeks at Akkerman, assessing how information regarding repair and construction of the fortress in the written record can be utilised to illuminate its building chronology and function. They were assisted in this by fortress specialist Jim Mathieu. This season, for the first



Plan of Akkerman fortress showing locations identified from Ottoman documents (*italics indicate tentative identities*). A = citadel, B = garrison yard, C = civil yard, D = port yard. 1–30 = towers/gates (based on 1955 survey, State Institute for City Planning [DIPROMIST], Odessa branch [Şlapac 2001: 90])

time, we employed remote sensing technology: Alex Turner and Richard Haddlesey of the University of Winchester conducted a pilot geophysical survey to ascertain the value of electrical resistivity imaging (ERI) in locating the remains of structures referred to in the documents. Of our Ukrainian colleagues, Yuri Boltryk carried out preliminary conservation works in the port yard and worked on the GPS survey; he was joined in the latter endeavour by Iryna Karashevych who also worked with the geophysical survey team. Olena Fialko catalogued the small finds. Work on the Ottoman bathhouse, hitherto undertaken by Bilyayeva and archaeologist Bozkurt Ersoy and his team from Izmir, was continued by architects Alla Martyniuk-Medvedska and Konstantyn Prysiazhny.

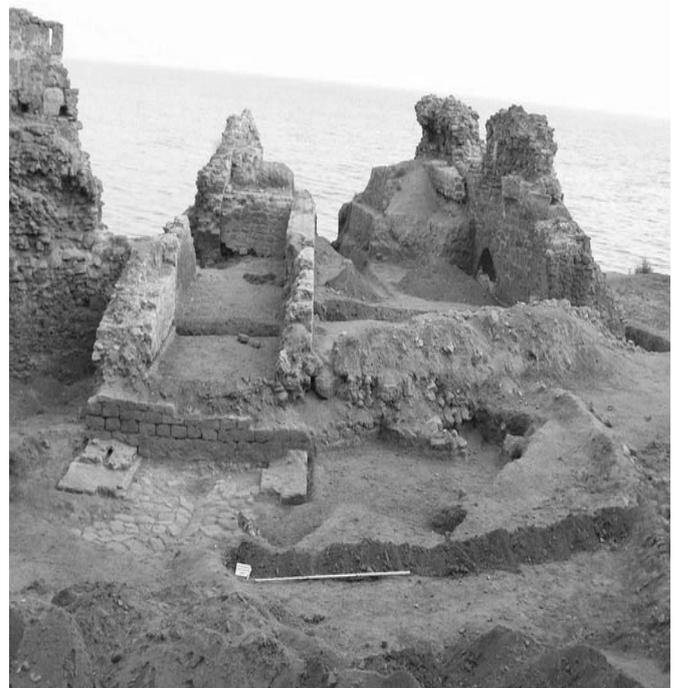
Excavation of the barbican has now revealed its original ground plan and structure, which were obscure both to drafters of plans of the site in the 18th and 19th centuries and to the author of the latest study before our own. This is a significant discovery and the key to our understanding of the fortress in Ottoman times.



Plan of Akkerman fortress made by engineer François Kauffer at the sultan's behest in 1793

Three phases of construction, dating from between around 1500 to the 19th century, have been identified, and we must now work towards elaborating a precise chronology of this feature and the shoreline walls enclosing the port yard. Little is now visible of the tower shown on plans drawn around 1800 that once stood on the shore to the northwest of the barbican (see plan above). However, an entrance to the barbican from this tower was discovered. Here the springing of an arch was found, and slots in the thickness of the barbican wall indicate that entry into the tower from the barbican could be blocked with a bar of wood or iron.

As in 2006 the artefacts uncovered (mainly in the barbican) range from the 13th century to the 19th century and include metal, glass, bone and stone, with ceramics – pottery, tobacco pipes and tiles – predominating. Almost all groups of ceramics known in Anatolia and the Aegean region are represented in the complex of wares, and their presence reflects the contacts and cultural penetration of these regions with this part of the northern Black Sea littoral. Among the sgraffito wares is a sherd with the image of a peacock, some fragments of which were found last year. A small sgraffito amulet with a light green glaze has Arabic letters incised on its surface. Dining ware is represented by varied forms of dishes, jugs, bowls, tea-pots, etc., with green, yellow and brown polychrome glaze. All periods of Iznik pottery were found, as well as Kütahya and Çanakkale production – some Kütahya coffee cups have inscriptions in Arabic letters on the bottom. Among the numerous tobacco pipes dating from the 17th century to the beginning of the 19th century are many stamped with inscriptions – some of which we have been able to decipher – or with designs such as rosettes, birds, etc. One pipe bears the date 1084 AH/1673–1674 AD; another is stamped 'Beykoz'. Finds of glass comprise both window glass as well as fragments of various types of glass vessels, and include both colourless and coloured glass, without or with painted decoration. A metal detector was used during the excavations, and located numerous metal artefacts among which were bronze plates, buckles and fragments of bronze ware. Some 100 bronze and silver Tatar and Ottoman coins were found.



The port yard barbican



Detail of entrance from barbican into shore tower. Note the slot for a bar to be drawn across

Integrating archaeology and history is a new endeavour in Ottoman studies, and we see our project at Akkerman as a test-case for assessing the degree to which written evidence can enhance the understanding of a site and its context derived from archaeology alone. In particular, given the wealth of standing remains at Akkerman, this means relating what is described on the page to the fabric of the fortress as we see it today. A first step has been matching up the towers and other features of the fortress, hitherto marked only by number, with the names by which they were known that are scattered throughout the Ottoman documents at our disposal concerning planned or in-progress building works. The results of this task to date are shown in the plan on page 11.

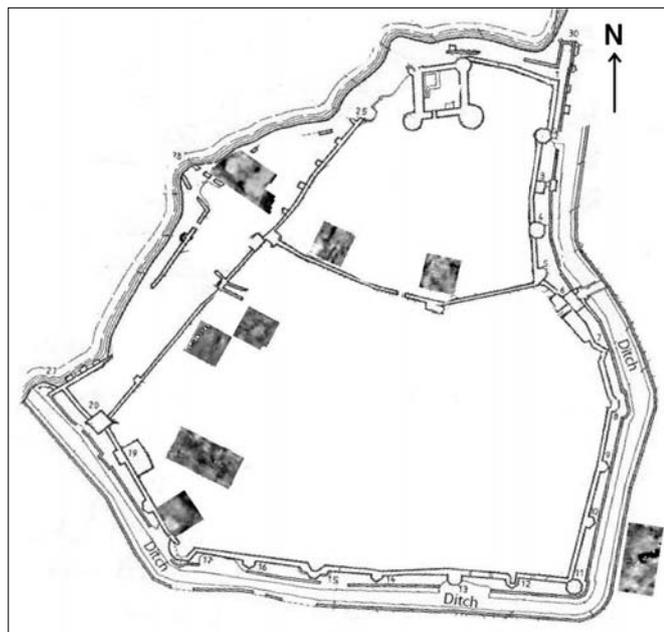
Given its rather protected site, in a watery terrain where reed-beds and soft soils are prevalent, albeit that the fortress itself stands on rock, Akkerman came under serious attack less often than some other fortresses of the northern Black Sea rim, and upgrading the structure so as to 'modernise' its medieval form of straight high walls punctuated with towers, and with a deep ditch, was less urgent. The documentary evidence suggests that modifications came in step with the perception of threat from the armies of the Russian Empire, which was a more formidable foe than the Cossacks and Tatars who had earlier harried the Ottoman garrison and the town around the fortress. Study of the documents is enabling us to understand the chronology of Ottoman building works at Akkerman: thus we find that the original towers were strengthened to take

cannon in the early years of the 18th century, while banks of earth we may refer to as internal bastions were first heaped up to provide cannon platforms and to buttress the walls of the fortress around the time of the Ottoman-Russian war in 1735–1739. The war of 1768–1774 prompted further modifications to accommodate greater numbers of cannon, a process that was intensified at the time of the 1787–1792 war. Thereafter, the Alsatian engineer François Kauffer was called upon to propose a re-think of the fortifications of Akkerman, but the Vauban-style pointed bastions he suggested building seem to have been only partially realised. By 1806 the Russians had won possession of the fortress. Thanks to our identification of the main features of the fortress, we are now in a position to delve deeper into the documents and to ascertain the locations of the incidental repairs to its fabric recorded during Ottoman times.

The geophysical survey was undertaken using a resistivity meter that has metal probes which are inserted into the ground to obtain a reading of local electrical resistance. This resistance is impeded by stone or brick and enhanced by pits containing extra moisture. Readings were taken every 50cm, in 20m grids, 11 of which were surveyed. The raw data were then imported, into a geophysics program called Geoplot, in order to visualise the results and produce usable images. The locations of the geophysics grids were recorded by GPS, and the resulting data were then imported into a GIS program (ESRI ArcView 9). The GIS software enabled geo-referencing – the placing of the images produced by the geophysics onto a plan using 'real world' coordinates – and a new geophysics plan was created. This new plan showing the locations of all the survey grids was loaded onto a mobile phone so that the images could be viewed on site. At least one lost building, a roadway, the line of part of the outer defences and associated structures could be identified, together with various walls and pits. Turner and Haddlesey also worked with Karashevych and Mathieu to complete the GPS survey of the fortress. In 2008 we intend to use magnetometry to enhance the geophysical results obtained so far, and have the promise of the loan of a late-model Ramac georadar scanner from a local source.



Sherds of Iznik ceramics found in the barbican



Plan of Akkerman fortress showing grids surveyed by resistivity meter

Continuing work on the Ottoman bathhouse revealed that the lower parts of the walls of the caldarium (*sıcaklık*) had been covered with marble panels while those of the tepidarium (*ılıkılık*) had been covered with rectangular stone slabs. Where original parts of the floor remained, traces of reed matting were discovered. The architectural plan of the structure was drawn. Once the season's research was completed, the remains of the bathhouse and also the barbican were protected with old stones, lime-sand mortar and river sand.

The Malcolm and Carolyn Wiener Laboratory for Aegean and Near Eastern Dendrochronology at Cornell University has offered to send a team to extract samples from the abundant timber integral to the fortress's construction and analyse them to aid in dating its various elements. We also hope to take mortar samples for the same purpose. We have an offer of consultancy on the ceramic finds from John Carswell, and Ottoman archaeology specialist Machiel Kiel intends to visit us at the site. We anticipate another exciting season.

Acknowledgments

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The Boncuklu project: the origins of sedentism, cultivation and herding in central Anatolia

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The two major goals of the Boncuklu project are: 1) to document the appearance of sedentary, cultivating and herding communities in central Anatolia and thereby also to develop more broadly-based and convincing explanations for the early appearance of these phenomena in southwest Asia; and 2) to investigate the antecedents of Çatalhöyük, so helping to explain its large size and distinctive symbolic practices. Current models of the development of the first sedentary, cultivating and herding societies are derived largely from datasets and excavated evidence from the countries of the Levant. In our state of relative ignorance, it is far from clear whether such explanations work in the rather different conditions pertaining on the central Anatolian plateau, where early sedentary and agricultural communities are present but currently very poorly documented, and where it is not even clear that the earliest cultivated plants were present in the wild. In Anatolia these processes may have involved the movements of individuals or groups, some with new subsistence and other cultural practices, and the central Anatolian case allows us to examine this issue closely.

Our previous BIAA project was at the archaeological site of Pınarbaşı in the Konya plain of south-central Turkey. Between 2003 and 2005 we conducted excavations and the study of material that revealed the first Late Pleistocene and very Early Holocene settlements to be excavated on the Anatolian plateau. The ninth millennium settlement at Pınarbaşı demonstrates evidence of sedentary behaviours, that is, hunter-gatherer communities making substantial investments in their settlement facilities and staying at those settlements for lengthy periods and/or returning very regularly to the sites.

The Pınarbaşı project has brought into sharp relief two outstanding sets of issues. Whilst the project has provided insights into previously undocumented Epipalaeolithic occupation of the Anatolian plateau and the development of sedentism in central Anatolia, it has provided no direct evidence for the appearance of cultivator and herding communities in central Anatolia. It has raised a number of intriguing possibilities in this regard. Firstly, it may be that hunter-gatherer communities like those at Pınarbaşı adopted herding and then cultivation in the marsh, steppe and mountain fringes of the Anatolian plateau. They may have domesticated local species or imported them from the southeast. Alternatively, intrusive farming communities may have introduced cultivation and herding, or a combination of all these processes may have operated. We know that cultivation is documented in the first half of the eighth millennium at Aşıklı in Cappadocia and that by the late eighth