archaeology international

Dawkes, G et al 2016 Urbanism East of the Aral Sea: The Medieval City of Kuik-Mardan, Kazakhstan. *Archaeology International*, No. 19: pp. 63–67, DOI: http://dx.doi.org/10.5334/ai.1911

RESEARCH UPDATE

Urbanism East of the Aral Sea: The Medieval City of Kuik-Mardan, Kazakhstan

Giles Dawkes, Gaygysyz Jorayev and Odile Rouard

Since 2011, the Centre for Applied Archaeology (UCL), together with a local Kazakh archaeological company (Archaeological Expertise) and the Margulan Institute of Archaeology of Kazakhstan, have been undertaking the Silk Road Cities of Kazakhstan Project in the south of the country. For the past two years, attention has been focused on the city of Kuik-Mardan, one of the largest of the seventy or so known cities in the Otrar oasis on the Syr-Darya river (**Fig. 1**).

The oasis can be described as a hydraulic civilisation, in the sense that its existence depended entirely on the use and management of flood waters to irrigate an otherwise arid landscape (Macklin and Lewin 2015). In terms of scale and antiquity, it was akin to the other great river civilisations of the Old World, such as the Nile, Indus and Euphrates. However, unlike these more famous rivers, the history of the Syr-Darya cities is almost completely unknown in the West, and in this respect can be considered a 'lost civilisation' (Macklin pers. comm.).

The most infamous episode in the long history of Otrar was the 1218 siege and subsequent massacre of its inhabitants by the Mongols. Enflamed by the murder of his trade delegation at Otrar, Chinggis Khan ordered Mongol armies west and in a brutal campaign of retribution, destroyed not only Otrar, but other major cities in the region, including Samarkand and Bukhara. This isolated incident had the profound effect of triggering the change in direction of Mongol expansion from east to west (Schwarz 1998). To this day, the siege of Otrar retains a key place in the Kazakh national consciousness and sense of identity, despite academic disputes about the scale of the actual destruction (for example, see Bustanov 2015).

The Otrar oasis occupied a geographical niche: bounded by the Syr-Darya river and the Kyzyl-Kum desert to the south and the Karatau mountains to the north. For much of the medieval period this locale was an

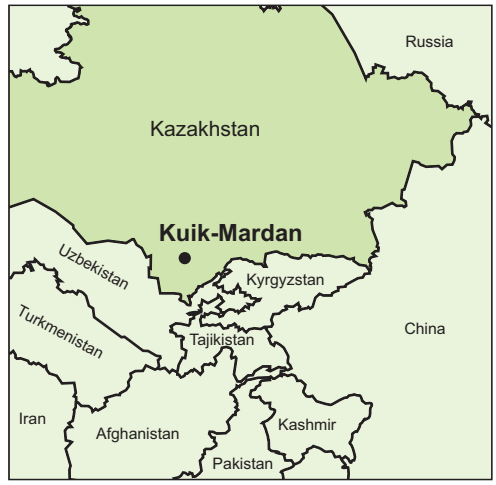

Figure 1: Location of the Kuik-Mardan (Centre for Applied Archaeology).

Centre for Applied Archaeology UCL
Institute of Archaeology London WC1H 0PY, UK
Corresponding author: Giles Dawkes
(giles.dawkes@ucl.ac.uk)

uneasy frontier territory of the Islamic world with the Nomadic steppe cultures to the north. While these cities were expanded and modified to suit the needs of Islamic society, including the addition of built elements such as mosques and bathhouses, this was an inherited urbanscape of an already considerable antiquity. This inheritance was reflected in these cities which retained the basic tripartite structure of citadel, fortified inner town (*shakhristan*) and suburbs (*rabad*), typical of many Central Asian cities. The basic model of the administrative and military heart dwelling in the citadel and inner town, with lower status residences and industries such as potteries in the suburbs is still broadly accepted. However, this was an organizing principle rather than a rigid planning practice and increasingly the realisation is that these cities were morphologically nuanced urban forms, that evolved following differing trajectories (Wheatley 2001, 322).

The basic aim of our project was, through the application of several complementary field techniques, to understand the form, function and development of Kuik-Mardan. However, Kuik-Mardan, like the vast majority of cities in Central Asia, was almost entirely constructed of mudbrick, and this material brings a special set of challenges to the archaeologist. Mudbrick, formed of shaped wet mud left to dry in the sun, creates a very different archaeological record to that of stone. With stone buildings it was usually easier for the inhabitants to dismantle and reuse materials and adapt structures rather than build anew. However, with mudbrick the opposite was true: it was far simpler to flatten structures and use them as foundations for entirely new builds (Kennedy 2006). Over centuries this repeated levelling of buildings with thick mudbrick walls created substantial underlying deposits. Mudbrick cities literally rose up from the surrounding plains as artificial hills (known as *tells* or *tobes*). The main problem for archaeologists is the great depth of these deposits which often makes the investigation of the earlier phases of a city's occupation logistically and financially difficult, if not impossible. For example, at Kuik-Mardan, the citadel sat on a *tobe* of archaeological deposits more than 10m thick, and in effect only the later phases (10^{th}–14^{th} century) of the settlement could be adequately explored.

Previous excavations at Kuik-Mardan by Kazakh and Soviet archaeologists had centred entirely on the citadel and several residential buildings were known (Baipakov et al 2006; Kidir 2009). However, in contrast, the outer fortified town and the second, smaller eastern citadel had never been formally archaeologically investigated and these two unexplored areas were our focus.

The 2016 fieldwork season, undertaken in May, used four complementary fieldwork methods: unmanned aerial vehicle (UAV) photomapping; geophysical ground penetrating radar (GPR) survey and surface finds collection in the fortified inner town; and finally, trial trench hand excavation. The first three techniques had never been used on the site before, and it was hoped that together these would allow us to map the city rapidly in detail, and form a basic picture of the distribution of artefacts, buildings and overall land-use. These techniques were selected as they had been successfully applied to other Central Asian mudbrick cities, such as Merv in Turkmenistan (Williams 2012).

The results of the UAV photo-mapping and field-walking surveys were used to inform the location of the GPR survey and the trial trenches (**Fig. 2**). The selected 'targets' were primarily the outline of buildings visible from the air, and areas containing abundant slag industrial waste. Other 'negative' areas, with no clear results from earlier surveys were also selected for trial trench excavation. The excavations were undertaken both to test the validity of the survey results, and to gain material suitable for C14 radiocarbon dating from appropriate contexts, such as the primary demolition deposits of buildings. It is hoped that this dating programme will begin to provide an outline chronological framework for the city, independent of finds dating. This in turn will provide chronological

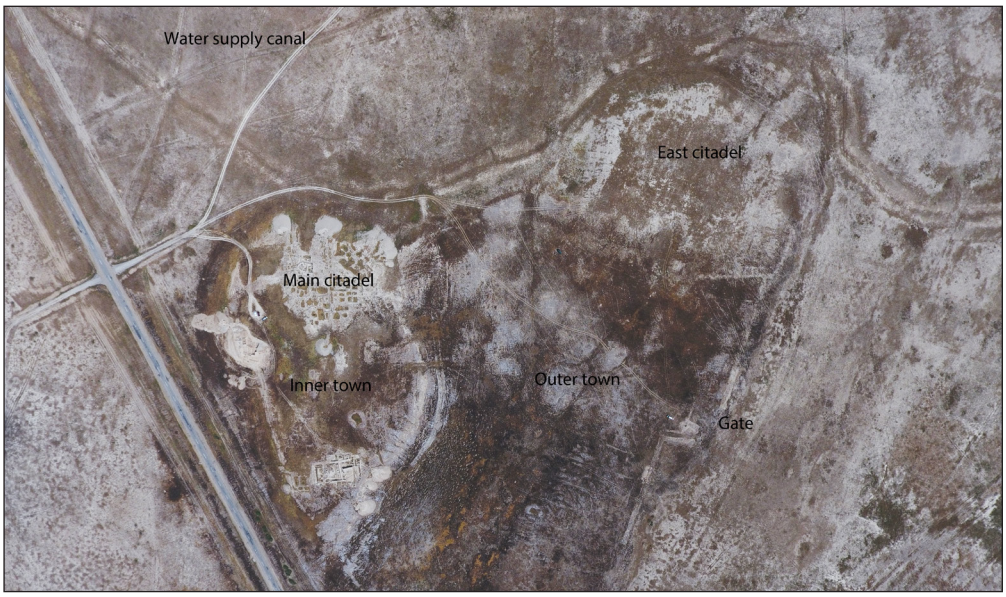

Figure 2: Photograph of Kuik-Mardan facing south (Photo Gaygysyz Jorayev).

'anchor' points for the potential future reassessment of the dating of finds assemblages, principally ceramics. The combination of the UAV, GPR and trial trenches is also expected to be used for future analytical work that will underpin methodological bases for the use of two remote sensing options – UAV and GPR – in the context of urban mudbrick archaeology in Central Asia.

The combined results of these fieldwork methods, all completed in under four weeks on a city larger than 11 ha, allow, even at this early stage, some preliminary interpretations to be ventured and a basic layout of the inner town to be proposed. Of all of the later glazed ceramics (13th/14th century), only a handful were recovered from the inner town, with the rest of the moderate assemblage from the smaller eastern citadel (Baipakov and Erzakovich 1989). In addition, fragments of ceramic 'sandal' altars in a form known to date from the 12th century and relating to local fire cults, were found exclusively within the eastern citadel.

This suggests that the eastern citadel was a late, possibly Mongol insertion into the outer town, and it is likely to have superceded the main citadel. The final occupation of the city (14th century) seems to have been in a much reduced form and centred on the eastern citadel. One of the latest structures found was a furnace on the lower slope of the eastern citadel, dug into deposits of mudbrick collapse and erosion, indicating that metalworking was still being undertaken in the final days of the occupation. It is hoped that a C14 radiocarbon date from this structure will provide a broad end date for the use of the city. Other structures identified from the fieldwork included a small fortified gateway into the town, a 10th century residential building and a central open area within the fortified outer town, possibly a market place.

Elsewhere the team of Kazakh archaeologists, led by Ilyar Kamaldinov and Dmitriy Voyakin, and working closely with the UCL team, focused their attention on the city's fortifications. This was principally the excavation of a massive fortified tower in the *shakhristan*. The tower was rebuilt and extended on at least three occasions and comprised a multi-level cellular arrangement of rooms built onto a huge mudbrick platform. The whole edifice was at least 8 m

high with an external face of both vertical and battered sections. Other excavations in the residential area of the main citadel identified a store room, still complete with rows of large jars on the floor, and evidence of collapsed burnt roof timbers. These burnt timbers are likely to represent the roof of one of the last buildings to be occupied and it is hoped that the C14 radiocarbon samples will provide the most accurate dating evidence yet for the ultimate abandonment of the main citadel.

This year also saw the beginning of a collaboration with Mark Macklin and Willem Toonen (Centre for Catchment and Coastal Research, University of Aberystwyth) who undertook the first ever geoarchaeological trenching of the multi-phase irrigation canal system. One of the excavated canals supplied water to Kuik-Mardan, and is likely to have been established at the time of the city's foundation. It is therefore hoped that an optically stimulated luminescence (OSL) dating programme will provide key information about the early chronology of the city or, at the very least, a *terminus ante quem* (latest likely date) for its foundation. This may be the first time that a foundation date of a city in the oasis can be proposed based on scientific dating.

One of the broader themes we hope to examine is the effects of the numerous invasions on the form of the city. For instance, was the massive re-fortification of the citadel in the 8th/9th century a response to the threat of the eventual Arab conquest? And did the infamously bloody Mongol take-over of the 13th century precipitate the decline of the city? The long-term aims of the Silk Road Cities of Kazakhstan project are to elucidate the development of this palimpsest landscape and to attempt to place it within its transnational regional context. In doing so, and with the resultant publications, we hope to bring the Silk Road cities of Kazakhstan to the international attention they deserve.

Competing Interests

The authors declare that they have no competing interests.

References

Baipakov, K M and **Erzakovich, L** 1989 *Ceramics of Medieval Otrar.* Almaty, Kazakhstan: National Monuments of Kazakhstan.

Baipakov, K M, Voyakin, D A and **Smagulov, E A** 2006 *The Sites of Ancient Settlement: Kuik-Mardan, Altyntobe and Jalpaktobe*. Almaty, Kazakhstan: Archaeological Expertise.

Bustanov, A 2015 *Soviet Orientalism and the Creation of Central Asian Nations*. London, New York: Routledge.

Kennedy, H 2006 From Shahristan to Medina. *Studica Islamica,* 102/103: 5–34.

Kidir, E 2009. *Otrar*. Almaty, Kazakhstan: Foliant.

Macklin, M and **Lewin, J** 2015 The rivers of civilisation. *Quaternary Science Reviews,* 114: 228–244. DOI: http://dx.doi.org/10.1016/j.quascirev.2015.02.004

Schwarz, H G 1998 Otrar. *Central Asian Survey,* 17(1): 5–10. DOI: http://dx.doi.org/10.1080/02634939808401020

Wheatley, P 2001 *The Places Where Men Pray Together, Cities in Islamic Lands, Seventh through the Tenth Centuries*. Chicago: The University of Chicago Press.

Williams, T 2012 Unmanned Aerial Vehicle Photography: Exploring the Medieval City of Merv, on the Silk Roads of Central Asia. *Archaeology International,* 15: 74–88. DOI: http://dx.doi.org/10.5334/ai.1522

How to cite this article: Dawkes, G, Jorayev, G and Rouard, O 2016 Urbanism East of the Aral Sea: The Medieval City of Kuik-Mardan, Kazakhstan. *Archaeology International*, No. 19: pp. 63–67, DOI: http://dx.doi.org/10.5334/ai.1911

Published: 12 December 2016

]u[*Archaeology International* is a peer-reviewed open access journal published by Ubiquity Press.

OPEN ACCESS