Cities and the Mongol Conquest: Urban Change in Central Asia 1200-1400

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Abstract

In the early decades of the 13th century, the Mongols swept through Central Asia, sacking the cities of the Khwarazmian Empire and apparently causing economic chaos throughout the region. The Persian historians Rashid al-din, Juvaini and others describe this as a traumatic event with cities razed and populations slaughtered. This thesis archaeologically examines urban change from the 12th to 14th centuries at three cities impacted by the conquest: Otrar in Kazakhstan, Barda in Azerbaijan and Merv in Turkmenistan. Following excavation, re-excavation and review of available published and unpublished material, no convincing evidence of Mongol destruction or victims of the described slaughter were found at any of the sites. At Merv, the only site to witness a negative impact of the conquest according to the archaeological evidence, the picture is one of depopulation and desertion rather than destruction. As such the 'destruction' caused by the Mongols at this site (and others) might be seen as Mongol-inflicted depopulation through conscription and enslavement, leading to the decay of the mudbrick city rather than outright destruction. At Otrar, previous excavations had reported a decades long abandonment on the city's shahristan, but radiocarbon dating and contextualisation with ceramic and coin evidence showed that this district of the city was abandoned by at least 1150, almost a century before the arrival of the Mongols in 1219. Indeed, broader coin finds across the main part of Otrar show that the city may have been effectively abandoned or at least significantly depopulated through the 12th and early 13th centuries.

Compared to Merv, the new political situation seems to have benefitted Otrar and Barda, neither of which showed significant change in the character of urban occupation in the first half of the 13th century. Dense urban occupation returned to the shahristan of Otrar by the 14th century, with the revival probably beginning in the later 13th. Barda perhaps experienced the most dramatic transformation through the period. Despite reports of its decline in the 12th century, it appears to have experienced something of a revival, which continued through the 13th century. The construction of two monumental tomb towers at the city in the early 14th century was likely patronised by the Ilkhanid elite, and transformed Barda from a minor town to an important symbol of Mongol rule on the grassy plains of Azerbaijan. Expanding more broadly from the individual cities, I conclude that the Mongols' relationship with cities was not only destructive or passive as they left the mechanics of rule to their administrators and shunned the cities in favour of seasonal movement and tents. Instead, urban investments made during Mongol rule transformed the character of Barda and Otrar far more than the 'destruction' of the early 13th century, while their attempts to revive Merv probably began its southward shift which was completed in the 15th century. Furthermore, the movement of Mongol capitals northwards towards the steppe or 'steppe-like' zones of Azerbaijan and the Caucasus led to longer term shifts in urban dynamics from which some cities, including Merv, never fully recovered.

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Glossary of Terms, Dynasties and Places

Aghkand- Glazed, polychrome pottery (named after village of Aghkand in north-west Iran) produced in Iranian Azerbaijan and the Caucasus from the 12th- early 14th centuries.

Amu Darya- River running from the Pamirs to the Aral Sea, forming much of the modern border between Uzbekistan and Turkmenistan (ancient Oxus).

Arran- Region predominantly in southern part of present day Republic of Azerbaijan, parts of northern Iran and Armenia. Broadly in the area upstream of the confluence of Kura and Araxes rivers and east of the mountains of Karabakh. Historic capitals include Barda and Ganja.

Avagra- Genghis Khan's first capital, located in eastern central Mongolia.

Azerbaijan- Historic region spans both the independent Republic of Azerbaijan, and north-western region of Islamic Republic of Iran.

Beylagan- Medieval city on the Mil Plain, southern Republic of Azerbaijan. The remains of this city are known as 'Oren Kala' and lie some 22km from the modern Azerbaijani town of Beylagan.

Chagatai Khanate- Mongol Khanate from c. 1226-1347, surviving in various forms until the 18th century, named after Chagatai, son of Genghis Khan. Extended from the Amu Darya eastward to the Tarim basin and north to Lake Balkash and the Altai. Included the cities of Bukhara, Samarkand and Otrar.

Dandanakan- Town west of the Merv oasis, recorded as abandoned in the mid-12th century by Yaqut. Site of battle between the Seljuks and Ghaznavids in 1040.

Dharmachakra- Wheel-shaped symbol commonly used in Buddhist iconography.

Dzud- Severe winter conditions on the steppe, when large numbers of livestock die.

Fausse-braye- Smaller defensive wall, running parallel to, but outside of the main defensive circuit. Usually preceded by a ditch or moat.

Ferghana- Fertile valley between the Tien Shan and piedmont of the Pamirs, spans parts of present-day Uzbekistan, Kyrgyzstan and Tajikistan.

Fritware- Type of glazed pottery, named after the fabric used for vessel's body, which contains a high level of quartz. Produced in the Persian world from c. the later 11th century, with distinctive widespread types produced from the latter 12th century (also known as stonepaste and sometimes faience among Soviet and post-Soviet researchers).

Gabala- Ancient and medieval city in the foothills of the Greater Caucasus, central northern part of Republic of Azerbaijan. Ancient site is around 15km from the modern town of Gabala.

Ganja- Important regional capital of Arran in the medieval period, located some 70km northwest of Barda. The ancient site is some 4km north of the centre of modern Ganja.

Ghazaniya- Suburb outside of the walls of Tabriz constructed by Ghazan (r. 1295-1304), and famous as the location of his monumental tomb. Historical sources report the presence of a palace, libraries and gardens but none of this has survived.

Ghaznavids- Persianate dynasty of Turkic origin, centred in Ghazni, modern-day Afghanistan between 977–1186. At their height Ghaznavid control spread from the Aral Sea to the Persian Gulf, and the central Iranian plateau to northern India.

Ghuzz- Turkic group primarily based in the Aral Sea region with a capital at Dzhankent. They spread at times deep into Transoxiana and caused significant trouble to sedentary areas in the 11th and 12th centuries (also known as the Oghuz).

Ildegizids- Turkic dynasty who controlled most of historic Azerbaijan and Arran from 1145-1225.
Ilkhanate- Mongol khanate (1256–1335) whose first ruler was Hulegu, a grandson of Genghis Khan. Its territory roughly maps onto modern-day Iran, stretching to Afghanistan and western Pakistan in the east, and the south Caucasus and southern Turkmenistan in the north. It expanded deep into Iraq, northern Syria and Anatolia by the later 13th century.
Imamzadeh- A shrine-tomb dedicated to an immediate descendent of Shi'ite imams who are directly related to Mohammed; also a term to refer to the direct descendent of an imam.
Iwan- A vaulted hall or space, walled on three sides with one side left open.
Kara Khitai- Mongol-speaking group, an offshoot of the Western Liao who ruled northern China as the Liao dynasty, which fell in 1125. Subsequently moved westwards, capturing parts of the Karakhanid Khanate in the 1130s and remaining an important force in Xinjiang and eastern Transoxiana until the arrival of the Mongols.
Karabakh- mountainous region in the western part of the Republic of Azerbaijan and south-eastern part of Armenia.
Karakhanids- Turkic dynasty whose rule at its height stretched from the Aral Sea to Xinjiang. They defeated the Persian Samanids in 999 and remained a force in Transoxiana until finally defeated by the Khwarazmshah in 1211.
Karakorum- Mongol capital from 1235 until the 15th century. Situated in the Orkhon valley, Central Mongolia.
Karakum- Desert spanning from the Kopet Dag mountains in the south to Amu Darya river in the north. Mostly in modern day Turkmenistan, with a small part in south-western Kazakhstan.
Kashan/Kashin- City in central Iran associated with the production of fine ceramics, 'Kashin' is often used in Soviet sources to refer to distinctive lustre-decorated fritware which was common in the late 12th and 13th centuries.
Kepterkhana- Distinctive standing, mudbrick structure in the Shahriyar Ark in Merv, whose interior is covered with small niches or 'pigeon holes' (hence the literal name 'pigeon house').
Khanaqah- Building for Sufi gatherings, which also provided accommodation for travellers and students.
Khorasan- Eastern region of Persia comprising north-eastern Iran, western Afghanistan and southern Turkmenistan; also currently a province of north-eastern Iran, but used here in its historical sense.
Khwarazm- Oasis region on the Amu Darya river, south of the Aral Sea. Currently within southern Uzbekistan and northern Turkmenistan (also known as Chorasmia, Khorezm).
Khwarazmshah- Persianate dynasty of Turkic origin in existence from the late 11th century, originally vassal rulers of the Khwarazm Oasis but became independent rulers from the later 12th century until the Mongol Conquest. At their height (in 1218) they ruled a vast territory from the south Caucasus to Afghanistan and the southern Kazakh steppe, encompassing all of Iran and Transoxiana.
Kyzylkum- Desert between the oases of the Syr Darya and Amy Darya rivers, predominantly in modern-day Uzbekistan, with parts in northern Turkmenistan and southern Kazakhstan.
Koshk- Fortified residence on the outskirts (and occasionally within the walls) of major cities, especially Merv.
Kura- River rising in eastern Turkey, flowing through Georgia (where it is called the Mtkvari) and Azerbaijan, before entering the Caspian in north-western Iran.

Madrasa- School (in modern Arabic); in the classical sense it often refers to an institution for instruction in Islamic Law and sometimes a broader range of subjects.
Maragheh- First capital of the Ilkhanate, situated in north-western Iran.
Mil Plain- Grassy plain stretching from the confluence of the Kura and Aras rivers in southern Azerbaijan, stretching into northern Iran.
Mina'i- Distinctive enamelled fritware, produced in the Persian world in the late 12th and early 13th century.
Murghab- River which rises in the Hindu Kush and flows through Afghanistan and south-eastern Turkmenistan, including Merv before disappearing in the Karakum desert.
Nakhchivan- Autonomous exclave of the Republic of Azerbaijan, bordering Turkey to the west, Armenia to the north and east, and Iran to the south.
Ordu- Mongol term for camp, court or seat of power. Referred to both physical places and the camp or court which accompanied Mongol leaders.
Pakhsa- Rammed earth construction technique, compressed as the structure is assembled.
Panjara (screen)- perforated stone, ceramic or stucco screen.
Qarabaghlar- Village in Nakhchivan, notable for a 14th century mausoleum, likely built during the reign of the Ilkhan ruler Abu Said.
Rabad- Lower, sometimes unfortified areas surrounding a citadel or defended city. Often the location of industrial activity, further residential areas, caravanserais, and bath houses.
Rus- Scandinavian/ Baltic group who travelled predominantly by river to settle across Eastern Europe and present-day western Russia, establishing a state based in Novgorod in the mid-9th century. They travelled in the Caucasus and beyond in the 9th-11th centuries.
Rustavi- Ancient and medieval city in southern Georgia, close to the modern border with Azerbaijan. The ancient city is within modern Rustavi.
Samanids- Persian dynasty who ruled Transoxiana from their capital in Bukhara from 819-999.
Seljuks- Turkic dynasty extant from 1037-1194 who ruled a vast empire, which at its largest ranged from Anatolia to the Pamirs with capitals in Isfahan, Merv and Hamadan.
Semirechye- Region of lush, river-fed plains in south-eastern Kazakhstan.
Shahristan- Main (usually defended) urban core or citadel, typical of medieval Central Asian cities, they were usually surrounded by a rabad.
Shahriyar Ark- Defended citadel containing palatial and administrative buildings in the north-eastern part of Sultan Kala, Merv. Probably built by Seljuk rulers in the later 11th century.
Shamkir- Ancient and medieval city in the west of the Republic of Azerbaijan, near the Georgian border and ruled by the Georgians during the 12th and 13th century. The ancient site is some distance from the modern city.
Sultaniya- Initially a summer capital of the Ilkhanate but made the capital of the empire by Oljeitu in the early 14th century. Sultaniya is famous for Oljeitu's monumental mausoleum.
Syr Darya- River running from the Tien Shan mountains through Ferghana, northern Uzbekistan and southern Kazakhstan to the Aral Sea (ancient Jaxartes).
Tabriz- Capital of the Ilkhanate between 1265 and 1306, a major commercial, scholarly and political centre, remaining as such even after Sultaniya became the new capital.
Tarim Basin- region in present-day Xinjiang, western China centred on the Tarim river.

Tatar- Originally a steppe confederation, defeated by the Mongols in the early 13th century. The term came to refer to Mongols and people of Turkic descent across Eurasia.
Terter- River which rises in the mountains of Karabakh and flows eastwards through Barda, a tributary of the Kura.
Timurids-Persianate, Turco-Mongol dynasty which ruled from Samarkand and later Herat from 1370-1507, founded by Timur (Tamerlane). At its height in the early 15th century the Timurid Empire spanned an area from eastern Anatolia, the north Caucasus and Aral Sea, the Persian Gulf to the Pamirs.
Tobe/ Tepe- Mound created from build-up of mudbrick architecture (known as a 'tell' in the Middle East).
Transoxiana- region between the Syr Darya and Amu Darya rivers, including the oases on both banks. Location of major cities including Bukhara and Samarkand.

Notes on Transliteration, Dates and Illustrations

Due to the many languages and alphabets used in the Caucasus and Central Asia, which often leads difficulty in finding sources relating to specific people or places, a certain degree of pragmatism has been used in transliteration, rather than a blanket approach.

Texts in non-Latin script have been transliterated into the Latin alphabet using the Library of Congress system (https://www.loc.gov/catdir/cpso/roman.html). Where authors have published under a name transliterated into the Latin alphabet, this transliteration has been retained and titles of works published with transliterated titles also retain this form. An exception to this is Georgian, where the Library of Congress system would render the words unintelligible to a Georgian speaker, so I have transliterated the names phonetically and also provided the original spelling in Georgian script.

Where authors have published in multiple languages with different alphabets, the transliterated name has been used for works in non-Latin script and the original spelling used for those in Latin script to make the works easier to find. For example Нуриев becomes Nuriev when transliterated from Russian, the Azerbaijani Cyrillic version Нурийев becomes Nuriyev when transliterated, and retains the form Nuriyev when written in Azerbaijani Latin script, so Nuriev is used to refer to works published in Russian and Nuriyev for those published in Azerbaijani while generally referring to the author as Nuriyev in the main text. Places use the modern standard Latin alphabet toponym if they still exist (e.g. Merv instead of Marv/Marw/Merw, Barda instead of Bardha'a/Bərdə) to make it easier to pronounce and search for them. An exception to this is when differences in historical and modern names might prove confusing, so for example I use Khwarazm to refer to the oasis where the Khwarazmshah ruled from, instead of the modern spelling Khorezm. I use Khwarazmshah instead of Khorezmshah as this is the more commonly used in historical literature and therefore will be easier to find. If there is no modern toponym for sites referred to in non-Latin alphabets, the name is translated using the Library of Congress system from whatever language/script the place is mentioned. Where multiple forms are used (for example Rashid al-Din, Rashid ad-Din, Rashiduddin; Genghis Khan, Chinggis Khan) personal preference of a commonly used form has been used in the hope that it will make the work more accessible.

All dates are AD/CE unless otherwise stated.

All images created by the author unless otherwise stated.

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1. Introduction

The Mongol Conquest of Central Asia, which took place from 1219 to 23 is one of the most dramatic and significant events in Eurasian history, and the triumphant finale of a series of nomadic conquerors who swept in from the eastern Eurasian steppe. The destruction and abandonment of great 'silk road' cities has been seen as a major factor in the rupture of economic, political and social networks, with the widespread massacre or flight of their populations contributing to this situation. In contrast to this narrative, by the 1250s, mere decades after the conquest, Europeans appear to be traversing the continent with relative ease (Jackson, 1994; Rustichello da Pisa (trans. W. Marsden), 1997), and historians point to economic recovery, cosmopolitan cities and even a thriving trade under the 'Pax Mongolica' (Lane, 2003; Di Cosmo, 2010). The two historical traditions of the period therefore see the Mongols, and often nomads more generally, as being either the destroyers of sedentary populations, or the overarching power which facilitated travel and communication over great distances. This apparent opposition has not gone unremarked in historical literature (see for example Lewis, 1968; Allsen, 2001), with Allsen pointing out that the two approaches are not mutually exclusive and concludes that 'there was, in fact, both a Pax Mongolica and a Tartar Yoke, inhering and coexisting in the very same polity' (Allsen, 2001, p. 5).

Archaeology has much to contribute to this debate, especially in the consideration of urban centres targeted by the Mongols. However, the vast area covered by their armies, and until recently its (modern) political configuration, has led to constraints in understanding these cities, in the anglophone world at least. On a practical level, the turbulence which accompanied the conquest has been considered a primary cause for urban abandonment around the 13th century, in cities such as Merv and Afrasiab (Samarkand) (Herrmann, 1999, p. 18; Soustiel *et al.*, 2003, p. 67). Yet the context surrounding these abandonments, including their date and that of any subsequent revival requires a more targeted approach. It has been assumed that the turmoil caused by the Mongols also interrupted production of the most precise dating material such as coins and fine ceramics, with the consequence that Mongol-era material culture is poorly understood in comparison with the preceding century (Davidovich, 1972, pp. 37–47; Davidovich and Dani, 1998, pp. 408–410; Watson, 2006, pp. 329–30; Waugh, 2017, p. 15). Although there is evidence for the abandonment of industrial areas in the early 13th century (Lunina, 1962, pp. 219–30, 1969, pp. 152–57), this trend may be overstated, as the excavation of greater quantities of ceramics from well-dated contexts also shows evidence of continuity (for example Akhalaia and Wordsworth, forthcoming; Lunina, 1969, pp. 138-40).

This thesis makes use of archaeological evidence to provide a major trans-national assessment of the physical remains of this period for the first time, contributing a substantial new body of evidence towards this debate. Using the archaeological remains of three cities of differing size and geographic location, all conquered during the Mongols' four-year campaign in Central Asia and the Caucasus, I present for the first time a major comparative study of archaeological evidence of the 13th-14th centuries. Using archival material alongside carefully targeted excavation to identify, quantify and understand deposits dating from approximately 1200-1400, I track archaeological signatures of destruction, abandonment, and regeneration within the cities. An understanding of the situation in each city on the eve of the Mongol Conquest is a crucial starting point. This was achieved through a programme of radiocarbon dating, alongside extensive use of distinctive and rapidly changing pottery types in the pre-Mongol period to date stratigraphically-excavated deposits. The evidence presented here focusses on changes in the 13th and early-14th century, as by the late 1300s, the former Mongol empire in Central Asia was largely controlled by Timur from his base in Samarkand. Although there is an argument for a certain amount of continuity between these two empires, by necessity this thesis will concentrate on the period before the Timurid hegemony.

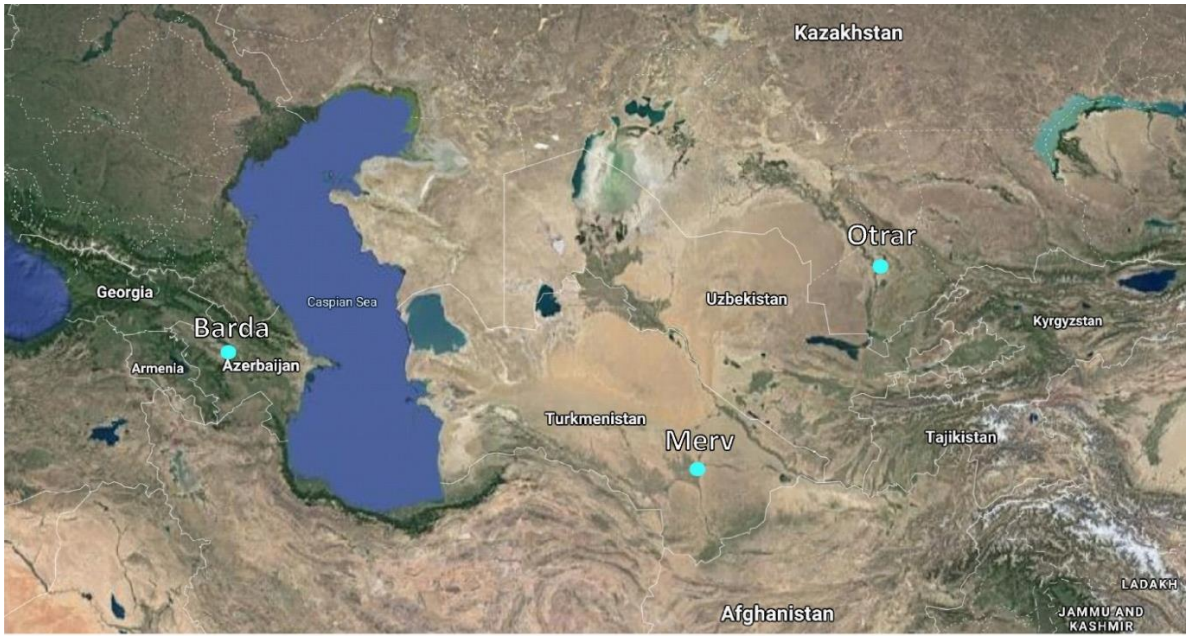

Figure 1.1 Location of the sites (Background image Google Earth, 2020)

Otrar in Kazakhstan, Merv in Turkmenistan, and Barda in Azerbaijan (Figure 1.1), the three selected case studies, represent urban occupation over a large swathe of Central Asia and into the South Caucasus. Excavation had already taken place at all three sites, although this rarely focussed on the Mongol Conquest or subsequent occupation of the city. In some cases, the

excavation results remain unpublished. Extensive Soviet-era work, the result of large state-run excavations, is often overlooked in Western academia, but provides substantial bodies of evidence dated to the 13th-14th century. The aim therefore was to locate and assess published and archival material, including excavation records and reports, artefact catalogues, as well as artefacts recovered by excavation and walkover survey. From these archives it was possible to broadly identify occupation of the relevant period, showing destruction, abandonment, or continuity within the cities during the era of Mongol domination, and formulate a strategy for further investigation at each site.

The geographic situation, economic and political ties of each city on the eve of the Mongol Conquest are important to understand so that changing occupation patterns and economy can be traced over the two centuries of interest. Drawing out differences between regional trends as the cities were conquered and attempted recovery is also of great interest. Otrar is located in the southernmost part of modern-day Kazakhstan in the fertile valley of the Syr Darya river. In the period before modern borders, the city was part of an urban culture spreading southwards, upstream to the area around Tashkent, and eastwards to the Chuy valley which straddles the Kyrgyz-Kazakh border. Otrar was incorporated into the Muslim world, as their armies advanced eastwards in the 8th century, but always remained one of the easternmost outposts, acting as an important point on the trade and military route to China. The city grew rapidly because of this trade, and by the 11th century, was an irrigated, urban settlement covering an area of 170 hectares (Kazakhstan Institute of Archaeology, 1998). The fortified, residential and administrative area, or shahristan occupied around 25 hectares, with further residential and industrial areas in the lower part around this mound in an area known as the *rabad* (Fodde, Sala and Deom, 2013). Otrar was the first of the three cities to be taken by the Mongols, and indeed the first in the Khwarazmian Empire to fall after Mongol troops arrived in 1219 and besieged the city (Juvaini (trans. J. Boyle), 1958, pp. 82–4). According to historical sources, the destruction and cruelty unleashed on the city by the conquering armies was extensive, with the governor killed in his palace, the defences levelled and the population dragged out in groups of 50 and slaughtered (Juvaini (trans. J. Boyle), 1958, pp. 85–86; Rashid al-Din (trans. W.M. Thackston), 1999, pp. 241–42). Yet archaeological excavation has shown that Otrar was thriving once again by the 14th century, with densely packed neighbourhoods and extensive finds of ceramics and coinage (Akishev, Baipakov and Erzakovich, 1987).

Merv is the largest of the three cities and was sacked in early 1221. Situated in an oasis on the Murghab river in south-eastern Turkmenistan, the medieval city is the biggest of a series of fortified urban settlements stretching back to the 6th century BC (Herrmann, 1997). The Merv

Oasis is in a key location, surrounded by deserts, providing a vital staging post on routes between Herat, Nishapur, Bukhara and Khwarazm, which flourished in the 11th and 12th centuries (Kennedy, 2012b). Merv's medieval settlement is now totally abandoned, and this enormous mudbrick-built site seems to represent the stark results of the Mongol Conquest and confirm accounts of Merv's complete destruction (Barthold, 1977, pp. 449–50). However, archaeological excavations within the 13km of defensive walls of the city have found evidence of continued occupation into the 13th and 14th century (Lunina, 1969; Khodzhaniiazov, 1991; Petersen, 1997; Gilbert, 2001). No synthesis of the material yet exists, and the important contribution of archaeology to explore various aspects of the conquest and its aftermath remains undervalued at Merv.

Barda lies on the western side of the Caspian Sea in the South Caucasus and was smaller and less administratively significant than Otrar and Merv. However, it was in a region which was to become the centre of power of the Mongol rulers of Iran, the Ilkhans. While one Mongol force sacked the cities of Transoxiana and Khorasan, another headed westwards along the southern coast of the Caspian Sea, ostensibly to pursue the fleeing Khwarazmshah ruler Jalal al-Din, while looting the cities of Iranian Azerbaijan and the South Caucasus (Mustafayev, 2018, pp. 146–49). Little detail of Barda's capture was recorded, but it appears that the Mongols sacked and looted cities in Azerbaijan and Arran during the winter of 1220-21 (Kirakos Gandzakets'i (trans. R. Bedrosian), 1986, pp. 193–97; Mustafayev, 2018, pp. 147–49). Further fighting took place through the following decades as various powers in the region tried to take advantage of the ensuing chaos. Once the political situation had stabilised, the Ilkhans set up a power base in north-western Iran, with a capital first in Maragheh then Tabriz and Sultaniya (Lane, 2012, pp. 251–63). The mobile Mongol court preferred to spend the winters in Arran and Karabakh (Rashīd al-Dīn (trans. J. Boyle), 1971, p. 124; Mustafayev, 2018, pp. 151–52). Archaeologically, Barda has been relatively little studied, partly because, unlike the other two sites, a modern city overlies the medieval settlement. It is also the only one of the three cities with a standing Mongol-era building, a tomb tower built in 1322. Barda provides a useful comparison and contrast to the two cities east of the Caspian, as it lies in an area favoured by the Mongols and has clear evidence of urban investment during their rule.

In this thesis I collect, compile and critically assess archaeological data from the three cities to track urban change through the 13th and 14th centuries, and the impact of the Mongol Conquest on each site. These individual urban narratives are then used to discuss broader issues. Among them, the changes to Eurasian political, economic and cultural networks following the Mongol Conquest, and the extent to which these can be attributed to the

activities of the Mongols or were already changing in the 12th century. The relationship between 'steppe nomads' and 'city dwellers', and regional responses to this dramatic event. I also use the case studies to discuss methodological approaches to these complex archaeological sites, discussing issues and opportunities resulting from the differing political trajectories of Kazakhstan, Azerbaijan and Turkmenistan, and their impact on archaeological research and heritage management. Although the three cities cover a large geographic area and a span of different settlement sizes, the arguments presented here are extrapolated from these individual sites. The analysis and discussion is closely tied to the archaeological record at each site and presents an initial, comparative perspective from the archaeological data, with a focus on areas of the Mongol Empire now in post-Soviet states.

The following two chapters deal with the historical and intellectual background of the Mongol Conquest and present a detailed summary of the history of archaeological research at each city. Chapter 2 situates the archaeological evidence within broader historical and theoretical debates surrounding the Mongol Conquest and its impact on Central Asian cities. In particular, the extent to which contemporary accounts of destruction and massacre are exaggerated, the factors which led to the rise of the Mongols, the inability of the Khwarazmshah to resist their westward advances, and the extent and timing of recovery at each city. To formulate an interpretive framework for archaeological evidence of a known historical event with a broad geographic range, I examine recent work on the Arab Conquest and how historical and archaeological data has been combined to better understand this event. In chapter 3, I summarise the major research projects and archaeological teams who worked at each site over the past 150 years, and the extent to which their data was systematically collected, published and is available for consultation or reinterpretation. This information formed the basis for the individual methodologies applied at each city, and identified further, site-specific research objectives.

Chapters 4-6 deal with each of the three cities in turn. Chapter 4 examines Otrar, the first of the three cities to be conquered by the Mongols, re-examining archaeological work of the 1970s-80s, which describes a Mongol-period abandonment of the city's shahristan. The length and character of this abandonment were poorly understood by the original excavators, and I present several archaeological sections from across the site to further clarify the situation. Radiocarbon dating throughout the sections, and contextualisation of the findings within broader excavation at the site has enabled a new, coherent archaeological narrative for this part of Otrar. Chapter 5 deals with Barda, describing a series of trenches excavated in the city between 2015 and 2018, where meticulous excavation and radiocarbon dating provides a clear

chronological narrative of activity in the city between the 12th and 14th centuries. Alongside the excavations, I discuss the Ilkhanid tomb tower, situating the structure among others of the period, and concluding that Barda likely held a special importance to Mongol rulers in the early 14th century. I consider Merv in chapter 6, the largest of the three and the last to face Mongol attack. Extensive archaeological research has already taken place at Merv, although a large amount remains unpublished. I assess and compile the evidence for Mongol destruction and occupation at Merv, examining the possibility of a decline in the 12th century, and plot the archaeological data onto a basemap to demonstrate shifting urban activity from the 12th-14th century.

From the material evidence at each site, I create an archaeological narrative for the city and use this to further interrogate the conquest and its impact. In the final two chapters, I consider the interpretive framework used to understand each site, contextualising evidence for the conquest and its impact within other archaeologically investigated sites of this period. I identify the key archaeological signatures used to indicate urban change such as destruction, abandonment, reuse, and shifting administrative or industrial areas, showing how these are applied to formulate the archaeological narrative at each site. I then consider the context and causes of the rapid conquest of Central Asia in the light of these urban narratives, incorporating discussion on climatic and environmental change as well as the political context of the 12th-14th centuries. I expand the discussion to reflect on how this work contributes to broader Eurasian debates such as the evolving relationship between nomadic peoples and the sedentary population, and the sustainability and connectivity of Central Asia's oasis cities. In summary, I collate and present substantial archaeological evidence from each city to visualise urban change in the 13th and 14th centuries, considering the extent to which these are a result of the Mongol Conquest.

2. The Mongol Conquest: Background and Debates

Historical Background

The Mongol Conquests of the 13th century are at present, primarily understood through the historical sources, which cover a wide temporal and geographic span, and are useful for establishing a historical framework to illustrate specific circumstances at each city. Although this thesis focusses on the archaeological evidence, a brief overview of written sources, both primary and secondary is vital to situate archaeological data within the narratives of destruction and the fate of each city. The written sources also introduce broader debates surrounding the Mongol expansion and its aftermath. A relative abundance of texts describing these events and their linguistic and geographical variation means that this overview must be brief. I therefore select key sources to illustrate the political situation on the eve of the conquest, provide a description of the Mongol capture of each city, and a summary of the following century or so of Mongol rule. Texts used for this study have been accessed in English or French translation or cited from syntheses of Mongol sources. The originals are primarily in Persian, but also include Arabic, Armenian, Georgian, Chinese and Mongolian. Accordingly, the written sources have a range of authors and formats, spanning from official histories commissioned or patronised by Mongol rulers (Rashid al-Din (trans. J. Boyle), 1971; Juvaini (trans. J. Boyle), 1997), first-hand accounts by those experiencing conquest either through capture or as they fled (Kirakos Gandzakets'i (trans. R. Bedrosian), 1986; Ibn al-Athir (trans. D.S. Richards), 2008) sometimes in the service of other rulers such as the defeated Khwarazmshah Jalal al-Din (Nasawī (trans. O. Houdas), 1895; Juzjani (trans. H. Raverty), 1897), and travel writing (Li Chi Ch'ang (trans. A. Waley) 1963). Events in the Caucasus are also described in the Georgian and Armenian chronicles (Kirakos Gandzakets'i (trans. R. Bedrosian), 1986; Met'reveli and Jones, 2014), which provide a history of events in Barda and the surrounding cities. Here I examine groups of similar sources based on authorship, content and format, and, with the help of secondary sources, carefully consider the authors and the reliability of the accounts.

The dates of the sources vary widely, ranging from contemporary accounts to a century after the initial Mongol attacks between 1219 and 1223. Several are based on eyewitness accounts (Nasawī (trans. O. Houdas), 1895; Li Chih Cha'ang (trans. A. Waley), 1931; Kirakos Gandzakets'i (trans. R. Bedrosian), 1986), either from the author themselves or people they would have had access to while writing. Others compile various accounts, with Rashid al-Din relying heavily on Juvaini's work for his own history (Juvaini (trans. J. Boyle), 1997; Rashid al-Din (trans. W.

Thackston), 1998; Rashid al-Din (trans. W.M. Thackston), 1999; Gamq'relidze, 2018). The only major source written in Mongol, 'The Secret History of the Mongols', is mysterious in origin and authorship (Allsen, 2001, p. 90). Sources written in the century after the conquest, such as those by Juvaini and Rashid al-Din as well as the Secret History describe the conquest and its aftermath, the dynasties and individuals involved. They trace events from the early 13th century, the conquests and subsequent instability, to the consolidation of Mongol power into the political units ruled by the grandsons of Genghis Khan. The three cities under consideration lay within the Ilkhanate which covered present-day Iran, Iraq, the South Caucasus and Khorasan, and the Chagatai Khanate which spanned from Transoxiana to Dunhuang and northwards to Lake Balkash. Such massive political change and movement of people led to diverse sources, which must be considered in the context of their authorship, location and date of production (Table 2.1).

Author	Work	Date	Patron/ Allegiance
Various (eds. Met'reveli & Jones)	*Kartlis Tskhovreba* [History of Georgia]	Various, broadly contemporary with events described	Kingdom of Georgia
Ch'ang Ch'un/ Li Chih Ch'ang	*Hsi Yu Chi* [Journey to the West]	1220s	Taoist Monks
Yaqut al-Hamawi	*Mu'jam al-Buldān* [Dictionary of Countries]	Completed 1228	Independent/Resident in Abbasid Caliphate
Ibn al-Athir	*Al-Kāmil fī'l-ta'rīkh* [The Complete History]	Completed c. 1231	Independent scholar/ Zangids
Unknown	*Mongγol-un niγuča tobčiyan* [The Secret History of the Mongols]	C. 1230s	Mongols
Nasawi	*Sīrat-i Jalāl al-Dīn Mīnkubirnī trans.* ***Histoire du Sultan Djelal ed-Din Mankobirti, prince du Kharezm*** [The History of Sultan Jalal al-Din Mingburnu]	C. 1241	Khawazmshah/ Secretary of Jalal al-Din
Kirakos Gandzakets'i	*Patmut'yun Hayoc* [History of the Armenians]	1241-1267	Armenian church

Juzjani (Minhāj Sirāj Jūzjānī)	*Tabaḳāt-i-Nāṣirī* [The Nāṣerean Tables]	Completed 1260	Sultan Nasir al-Din/ Mamluk Sultanate, previously Ghurids
Juvaini	*Tarīkh-i Jahān-gushā* [The History of The World Conqueror]	c. 1260	Mongol Empire/ Ilkhanid rulers
Rashid al-Din	*Jāmiʿ al-Tawārīkh,* [Compendium of Chronicles]	Completed by 1316	Ilkhanid rulers

Table 2.1 Principal historical sources describing the Mongol Conquests of the Caucasus and Central Asia

The Authors

Recent historical overviews of the Mongol Empire, in particular the Ilkhanids of Iran have emphasised the multicultural court and international connections during this period (Allsen, 2001; Lane, 2003, 2012) and authors active at the time seem to reflect this trend. The two major, comprehensive histories of the 13th and early 14th centuries most associated with Ilkhanid rulers are those of the historians Juvaini and Rashid al-Din, who rose to prominence through differing routes. Rashid al-Din was born into a Jewish family in Hamadan and trained as a doctor beginning his association with the Ilkhanid rulers around the 1270s (Morgan, 2012). Converting to Islam at the age of thirty, he rose to high political office in 1298 during the reign of Ghazan Khan, through which he accumulated great wealth, building his own districts in the cities of Tabriz[1] and Sultaniya. Ghazan commissioned Rashid al-Din to write a history of the Ilkhanid dynasty around 1302, which was then extended by his successor Oljeitu to include all of the people affected by the Mongol Conquests (Barthold, 1977, pp. 44–5), resulting in the *Jāmiʿ al-Tawārīkh* or 'Compendium of Chronicles'. Due to this Ilkhanid patronage and his closeness to the ruling dynasty, Rashid al-Din had access to the *Altyn Defter*, a collection of, now lost, historical chronicles written in the Mongol language which was kept in the Ilkhanid treasury. Rashid al-Din's extensive work can perhaps therefore be seen as the 'authorised' history of the Mongol dynasties, something underlined by his personal relationship with several of the historic figures of the period. Another major source incorporated into Rashid al-Din's great work was 'The History of a World Conqueror' (Juvaini (trans. J. Boyle), 1997), written by Ata-Malik Juvaini who had a more conventional route to his position and favour with the Mongol rulers. Born in 1226, his ancestors had worked for both the Seljuk rulers and deposed Khwarazmshah, and his brother served as vizier to the first two

[1] The district in Tabriz, known as the *Rab i-Rashidi* is currently being investigated by a team from Tabriz and their German colleagues (Fuchs, 2017; Ajorloo and Moradi, 2020)

Ilkhanid rulers Hulegu and Abaqa. Juvaini became Governor of Baghdad after accompanying Hulegu during the city's sack in 1258, and also witnessed other historical events such as the sack of Alamut (Boyle, 1958, pp. xv–xvi). Juvaini's history therefore benefits from his personal experiences at the time, but his closeness to the ruling dynasty raises issues about his ability to write objectively about their rule.

The various conquered peoples of Central Asia and the Caucasus also produced their own histories of the conquests. The most relevant sources for this thesis are the *Tabaḳāt-i-Nāṣirī* by Juzjani (Juzjani (trans. H. Raverty), 1897), Nasawi's *Histoire du Sultan Djelal ed-Din Mankobirti, prince du Kharezm* (Nasawī (trans. O. Houdas), 1895), Ibn al-Athir's chronicles (Ibn al-Athir (trans. D.S. Richards), 2008) and for the Caucasus, Kirakos Gandzakets'i's 'History of the Armenians' (Kirakos Gandzakets'i (trans. R. Bedrosian), 1986) and the collection of chronicles dating from the 9th to the 13th centuries 'Kartlis Tshkhovreba: History of Georgia' (Met'reveli and Jones, 2014). These provide an interesting counterpoint to the Ilkhanid histories of Juvaini and Rashid al-Din, describing the lives of the conquered peoples from their own perspective rather than focussing on the Mongol dynasties, although like the Persian histories, they also tell of widespread destruction and chaos.

Yaqut al-Hamawi, born in Constantinople, became a slave in the Abbasid Caliphate at a young age, and later produced a historical geography, the *Muj'am al-Buldān* which spans the period of the conquest and discusses cities and landscapes across a large tract of Eurasia. The author also provides an eyewitness account of the situation in Merv in the years before the arrival of the Mongols, as Yaqut, now freed from slavery, travelled to the city to use its libraries between 1216 and 1219 (Arberry, 1951, pp. 3–4, 12). His work on Merv in particular provides a useful summary of its districts and situation in the 1210s as well as information on the surrounding landscape and comments on recent historical events such as raiding by the Ghuzz in the 1150s (Zhukovskii, 1894, pp. 33–48; Arberry, 1951). Again, the narrative focusses on urban destruction as well as political and economic upheaval caused by the Mongols, although Yaqut did not witness these events fist-hand, as he fled westards in 1219. The primary use of Yaqut's writing is to provide a vivid description of Merv on the eve of the Mongol Conquest as well as contextualising and commenting on earlier sources, to provide an insight into the broader economic and political landscape in the the later 12th and early 13th century.

The only major Mongolian source to survive is the mysterious 'Secret History of the Mongols' (Unknown (trans. U. Onon), 2001), which was originally written shortly after the death of Genghis Khan in 1227 and describes the Mongol dynasty and their actions until this date. It

provides a comprehensive narrative about Genghis Khan's early years in Mongolia and his family, as well as a relatively brief overview of the conquest of China and Central Asia. The focus however is on the personnel involved, and the decisions surrounding Mongol attacks rather than topographic or demographic information at each city, or any detail about the outcomes, which means that it is of limited use for this study. Merv (Unknown (trans. U. Onon), 2001, pp. 250–252) and Otrar (p. 249) are mentioned specifically in the Secret History, which suggests their sacks were important enough to record, but the lack of detail illustrates that the Mongols themselves were perhaps less interested in the cities and acts of conquest, and more concerned about their tribal relationships and dynastic origins. As the only surviving Mongol narrative, it is also the only one which might explain the motivation for this dramatic conquest (Morgan, 2007, p. 13). Minimal coverage of conquest of the lands of the Khwarazmshah (Boyle, 1977) shows that the Mongols were far more interested in the domination of their steppe neighbours and Northern China (Morgan, 2007, pp. 12–13; Jackson, 2017, pp. 15–16). Compared to the devastation described in Persian sources, the Secret History's lack of information concerning Central Asia and Iran may be read either as irrelevant to those on the steppe, or an indication of Mongol attempts to exaggerate or propagandise their dramatic gains through later historians.

Otrar

Otrar, equated with the historical town of Farab, is attested as a local capital in the 6th-8th centuries, before becoming the major town of the region from the 9th-12th centuries, serving as a political, trade and cultural centre (Baipakov and Erzakovich, 1991, p. 28). By the early 13th century it was on the extreme north-eastern edge of the Khwarazmian Empire (Figure 2.1; Kennedy, 2012b), and so became the first city in Transoxiana to be sacked by the Mongols, who arrived in 1219 and reportedly besieged Otrar for five months (Juvaini (trans. J. Boyle), 1997, pp. 81–85). It is notable that the town of Otrar is barely mentioned in the near contemporary account of Ibn al-Athir, with no detail of the capture or destruction of the city. He does explain that it had recently been captured from the Kara Khitai[2] and the region had experienced trouble from other Tatar groups (Ibn al-Athir (trans. D.S. Richards), 2008, pp. 204–05). It is therefore possible that Otrar was not considered an integral part of the Muslim realm for the purposes of Ibn al-Athir's history. More detailed commentary on the city's fate comes

[2] The Kara Khitai or Western Liao ruled northern China as the Liao dynasty, which fell in 1125, and this Mongol-speaking group subsequently moved westwards, capturing parts of the Karakhanid Khanate in the 1130s and remaining an important force in Xinjiang and eastern Transoxiana until the arrival of the Mongols (Biran, 2008).

from the later Persian sources. Juvaini explains that the fate of Otrar and the Khwarazmian Empire was sealed when merchants sent to Otrar by Genghis Khan in 1218, were murdered and robbed of their possessions, on the orders of the governor Inalchuq (Juvaini (trans. J. Boyle), 1997, pp. 78–80). The Mongols then 'sent envoys to the Sultan to warn him of [their] resolve to march against him and exact vengeance', so the citadel was heavily fortified by the time the Mongols returned in the Autumn of 1219, and they were only able to capture Otrar following a siege of several months (Juvaini (trans. J. Boyle), 1997, pp. 82–84).

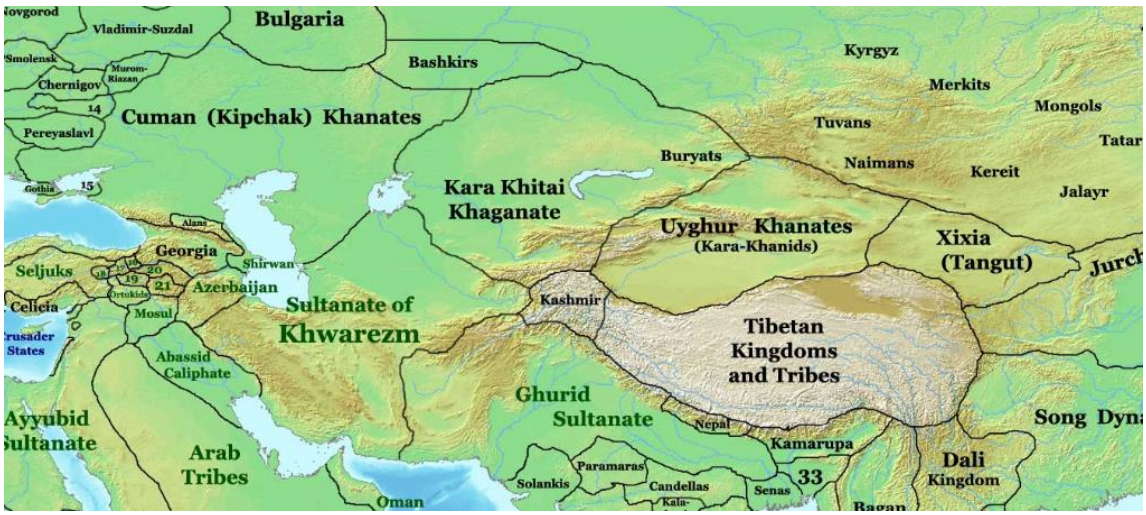

Figure 2.1 Map of Central Asia and the Caucasus showing the approximate political configuration of states in around 1200 (Thomas Lessmann, reproduced under CC-BY license)

The Russian orientalist Barthold suspects that Juvaini exaggerates the length of the siege and suggests that there may have been local support, or at least local informants to the Mongols (Barthold, 1977, pp. 406–7). Similar to the descriptions of the sacking of other cities in the area, the inhabitants are described as slaughtered or taken into captivity, while 'the citadel and the walls were levelled with the street and the Mongols departed' (Juvaini (trans. J. Boyle), 1997). Thousands of the citizens of Otrar must have been forcibly conscripted into the Mongol army as Nasawi describes the siege of Bukhara, the year after the conquest of Otrar, as being bolstered by thousands of prisoners captured from the city (Barthold, 1977, p. 412). In spite of the large-scale population movement and urban destruction, Otrar seems to have recovered from the latter part of the 13th century and archaeological excavations have revealed significant occupation interpreted as dating to the 13th and 14th centuries (Akishev, Baipakov and Erzakovich, 1987; Baipakov, 1990; Baipakov and Erzakovich, 1991, pp. 29–30).

Merv

Merv reached its zenith in the early 12th century, while under Seljuk rule, with Juvaini describing it as 'one of the four cities of Khorasan', 'the residence of Sultan Sanjar' and mentioning its abundant wealth (Juvaini (trans. J. Boyle), 1997, pp. 151–54). It was also an administrative and cultural centre (Moore and Kennedy, 1999, pp. 124–7). The sack of Merv in February 1221 is covered extensively in the historical sources with Ibn al-Athir, Rashid al-Din and Juvaini all describing the event as a brutal occasion. Ibn al-Athir reports an enormous death toll of 700,000, the result of an influx of 200,000 'Arabs, Turks and other Muslims' fleeing from devastated cities further north, with the Mongols tricking the garrison and residents into leaving the city (Ibn al-Athir (trans. D.S. Richards), 2008, pp. 226–27). Juvaini describes the subsequent events in more detail, stating that the inhabitants were removed from Merv onto the plain and 'apart from four hundred artisans… whom they bore off into captivity, the whole population, including the women and children [were] killed'. He explains that each Mongol soldier was given three to four hundred people to kill and 'so many had been killed by nightfall that the mountains became hillocks and the plain was soaked with the blood of the mighty' (Juvaini (trans. J. Boyle), 1997, p. 167). Ibn al-Athir's number for the slaughtered at Merv is excessive given that the population might be estimated as around 150,000 (Fedorov-Davydov, 1983, p. 394) to 200,00 (Chandler, 1987, p. 337) in the 12th century, when the city's population was likely at its largest. Juvaini's estimate of 1.3 million killed, apparently from a living witness of the slaughter therefore seems even more far-fetched (Juvaini (trans. J. Boyle), 1997, pp. 163–64), something noted and discussed by later historians (Melville, 2009; Jackson, 2017, p. 171). The increased number may be attributed to the movement of people from surrounding villages and seeking refuge from cities further north and east, who were fleeing the Mongols. However, there is also evidence that a certain amount of the population had already left to seek safety further west (Arberry, 1951, p. 11).

In addition to the slaughter, the city was apparently levelled, with the outworks destroyed, likely affecting the extensive water management systems, the citadel 'levelled to the ground' and the great mosque of Abu-Hanifa set on fire (Juvaini (trans. J. Boyle), 1997, pp. 162–3). Even after this level of devastation, there were still people living in the city, with a rebellion in November 1221 killing the governor of the citadel. This led to retribution by the Mongols and another cruel massacre and final destruction of the remnants of Merv (Barthold, 1977, p. 449). In spite of these specific accounts of events at Merv, historians have commented on both their likely exaggeration and the literary tropes employed. Among these are consistent repetitions of the same multiples at Nishapur, Sabzivar and Nisa, similar descriptions of the carnage at

Herat and Balkh (Melville, 2009) and the seeming physical impossibility of carrying out a massacre of such a scale within the reported time-frame (Lane, 2012, p. 249). Although trauma caused by the Mongols appears very real, especially in Khorasan, Lane argues that Mongol leaders encouraged this cruel reputation and notoriety for destruction (2012, 249-50), a narrative seemingly adopted by authors in their service, as well as those outside their influence. Melville also doubts the legitimacy of claims that the destruction was truly as extensive as reported, pointing out inconsistencies in the historical accounts. He highlights the initial claims that Merv was comprehensively destroyed, then described as a refuge for people who escaped the onslaught, and subsequently mentioned as a stronghold for later attacks, noting therefore that it must still have been standing (Melville, 2009). The archaeological survival (often to several metres) of occupation within the city also attest to exaggeration of the scale of the destruction, at least in terms of the physical remains of the city.

Barda, Arran and Azerbaijan

Although Barda was a regional capital from the 5th until around the 10th century (Kennedy, 2012a), Yaqut wrote of its decline by 1200, describing that it was now only a village amongst the ruins of the older city (Bosworth, 1988). Archaeological investigation, as will be shown, suggests that this historical account is exaggerated, with extensive activity evidenced in Barda in the second half of the 12th century. In the decades before the Mongol Conquest, Barda was outside the realm of the Khwarazmshah, although the influence of these Persianate Turkic rulers had spread into Azerbaijan to incorporate the area around Tabriz, expanding northwards to the edge of the South Caucasus (Bregel, 2003, pp. 35–36). The region around Barda was controlled by the Turkic Ildegizids (or Eldigüzids), whose power centred in the region of present-day Azerbaijan, but at their height controlled much of the South Caucasus and territory as far south as Isfahan (Bosworth, 1968, pp. 200–201, 1996, pp. 313–14). Originally client rulers of the Seljuks, they had increased their power and independence through the 12th century to effectively control the Sultan and function as independent rulers (Minorsky, 1951, p. 872; Bosworth, 1996, pp. 199–200). As the Khwarazmshah threatened their rule from the south, the Georgians staged a series of invasions in the 1190s from the north, capturing the major Ildegizid cities of Ganja and Shamkir (Ezosmodzghvari (trans. D. Gamq'relidze), 2018, pp. 293–295) and it was into a complex pattern of allegiances and shifting powers that the Mongols emerged in the early 1220s. Direct accounts of a Mongol sack of Barda are almost non-existent in the main histories, but numismatic evidence demonstrates the presence of multiple coins of late 12th and early 13th century date in the city (Garnik, 1960, p. 188). Ilkhanid

coins were also minted in Barda from at least the 1280s until their influence declined in the mid-14th century (Seĭfeddini, 1968, pp. 112, 136–37, 145–48, 173–81; Mayer, Heidemann and Rispling, 2005, p. 154; Diler *et al.*, 2006, pp. 81–83).

In terms of Mongol activities in the surrounding region, historical accounts are clearer. Following the destruction of the cities further east, the Mongol generals Jebe and Subedei continued their military reconnaissance mission of 1221-22 through the Caucasus, to the North Caucasus and Black Sea (Lane, 2012). They defeated the Georgian Army in February 1221[3], returning south toward Azerbaijan and sacking Maragheh (in present-day Iran) in March the same year, before heading north again through Shirvan and Derbent to the steppes north of the Caucasus (Grousset, 1970, p. 245). Ibn al-Athir reports horrific events at Beylagan[4], which lies some 50 miles to the southeast of Barda, with widespread rape and murder of the population, although other cities such as Ganja were able to pay off the Mongols and spare their citizens (Ibn al-Athir (trans. D.S. Richards), 2008, p. 220). This held the Mongols at bay for only a few years and Kirakos later describes the destruction of Ganja in similar terms to those in Central Asia, with the city besieged by troops for a week, who then destroyed the walls with war machines and catapults. The majority of the city's population were slaughtered, with the Mongols sparing a few to torture, in order to reveal where the treasure could be found (Kirakos Gandzakets'i (trans. R. Bedrosian), 1986, pp. 198–9). Shamkir suffered a similar fate, with the agricultural regions surrounding the cities also 'wrecked' while 'the whole county filled up with the corpses of the dead yet there was no one to bury them' (Kirakos Gandzakets'i (trans. R. Bedrosian), 1986, pp. 201–3). Such destruction and slaughter must have had a major effect on the whole region, including Barda.

Events in this region are complicated by the activities of Jalal al-Din Manguberti, the last Khwarazmshah, who had escaped from the Mongols through Afghanistan and India. He then returned to Iran in 1224, becoming recognised as Sultan by several Turkic governors, including those of Kerman and Fars, before taking Isfahan and then setting his sights on the Caucasus (Grousset, 1970, p. 260). The cities of Azerbaijan seemingly capitulated quickly, including Tabriz in 1225, and Jalal al-Din moved northwards towards Georgia, sacking Tbilisi in 1226 and ravaging a Georgian army which was only just recovering from the earlier Mongol assaults

[3] Local sources about this event are unclear and contradictory, suggesting the Georgians may have won or there was no clear victory (Mustafayev, 2018, p. 147)

[4] Originally Armenian Paytakaran, it appears as Baylaqan in Arab sources after the conquests and Beylaqan in Persian sources. In modern Azerbaijani it is Beyləqan, which is commonly anglicised as Beylagan (Bosworth, 1989).

(Grousset, 1970, pp. 260–61). It is unclear if Barda was directly sacked by Jalal al-Din, but Kirakos Gandzakets'i describes the Khwarazmshah sack of the nearby town of Ganja as well as Tbilisi and Nakhchivan (Kirakos Gandzakets'i (trans. R. Bedrosian), 1986, pp. 188–9). However, this partial restoration of the Khwarazmian Empire did not last, and the rapid return of the Mongols in the winter of 1230-31 led Jalal al-Din to flee westwards where he was murdered in the mountains of Diyarbakir, leaving the Mongols to take control of his former territory. This reappearance of the Mongols, continued the destructive theme with previously-spared cities such as Ganja ravaged in 1231 (Mustafayev, 2018, p. 146).

Although there is no specific historic description of the sack of Barda, events at the nearby cities of Ganja and Beylagan give some indication of disruption in the Caucasus. There are no direct references to the city in Juvaini's otherwise comprehensive account of the period. Rashid al-Din does mention Barda, but it is almost in passing alongside a list of the other cities 'when provinces and great cities were being subjugated [The Mongols] killed so many people throughout the length and breadth of the provinces that few were left, like Balkh, Shuburqan, Taliqan, Merv, Sarakhs, Herat, Turkestan, Ray, Hamadan, Qum, Isfahan, Maragha, Ardebil, Barda Ganjah, Baghdad, Mosul, Arbela and most provinces attached to these places (Rashid al-Din (trans. W. Thackston), 1998, p. 756). Barda therefore does seem to have been a recognised name among the major cities of the period, or at least later, when Rashid al-Din was writing. Another way of reading the lack of detail on Barda is that it was spared the horrors described at other cities, and local sources are somewhat contradictory, with a lack of clarity even as to who was victorious in various battles against the Mongols (Mustafayev, 2018, p. 147). It is also possible this is a result of widespread chaos in the region, rendering the results of specific skirmishes difficult to follow. However, if Barda's status as an administrative and economic centre had declined since its importance a few centuries earlier, it seems that it still existed as a physical, and perhaps important symbolic location. The Georgian chronicles for example, repeatedly mention the city in their records of the 1190s, as captured by Georgian armies and as an important winter camping site (Abashidze, 2014, p. 205; Gamq'relidze, 2014a, p. 252, 2014b, p. 331,335).

Recovery: The later 13th and 14th centuries

According to the historical sources, Merv and Otrar at least were comprehensively destroyed in the 1220s, with their populations slaughtered and the entire region suffering the impact of such devastation for decades. Historical accounts of events through the 13th century are

relatively scarce for Merv and Otrar and practically non-existent for Barda, which led to the assumption that the cities were abandoned and dysfunctional for a period following the Mongol Conquest.

Otrar appears to have rebounded most successfully from this apparent annihilation, with a major appearance in the later historic literature as the location of Tamerlane's death in 1405 as he assembled an army to march on the Chinese (Grousset, 1970, 453-56). Archaeological evidence has been employed to demonstrate continued urban and economic development in the 13th and 14th centuries evidenced by several metres of urban stratigraphy dating to the 14th century and beyond (Akishev, Baipakov and Erzakovich, 1987). There are two gold coins in the Tübingen collection bearing the Otrar mint, which are dated to the 620s AH (the decade from 1223) (Mayer, 1998, pp. 8, 14), although silver and copper coinage does not appear to be minted regularly until the early 1250s (Davidovich, 1972, pp. 39–40; Davidovich and Dani, 1998, pp. 408–10; Mayer, 1998, p. 14; Bosworth, 2015). Investment in urban infrastructure is evidenced by the renovation of the defences and a major trunk canal was reportedly constructed in the 13th or 14th century[5] (Akylbek, 2013; Fodde, Sala and Deom, 2013, p. 157). As a strategic site on the Syr Darya, which had often been a boundary between the steppe zone to the north and settled urban areas to the south, the city was feuded over by rival heirs of Genghis Khan in the 1260s (Grousset, 1970, p. 397; Rashīd al-Dīn (trans. J.Boyle), 1971, p. 261). In spite of this, Otrar appears to have continued to flourish as an administrative and trading centre through the period, with the evidence for this primarily coming from numismatic and archaeological evidence (Akishev, Baipakov and Erzakovich, 1987; Baipakov, 1990).

Merv was significantly depopulated in the early 13th century, even if accounts of massacre in the city were greatly exaggerated (Jackson, 2017, p. 171). The city also became embroiled in a squabble over the eventual border between what were to become the Chagatai realm and Ilkhanate, constituting its only mention by Rashid al-Din following the conquest (Rashid al-Din (trans. J. Boyle), 1971, p. 152). Once control of Merv was resolved in favour of the Ilkhans, a Mongol governor, Arghun arrived in Merv some time in the late 1240s[6], ostensibly to rebuild the city. According to Juvaini, Arghun rebuilt the palace, restored parkland and built a series of mansions for his ministers in or nearby the conquered city (Juvaini (trans. J. Boyle), 1997, p. 510). Ilkhanid coinage was minted at Merv from at least the 1260s (Diler *et al.*, 2006, p. 197) demonstrating an economic recovery of sorts, but coins of this mint tend not to feature in

[5] It is unclear how the authors dated the construction of this canal

[6] Boyle comments that the date given by Juvaini 648 AH (1250-51) must be wrong because of corresponding events mentioned in the narrative and Arghun likely arrived in or before the Spring of 1247 (Juvaini (trans. J. Boyle), 1997, p. 510)

major numismatic compilations of the 13th and 14th century (for example Seĭfeddini, 1968; Davidovich, 1972), suggesting a decline in the number of coins minted in the city. Merv did not recover its former status or economic prosperity and eventually the original site of the thriving Seljuk metropolis was abandoned, with a new, smaller city constructed to the south in the early 15th century (Herrmann, 1999, pp. 115–6). However, as in Otrar, evidence for occupation in Merv between the Mongol sack and the construction of the smaller town of Abdullah Khan Kala relies primarily on archaeological evidence, which is incomplete, sometimes unreliable and can be difficult to date precisely.

After the instability of the first half of the thirteenth century in the Caucasus, the formation of the Ilkhanate in 1256 brought some stability to the South Caucasus region. The new Mongol rulers of Iran set up their capital on the grassy plains of north-west Iran, firstly at Maragheh, then Tabriz and Sultaniya. This period appears to have been one of economic prosperity as well as cultural and artistic creativity (Lane, 2012, pp. 255–6) and although Barda was not quite in the heartland of this new state, it was certainly on the heartland's periphery. The city does not appear to be mentioned in later sources, although it would have been on routes northwards from the Mongol capitals, and the region is mentioned as a common place for the Ilkhanid court to spend their winter months (Mustafayev, 2018, pp. 151–52). A modern city now lies above the ancient site, but 19th century travellers described a largely abandoned settlement in the 1840s (de Khanikoff, 1862, p. 70) and 1860s (Dorn, 1875, p. 473). After a brief fluorescence in the Mongol period, it seems the city went into decline, before its final destruction by the Persian Nader Shah in the 1730s (de Khanikoff, 1862, p. 70).

Population Decrease and Movement

A major theme of historical accounts of the Mongol Conquests is not only the destruction of major cities but also the large numbers of people slaughtered or enslaved, which is directly attested in China by the available census data (Melville, 2009; Allsen, 2014) and archaeologically attested by the number of settlements apparently abandoned at this time. Yet, the numbers reported killed in each city varies enormously depending on the sources, including the Juvaini/ Ibn al-Athir discrepancy of 600,000 at Merv (Juvaini (trans. J. Boyle), 1997, pp. 163–4; Ibn al-Athir (trans. D.S. Richards), 2008, p. 227). Melville describes this trend in more detail and wonders whether massacres on this scale would even have been logistically possible, given the technology at the time (Melville, 2009). On a more practical level, the dubious manner of calculating the numbers such as Juzjani's quadrupling of the numbers from a district making up one quarter of the city (Jackson, 2017, p. 170) and the apparent continued

returns of the Mongols for further slaughter when so many of the population were apparently already killed (Jackson, 2017, p. 171) has led recent historians to treat such sources with caution. Even if exaggerated, such a demographic change or movement would have had a severe impact on economic, agricultural and social structures. Migrant agricultural labour is mentioned moving into the devastated areas due to significant population decrease, for example in Samarkand (Li Chih Cha'ang (trans. A. Waley), 1931, pp. 92–3). Sources also mention mass movements of craftsmen either at the demand of the Mongols or fleeing from them, with the Seljuk Sultanate of Rum accepting merchants, artists, craftsmen and nobles from the Persian world (Lane, 2012, p. 257).

The enslavement and movement of people, particularly the enforced relocation of scribes and craftsmen to Karakorum, the Mongols' steppe capital, or other cities favoured by the new rulers is a common literary trope among the sources, although doubtless occurred, based on the material culture found in Karakorum alone (Kiselev, 1965; Elikhina, 2014) and has extensive literary coverage (Jackson, 2017, pp. 224–28). The massive scale of enslavement of urban populations for use in the Mongol army must also not be underestimated, and this may have killed more than the Mongols themselves. Nasawi described the Mongol siege of Bukhara as being bolstered by thousands of prisoners captured from Otrar (Barthold, 1977, p. 412) and Juvaini reports that the army which captured Khojend, consisted of 20,000 Mongols and some 50,000 levies from Otrar, Bukhara and Samarkand (Juvaini (trans. J. Boyle), 1997, p. 92). Even if these figures are exaggerated, the accounts suggest that large numbers of prisoners were moved around for military purposes, and presumably many were killed in the process. Smaller settlements were not immune to this phenomenon as prisoners were taken on a smaller scale, perhaps numbering fewer than a hundred to help in the siege of neighbouring towns (Barthold, 1977, pp. 408–9). Alongside narratives of cold-blooded murder by the Mongols troops, it is perhaps more pragmatic to see the enormous loss of life reported, coming at least in part from the levying of citizens (see also Allsen, 2014). Disease and hunger which likely followed mass population displacement and neglect of water-management, and thus agricultural production would also have impacted health and mortality rates.

Multiple Destructions

One of the major questions for this work is whether it is possible to pick apart different episodes of destruction, as there are several historically attested destruction events from the second half of the 12th century into the start of the 14th century. Relatively small-scale

skirmishes appear to have taken place at Otrar and Merv as the political configuration of the Mongol successor states took shape in the mid-13th century (Rashid al-Din (trans. J. Boyle), 1971, pp. 152, 261). In the mid-12th century, raids of the Ghuzz (or Oghuz) Turks hit Merv, with looting and capture of citizens, part of a wider period of instability which appears to have begun when the Seljuk Sultan Sanjar was captured in 1153, and continued after his death in 1157 (Zhukovskii, 1894, pp. 29–30). Otrar meanwhile changed hands through the late 12th and early 13th century, with the city having governors of the various Turco-Mongol polities of the Karakhanids, Kara Khitai, Khwarazmshah, who were vying for power in the region, as well as a brief period as an independent city state (Bregel, 2003, p. 32).

In the Caucasus, incursions by the Georgians in the 1190s after the birth of Giorgi Lasha (b. 1191, r. 1213-23) led to the sack and capture of the major cities of Ganja and Shamkir in present-day Azerbaijan (Abashidze 2014, pp. 204–5). Barda is also mentioned throughout the late 12th and early 13th centuries, including a sack by the Georgians in the 1190s (Ezosmodzghvari (trans. D. Gamq'relidze), 2018, p. 252), listed among the cities afflicted by the Mongols during the reign of Queen Rusudan (1223-45) and as a common winter camp for travelling armies (Gamq'relidze, 2018, pp. 330–34). Jalal al-Din's incursions during the mid-1220s and ongoing skirmishes between the Jochids of the Golden Horde, who controlled the land to the north of the Caucasus mountains, and the Ilkhanate (Jackson, 2017, pp. 182–94) led to several turbulent decades from the late 12th to mid-13th century. Although these events have clear chronological distinction in the historical literature, separating them within the archaeological record is much more complex.

Nomads and City Dwellers

As nomads with a highly developed and distinctive societal structure, the arrival of the Mongols brought different economic, cultural and societal practices to the cities they conquered. Although nomadic lifeways are clearly distinct from those in the sedentary areas, debate in recent decades has shifted from narratives which emphasise the Mongol Conquest and its aftermath as a clash of civilisations (Lattimore, 1938, pp. 1–2; Grousset, 1970, pp. ix–x; Halperin, 1986), towards the view that nomadic groups were economically and culturally dependent on their relationship with sedentary societies, which in turn also had an important influence on their urban neighbours (Khazanov, 1994, pp. 228–231, 2001; Allsen, 2001; Barfield, 2012, pp. 162–7; Biran and Amitai, 2015). The Mongol Conquests represent perhaps the most dramatic turn in this long-running relationship between nomads and the urban areas,

which had historically ranged from cooperative to destructive. Sedentary areas gained much from the steppe nomads; felting and the domestication of the horse (Allsen, 2001, p. 4), military advances such as the iron stirrup (Khazanov, 2001), mercenaries and military support to protect imperial borders or fight sedentary rivals (Khazanov, 1994, pp. 213–5; Shelach-Lavi *et al.*, 2020) and a mobility which enabled the flow of goods, people and ideas over vast distances (Allsen, 2001; Honeychurch, 2014). On a more immediate practical basis, large sedentary populations, especially in the oasis cities of Central Asia would have relied on their nomadic or semi-nomadic neighbours for a range of animal products including meat, milk, wool, and dung for fuel (Kychanov, 2001, pp. 199–200).

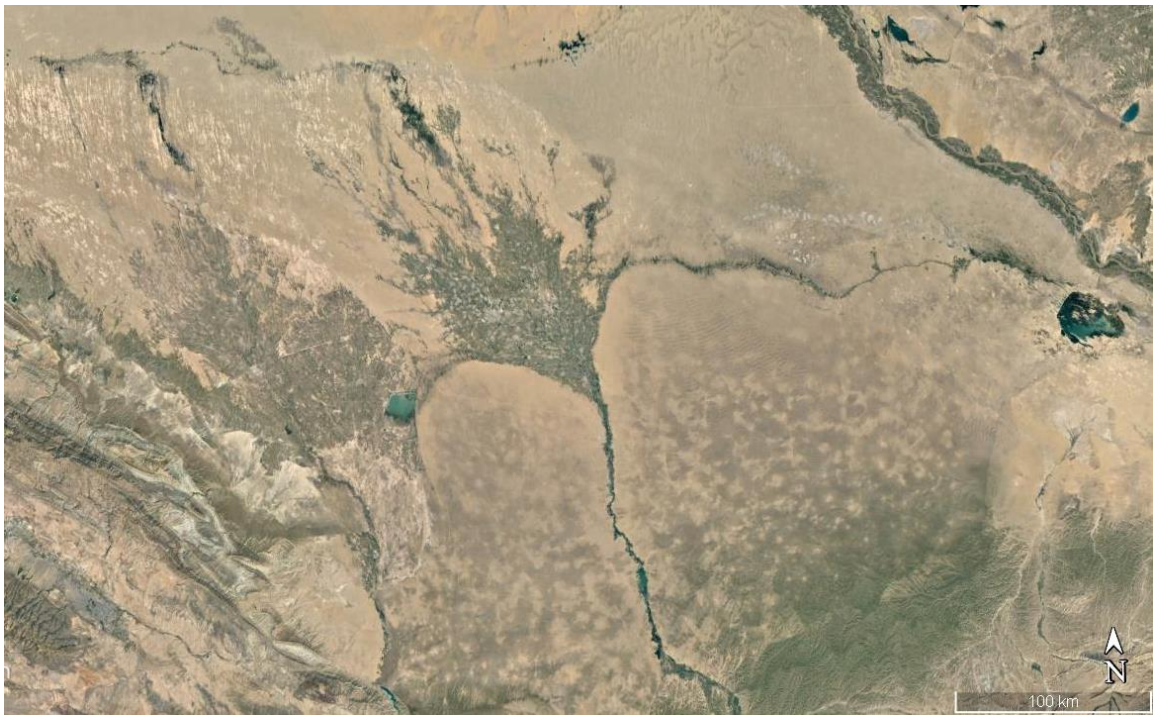

Figure 2.2 Satellite Imagery of the Merv Oasis, the area has been extensively altered by Soviet era irrigation projects to cultivate the area to the west of Merv but the fertile fan of the Merv oasis extends around the ruins of the ancient cities (Google Earth)

Broadly, the division between nomadic and sedentary groups is a result of latitude and landscape, especially across the central and eastern parts of Eurasia. Pastoral nomadism; seasonal movement between pastures with animals (especially sheep, goat, horses, cattle, camel and donkeys) is practiced in areas where the climate is too cold or arid to support sustained agriculture, and so the nomads exploit the grasslands with their animal herds (Barfield, 2012, pp. 160–62). Meanwhile, sedentary societies cluster in the areas between the Caspian Sea and Pamir Mountains, within the fertile river valleys, especially the Amu and Syr Darya, and their tributaries, which provided the only viable zone for agriculture in an otherwise arid desert landscape (Figure 2.2 and see https://althurayya.github.io/).

Ethnographic studies have demonstrated that nomadic groups did not function in isolation, with the nomads having various strategies for interaction with sedentary societies, from trade and exchange to subservience or subjugation, and nomadic political organisation was generally impacted by the sedentary societies with which they had contact (Khazanov, 1994, pp. 198–99, 231–233; Barfield, 2012, p. 162). This environmental division of 'steppe' and 'sown' may therefore provide a somewhat artificial segregation between urban dwellers and nomads, especially as the contribution of nomads living in the immediate vicinity of these large cities, invisible in the historical sources is becoming better recognised in archaeological work (Wordsworth, 2015b, pp. 278–85; Rante and Mirzaakhmedov, 2019, p. 135). In effect, the important aspect of the Mongols, for the sake of comparison with sedentary populations, was not their nomadism in itself, although this included a package of skills which would serve them well in conquest, but their ability to arrange the fragmentary tribes of the steppe into an organised political unit which would rival the armies and polities of the settled oases.

Cities

Cities in the lands controlled by the Khwarazmshah in the early 13th century vary in their form and function, dependent largely on the environmental, geological and climatic variation across the region. However, there are some key aspects of these cities which are worth illuminating here. They held a strategic importance in terms of controlling territory as command of a city meant regional control including of water and agricultural resources, taxable and leviable populations, and routes for trade, invasion and communication, as well as acting as hubs for exchange, rest and replenishment. As a result, urban settlements in Central Asia were well fortified by the time of the Mongol Conquest with archaeological work in Otrar (Akylbek, 2013) and Merv (Brun and Annayew, 1998; Brun and Annaev, 2000) showing multiple phases of mudbrick walls, including a likely refortification at Merv on the eve of the Mongol Conquest (Herrmann, Kurbansakhatov and Simpson, 1999, p. 22). The Mongols were not the first nomadic armies to arrive from the steppes into the settled areas of Central Asia. From the arrival of the Arabs in the 7th-8th century (a rare west-east movement), to the eve of the Mongol Conquest, these cities experienced the arrival, and conquest to various extents of multiple steppe groups including the Turkic-speaking Ghuzz (Agajanov, 1998), Karakhanids (Davidovich, 1998) and Seljuks (Sevim and Bosworth, 1998; Peacock, 2015; Figure 2.3) as well as the Mongol speaking Kara Khitai (Biran, 2008). Although there are instances when the defences appear to have failed, such as Merv's ravaging by the Ghuzz in the mid-12th century

(Zhukovskii, 1894, pp. 29–30), the speed of the Mongol Conquest and their enormous territorial gain is exceptional.

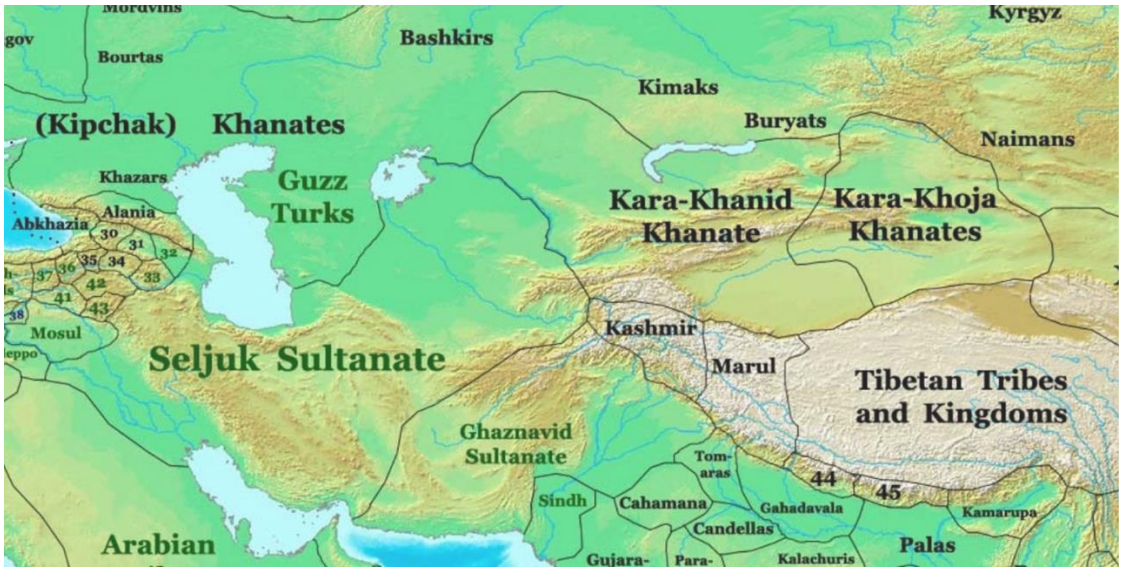

Figure 2. 3 Map of Central Asia and the Caucasus showing the approximate political configuration of states in around 1100 (Thomas Lessmann, reproduced under CC-BY license)

The layout and development of the 'Islamic city' has been considered at length (Kennedy, 1985; Abu-Lughod, 1987; Wheatley, 2001; Bennison and Gascoigne, 2007), with more recent scholarship focussing on the cities of Iran and Central Asia (Kennedy, 2006; Williams, 2007; Rante and Afround, 2015; Durand-Guédy, Mottahedeh and Paul, 2020). Soviet scholars produced the initial models for these cities, noting the differing Persian and Turkic influences and formulating a rough urban model, which consists of a citadel or *ark* and shahristan, a defended, raised area[7] which is surrounded by a larger suburban zone or rabad. The rabad might contain residential neighbourhoods, light industrial activity and could also be walled, with further distinct industrial areas typically housing kilns for pottery and brick manufacture, alongside other industrial activity such as metal working (Belenitskii, Bentovich and Bol'shakov, 1973, pp. 134–36; Fedorov-Davydov, 1983, p. 393). Merv and Otrar broadly conform to this layout, while the form of medieval Barda is difficult to trace because of the modern city covering the remains. Some cities show a remarkable resilience in the wake of repeated invasion, such as Isfahan (Durand-Guédy, 2020), while others such as Merv undergo significant change (Herrmann, 1999, pp. 16–18). For most however, especially smaller settlements and those overlain by modern cities, scant reliable archaeological data exists to understand the form and development of these cities over time.

[7] This often consists of earlier mudbrick structures, like a tell in the Middle East but often called by the Turkic word *tepe* or *tobe* in Central Asia

Both the Caucasus and Central Asia had been under Seljuk Turk rule for more than a century when the Mongols arrived. However, they were weakened by the second half of the 12th century, and eventually ousted in the east by the Khwarazmshah and west by the Ildegizids. As a result, the cities had already experienced significant exposure to nomadic groups and change in the 11th and 12th centuries, leading to the term Turco-Mongol cities sometimes being used to describe some of the changes taking place in these cities in this period (Durand-Guédy, 2013c). Whether these developments affected activity on the steppe and the eventual direction of the Mongols remains to be seen and might be hard to track. The growing number of Turco-Mongol groups operating in Central Asia, including the Ghuzz, Karakhanids and Kara Khitai would likely have added to Mongol knowledge of the area, due to continued linguistic, economic and cultural connections, and in some areas they appear to have been actively welcomed (Lane, 2012, p. 246).

Motivation and Means of Conquest

Much debate has appeared in historical evaluations of the conquest as to why the Mongols chose to ravage and conquer a large portion of the known world, and how they achieved this infamous but impressive feat. The question of their motivations depends on an understanding of how Mongol society and tribal interaction functioned, as well as conditions on the steppe in the latter part of the 12th century. Steppe society has been seen generally to be founded on kinship groups, with larger confederations emerging to become political units which were able to challenge the sedentary areas, providing the potential for a nomadic empire such as that of the Mongols (Barfield, 2012, p. 165). For the Mongol period, such assumptions have been based on the close familial relationships of the major players in the Mongol Conquest (Unknown (trans. U. Onon), 2001), with few other written sources of the period surviving to tell an alternative story. Anthropological research has shown the steppe was a substantially stratified society (Sneath, 2007, pp. 2–5), and rejected the simpler notions of kinship. The exact mechanisms for how, when and where this transformation occurred are still debated. Conquest and subjugation of neighbouring tribes led Temujin to become Genghis Khan, ‘the universal ruler’ by 1206, with the new leader then needing to find a way to occupy his recently unified tribal alliance so they did not continue to fight each other (Morgan, 2007, p. 55). Steppe nomads had long used a redistributive model where sedentary areas are raided to provide booty and cement allegiance from participants in such alliances, which is seen as playing an important role in early nomadic state formation (Di Cosmo, 2011, p. 44) and 2000-year-old Xiongnu graves demonstrate objects from the Hellenistic southwest and the Chinese

southeast (Miniaev and Sakharovskaia, 2007). This distributive pattern, where booty or surplus is used to buy allegiance rather than demanded as tribute is particularly effective when the identity of a group is based on their social and kinship ties, rather than residency of a certain place[8] (Barfield, 2012, p. 165) and (non-animal) surplus becomes a hindrance to mobility, rather than a goal and means of control as in the settled world. Such processes played a part in Mongol unification (Allsen, 2001, p. 45), and although interaction with sedentary areas led to changes in steppe lifeways, including economic and agricultural diversification (Wilkin *et al.*, 2020), their remarkable success may have come as much by chance as by design (May, 2018, p. 18).

The viability of a steppe empire had been proved over the past centuries, and Morgan notes the legacy of Turkic rule in Central Asia, in particular the Karakhanids on changing social structures in the steppe, with a more stratified society and a clearer model for governance of sedentary lands (Morgan, 2007, pp. 42–44). Biran also traces changes in steppe society from the 10th century, based on the example of nomadic states in Central Asia and north-eastern China, especially the administrative skills the Kara Khitai and Jurchen acquired in ruling multi-ethnic areas with both sedentary and nomadic populations, while also maintaining strong linguistic and cultural links with the steppe, arguing that these connections would demonstrate the apparatus of conquest and governance to Genghis Khan (Biran, 2004, pp. 32–34). While these developments may have given the Mongols some of the tools to conquer, subdue and eventually rule their neighbours, it did not necessarily provide an impetus.

Contemporary historians look for a political cause of the conquests, generally citing the robbing and murder of the trade and ambassadorial parties sent to Otrar and Khwarazmian court to explain the westward expansion and particularly terrible destruction meted out on the lands of the Khwarazmshah (Juvaini (trans. J. Boyle), 1997, pp. 79–81; Ibn al-Athir (trans. D.S. Richards), 2008, pp. 204–05). Ibn al-Athir also mentions the awful possibility that the Abbasid Caliph had invited the Mongols to move westwards, in order to distract their enemies the Khwarazmshah and engage them on an eastern front, away from the Abbasid realm (Ibn al-Athir (trans. D.S. Richards), 2008, pp. 205, 440). The lack of detail, especially regarding the westward conquest in 'The Secret History' suggests that the event may have occurred as much by chance as by design, a combination of armies buoyed by their success in China, a tactical mistake by the Khwarazmshah and population pressure or potential caused by climatic

[8] Although the construction of (often short-lived) steppe cities such as Karakorum, Ordu Baliq and Dzhankent capitals of the Mongols, Uighurs and Ghuzz respectively in locations somewhat unsuitable for traditional urban prosperity might indicate a greater attachment of the nomads to their location than some arguments suggest.

changes on the steppe. Nomad strategy was apparently to raid sedentary areas in order to make up for shortfalls rather than to conquer (Standen, 2005, pp. 131–34) and with a few notable exceptions, it was unusual for nomads to attain a level of cohesion and organisation to seriously challenge the sedentary areas.

Cunliffe presents an environmental model for steppe movement, arguing that the warmer and wetter climate in the west caused by greater proximity to the Atlantic was a driver of westward expansion from the eastern Eurasian steppe because the grass was literally 'greener in the west', with a correlation between major movements and patterns of climatic change (Cunliffe, 2019, pp. 62–73, 82). Although an attractive proposition for a macroscale approach to global history, the Gobi Desert, Tibetan Plateau and Himalayas to the south make movement in this direction less attractive. Increased historical context available for the Mongols (compared to Cunliffe's primary interest, the Scythians) demonstrates a complexity of factors beyond environmental determinism for Mongol expansion, most notably their interactions with their sedentary neighbours to the south and southwest. Nonetheless, environmental arguments dominate recent scholarship, with initial assumptions that environmental pressures on the steppe forced the Mongols to move westwards due to colder and dryer conditions in the 12th century (Jenkins, 1974; Khazanov, 1994, p. 235), giving way to models suggesting that cooler but wetter conditions spread the steppe zone and its inhabitants southwards (Putnam *et al.*, 2016) or warmer and wetter conditions led to lusher grassland and a corresponding economic boom for the steppe pastoralists (Pedersen *et al.*, 2014). The differing narratives achieved from similar data shows that the debate surrounding the environmental context for the Mongol Conquests is likely to continue, although at present the warmer, wetter thesis seems best accepted (May, 2018, p. 3).

The impressive military effectiveness of the Mongols has also been a rich source of debate among historians of the period, in particular how a group of steppe nomads could organise themselves to invade and destroy, some of them irreparably, cities which had survived and thrived for centuries. One argument for this is the sheer volume of manpower at their disposal, at first gained from alliance and subjugation on the steppe, and later from forced labour from the conquered areas, demonstrating their organisational capacity to manage such large groups (Masson Smith Jr, 1975; Allsen, 1987, pp. 188–90). In spite of barbarous and destructive portrayal in contemporary sources, which suggest a force with a thirst for destruction and little overall aim or tactic (Kirakos Gandzakets'i (trans. R. Bedrosian), 1986, pp. 199–206; Ibn al-Athir (trans. D.S. Richards), 2008, pp. 202–03), the Mongols were in fact skilful

tacticians and appear to have well understood the defences of their rivals. Mongol forces often bypassed heavily fortified cities to engage troops in open battle and take smaller settlements, robbing the cities of their strategic importance (May, 2004, pp. 115–16). More so than other steppe forces, they quickly mastered siege warfare to capture cities, with the incorporation of an engineer corps into their armies who would construct and man siege engines at the unfortunate besieged cities. They were apparently entirely reliant on Chinese and Central Asian engineers for these feats, another indication of their recruitment strategy, flexibility in military matters and reliance on sedentary populations to achieve the conquests (May, 2004, pp. 115–19).

Although debates remain about key components of factors and dynamics behind the unification and expansion of the Mongol tribes behind a remarkable leader in the late 12th and early 13th century, broad trends and the changing interests of historians can be mapped. The influence of sedentary populations on the rise of the nomad-controlled polity has been identified and largely accepted, emphasising the role of earlier nomadic overlords, such as the Karakhanids and Kara Khitai in the development of cultural complexity on the steppe, and better defining a blueprint for Mongol statehood. Push and pull factors, including stress or economic boom from environmental changes on the steppe, political factors and the importance of economic relationships both within and outside of steppe tribal groupings appear to provide the major impetuses for westward expansion. Environmental debates in particular are likely to evolve further and the role of chance cannot be dismissed. However, the impact of these events, whatever the precise environment and factors of their conception, was to have a profound effect on the cities conquered by the Mongols and on world history.

Conquest and Archaeology

Conquest, and the political, cultural and economic realignments it might bring, affect both the conquered and the conquerors. The archaeological approach followed here, aims to investigate the material evidence for these transformations in the cities of Central Asia, broadly considering how conquest and its impact plays out ‘on the ground’. As this thesis aims to make use of multiple datasets to understand urban change in cities conquered by the Mongols, archaeological approaches to the far better studied Arab Conquests of the 7th century are worth examining. These present an interpretive framework for the combination of archaeological, historical and other sources of evidence, and show how they might be critically combined to construct a coherent narrative. Such an approach is made possible by recent

syntheses of decades of archaeological work in the Levant, North Africa and beyond, as well as increased interdisciplinary attention to the Arab Conquest which includes not only historians and archaeologists tackling issues of urban and societal change but also classicists, numismatists, art and architectural historians and even specialists in environmental science and urban planning.

The Arab Conquests

The rapid expansion of semi-nomadic tribes from the Arabian Peninsula, who conquered half the known world in mere decades, has puzzled historians: why did the great Byzantine and Sasanian Empires fail to protect their territories against the advancing Arab armies? Gradually, the atmosphere created by the first political rulers of the newly incorporated Arab Empire seemingly enabled conversion to Islam and the widespread adoption of Islamic practices across the conquered territory (Kennedy, 2007, p. 6; Bulliet, 2013, pp. 16–35). In terms of the speed of the conquest, the majority of the Arabian Peninsula had been subdued by the time of Muhammad's death in 632. Regrouping after power-struggles caused by this event, the Arab armies moved northward into the eastern reaches of the Byzantine Empire and conquered the Levant between 634 and 638. From here, they rapidly moved both westwards into the Sasanian Empire and eastwards along the southern coast of the Mediterranean, taking vast tracts of land from the beleaguered Byzantine Empire. A decade of impressive expansion meant the Arabs had reached the hinterland of Carthage by the late 640s, and pushed deep into Central Asia, defeating Yazdegerd III, the last Sasanian king at Merv in 650, before taking Balkh in modern-day Afghanistan in 652. In the following decades the armies pushed into Transoxiana, the modern-day India-Pakistan border and into southern Spain at the eastern and western reaches of the empire. The empire reached its greatest extent under the Umayyad Caliphate in the 740s, and the study of this first century of Arab rule, which extended from Afghanistan to Spain, provides the most useful comparison to the later Mongol expansion.

The Arab expansion of the 7th and 8th centuries provides a methodological and theoretical model for archaeological investigation of conquest in Eurasia, both in terms of its broad geographical range and impact on urban society, infrastructure and organisation (a comparison also noted by Kennedy, 2007, p. 3). Similarities in the ways the events are conceived historically, means that the practical approaches to archaeological investigation of the Arab Conquests prove a useful example for investigation of other transitional events in the region. Like the Mongol Conquest, this is a historically defined transition, and represents an

event considered so transformative it traditionally acts as the break in periodisation, which has hampered a longer term view of urban change. Happily this situation has improved in recent decades, with a flurry of research considering a wide variety of evidence including numismatics (Khodzhaniyazov and Treadwell, 1998; Heck, 2010; Walmsley, 2010), architecture (Creswell and Allan, 1989; Hillenbrand, 2000), archaeology (Pentz, 1992; Johns, 2003; Walmsley, 2007; Eger and Mackensen, 2018; Fenwick, 2020) and art historical sources (Ettinghausen, Grabar and Jenkins, 2001; Evans and Ratliff, 2012). These supplement the historical narrative to present a more holistic interpretation of change brought about by the arrival and rule of Muslim Arabs in an area spanning from Spain to the border of China. The wide geographic range, cultural and linguistic variability across the regions in question, and numerous historical accounts of this event mean that its investigation employs many methodological and theoretical approaches which can be adapted for study of the Mongol Conquest.

Approaches

The level of critical consideration given to the Arab Conquest from both historians and archaeologists provides an especially useful model for the Mongol Conquest, because of the extensive similarities. In particular, the critical approaches taken to analysis and interpretation of mismatched data and historical accounts, as well as the high level of interdisciplinary collaboration, has fundamentally advanced and enhanced our understanding of this historical event. Although it is important to carefully consider each city and historical account individually, including the level of destruction and recovery, rather than make sweeping statements about urban clusters or entire regions, the quantity of data built up especially for the Levant and North Africa allows a certain amount of macroscale interpretation which provides a useful illustration of themes to consider for other analyses of urban conquest.

The framework for the Arab Conquest remains historical, with early enquiry focussed on the event itself, interpreting urban impact based on whether a town was taken by force or surrendered peacefully, with implications for how they were later treated by the Arabs (Kennedy, 2007, p. 19). However, many regions of the empire have been under-studied and even the basic historical framework remains uncertain (Fenwick, 2020, p. 31), while historical enquiry into more gradual transformations such as conversion (Bulliet, 2013) or changes in administrative status (Walmsley, 2007, pp. 74–5) is moving the debate towards longer-term societal, cultural and agricultural changes taking place in the lands conquered by the Arabs. As with the Mongol Conquests (Melville, 2009; Lane, 2012, pp. 249–50), written sources have

been regarded as problematic, with some interpreting sources as mere literary topoi, rather than a faithful summary of events. Such criticism has focussed on the chronologies provided for key events in the Arab Conquest including the use of the numbers four and 40 to mark time (Conrad, 1987, pp. 230–34) and formulaic narratives of conquest repeating similar themes such as cities falling because of the treachery of their inhabitants (Noth and Conrad, 1994).

Archaeological contributions, especially towards urban change, and primarily in the Levant (Kennedy, 1985, 2007, pp. 30–33; Pentz, 1992; Walmsley, 2007) have driven a re-examination of historical sources for the Arab Conquest, questioning in particular the level of destruction and economic collapse brought about by the event. Meanwhile, a wider look at the primary sources has led historians to argue that some may be more reliable than originally thought, either through finding Arab texts are corroborated by external sources such as Syriac or Armenian accounts (Kennedy, 2007, p. 23) or because lack of robust and comprehensive research has led to confusion and therefore the easy dismissal of primary descriptions (Pourshariati, 2008, pp. 161–5). While historical sources provide a general chronological framework for the Arab Conquests, archaeology, architectural and art history have been instrumental in providing extensive further detail, and expanding the debate to an examination of the conquest's medium and long-term impact (Kennedy, 1985, p. 17; Walmsley, 2007, p. 11; Fenwick, 2020, pp. 31–33). Archaeological excavations also have limitations, and study of the Arab Conquests has been hampered by a somewhat uneven spread of data, in terms of quantity, reliability and accessibility. This is due to political instability in some parts of the region, and changing international relations affecting access to and dissemination of archaeological data.

Collaboration has fostered a greater appreciation among both historians and archaeologists of the limitations of the archaeological evidence, and led to more critical and holistic interpretations of excavation results, as well as reframing historical accounts (Kennedy, 2007, pp. 30–33). Both forms of evidence are patchy and as Kennedy points out, 'there is no direct archaeological testimony to the conquests themselves' (2007, p. 30) meaning that no battlefields have been excavated and there is limited evidence of destruction layers which can be reliably attributed to the conquest (Pentz, 1992, pp. 74–75; Kennedy, 2007, pp. 30–31; Intagliata, 2018, p. 113). Indeed, if archaeological evidence were to be used in isolation several 'conquests' would not be recognised at all (Hoyland, 2015, pp. 259–60) and Walmsley goes further to say that excavations in the Levant '[fail] to turn up one shred of evidence in favour of destruction to churches, houses and civic utilities' (Walmsley, 2007, p. 47). Yet, changes in cities can be followed closely from the construction of new buildings, as this activity tends to

be easier to date compared to gradual abandonment, although it is interesting to note that historical accounts of mosque construction in the immediate wake of the Arab Conquest cannot be seen archaeologically, with the first appearing around 60 years after the Arabs' arrival (Kennedy, 2007, pp. 32–33). Archaeological research has generally indicated gradual change, with continuity of occupation perhaps more widespread than the historical accounts might suggest (Fenwick, 2013, pp. 32–3). Archaeological evidence is therefore most effective as a 'historical source' when used critically, and to chart longer-term trends in urban, demographic and societal change, and for this purpose, perhaps a more effective source than the historical accounts.

Archaeological Evidence and Interpretation

Archaeological inquiry of the Arab Conquest has tended to focus on urban centres which Walmsley suggests is guided by prominent narratives of urban decay and site abandonment, in spite of approximately 80% of the population likely living in rural areas (2007, pp. 71–2). Urban remains also provide a richer and more concentrated resource of archaeological evidence, and so are better placed to provide detailed narratives of an individual event. Due to modern settlement patterns, where many cities conquered by the Arabs remain urban centres to the present day, the data is skewed towards either entirely abandoned towns or urban areas unaffected by modern occupation. For example, there is a lot of data from Amman's citadel, but little information about the rest of the city, due to its present-day layout (Walmsley, 2007, pp. 76–7). In spite of these drawbacks, the volume of work and clear role of cities in the archaeological investigation of the Arab Conquest shows that these sites provide the best chance to track urban development, using stratigraphy (providing substantial relative dating evidence), specific historical descriptions of known urban sites, greater variability of activity within the cities and density of occupation allowing an archaeological analysis of change.

Analysis of the urban remains is underpinned by certain signatures in the archaeological deposits, which can be combined to formulate an overall narrative of a building, urban district or entire city depending on the scales observed. Underpinning detailed archaeological investigation of urban stratigraphy is the recognition and interpretation of changes taking place over time. Such events, effectively the formation or creation of individual archaeological deposits, might have occurred over a few minutes or several centuries, and indicate destruction, abandonment, dilapidation, remodelling or rebuilding depending on their form. When combined and reliably dated, individual observations are built up and combined to

produce a coherent overview of changes occurring at each site, and a narrative of urban change over time. Precise dating of each event, from coin or ceramics evidence, scientific dating such as radiocarbon or known events such as earthquakes help frame this work within the chronological framework of the Arab Conquests, with the best excavations able to provide a historical-scale narrative from the archaeological remains.

The importance of meticulous excavation and the detailed insights it can provide is exemplified by work at Pella, a city in Jordan which was captured by the Arabs in the mid-630s, and has provided a wealth of evidence relating to this period. Long-running excavations carried out by the University of Sydney from the 1980s to the 2000s uncovered detailed evidence from individual houses in the 7th and 8th centuries, which provide indications of the lives of the city's inhabitants at the time. Although unfortunate to Pella's previous residents, two archaeologically-traceable earthquakes, the first in 659-60, which damaged parts of the city, and a more devastating seismic event in 749 are a gift to archaeologists, providing a neatly dated sequence through the city in the decades following the conquest. Excavations of domestic buildings show that the original street of terraced houses was rebuilt after the 660 earthquake and replaced with larger courtyard structures (Walmsley, 2007, pp. 128–30). Larger, airier courtyard houses might be used to suggest an increase in wealth of the residents, but the shift in style of housing has been used to suggest the 'ruralisation' of urban life. Rather than being 'urban', courtyard houses provided space for extended family, agricultural and other economic activity as well as the potential to house animals, with the residents sharing their home with three cows and two small equids (Walmsley, 2007, p. 130). Careful excavation showed that the house's residents, killed by the earthquake in 749 were found to be wearing silk, (which was preserved in the subsequent fire) and holding 10 dinars in gold coins, a considerable sum, which certainly demonstrate the material wealth of the city's inhabitants, even if urban layout was adapting to changing lifeways (Walmsley, 2007, pp. 128–30).

Charting urban development at a broader scale, such as the construction of new neighbourhoods, changes of use within districts and new architectural forms, constitutes another important line of evidence and debate for the archaeological study of urban change. In this case, a wider view of the city can be used to demonstrate continuity or reorganisation, and to document signs of 'Islamisation' within a city, new styles of buildings such as mosques or *ribats,* as well as altered street orientation so that the newly-built mosques can face Mecca (Fenwick, 2020, p. 24). At Rayy, now part of Greater Tehran, an Iranian-French team found an expansion of the city beyond its original urban nucleus in the late 7th and early 8th century, while smaller sites in the region such as Tepe Mil demonstrate continued occupation from the

6th century until the 9th or 10th (Rante and Afround, 2015, p. 126). The growth of Rayy, attested by Umayyad coins found in areas which were not occupied by the Sasanians, alongside continued occupation of the citadel demonstrates at least a stability of residence and perhaps renovation, alongside an increase of population dating from the late 7th century. Again the evidence here is ambiguous as city quarters might be seen to indicate urban, demographic and economic growth, although the excavators at Rayy side with the decline argument, reading the expansion as somewhat unruly and unplanned due to a collapse of authority and rebel control in the region in the aftermath of the conquest (Rante and Afround, 2015, pp. 126–32).

Construction of mosques is often used to indicate the arrival of the Arabs, and forms part of a wide range of relative dating techniques, which include the well-dated earthquakes in the Levant as well as the use of coinage and pottery. However, the slow conversion of much of the population (Bulliet, 2013, pp. 16–32), re-use or sharing of churches (Kennedy, 2007, p. 86) and the lack of archaeological evidence for early mosques despite reports of their widespread construction (Kennedy, 2007, pp. 32–33), means that they only appear in the archaeological record in the 8th century. One of the earliest, dating to the first half of the 8th century, has been excavated at Jerash (Walmsley and Damgaard, 2005). This large, centrally-planned stone-built congregational mosque was constructed prominently on a rise by a key crossroad in the city, indicating a high-level of both urban planning and construction, alongside continued use of routes through the city (Walmsley, 2007, pp. 84–6). In spite of *qibla* being on a different alignment to the Classical street pattern, the new mosque was built into the existing layout, and located on the main thoroughfare of the pre-Islamic city, with the awkward-shaped strip of land created from the shift in orientation filled by several shops, indicating the continued importance of Jerash for commercial purposes and a desire to maintain the earlier urban layout (Walmsley, 2007, pp. 84–86).

The Mongol Conquest does not precipitate a major traceable architectural change such as the construction of mosques, and so the impact of Mongol rule may not be as clearly detectable in the urban fabric. Architecturally it is generally believed that the Mongols of the Ilkhanate, especially after the conversion to Islam of Ghazan in 1295 aligned ever more closely with the culture, religion, artistic and architectural practices of the lands they had conquered (Hillenbrand, 1998, pp. 198–202). Buddhist temples must have been widespread in Iran during the early Mongol period, although little evidence of their presence now remains (Bausani, 1968, p. 541; Ball, 1986; Azad, 2016) and so they cannot be used in the same way as the arrival of a mosque to mark an obvious physical transition to new ways of life in the cities.

Continuity in urban planning and occupation has also been found in other cities in the region including Palmyra where a large mosque was constructed over and reusing parts of an earlier temple, perhaps a statement of intent to stay in the pre-Roman town or practical reuse within a still-flourishing urban centre (Genequand, 2008, p. 6). The relative height of the mosque structure compared to earlier buildings and a flourishing, adjacent *suq* demonstrate little evidence of abandonment during the 7th century, with mosque construction dating to the same period as at Jerash (Genequand, 2013, pp. 100–101). Alongside the importance of monumental construction, excavation at Amman has also demonstrated individual instances of continued domestic occupation. Rescue excavations carried out in the 1970s in Amman demonstrated continuous inhabitance through the 7th century in a building near the citadel which had clear layers of occupation, with silty abandonment deposits apparently only appearing once building operations associated with the Umayyad citadel commenced, implying residents were moved by renovation rather than destruction (Northedge, 1992, p. 141).

In North Africa, far more continuity than conquest has been reported from survey and excavation projects examining landscape change to demonstrate a longer-term view of the impact of the Arab Conquests in this region. The most convincing of these studies consider changes already underway in the region before the arrival of the Arabs (Leone and Mattingly, 2004), or collate and critically asses diverse excavation data (Fenwick, 2013). Fenwick has assessed and mapped a wide-range of archaeological data from Tunisia and Libya where she found little evidence of destruction, and in cases where the data is suitable, such as Barqa, indications that Roman layers are directly overlain with medieval ones, demonstrating continuous occupation with no sign of abandonment (2013, p. 15-20). Leone and Mattingly also compiled and assessed a large range of survey and excavation data, showing that in northern Tunisia, there was a peak in the number of sites in the 6th century, followed by a rapid decline in the 7th century and the occupation of only a few settlements lasting until the Arab conquest of Carthage in 698 (Leone and Mattingly, 2004, pp. 142–3). However, problems with collating data from previous survey and excavation projects, where early Islamic pottery was likely under-recognised may have reduced the number of recorded sites from this period, and it is only in recent years that archaeological research focussing directly on the Islamic period have begun to present coherent chronological models for the period (Fenwick, 2013, 2020). In particular, the realisation that certain types of African Red Slip (ARS) ware, generally thought to disappear by the arrival of the Arabs in the late 7th century, were actually produced far later, which alongside improved coarseware chronologies, has enabled far greater

recognition of 7th and 8th century occupation, which had previously been overlooked and therefore assumed to be absent (Fenwick, 2013, pp. 12–14).

Although much of the archaeological evidence seems to demonstrate continuity and gradual transition, there are also examples of abandonment and occasionally destruction. This generally manifests in the archaeological record as gradual building erosion and collapse, the build-up of silty layers or 'squatter-style' occupation within structures and in the more destructive cases, evidence of widespread burning. During rescue excavations in another part of central Amman, evidence of abandonment was noted, due to weathering on internal columns suggesting the structure was roofless for some time, which alongside the remains of 'squatter style' occupation in a nearby building dated to the Byzantine to Early Umayyad transitional period, suggests abandonment of some parts of the city at this time (Northedge, 1992, pp. 144–5). One of the more violent destruction events of this period occurred at the site of Kuik Mardan in the Otrar Oasis, South Kazakhstan, where a complete destruction and abandonment of the main citadel has been recorded (Dawkes *et al.*, 2019). Excavations at the site showed that several buildings had been destroyed by burning, with radiocarbon dating of charred roof timbers and other burnt material suggesting that this event happened sometime between 650 and 760 (Dawkes *et al.*, 2019, p. 149). Further burnt and abandoned settlements in the oasis which appear to date to approximately the same time, and the date of the Arab Conquest of the region falling around the 720s-740s led the excavators to tentatively equate the destructions with this event, while acknowledging this would be a rare example of such destruction (Dawkes *et al.*, 2019, pp. 149–50).

Debate surrounding economic, cultural and social change brought about by the Arab Conquests, using archaeological evidence from urban sites, tends to focus on the reading of this occasionally ambiguous evidence. Such archaeological evidence might prove unconvincing for those accustomed to written sources, so contextualisation and detailed explanation is important. The prevalence of mudbrick architecture in Central Asia, means these cities have a somewhat different trajectory to their stone-built counterparts, with cities such as Merv often shifting location, either to expand or decrease in size (Herrmann, 1997, pp. 6–8). Use of mudbrick arguably gives a greater importance to archaeology in these cities, with degraded buildings remaining intact, rather than robbed for building material, but requiring careful and skilled excavation to reveal and define the mudbrick architecture. In areas where mudbrick prevails as a material for construction, buildings or even entire cities are frequently abandoned and completely rebuilt, and the relative lack of reusable material means that it is often easier to found a new city, rather than continue to maintain mudbrick structures and highly-managed

water sources in the old one. This pattern also favours an archaeological approach, with abandoned but relatively complete urban remains surviving beneath the degraded mudbrick.

The evidence discussed here shows that extensive collection and detailed interpretation of archaeological evidence from the 6th-8th centuries has made archaeology integral to understanding the Arab Conquests and their impact, at least in the most-studied areas such as the Levant and increasingly North Africa. Primarily the result of the careful compilation and consideration of archaeological layers in urban settlements, this transformation has occurred over several decades of archaeological research. Precise chronologies, using careful stratigraphic excavation alongside radiocarbon dating, coin evidence, and a reassessment of ceramic dates, have provided a clearer picture as to exactly when and how fast urban changes took place. The ability to recognise 7th and 8th century occupation, a period where far-better studied Classical ceramic types often disappear, and before widespread appearance of distinctive glazed 'Islamic wares' has been key, especially in North Africa. Earthquakes in the Levant have demonstrated how cities were rebuilt in the 660s, shortly after the conquest, with evidence for urban life over the following century sealed by second, mid-8th century, seismic destruction. Alongside better dating, analysis of archaeological layers, rather than simply architecture has shown silty abandonment deposits, ephemeral 'squatter style occupation' and evidence of desolation such as weathering inside structures, providing a more complex, and chronologically precise archaeological narrative for this period, going beyond the narratives of destruction and abandonment. Most strikingly perhaps and contrary to the historical rhetoric, there is an almost complete lack of evidence for Arab Conquest-era destruction. This is perhaps a caution against searching for such destruction to chronologically locate a conquest in the archaeological record, with destruction more commonly associated with earthquakes.

Conquest and Urban Change in the 13th-14th centuries

In terms of the Mongol period, the amount, interpretation and synthesis of archaeological data lags far behind the achievements of scholars working on the Arab Conquests, and archaeology's integration into broader studies of the Mongol Empire remains almost non-existent (Biran, 2013b, p. 1024). As a result, detailed discussion of urban change, such as that seen at Pella, Amman, Carthage and other cities is not yet possible for the Mongol period, yet this review of evidence for the 6th-8th centuries is useful, underlining key steps in the gathering of archaeological evidence for historical-scale interpretation. Firstly, precise chronologies are crucial, and should be defined archaeologically, rather than trying to equate presumed

destructions or abandonments to a historically-derived timeline. This approach has been able to show for example a decline in North African urban sites before the Arabs took control of the region, and indicated that mosques, and subsequent changes in urban alignment to *qibla*, occur almost a century after the initial conquest, with no archaeological examples yet found which pre-date the early 8th century. Secondly, detailed excavation, examination, and interpretation of urban sites, is crucial to formulate an archaeological narrative, which enables greater collaboration with historians, when compared to dry site reports and records. Recording the signatures of abandonment, dilapidation, destruction and reuse, and in particular focussing on ephemeral occupation evidence, such as renovation, camping or squatting rather than just the construction of architectural remains, is crucial to provide information about periods of economic depression or population decrease in the life of a city, when new structures might not be built. Finally, with the critical eye of chronological and narrative experience, syntheses of the rapidly expanding pool of existing archaeological data have the potential to provide overviews of changes taking place across cities, or even in regional zones during the 13th and 14th centuries.

Each site must first be carefully considered individually, with the increasing number of Mongol sites excavated across Eurasia, including the Mongol capitals at Karakorum and Xanadu (Shengdu) (Kiselev, 1965; Bemman, Erdenbar and Pohl, 2010; UNESCO, 2012; Elikhina, 2014; Yang, 2014), palaces (Naumann and Naumann, 1976; Hull, Cerasetti and Leoni, 2001; Huff, 2006) and domestic sites (Akishev, Baipakov and Erzakovich, 1987; Danti, 2004; Laszlovszky, 2012; Iudin, 2017; Teslenko, 2017) provide useful subsequent comparative data. Where relevant, the period under examination may also be considered as broadly as the 12th to 15th century. This will chart longer-term changes at each site, following shifts in focus in other disciplines from the conquest itself to aspects of economic exchange, cultural transmission, statecraft and diplomacy (Biran, 2013b, p. 1024), which has led to consideration of longer-term impact, something which archaeology is well-placed to examine. Using the Arab Conquests, and the close collaboration between historians and archaeologists as an example, this study aims to embed archaeological evidence as a key source in future discussions of Mongol Conquest and its impact, by carefully compiling archaeological evidence and creating an archaeological narrative for each city during the 13th and 14th centuries.

This section has provided the historical background and intellectual basis for a consideration of urban change in the 13th and 14th centuries, situating the three cities under consideration within their broader context. Focussing on historical, anthropological and archaeological evidence, I have highlighted major topics of debate for the Mongol Conquest and its impact,

which archaeological evidence has the potential to address. These include the extent to which historical sources are exaggerated in their accounts of massacre and devastation, the motivation of the conquerors and inability of the cities to resist. In the following chapter I compile and discuss evidence from each of the three cities to better understand urban changes in the 13th and 14th centuries at each one. Based on this information, I formulate a targeted methodology for each site, with specific research objectives to answer outstanding questions about the impact of the Mongol Conquest at each one.

3. Methodology and Reasoning

Methodological Groundings and Practical Considerations

The three sites under consideration were selected for their key role in destruction narratives of the Mongol Conquest, and because archaeological excavation, historical accounts and standing buildings demonstrated continued activity once the cities were under Mongol control. In all cases however the archaeological material for the Mongol period is poorly understood, and a clear, evidence-based archaeological narrative of the 13th and 14th centuries is absent. The reasons for this include various barriers such as problems with dating, comprehension of stratigraphy, lack of spatial data and incoherent archive practice meaning that narratives of life in the cities are often only broadly dated and defined, while earlier work can be difficult to revisit. Varied archaeological research through the 20th century, changing political realities and individual personalities mean that each site had its own research trajectory, which had to be considered to formulate and execute a suitable strategy for investigation of the Mongol Conquest and its aftermath. This section presents and explains the methodology selected to tackle each site by first summarising and contextualising previous archaeological work and identifying barriers to the formulation of a coherent narrative of urban change in the 13th and 14th centuries. I then lay out the specific steps taken to resolve such issues and present a new narrative of this period at each city.

The political changes of the late 20th century and opening up of the region has provided greater opportunity for material comparison and collaboration between Central Asia, Iran and China, which has the potential to transform study of an empire with the scope and scale of that of the Mongols. While providing opportunities, this disjuncture caused profound shifts in administrative, diplomatic, and academic structures as the Soviet Socialist Republics (SSRs) became independent states, with implications for the way archaeological research was carried out, archived, and controlled. In the early 1990s, western scholars arrived to collaborate with, or quasi-replace previous teams of archaeologists at major sites in Central Asia[9], such as the University College London (UCL) team who began a project at Merv in September 1992, less than a year after Turkmenistan's independence (Herrmann, Masson and Kurbansakhatov, 1993, p. 39). Western teams brought new methodologies, technology and interpretive standpoints, but at Merv appear to have been hindered by lack of access to archival resources, with reliance on translators also limiting their ability to fully appreciate the rich and varied published literature from the site. Western-training meant they frequently saw

[9] This trend is important but not comprehensive, at many sites there was continuity with the Almaty-based team continuing to work at Otrar, as well as Russian teams from the Hermitage working at Paykent in Uzbekistan and Panjakent in Tajikistan through the 1990s and 2000s.

Central Asia through the lens of Iran or the Middle East, rather than the complex interaction of local cultures with those of the northern steppe zones and eastern routes to China. The economic problems of the first decades of independence (and often beyond), compounded a decline of archaeological work through the 1980s at both Otrar and Merv, and the quality of work at Barda. Better funding and training now provides opportunities for a new generation of archaeologists, working both independently and with international collaboration.

Significant archaeological research has taken place at all three of the sites from the 19th or early 20th century onwards, and although there are important differences in the methods used at each city, it is useful to highlight some general approaches to archaeological excavation and interpretation within the Soviet Union, and Central Asia in particular. This also helps to illuminate the decision-making processes and methodologies practiced by earlier archaeologists and how these led to archaeological and historical narratives of events at each city. L. S. Klejn's comprehensive account of the trends, schools and history of Soviet archaeology underlines the relative lack of understanding and misinterpretations of the Soviet system by Western scholars. He highlights the linguistic divide which meant that few beyond the Eastern Bloc were exposed to these ideas and evidence during most of the 20th century, despite a widespread understanding of their importance (Klejn, Windle and Ireland, 2012, pp. 4–6). Archaeological research was centralised to an extent under the Soviet Union with major centres in St Petersburg and Moscow, and these constitute Klejn's focus, while he rather dismisses the regional centres (Klejn, Windle and Ireland, 2012, p. 3), even though local archaeologists in Tashkent, Almaty, Baku and Tbilisi led the identification, recording and interpretation of the archaeological sites and monuments in their regions. Excavation was carried out at Otrar by teams based in Almaty and at Merv by archaeologists from both Tashkent and Ashgabat, and although the finest artefacts tended to end up in the Hermitage Museum in St Petersburg, the majority remained in the region, often shared between the local and national museums.

Locating and accessing archives and material culture from these sites is difficult, let alone locating specific material of interest, with access often erratic and dependent on archive personnel or the persuasiveness of local collaborators. Both Merv and Otrar were excavated as part of major archaeological expeditions, Merv by ЮТАКЕ/YuTAKE (South Turkmenistan Comprehensive Archaeological Expedition) and Otrar by ЮКАЕ/YuKAE (South Kazakhstan Archaeological Expedition) and its successors, both of which were set up in the years after the Great Patriotic War (Masson, 1949; Akishev, Baipakov and Erzakovich, 1972, pp. 17–20). The two projects produced extensive publications based on this fieldwork with 19 YuTAKE volumes, including several dedicated entirely to work at Merv, and 3 major monographs, multiple articles and collected volumes

published on Otrar which appeared from the late 1940s until the late 1980s. Although not all the excavations are fully published, with the quantity and quality declining at Merv during the 1980s, where publications exist, they are generally comprehensive and well-illustrated, and remain a very useful source for original stratigraphic and artefact data from these sites. These aid identification of artefacts in museum displays or later published without context, and in many cases provide tables of original data, such as an extensive coin catalogue from Otrar (Akishev, Baipakov and Erzakovich, 1987, pp. 224–251) which can provide useful insights into the methodology and results of the excavations. Barda was not subject to sustained archaeological enquiry, but smaller-scale expeditions were carried out by the Institute of Archaeology and Ethnography (IoAE), Baku in the 1950s and 1980s. Publications of work at Barda and the surrounding area are limited but, in some cases, provide useful data.

The complexity of the work at all three sites, the varied home-locations of its principal staff, and the shifts which occurred during independence mean that material is often spread across several institutions, archives and countries. Material excavated from Merv is alternately in the local museum in Mary, National Museum in Ashgabat and the Hermitage with various objects exported for further study, and currently located in the British Museum and UCL. It seems likely that some material also went to Tashkent, although I have not attempted to locate this. Some YuTAKE maps and written archive have also ended up in UCL, and while it is hard to find many paper records through the official channels in Turkmenistan, individual excavators kept extensive personal archives, such as that of Galina Pugachenkova which is currently being digitised (www.pugachenkova.net). Digitisation of Central Asian archives is rare, with even the location and holdings of many repositories difficult to track down, although the Central Asian Archaeological Landscapes (CAAL) Project based at UCL (2018-23) is leading a Central Asia-wide digitisation project which should make national archives more accessible from the mid-2020s (https://www.ucl.ac.uk/archaeology/research/caal). The importance of Otrar, and the cities of southern Kazakhstan to the country's history, led to the construction of a museum near the site which displays a large selection of material excavated in the oasis. It has further artefacts in its museum store, although they appear to be catalogued by type rather than context or location within the archaeological site, so are of limited use for this study. More usefully, the museum has a small library, which includes recent archive reports, and the main publications from the Soviet era and beyond. Further material is on display in the Central State Museum of Kazakhstan in Almaty and archives in the Institute of Archaeology. As for Barda, the local museum contains substantial material from excavations in the city (as well as some interesting taxidermy), although this too appears to have lost its original context and it is hard to tell whether

these were excavated (likely by Nuriev, 1986; Nuriyev and Babayev, 2001) or chance finds. The National Museum of the History of Azerbaijan in Baku also holds collections from Barda, from excavations in the 1950s (Garnik, 1960) as well as from numerous other sites in Azerbaijan. The archive is wonderfully organised, with artefacts arranged by site, and many have original codes or documentation stored with them, although Garnik's excavation was published so comprehensively that in this case, they are of limited use for reinterpretation. Nuriyev's excavations of the 1980s are more difficult to understand, largely because the publication is somewhat erratic and unclear, so it seems likely that the excavations were similar. Some of the written archive from this work may be stored in the IoAE in Baku but attempts to find these were unsuccessful. It was hoped in particular that records from Nuriyev's research in the 1980s might help locate his excavation areas, as development of the city has removed reference points used to describe their position.

The main issue for historical-scale interpretation of these sites is the exactness and reliability of the dating, a situation which can be split into two factors, the precision of excavation and recording of the archaeological layers, and the accuracy of the method used to date material from them. Excavation methodology at all three sites broadly followed the standard practices across the Soviet Union (Avdusin, 1980), which are not dissimilar to methodologies prominent among western archaeologists at the time. When investigating deeply stratified settlements, especially at the start of the excavations, the YuTAKE and YuKAE team's main aim was to broadly characterise and date the large number of sites[10] in each region, with relatively small teams and resources. As a result, they undertook wide-scale survey and broad-brush excavations to systematically provide approximate dates, and characterise different layers at the site, regularly leading to sections of more than 10m in depth and a mere metre or so wide. Excavators identified and dated 'cultural layers' or 'horizons', removing deposits in horizontal spits which ranged from around half a metre to two metres in thickness, following the deposits and architectural remains encountered. Cut features such as pits and wells were identified and ideally excavated in sequence, and although this does not appear to have happened systematically or to the level normal in present-day single context excavation, larger cuts are noted on several published trench sections (for example Akishev, Baipakov and Erzakovich, 1972, p. 52; Filanovich, 1974, p. 31). Plans were drawn of relevant layers and structures, alongside sections of the trench edges, while levels and coordinates taken on special finds with photographs important in recording both the site and excavated objects (Avdusin, 1980, pp. 167–85). Work proceeded quickly with the help of local labourers supervised by a relatively small number of trained archaeologists, and huge areas were excavated, notably at Otrar where dozens of archaeologists

[10] Both the Merv and Otrar oasis contain hundreds of sites (Ageeva and Patsevich, 1958; Akishev, Baipakov and Erzakovich, 1972; Gubaev;, Koshelenko and Tosi, 1998; Salvatori, Tosi and Cerasetti, 2008; Wordsworth, 2015b)

were deployed each year, resulting in one of the largest excavations in Central Asia. Given the size of the sites, this approach yielded information both about the general landscape, surface features and finds at the sites as well as dating and characterising the buried deposits, while retrieving extensive assemblages of finds. The result of this approach was a high level of understanding of the general foundation and abandonment date of each of these extensive sites, with large-scale survey and excavation providing a characterisation of the architecture and artefacts (for example Masson, 1955; Akishev, Baipakov and Erzakovich, 1972).

Programmes of extensive excavation in the middle decades of the 20th century, including those at Merv and Otrar led to great advances in the overall understanding of medieval urban sites in Central Asia, with several volumes synthesising their architecture, form and function (see for example Pugachenkova, 1958; Belenitskii, Bentovich and Bol'shakov, 1973; Baipakov, 1990). Archaeological remains were generally contextualised within the historical sources, formulating a broad narrative for the occupation, expansion or abandonment of each city. In spite of such syntheses, the formulation of a coherent narrative of urban occupation in the 13th and early 14th century was problematic due to disruption in coin and pottery production, and apparent slowdown in the architectural development and construction of monumental buildings, alongside changing patterns of urban life which left more ephemeral archaeological remains. This has led to a circular problem where the lack of identifiable dating material such as coins and ceramics has led to difficulties in dating and recognising occupation of this period, especially at large urban sites. Mongol-era occupation is generally under-recognised and understudied across the region, although an increasing amount of 13th century Mongol material has been positively identified from excavations (Masson, 1947; Lunina, 1969; Naumann and Naumann, 1976; Akishev, Baipakov and Erzakovich, 1987; Khodzhaniiazov, 1991; Masuya, 1997; Danti, 2004; Elikhina, 2014). However, within the Soviet Union, political changes in the latter part of the century truncated long-running, well-staffed research projects and to some extent, severed the local research expertise built up over decades, meaning that archives and museum collections dispersed, and research projects carried out during the 1980s and 90s often remained unpublished.

To chart the immediate and longer-term impact of the Mongol Conquest on each of the three cities, the first step is to assess the reliability of existing archaeological literature for the period, alongside locating available archival material. As most of this work took place before the dissolution of the Soviet Union, this reassessment benefitted from several further decades of methodological and theoretical development in archaeology and increased historical interest in provincial areas of the Mongol Empire. In particular, excavation methodologies tailored to complex urban sequences (Harris, 1979; Museum of London Archaeology Service, 1994), alongside the use of scientific dating,

have been able to refine chronologies at complex sites (Bayliss and Whittle, 2014), allowing absolute archaeological dating without the need for historical corroboration. Better understanding of material culture, and site formation processes, alongside a transforming historical narrative, with growing suspicions about the reliability of conquest accounts and increased historical interest in Mongol governance, cultural transmission and the empire's continental reach, also help to contextualise the archaeological remains. The primary aim however, remains the collation, collection and interpretation of well-dated archaeological data from each site, using this to formulate a reliable archaeological narrative for urban change in the 13th and 14th centuries.

Strategy at Otrar

Otrar was the first of the three cities to be conquered by the Mongols, but the last to attract the interest of archaeologists (Table 3.1). The site consists of a raised shahristan, a 480m x 520m, walled area consisting of accumulated mudbrick occupation to a height of 15-20m, surrounded by a rabad of further occupation. This area includes industrial and residential areas as well as mausolea and bathhouses, with the whole site covering an area of approximately 150 hectares (Fodde, Sala and Deom, 2013, p. 159). The site is in the fertile plain to the north of the Syr Darya river, irrigated by numerous canals (Toonen *et al.*, 2020) and population estimates range from a historical account of at least 70,000 in the 10th century, to around 5,500 by the 17th (Akishev, Baipakov and Erzakovich, 1981, pp. 189–90). Juvaini claims that at least 60,000 troops had been assembled to defend the city from the Mongols (Juvaini (trans. J. Boyle), 1958, p. 82), and although statistics concerning the size of garrisons and inhabitants are often contradictory (Melville, 2009, pp. 3–4), it seems likely that the defending population numbered in the tens of thousands. Its location within an area rich with urban archaeological sites manifesting as *tobes* or tells meant that even as the largest in the oasis, it failed to attract particular attention as early work (Cherkasov, 1903; Cherkasov and Klare, 1904) found occupation until the 17th or 18th century, and this relatively late site was abandoned in favour of detailed interrogation of earlier settlements (Ageeva and Patsevich, 1958). Serious archaeological study of Otrar itself began in the late 1960s when a team from the Institute of Archaeology in Almaty undertook in-depth excavation at the site, alongside extensive survey of the oasis (Akishev, Baipakov and Erzakovich, 1972), with these forays transforming into one of the largest excavations in Central Asia through the 1970s and 80s. Otrar became the standard urban site of the medieval period in Kazakhstan, with the publication of major volumes on the city from the 13th-18th centuries (Akishev, Baipakov and Erzakovich, 1981, 1987), and capturing the popular imagination with a feature length, Kazakh-language film about the Mongol Conquest of the city, 'The Fall of Otrar' released in 1991.

Year	Researcher	Description	Rigorous/ Systematic	Data Available	Published	Potential for Reinterpretation
1902-04	A.K. Klare & A.A. Cherkasov	There had been previous interest in the site, but this is the earliest published archaeological research. First published plan of the city and profile of the citadel (shahristan). Five trenches dug in the shahristan which found structures made from mud and fired bricks, tandoor ovens and streets, recovering pottery of a wide range of dates, mostly from the 13th century and later.	No	Some in publication (Cherkasov, 1903; Cherkasov & Klare, 1904)	Yes	Limited as findings superseded by later work
1946-51	A.N. Bernshtam, G.I. Patsevich, E.I. Ageeva	Part of the ЮКАЕ/YuKAE [South Kazakhstan Archaeology Expedition], a multi-disciplinary team led by Bernshtam who mapped and excavated across Southern Kazakhstan, with an interest in a wide variety of sites in the Otrar oasis. Initial formulation of a ceramic sequence and production centres were carried out from material recovered during this work by Ageeva. YuKAE's activities considered the Otrar oasis as a whole, with excavations at several sites as well as Otrar tobe (the main mound or 'tell' at the site), and the major publication which followed was the first to bring together the historical and archaeological evidence for settlement of the oasis.	Yes- for its time	Plans and other data in (Ageeva and Patsevich, 1958)	Yes	Limited- much of the work is very broad and refined by later excavation
1966-70	K.A. Akishev, L.B. Erzakovich, K.M. Baipakov	Large scale project focussing on survey and small-scale excavation in Semirechye region and Otrar Oasis. Comprehensive theodolite survey of Otrar Oasis and Otrar tobe in 1969, identifying and mapping sites across the oasis (building on the work of Bernshtam's team). At Otrar tobe,	Yes	Yes, in Akishev, Baipakov and Erzakovich (1972, pp. 51-122) and material remains in Otrar museum	Yes	Good- several stratigraphic sections, plans and drawn pottery published with description of

		several excavations were carried out: one in the shahristan and three in the surrounding rabad area. The most extensive of the four excavations straddled the city's defensive wall on the north-western edge of the shahristan, reaching more than 20m in depth and reportedly spanning deposits from the 4th/5th-18th century AD (Akishev, Baipakov & Erzakovich, 1972, p. 81). The three rabad trenches showed 3-4m of occupation deposits, mostly dating to the 10th-14th century.		and re-examined in later publications		context. Dating of various layers and artefacts might benefit from reassessment
1970s-80s	K.A. Akishev, L.B. Erzakovich, K.M. Baipakov	The most extensive excavations of Otrar tobe, five large trenches on the main mound and six in the surrounding rabad. This work produced a comprehensive narrative of Otrar from the 12th-18th century, using evidence collected during this massive project. On the shahristan, large excavations of residential neighbourhoods dating from the 12th-18th century were published alongside monumental structures such as the large congregational mosque, bath houses and industrial areas in the rabad. Further ceramic analysis was carried out, cementing the local pottery chronology for southern Kazakhstan, based on the stratigraphy from this site (see Akishev, Baipakov and Erzakovich, 1981, 1987).	Yes- mostly	Yes, in Akishev, Baipakov and Erzakovich (1981, 1987) and some still present in archives in Otrar and Almaty, although original archiving/ context often lost.	Yes	Good- especially plans of architectural remains and catalogues of excavated material- but no sections and in some cases dating remains problematic

Post 1991	K.M. Baipakov, E.A. Smagulov and others	Continued excavation, especially around the southern wall and gate. First significant study of defences (Akylbek, 2013) and continued analysis of pottery production areas (Qozhaev, 1996). Focus turns towards public presentation and heritage value. Sites of the Otrar Oasis added to tentative UNESCO WH list in 1998 and conservation work begins. Congregational mosque and bathhouse restored with the later gaining a protective roof; southern gate is re-constructed and visitor walkways and signage are placed in the site (2010s). Excavation continues, with articles published in national and international volumes, but no further large scale, original monographs have yet been published.	Unclear as most recent excavation not yet published. Similar methodology to previous excavations.	Yes, grey literature reports filed with Ministry. Excavated objects harder to track down as go to several regional and national museums. Some published data.	Yes- mostly articles rather than monographs. Re-publication of earlier material, sometimes with altered dates and without original context.	Some- new data is published, although re-publication of earlier material often ignores its context and confuses chronology

Table 3.1 Summary of archaeological work at Otrar

Archaeological research has continued at the site since independence, with volumes published in Russian, Kazakh and English, and the sites of the Otrar oasis added to the UNESCO World Heritage tentative list in 1998 (Kazakhstan Institute of Archaeology, 1998). Much of the recent excavation remains unpublished, or has been published piecemeal, often in local journals and volumes, while somewhat derivative longer publications have also appeared, which revisit earlier work, sometimes in a confusing and contradictory manner. This is exemplified by a camel-shaped vessel/incense burner excavated in layers dated to approximately the 12th century in 1970 (Akishev, Baipakov and Erzakovich, 1972, pp. 71–2, 77) which is published as such in a compilation of pottery in 1991 (Baipakov and Erzakovich, 1991, pp. 84–5). However, it is subsequently redated to the 9th-10th century, apparently without any further discussion (Baipakov and Aldabergenov, 2005, pp. 122–23) and then reconsidered in a section of an article on incense burners of the 5th-10th centuries, citing the original excavation report, but without discussing the date (Smagulov, 2013, p. 90). This is not the only example of such date changes, though of course it is normal to adjust the dating of material culture when new finds come to light. However, it does indicate the need to revisit dating of both stratigraphy and ceramics at Otrar, demonstrating that in some cases at least, ceramic chronologies are based on stylistic considerations without consideration of context. Such chronological shifts have implications for the dating of the archaeological stratigraphy and surface survey at Otrar and beyond, and it is therefore important to fully understand the basis of their attributed dates.

The narrative of Otrar's devastation by the Mongols derived in part from historical descriptions which suggest the city was roundly destroyed (Juvaini (trans. J. Boyle), 1958, pp. 82–85) and archaeological evidence showing abandonment of residential areas, fire-damaged houses, and the burial of coin hoards, which were dated to the period of the Mongol Conquest (Akishev, Baipakov and Erzakovich, 1987, pp. 15–30). Apparently Otrar recovered quickly, with extensive occupation in the 14th and 15th centuries and new, monumental structures dated from the late 13th century onwards, such as a bathhouse, mausoleum and (late 14th/ early 15th century) congregational mosque (Akishev, Baipakov and Erzakovich, 1987, pp. 103–126). While the excavators were fairly confident in dating archaeological horizons in the relatively less-occupied and less complex archaeology of the lower rabad area, they struggled in the dense stratigraphy of the raised shahristan, especially in the abandonment period, when it was not possible to follow architectural phases. Dating was primarily indicated from coin data, where numerous coin finds (Akishev, Baipakov and Erzakovich, 1987, pp. 224–251) were able to provide a useful chronology during the excavation but uncertainties surrounding exact findspots hampered the dating of abandonment layers. These issues meant that the abandonment at Otrar was interpreted as beginning when the Mongols took the city in 1219-20, but dating the hiatus in occupation before the city recovered was more difficult, with the

abandonment assumed to last until the apparent revival of the late 13th century. Several metres of 13th-18th century occupation overlie the pre-Mongol city, and so only a few areas have been excavated to the relevant depth, meaning that further investigation of the Mongol abandonment phase was problematic without significant further excavation work to remove later phases.

The strategy for Otrar (Figure 3.1) focussed on revisiting relevant excavation areas to better understand and re-date deposits previously interpreted as 13th-14th century, with the principal aim of investigating the character of the abandonment phase at the city and applying scientific dating to work out how long it lasted. Firstly, I identified relevant excavation areas within the city, and only one, the largest was safe to work in. I then overlaid the plan of the pre-Mongol layout of the city published by the original excavators (Akishev, Baipakov and Erzakovich, 1987, p. 36) on an orthophoto of the trench[11] in order to ensure the selected location matched with the previous excavation area of the 1970s and 80s, and so was the original basis of the abandonment narrative. An ongoing Kazakh excavation on the northern tip of the shahristan had also reached deposits thought to be Mongol period and local colleagues allowed the recording and collection of material for radiocarbon dating from this trench too. In both cases, I cut back the trench edges to reveal archaeological layers and recorded the section, with collecting pottery by context, and taking samples for radiocarbon dating. After careful cleaning of three profiles within the old excavation area, I made further detailed scale-drawings, to show both pre and post- Mongol phases of architecture and the abandonment deposits between. Few section drawings from Otrar have been previously published, and those which have appeared (such as Akishev, Baipakov and Erzakovich, 1972, pp. 45–46, 85) did not have the detail to indicate individual archaeological events, showing only occupation horizons, which often constitute a metre of material. I recorded a further two sections in the newer excavations, targeting sequences of burnt buildings. These sections showed a more detailed narrative of events at the site, including activities during the abandonment and extensive evidence of non-architectural occupation. I collected charred organic material directly from burnt roof remains, as well as via soil samples which I then floated in the field to collect further charred remains. I digitised and interpreted the hand-drawn sections to formulate a descriptive narrative for each, and exported the archaeobotanical remains, which were sorted and identified for radiocarbon dating.[12] Pottery from the site, which was studied and recorded in the field was contextualised within the wider corpus of material in the region to provide a rough date for each phase of occupation.

[11] Created from photographs which Gai Jorayev of UCL took of the trench in 2018 and the model he subsequently created in Structure from Motion (SfM) software AgiSoft Metashape.
[12] Carried out by Liz Stroud, University of Oxford.

Otrar

Current narrative and basis
Besieged and conquered by the Mongols 1219-20 which resulted in extensive destruction of the citadel and defences, enslavement and murder of the population. Archaeological excavation in the 1970s and 80s indicated widespread abandonment of residential areas in the shahristan, interpreted by the excavators as dating to the decades immediately after the Mongol Conquest.

Issues and gaps in data
Abandonment phase, which consists of up to 2m of deposits, is not well understood due to lack of careful excavation of non-architectural layers. It is highly possible that ephemeral evidence or 'squatter style' activity may be taking place in this period but this has not been recorded.
Dating is problematic, unclear how long the abandonment lasts.
Complex issues since independence mean that many of the post-1991 publications are derivative, confusing and hard to find (happily this has been changing over the last decade).
Difficult to methodologically recreate excavation and dating strategy which has implications for reinterpretation.

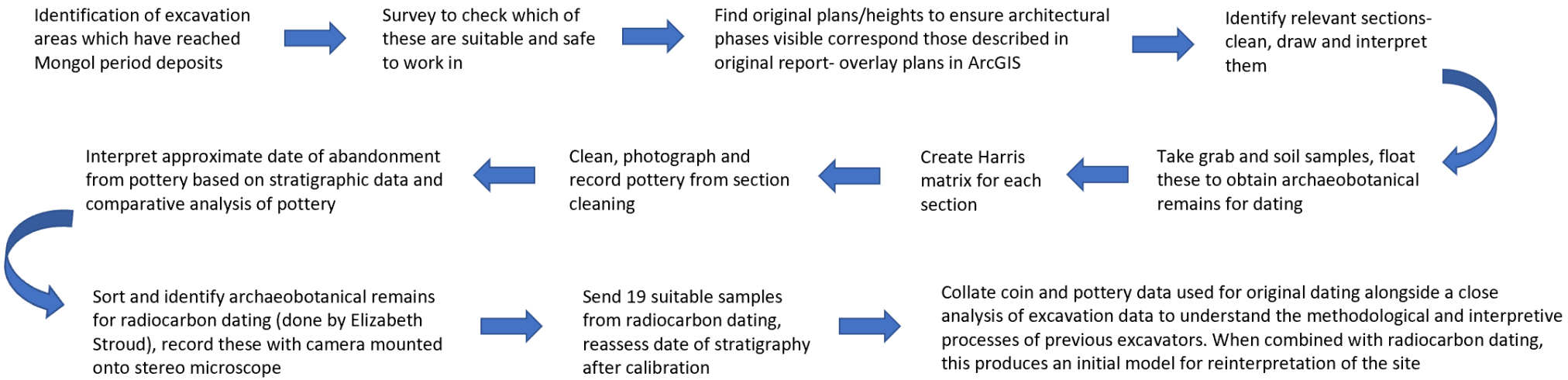

Figure 3.1 Workflow at Otrar

Strategy at Barda

Barda is the least studied of the three cities and the only one which is overlain by a modern settlement, making it hard to discern the extent and character of the ancient site. Historical accounts of its importance in the mid-1st millennium AD and the activities of the Rus in the area in 943 AD (Ibn Hawqal, (trans. Kramers and Wiet, 2001, p. 322), led to scholarly visits to the city, but initial interest centred on the later, Ilkhanid tomb tower, and most early visitors seem to have been disappointed by the site (Dorn, 1875, pp. 475–76; Tsilossani, 1882, pp. 496–97). Despite this 19th century activity, Barda has not enjoyed the same level of archaeological interest as Merv and Otrar through the 20th (Table 3.2) and is little mentioned in the Mongol Conquest and subsequent historical narratives, with only vague and somewhat formulaic descriptions, despite the clear evidence of Mongol period occupation in the city. With the exception of small scale archaeological work, which took place alongside architectural conservation in the mid-20th century (Garnik, 1960), Barda has not been served well by archaeological research with major excavations remaining almost entirely unpublished (Tsilossani, 1882) or producing publications where the work is poorly located and the data and interpretation incoherent (Nuriev, 1986; Nuriyev and Babayev, 2001). As a result, the narrative of the Mongol Conquest in Barda relies on historical accounts, and to some extent has been equated with other cities in the region, for which clearer historical narratives and more archaeological data exists. Broadly, the city was assumed to have been severely affected, if not completely destroyed by the activities of Jalal al-Din and the Mongols in the 1220s and 30s, despite the lack of specific mention of such events in the historical sources.

The ancient site itself is somewhat enigmatic, and the medieval city's extent is unknown because of lack of research and modern occupation obscuring earlier remains, although these were apparently visible and extensive in the 1880s (Tsilossani, 1882, p. 495). The city sits on a fertile plain, near the foothills of the Lesser Caucasus and the strategic routeway of the Kura river valley, which flows from Turkey through Georgia and Tbilisi, from where it heads south-eastwards, draining into the Caspian Sea in north-western Iran. Barda was a capital of Caucasian Albania, a mysterious state (Hoyland, 2020) which was incorporated into the Caliphate from the 640s as Arab armies arrived in the area. It appears to have survived as a regional and administrative centre for a century or more, but by the 10th century historical commentators talk of its decline and a shift of the capital to Ganja, some 70km to the northwest of Barda (Wordsworth, 2018a, pp. 146–47). From then, Barda is little mentioned in the historical sources, leading to the assumption that the city was largely abandoned until the construction of the tomb tower in 1322, although archaeological work is beginning to demonstrate a more complex story than the sources suggest.

Year	Researcher	Description	Rigorous/ Systematic	Data Available	Published	Potential for Reinterpretation
1848	N. M. de Khanikoff	Description of tomb tower and surrounds, transcription and translation (to French) of inscriptions on tomb tower. Important as by 1861 some of this was no longer legible and the current tower (2019) has been renovated.	Seems to be, although hard to check- deterioration of monument	Yes- in publication (de Khanikoff, 1862) and on tower	Yes	Some- although the main inscribed tiles no longer on tower
1861	B. Dorn	Description of Barda tomb tower, the surrounding settlement and detail of the nearby imamzadeh and a second tomb tower. First published image of the tower.	N/A travelogue	Limited beyond image of tower	Yes	Limited
1881	N. Tsilossani	First 'formal' archaeological excavations at Barda. Georgian archaeologist Tsilossani excavated 14 trenches across the ruined city and apparently made a map of Barda and the location of these excavations, but this does not appear to survive.	Unknown (unpublished)	No	No -except 3 page summary of lecture (Tsilossani, 1882)	Limited unless archival material survives (which is unlikely)
1920s	V. Sysoev	First published photographs of Barda's architectural remains. Further description of town and initial stabilisation/ conservation of tomb tower, but no systematic study or recording of the architecture or archaeological remains.	No	No	Yes	Limited
1930s-50s	V. Garnik, A Salamzade, N. Sarkisov and others	Archaeological work and architectural examination carried out as part of planned conservation project. Small trench excavated to the north of the tower, in the park which now surrounds it, to reveal the entrance to the crypt and investigate the surrounding deposits (Garnik, 1960). Architectural plans and profiles were drawn of the tomb tower (Salamzade, 1960), and the crypt of a nearby collapsed tower was also recorded (Sarkisov, 1960). Tower restored, including the construction of a concrete roof to protect the structure.	Yes	Yes- from publications and excavated objects stored in the National Museum of the History of Azerbaijan	Yes	Good

1980s	A. Nuriyev	Large open area excavation in Central Barda, further survey and smaller scale excavation around the city. In the centre of town he found brick-built courtyard houses and ceramic material dating from the 9th-14th centuries (Nuriev, 1986). Location of this excavation is not clear, but it seems likely to be under a music school on the current Nizami Ganjavi street in Central Barda. Further finds included a caravanserai, church and extensive material culture (Nuriyev and Babayev, 2001) but although the publication includes various drawings and photographs, the lack of location data and somewhat incoherent narrative mean that it is difficult to understand what exactly these excavations uncovered.	No	Some in publication, archive material may be in IoAE, Baku but these have not been located	Some	Limited

Table 3.2 Summary of archaeological work at Barda

The strategy at Barda (Figure 3.2) therefore required extensive excavation to formulate a basic archaeological narrative for the city, as neither historical or archaeological work had managed to provide much detail on the fate of the town between the 12th and 14th centuries. Potential for survey was limited due to the spread of the modern city, and there were few places where excavation could be carried out, but a small trench next to the tomb tower had already indicated the presence of brick structures a metre or so below the current park surface, and contained coins and pottery of the 12th-14th century (Garnik, 1960). A large scale, detailed excavation was therefore the best way to securely date occupation in this area and characterise changes over the period of interest. I excavated three trenches as part of the AEB project, one against the mudbrick enclosure wall which surrounds the tomb tower, and two within the central part of the park[13]. Alongside these, a programme of survey was carried out by Paul Wordsworth, Cordelia Hall and test-pitting by Aslan Qasimov[14] which provided further detail of the extent and character of later occupation within the city. The main aim of this excavation was to contextualise the construction of the tomb tower, as well as to generally assess the economic situation in Barda from the 12th-14th century by looking at the style of occupation and material culture. As in Otrar, soil samples were taken from throughout the sequence, then floated, sorted and analysed by Elshan Salayev and David Stone, and were radiocarbon dated, with samples selected based on stratigraphic phases within each trench.

Each trench was carefully dug using the single context system (Museum of London Archaeology Service, 1994) for both excavation and recording, with artefacts and environmental samples tied to specific contexts. I created a Harris matrix for each trench, splitting deposits into phases based on occupation horizons, with each phase dated to a relatively short timeframe using basic Bayesian modelling[15] based on radiocarbon dates, pottery and coin finds within the sequence. This carefully excavated and dated sequence also provides a rare opportunity to assess pottery chronologies for the region, which often form the basis of dating for archaeological sites and so the potential to reassess further archaeological sites based on revised pottery dates.

[13] The first was begun by the author and completed by Davit Naskidashvili of Tbilisi State University, with Paul Wordsworth of Oxford University and David Stone of University College Dublin also taking charge at various points. The other two were excavated by the author with substantial help from local workmen, students from Baku State, Oxford and Cornell Universities and the AEB team.
[14] Of Oxford and Baku State University respectively.
[15] Carried out by Maciej Wencel of Oxford University

Barda

Current narrative and basis

Mongols first arrived in the Caucasus in 1220 and looted cities, which were then sacked by displaced Khwarazmshah Jalal al-Din in the 1220s. Further Mongol conquests from the 1230s led to their consolidation of power in the Ilkhanate, where Barda was close to their centre of power in NW Iran. Beyond the tower dated to 1322, there is limited archaeological narrative of the 12th-14th century at Barda.

Issues and gaps in data

Unclear whether modern city overlies the remains of substantial historically-attested settlement of ancient Barda.
Previous excavation has not been dated specifically enough to feed into a narrative of the 12th-14th centuries, although it seems likely that phases of this date have been excavated.
Unclear how the Mongol-era tomb tower fits into the rest of the city.
Limited systematic survey or excavation work at Barda has been published, meaning that there is no reliable archaeological narrative of the city's fortunes in the Medieval period.
Archival material is hard to access or of limited use.

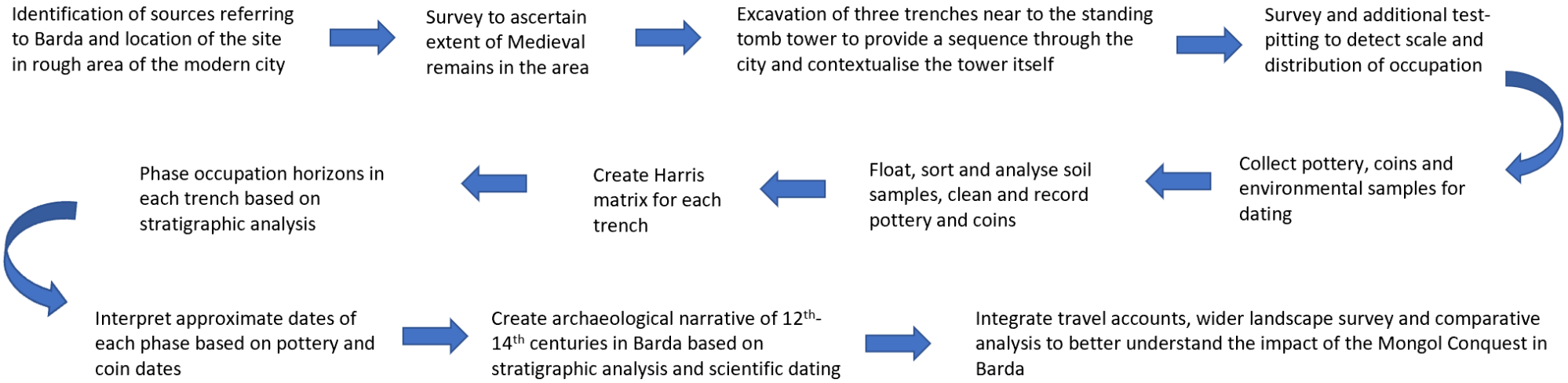

Figure 3.2 Workflow at Barda

Strategy at Merv

Merv was the largest and most important of the three cities when the Mongols arrived in the region and has attracted the most archaeological attention (Table 3.3), as well as the dubious distinction of particularly vivid historical descriptions of the city's brutal fate during its conquest by the Mongols. The epic scale of abandonment at the site today, alongside Zhukovskii's thorough and detailed treatment of Merv from a historical, topographic and architectural standpoint, led to the assumption of abandonment or at least severe population decrease of the pre-Mongol city (Zhukovskii, 1894). The archaeological site actually consists of five cities with the two earliest, Erk and Gyaur Kala founded by around the 6th and 3rd centuries BC respectively and largely abandoned by the time of the Mongol Conquest in 1221. The largest, Sultan Kala began as a westward expansion around the 8th century and was walled in the 11th, reaching its greatest extent in the 12th, with a reasonable estimate for a population of around 200,000 (Chandler, 1987, p. 337; Herrmann, 1999, pp. 16–17). Merv is likely the largest archaeological site in Central Asia, covering more than 1200 hectares (Herrmann, 1999, p. 14), with the Mongols faced by the 550 hectare walled city of Sultan Kala which sat within an extensive hinterland of further activity and occupation (Williams, 2007, p. 45). This enormous, apparently flourishing city's abandonment in favour of a new, much smaller city, Abdullah Khan Kala in the early 15th century physically demonstrates the decline of this period and has been used to underline the dramatic impact of the Mongol Conquest at Merv.

Early travellers noted the scale of the abandoned city, but reported extensive activity within the ruins as it lay on the main Mashhad to Bukhara trade route (O'Donovan, 1882, pp. 245–55), with some even doubting the accounts of Mongol slaughter at the city (Fraser, 1825, p. 56). Archaeological work began almost as soon as the Russians annexed the oasis in 1884, but focussed on the earlier cities of Erk and Gyaur Kala which were already largely abandoned by the Mongol Conquest. As at Barda, conservation work was undertaken on standing medieval monuments, entailing a certain amount of archaeological excavation, which does not appear to have been published. This is relatively unusual for the period of Soviet administration, under which large archaeological teams were deployed leading to extensive and important publications. From the 1980s however, Merv has at times suffered unpublished or incoherent excavations. This situation is exacerbated by the number of research teams involved, from St Petersburg, London, Konya, Tashkent and Ashgabat, which has led to a broad range of excavation and interpretive methodologies and similarly wide distribution of archives and publications.

Year	Researcher	Description	Rigorous/ Systematic	Data Available	Published	Potential for Reinterpretation
1820s-80s	J.B. Fraser, H.C. Rawlinson, E. O'Donovan, A.V. Komarov and others	Variety of descriptive accounts including from traveller/artist (Fraser, 1825) who summarises the ancient and recent history of the city, imperial agents who were surveying the roads, watercourses and other practical information in the area (Rawlinson, 1879) and the Irish journalist O'Donovan who published a (fairly inaccurate) plan of the ruined cities (O'Donovan, 1882). Komarov, installed as Russian governor after the capture of the oasis in 1884, undertook some survey and excavation work (mainly on the two earlier towns of Erk Kala and Gyaur Kala), which was published in a local newspaper.	No	No- but observations of activities in the ruined city and information on its history (particularly later history) are useful	Yes	Limited, but provides useful context
1890	V.A. Zhukovskii	Major synthesis of historical literature and study of archaeological and architectural remains. Very comprehensive and unique for such a site at the time. Zhukovskii compiled historical sources for the city from the time of Alexander to the 19th century, alongside a plan of the site, photographs and descriptions of the surviving monuments and architecture.	Yes	Yes, several photos and useful compilation of historical sources	Yes (Zhukovskii, 1894)	Potential for contextualisation and good record of standing remains, but no relevant excavation data
1903-4	R. Pumpelly, H. Schmidt	Large excavations in Erk Kala and Gyaur Kala- 4 trenches and 7 shafts, majority of the material recovered was pre-Islamic but coins dating to as late as the 18th century indicate continued activity in the earlier cities at Merv.	Yes- for the period (Schmidt trained at Troy)	Some published data in (Schmidt, 1908)	Yes	Limited use for this project as focusses on earlier cities
1937	N.M. Bachinskii and others (?)	Conservation of Sultan Sanjar's mausoleum and excavation carried out around the building, apparently showing a mosque adjoined it to the east (Pugachenkova, 1958, pp. 315–6) but I was not able to find any original publication of this.	Unclear	Unclear- likely incorporated into later work	Some at least (cited by Pugachenkova), but unable to locate them	No

1947-1970s	M.E. Masson, G.A. Pugachenkova, S.B. Lunina, Z. Al'khamova and others	Large, multi-disciplinary project to survey and excavate archaeological sites in southern Turkmenistan ЮТАКЕ/YuTAKE [South Turkmenistan Comprehensive Archaeological Expedition] was launched in the late 1940s and carried on (in various forms until the 1990s), although the main phase lasted from the 40s-early 70s. Surface survey showed the spread and rough date of occupation across the ancient cities at Merv (Al'khamova, 1953), while extensive excavation within the potters quarter to the west of the city provided significant material for the compilation of ceramic chronologies for the site (Lunina, 1962). Excavation throughout the medieval city and its suburbs produced a useful summary of stratigraphy across Sultan Kala (Lunina, 1969) and architecture (Pugachenkova, 1958). The work was undertaken by teams who worked across Turkmenistan and in many cases across Central Asia, meaning they had a very good understanding of material culture across the region. Excavation methodologies were of their time, but systematic and thorough and the 19 volumes of the Proceedings of YuTAKE series of publications which appeared before independence (of which several are dedicated entirely to Merv) remain the main publications on the site, and show the extent and ambition of this project.	Mostly- although a major issue is that the excavation areas in Sultan Sanjar are poorly located, as there is no published basemap of YuTAKE work in this city.	Yes- in publications, although the archival material is dispersed over a variety of countries from Uzbekistan and Turkmenistan to the UK. Finds are generally in the local capital Mary, Ashgabat or St Petersburg, but appear often to have lost their context information.	Yes- extensive publications, predominantly in the 'Proceedings of YuTAKE' volumes.	Yes, although lack of location of excavations and dispersed archives mean this can be problematic.

1980s-90s	T. Khodjaniyasov, A Annaev, V.M. Masson and others	YuTAKE continued in name, but by the 80s the level and variety of the work is in decline, likely due to the retirement of original team members and broader funding problems within the Soviet Union. Excavation continued with Khodjaniyasov launching a project to understand the Mongol period of Merv. He excavated fifty trenches across the city and conducted a large excavation at the northern (Kushmeihan) gate of Sultan Sanjar where he found a bath house. Only a handful of 2-3 page articles appear to have been published (Khodzhaniiazov, 1990, 1991; Khodjaniyasov, 2000). Occasional reports on material culture also appeared (Khodzhaniyazov and Treadwell, 1998). Excavations were undertaken by Annaev at the Kyz Bibi mausoleum (western suburb of Merv) in the mid-1990s and are not published but mentioned by Herrmann (Herrmann, Kurbansakhatov and Simpson, 1996, pp. 4, 19), with her team also helping to record and photograph some of the finds. Loginov and Khodjaniyasov also excavated the western gate into the city (Brun and Annaev, 1998, p. 69) but this excavation is also not published.	Unclear but likely not	Very little beyond a few 2-3 page summaries, some brief mentions of this work by Herrmann *et al* in interim reports. No drawings or available archive.	Very little	Limited- although there is some opportunity for further work as many of these trenches remain open. Location and findings from almost all of this work is unclear.
1980s-90s?	?	Excavation/ bulldozing of large areas to the north, south and west of Sultan Sanjar's mausoleum in the centre of the medieval city, apparently exposing remains for display purposes and possibly facilitating conservation works.	No	Apparently not	Apparently not	No

1990s-present	G. Herrmann, K. Kurbansakhatov, St J. Simpson, T. Williams and others	Collaboration between Turkmen YuTAKE archaeologists and a team from University College London began in 1992. Survey of the city and its defences took place throughout the 90s, with a large excavation in the medieval citadel (Shahriyar Ark) remains largely unpublished, beyond the somewhat conflicting interim reports (Petersen, 1997; Wicke and Simpson, 2000; Hull, Cerasetti and Leoni, 2001). Study of industrial areas and the ceramics were also carried out, but these are also not yet published beyond interim reports. A comprehensive architectural survey of the city and surrounding oasis resulted in a monograph on the mudbrick architecture (Herrmann, 1999). From around 2000, after Merv became a UNESCO world heritage site, the focus of work shifted slightly from archaeological research to a combined documentation and conservation approach (Williams, 2012) with an emphasis on recording previous work and stabilising mudbrick architecture rather than extensive new excavation.	Yes	Some in interim reports. Inaccessible archive and some objects in British Museum from Shahriyar Ark excavations. Various data, drawing and reports (including some from YuTAKE) at UCL. Online archive (Williams and van der Linde, 2008)	Interim reports published yearly to 2002 in Iran journal, monograph on architecture (Herrmann, 1999)	Some- although data is scattered across multiple countries and institutions.
2014	O. Eravşar	Extensive excavation around Sultan Sanjar carried out by Selçuk University, Konya in order to find the grave of Alp Arslan. Excavations appear only to have lasted one season, but are the most extensive in Merv for decades and have uncovered several phases of mudbrick architecture, ceramics and decorative architectural material.	Unclear	Unpublished interim report (Eravşar, 2015)	No	Unclear

Table 3.3 Summary of archaeological work at Merv

Extensive archaeological work began at Merv in the late 1940s, intensifying through the 1950s and 60s as the YuTAKE team shifted their focus from Nisa[16] to Merv as their primary site of interest. Although the excavators were also interested in earlier occupation at Merv, they were the first to treat the medieval city of Sultan Kala as an archaeological site in its own right, rather than merely an aid for historians (Al'khamova, 1953; Masson, 1955; Lunina, 1958, 1969). Within a few years, the team had located extensive material culture and occupation dating to the 13th and 14th century in and around Sultan Kala. This included a blue and white glazed inscription bearing the date 678 AH (1279/80) (Masson, 1955, p. 220), evidence of occupation based on the well-dated, Mongol-period sultanabad wares throughout the city (Masson, 1955, pp. 219–20) and a distinctive building in the Mongol style (Pugachenkova, 1954). Evidence of dramatic abandonment of both domestic and commercial premises was reported around the time of the Mongol Conquest (Lunina, 1962, p. 370; 1969, pp. 122-29) and the team suggested that the Mongol desolation lasted until around 1250, with a gradual cultural renaissance in the 14th century until Merv fell under the rule of Timur around 1380 (Masson, 1955, p. 219).

YuTAKE's work at Merv was pioneering and among the finest of its time in Central Asia, as well as a major project of the Central Asian archaeological school which centred around Masson's department in Tashkent (Masson, 1966). As a result, a generation of archaeologists were trained at Merv in scientific research techniques, and would become the pre-eminent archaeologists in the region. The Mongol period at Merv was well-served by their systematic and rapid excavation methodology, as these late period remains were generally near the surface, large areas across the site could be quickly exposed, in contrast to the Mongol era occupation sealed by thick occupation deposits and complex stratigraphy at Otrar. Growing expertise among the excavators, relatively simple stratigraphy and clear dating material such as inscriptions and coins, alongside a growing understanding of ceramic chronologies (aided by extensive work on Timurid period sites in Uzbekistan) means that the work of the YuTAKE team through the 1950s, 60s and early 70s is generally the most informative, reliable and comprehensive of all the archaeological research at Merv. High-quality excavation work was enhanced by the prodigious number and variety of publications of the time, mostly organised through the YuTAKE programme. However, there are a few important issues with this work, which mean that it cannot be treated as a comprehensive archaeological narrative of the Mongol Conquest and its impact. Firstly, no overall or individual location maps appear to have been published of the excavation areas in Sultan Kala, with trenches often described in relation to other features rather than plotted or drawn (Lunina, 1969, pp. 114, 132; Khodzhaniiazov, 1991), so the spatial range of Mongol activity is hard to understand and

[16] A Parthian- Timurid period site near Ashgabat

contextualising individual excavations is also problematic. The overall chronological basis of the work is difficult to confirm because few photographs or drawings of the finds used to date stratigraphy are published, while museum archives have suffered from the re-organisations which accompany political change, and little of the material recovered from these extensive excavations can be reliably located or consulted today.

From the 1980s, the standard and variety of archaeological publications on Merv were in decline, but the most ambitious programme to clarify Mongol occupation at the city was launched at the start of the decade. Ashgabat-based archaeologist T. Khodjaniyasov excavated 50 test pits across the city to characterise and better understand Mongol era Merv, but appears to have produced only a three-page summary of the work (Khodzhaniiazov, 1991). Further excavations by A. Annaev revealed a mosque and a large amount of later material at the Kyz Bibi mausoleum which also remains unpublished, while a major excavation by a team from UCL and the British Museum, who began work at the site in the 1990s, has only been written-up in a series of slightly contradictory interim reports[17] (Petersen, 1997; Wicke and Simpson, 2000; Hull, Cerasetti and Leoni, 2001), while studies on exported Mongol era ceramics undertaken by the British museum remain uncontextualized as technical reports (Joyner, 2001), and it is unclear whether there are plans to publish further. Merv became a UNESCO world heritage site in 1999 (Ministry of Culture Turkmenistan, 1998) and work focussed on conservation and compiling documentation (Williams, 2012) with some opportunity to revisit the Mongol period through the cleaning, recording and partial re-excavation of some of the unrecorded and unpublished trenches. Much of this work has not yet been published (but is in an advanced state of preparation), and precise dating of the layers has been hampered by the lack of a revised pottery chronology. Perhaps the best opportunity to understand the fate of Sultan Kala in the 13th and 14th century, came in 2014 with a large Turkish-Turkmen excavation initiated to locate the grave of Alp Arslan, resulting in the excavation of several hundred square metres to the north, south and west of Sultan Sanjar's mausoleum in the centre of the city. The interim report shows many metres of urban stratigraphy, consisting of several phases of late occupation including monumental buildings (Eravşar, 2015), although the grave of Alp Arslan was unfortunately not located and it remains to be seen whether the rest of the excavation will be published.

[17] The paper archive for this appears to be un-accessioned but within the British Museum, where multiple attempts to access this were unsuccessful. Photographs of major finds from the excavations are held by Tim Williams of UCL and although useful for broad dating, would be more instructive when combined with the contextual information.

Merv

Current narrative and basis

Historical accounts say city was conquered by the Mongols 1221, resulting in mass murder of the population, destruction and looting, with many inhabitants fleeing before the Mongols arrived. New, much smaller city built in 1409 for the remaining population. Archaeological excavation from the late 1940s showed continued occupation in Sultan Kala through the 13th and 14th centuries and even Mongol structures in the south of the city.

Issues and gaps in data

Few of the reported Mongol era remains have an exact location on the site, and many can only be located vaguely.
No synthesis or spatial overview of Mongol era occupation has been produced for Merv, making it hard to chart the extent and location of activity in the 13th-14th century.
Significant amount of unpublished excavations mean that recent work has tried to analyse and synthesis provisional data.
Locating and accessing data from previous excavations is difficult, meaning it can be hard to interrogate unpublished research, and revisit published excavations.

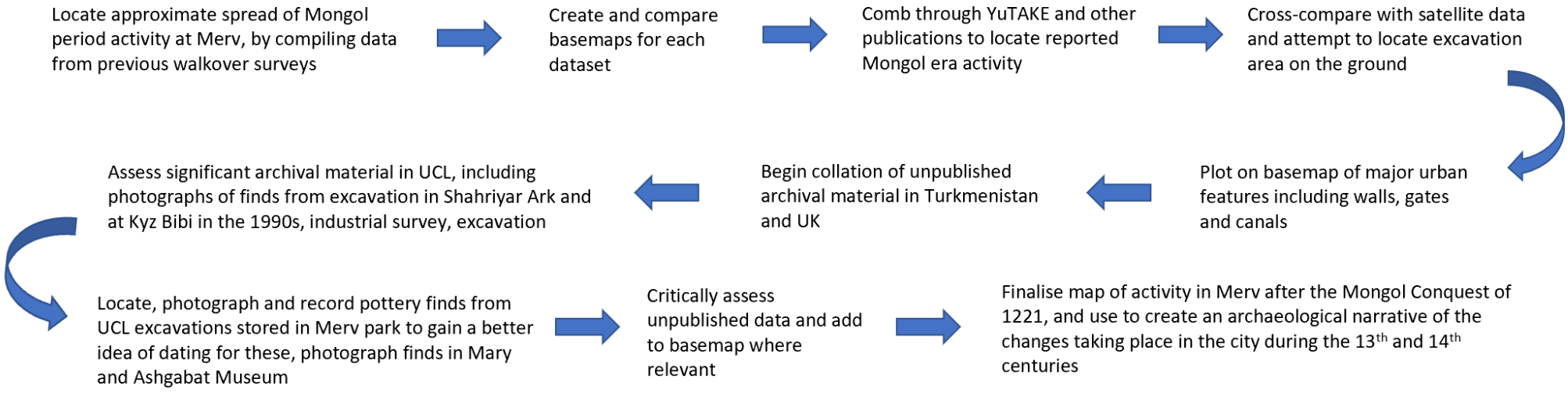

Figure 3.3 Workflow at Merv

The complexity and scale of archaeological research undertaken at Merv provides both opportunities and challenges to understanding the impact of the Mongol Conquest at the city. Recent overviews of Merv tend to dedicate barely a paragraph to the period (Herrmann, 1997, pp. 29–33, 1999, p. 18), and vague assertions of extensive Mongol occupation are rarely evidenced with material or references, a situation which is likely due to the high number of unpublished excavations at the site. Yet Merv provides an almost unique opportunity to investigate on a large scale archaeological evidence for the Mongol Conquest itself and changing patterns of urban life in the 13th and 14th centuries, due to its abandonment in the early 15th. The strategy at Merv (Figure 3.3) therefore was to compile and critically assess published evidence dated to the 13th-14th centuries, alongside accessing, analysing and collating as much unpublished archival material as possible, to create a composite map of reported Mongol era occupation across the city and formulate a strongly evidence-based narrative for the city based on archaeological data.

On a practical level, I first located the general spread of Mongol era material as collected from the surface of the site, with Tim Williams of UCL kindly providing the Ancient Merv Project's (AMP) GIS database which included data from a walkover survey carried out by the team in the early 2000s, containing transects with ceramic dates[18]. I also compiled published results from an earlier survey by YuTAKE to provide a view of the city before extensive archaeological investigation (Al'khamova, 1953), producing plots of both datasets to demonstrate the spread of 12th-15th century pottery across the city. This provided approximate locations for 'hotspots' of Mongol era activity, and a comprehensive trawl of YuTAKE publications revealed the approximate locations and results of the team's major excavations which I then plotted as accurately as possible onto an overall basemap of the site, with relevant information from later publications also identified and added. The huge amount of unpublished excavation at Merv remains problematic, and I used aerial imagery, alongside the AMP walkover survey data to identify the possible location of sites mentioned in interim reports, and YuTAKE publications. In addition to this, I sought out and assessed unpublished archival material in both Turkmenistan and the UK, which has added a significant level of additional unpublished Mongol era material excavated from the 1980s to 2010s, and has helped to clarify many of the issues and descriptions of earlier research at the site.

[18] Dated by Ancient Merv Project ceramicist Dave Gilbert.

Stratigraphy and Signatures

Stratigraphic analysis provided the interpretive basis for understanding the archaeological narrative at each site, collating information to consider the nature of transition between each phase, using indications of how each layer had been deposited. Used systematically, this analysis demonstrates whether excavated deposits relate to occupation or abandonment, and if a building might have been destroyed by burning, deliberate demolition or whether it had been slowly left to decay. This interpretive framework is widely used in archaeological practice and often assumed knowledge amongst archaeologists, but, as it is crucial in forming the basis of the historical narratives produced by the discipline, it is worth explaining it here with the use of examples. Although this section does not aim to be an exhaustive guide to the interpretive strategy employed across the sites, as specific traits are mentioned and demonstrated in discussion of each city, it aims to introduce a few key and common themes.

Destruction features as a primary narrative of historical accounts of the Mongol Conquest, and was noted at each of the three sites. In some cases, the destruction appears accidental such as a building destroyed by fire in Otrar (Figure 3.4). It was the only example of a burnt building in the section at this level, demonstrating that the fire did not spread beyond the single building and therefore likely represents accidental burning of a single structure, perhaps owing to internal ovens and flammable roofing material. Further evidence for incidental burning came from the building directly below, which had also been destroyed by fire, calling into question claims of widespread destructive fires caused by the Mongols, especially as multiple phases of fire are often mentioned (Akishev, Baipakov and Erzakovich, 1987, pp. 19, 30–32). In Barda there were examples of deliberate destruction, in one case of an entire phase of occupation, but this seems to have been levelled to renovate the area rather than caused by malicious intent as it is followed by levelling for construction (Figure 3.5). Indeed the only reported intentional destruction appears to be at Merv, where partial collapse before rebuilding suggests that the defences were damaged during an attack in the mid-12th century (Brun and Annaev, 2000). Comprehensively shattered architectural remains are interpreted as those of a Buddhist shrine, which was apparently desecrated after Islam became the dominant religion of the Ilkhanate (Pugachenkova, 1954).

Figure 3.4 Cross section of a building which has been destroyed by burning at Otrar, the charred wood and straw roofing burnt quickly and was the first to collapse on the floor, before pinkish, charred mudbrick collapsed from the walls

Figure 3.5 The 'destruction' layer at Barda, all structures including walls and ovens were truncated to the same level and a thick, homogenous levelling layer laid above

Archaeological signatures of abandonment tend to be less dramatic than destruction, but were much more common across the three sites. In Otrar, the abandonment phase was characterised by an abnormally thick hiatus between phases of mudbrick architecture, with ashy material building up in an alley (Figure 3.6). The loose nature of the deposit indicated that it had built up or been dumped while the area was abandoned as it had not been trampled from use of the alley or compacted to

create a suitable foundation for later structures. In other cases, the abandonment appears more sudden and illustrative of a dramatic event such as a potters workshop abandoned with pre-prepared clay in its yard, ready to throw (Lunina, 1962, p. 370) and a meal apparently abandoned while in progress, evidenced by the bones of various cuts of meat still on platters (Lunina, 1969, pp. 122–29).

Figure 3.6 A section at Otrar with layers of light grey ash, indicative of abandonment, in the centre base of the picture, between two mudbrick walls.

Reuse can also be seen at all sites and includes the reuse of artefacts such as reworking of pottery bases into loom weights or spindle whorls, or larger scale strategies of robbing and reuse of building material (Figure 3.7). Repurposed building material was particularly common in Barda, as more structures are constructed of fired brick (used sparingly in Otrar and Merv), which is more robust and therefore more reusable than mudbrick[19], and fired brick is also more valuable as it requires greater effort and economic outlay to produce. Reuse can also relate to the adaptation or repurposing of buildings, something which appears relatively uncommon in cities made of mudbrick, where it is normally easier and probably cheaper to demolish the earlier structure and rebuild. An example of this is a large residence in the citadel area of Merv which appears to have been renovated and reoccupied frequently through the 13th century (Hull, Cerasetti and Leoni, 2001). When compared with patterns of occupation, such activity may indicate economic hardship or a reduction in skilled labour, while reuse of houses especially when, as is the case in Merv, a grand

[19] Some charred mudbrick, probably from a building which had burned down was reused in the core of a later mudbrick wall at Otrar

residence is slowly subdivided and transformed, eventually into an animal shelter, gradual urban decline can be traced directly in the archaeological record.

Figure 3.7 Pottery base repurposed as a spindle whorl and wall constructed from reused bricks in Barda

When considering the sites more broadly, urban change can be illustrated by alterations of use, both of individual buildings and entire districts. Examples of this can be seen across the sites, with the appearance of burials, especially on these prominent mounds usually indicative of abandonment (Figure 3.8). A significant decline in the types of use can also indicate the declining fortunes of a city, or at least a neighbourhood with once-grand buildings, such as the palatial residence at Merv later used for keeping animals (Hull, Cerasetti and Leoni, 2001, p. 15). Shifting industrial activity can also show the shrinking or changing of residential areas, and declining populations, with the shift of ceramic production, metal and glass being particularly pronounced in Merv, first moving into the extremities of the walled city (Herrmann, Kurbansakhatov and Simpson, 1997, pp. 27–28) and later into the administrative and religious centres, surrounding monumental buildings such as the mausoleum of Sultan Sanjar and the former rulers residences in the Seljuk citadel (Lunina, 1969, pp. 144–45; Feuerbach, 2011). Practicing agriculture in previously urban areas can also indicate a declining population, shifts in function and perhaps even the perceived importance of an urban centre, and can be seen in the transformation of the monumental enclosure surrounding Barda's tomb tower into a vegetable garden (Sysoev, 1926, p. 49).

Figure 3.8 Recording section of residential area in Otrar, with a phase of burials shown here by protruding human femurs, and indicating a phase of abandonment

An uptick in the city's fortunes can also be tracked by these transformations, in particular the construction of monumental public buildings such as mosques or bath houses, investment in larger and more grandly decorated houses, and major public work projects such as the construction of major canals or even re-fortification of a citadel. In Otrar, the construction of a slew of new, major buildings in the 14th and 15th centuries has been used to indicate the revived fortunes of the city after the Mongol Conquest (Akishev, Baipakov and Erzakovich, 1987, pp. 103–26). At around the same time, it appears that a major trunk canal was constructed (Fodde, Sala and Deom, 2013, p. 157), although the construction of canals may indicate environmental stress as well as population increase (Toonen *et al.*, 2020). Meanwhile at Barda, the construction of monumental tomb towers and an enclosure on the edge of the ancient city demonstrates an investment, while at Merv the opposite trend seems to have occurred in the 13th and 14th century, showing a decline in the economic and strategic status of the city. With a few exceptions, construction of new buildings and especially monumental public structures such as mosques and mausolea appear to decline, after a 12th century boom. Highly decorated, grand houses (Figure 3.9) also appear to decline in favour of more pragmatic and smaller dwellings, with some of these earlier structures sub-divided during the 13th century (Hull, Cerasetti and Leoni, 2001), where rising floor levels and renovation, leaving only the lowest parts of the earlier decoration, are the only indication of the house's more illustrious origins.

Figure 3.9 Carved stucco inside the palatial residence at Merv, likely constructed in the mid-12th century, only small parts on the lower wall survive because of later use and renovation of this building (Ancient Merv Project Archive)

Through careful study of the archaeological remains to identify such signatures of destruction, abandonment and reuse, an interpretation of the archaeological remains has been formulated to produce a narrative for the 13th and 14th century in each city. Having presented an overview of events at each city, following the evidence of the archaeological remains, I will now compare the three case studies by discussing their varied context and the resultant interpretive narratives to formulate a comparison of the impact of the Mongol Conquest at each city. In addition to this, I consider how the archaeological remains of conquest are approached and aim to demonstrate a suitable methodological framework for the investigation of these large, complex urban sites. The following three chapters present and assess the evidence from each site, with the subsequent discussion comparing each narrative to contribute an archaeological voice to discussion of the Mongol Conquest of Central Asia.

4. The Evidence from Otrar, Kazakhstan

Background

Otrar (Figure 4.1), appears to have become the major town of its region from around the 9th century, serving as a political, trade and cultural centre (Baipakov and Erzakovich, 1991, p. 28). Located in the fertile land around the Syr Darya river[20], which runs northwest towards the Aral Sea, the city was well-integrated into long distance trade networks that led eastwards over the Pamirs towards China and southwards through the oasis cities of Samarkand, Bukhara and Merv into the Iranian plateau, as well as northwards into the steppe (Kennedy, 2012b). Several Chinese coins excavated at the site, especially from the 10th to 13th century Song dynasty (Akishev, Baipakov and Erzakovich, 1987, pp. 252–3) indicate Otrar's position as a marketplace for goods leaving China and entering the Islamic world. Further west, the city's importance is underlined by its inclusion as a major site, 'Farab' on the 12th century 'Charta Rogeriana', a map of the world created by the Almoravid geographer al-Idrisi for the Norman ruler of Sicily (Al-Idrisi, 1154). Through the 12th and early 13th century, Otrar changed hands numerous times in power struggles between the Turkic Western Karakhanids and Seljuks, as well as the Mongol-speaking Kara Khitai who had recently been ousted as the rulers of northern China. Within this fluctuating political situation, the city functioned as an independent polity for some decades in the late 12th century, before coming under the rule of the Kara Khitai and then the Khwarazmshah in the early 13th (Bregel, 2003, pp. 29–32). By 1219, Otrar was on the extreme north-eastern edge of the Khwarazmian Empire, a Persianised-Turkic polity ruled from Gurganj on the modern day Turkmen-Uzbek border, and as the historical sources attest, became the first city to face the Mongols (Juvaini (trans. J. Boyle), 1997, pp. 78–84).

An impressive amount of archaeological information is already available from the site, as excavations began in the early 20th century and continue to the present day (Akishev, Baipakov and Erzakovich, 1972, pp. 12–25; Rustemov, 2013). Huge areas of the site were excavated from the 1960s until the 1980s in both the *shahristan* and surrounding *rabad* (Figure 4.2). This work demonstrated extensive occupation across the site, with most of the excavated deposits dating from the 13th to the 18th century. Continuity of occupation into the 18th century at Otrar, means that several metres of archaeological stratigraphy cover deposits relating to the 13th and 14th centuries, and few excavations have reached archaeological levels dated to the 12th. Those which have are trenches III and V in the raised shahristan area of the site, and the larger excavation III has been left open for public presentation and so is more accessible (Figure 4.3). Excavation III also plays a crucial

[20] Ancient Jaxartes

role in the archaeological narrative of the Mongol Conquest at Otrar as a thick and widespread abandonment phase was encountered across the trench, apparently showing the desertion of the city for several decades in the 13th century (Akishev, Baipakov and Erzakovich, 1987, pp. 15–31).

These excavations also showed that Otrar's post- conquest revival began at the end of the 13th century and was in full-swing by the early 15th, demonstrated by the construction of several monumental buildings in this period. Most impressively, and indicating significant investment in the city during the Timurid period, a large, central mosque was uncovered in shahristan excavation IV, dated by coins of the late 14th or early 15th century in the construction layers (Akishev, Baipakov and Erzakovich, 1987, pp. 106–108; Baipakov and Aldabergenov, 2005, pp. 33–34). Excavation area IV in the rabad, revealed a bathhouse, with ceramic and coin evidence demonstrating its use in the second half of the 13th and throughout the 14th century which interestingly overlay an almost identical bathhouse below, apparently dating to the 11th-12th centuries (Akishev, Baipakov and Erzakovich, 1987, pp. 120–123). Further increase in activity of this period includes a series of ceramic workshops in trench I, dated by coins to the second half of the 13th century, and this material is crucial to the overall understanding of the site, as it informs the ceramic chronology for this period (Akishev, Baipakov and Erzakovich, 1987, p. 99; and see Qozhaev, 1996).

Figure 4.1 Overview of the site of Otrar looking from the south. The raised shahristan is covered mainly by brown vegetation while the surrounding greener area forms the rabad (Courtesy of Institute of Archaeology, Almaty)

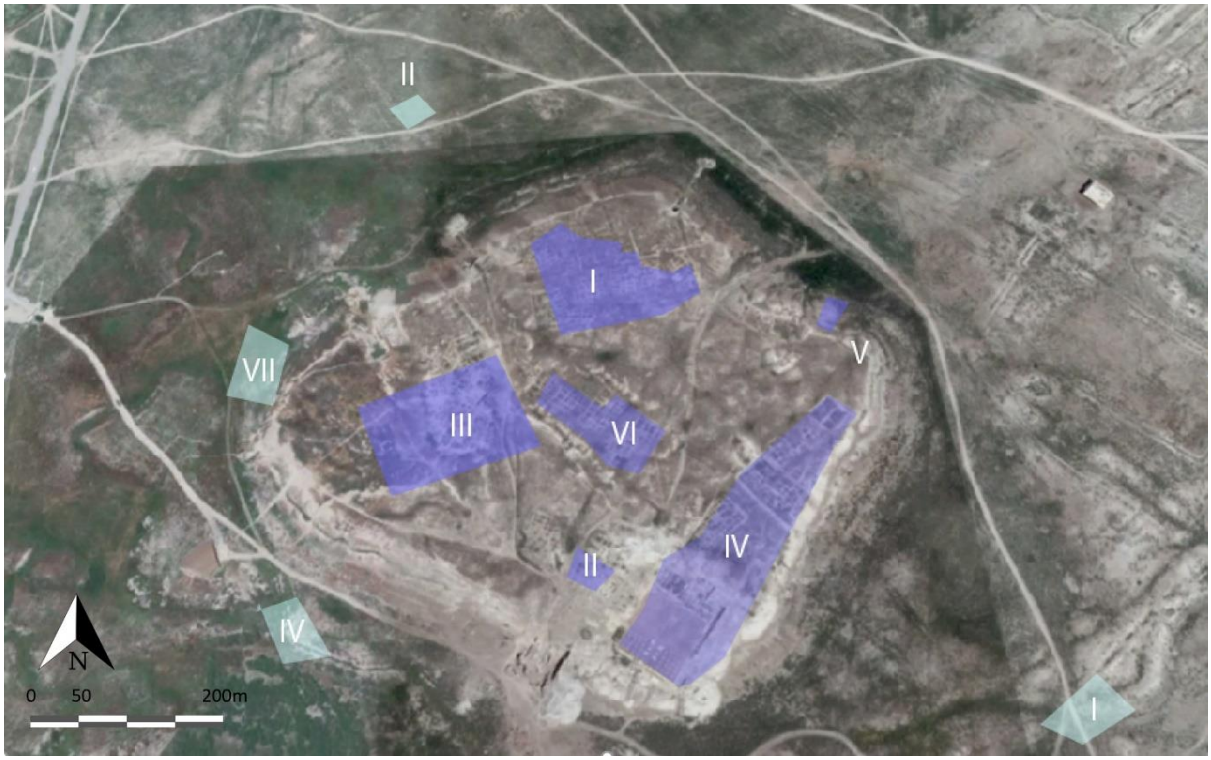

Figure 4.2 Excavation areas at Otrar following those noted in by Akishev et al. (1987), these are the maximum extent of the excavation area for each trench, and are often much smaller by the time they reach the 13th and 14th century deposits. Note also a double numbering system for the shahristan (dark blue) and surrounding rabad area.

Figure 4.3 Excavation Area III in 2017 looking north

Recent work by Kazakh archaeologists investigated the defences and Otrar's southern entrance, revealing a monumental, fortified entranceway and phases of the defensive wall dated to the 8th - 14th century (Akylbek, 2013). The large trenches excavated showed significant refortification of the city in the 13th and 14th centuries, with strengthening of the original walls, using both fired and mudbrick (Akylbek, 2013, p. 26). Unfortunately for the purposes of this study, the area has been conserved for visitors, meaning much of the original architecture and archaeological deposits have been renovated, rebuilt or buried. Further excavation of 12th-13th century domestic buildings was also carried out in the shahristan at excavation III (Baipakov, 2013), continuing the work undertaken in the Soviet Period. More recently, excavations in the northwest of the shahristan reached archaeological deposits thought to date to the 13th and 14th centuries in the 2017 and 2018 excavation seasons. Much of the recent work has been only partially published, and this chapter relies on information from yearly excavation reports submitted by the excavators to the Otrar Museum to include information from this research.

Excavation area III in the shahristan was chosen as the best location to begin further investigation of the Mongol period at Otrar, especially for the retrieval of samples for carbon dating, due to its relative accessibility and importance to the archaeological narrative of the Mongol period. This strategy was based on a thorough overview of previous archaeological work to understand how layers had been phased and dated, and how the Soviet-era excavations at Otrar have already contributed significant material relating to urban life from the arrival of the Mongols to the end of the 14th century. The overall scale of the excavations is impressive, with the upper part of the trench at excavation III covering an area of 7500m² (Akishev, Baipakov and Erzakovich, 1987, p. 35), with far smaller (but still impressively extensive) excavations reaching deposits dated to the Mongol and 12th century Karakhanid period. Excavation III is on the highest part of the site, which was assumed to be the site of a fortified citadel, as mounds are often created by the erosion of mudbrick defensive walls. However, excavations showed that this was a domestic residential neighbourhood with overlying phases of tightly-packed mudbrick houses spread along narrow alleys, and the excavators recorded the collapse and abandonment, occupation and construction deposits before reaching the next phase of architecture below (Akishev, Baipakov and Erzakovich, 1981, 1987). The architecture is truncated in places by storage and rubbish pits dug from later levels, although much of this has been restored by conservation work in the 2010s.

The various levels encountered during excavation were extensively described and split into phases, although some were rather broad (Akishev, Baipakov and Erzakovich, 1987, pp. 15–92),. Each architectural phase was illustrated by a plan drawing showing the layout of streets and houses. These are viewed as continuous and contiguous blocks with no indication of truncation by later pits,

so they may mask some of the intra-horizon variation and complexity often observed in urban sites such as Otrar. No stratigraphic section drawings are included in the main publication on this period (Akishev, Baipakov and Erzakovich, 1987) or in later work at excavation area III (Baipakov, 2013), which means that the crucial transition periods between phases of architecture, vital for the understanding of dilapidation and abandonment are not clearly demonstrated. In addition to the broad phasing, the chronology of each occupation period is not straightforward, as the dating of specific horizons on the site has so far been reliant on ceramic and especially coin evidence. This is problematic due to the apparent economic interruption caused by the Mongol conquest, which among other things, disrupted ceramic production as well as the minting of coins in the region leading to a 'moneyless situation' in the middle decades of the 13th century (Waugh, 2017, p. 15)[21]. A lack of scientific dating at the site, and similar cities of the period, has also contributed to this confusion over the exact dating of certain levels, and resulted in imprecise pottery chronologies (Akishev, Baipakov and Erzakovich, 1987, pp. 15–30). This, and perhaps also the complexity of the urban occupation and resulting stratigraphy, appears to have led to the broad phasing of the archaeological levels, with a single phase of occupation identified which apparently spans from the Mongol Conquest of 1220 until the middle of the 15th century.

The excavators at area III identified 2 main phases of occupation which are of particular interest to this research. Occupation horizon V is interpreted as belonging to the pre-Mongol-conquest occupation of the city, and dated using analogous ceramics produced in Otrar and at nearby sites, as well as by numerous coins, the latest of which date to the early 13th century (Akishev, Baipakov and Erzakovich, 1987, pp. 15–19). This horizon was interpreted as a domestic neighbourhood, with small, adjoining, multi-room houses lining narrow alleys. Constructed from mudbrick, the excavated buildings regularly demonstrate a high level of sophistication in terms of water management and cooking facilities, with many containing a dedicated toilet or washing area, and inbuilt tandoor ovens (Akishev, Baipakov and Erzakovich, 1987, pp. 19–20 & 35). Horizon V is described as 1.3m thick and contains three phases of floor levels, with the latest containing evidence of burning, which has been tentatively equated with Mongol destruction (Akishev, Baipakov and Erzakovich, 1987, pp. 15 & 19). The occupation within horizon V is therefore interpreted as spanning the century or so before the Mongol Conquest, with a tentatively dated destruction and abandonment around 1220, coinciding with the capture of Otrar by Genghis Khan's armies.

[21] This statement is based on Elena Davidovich's careful numismatic research (Davidovich, 1972, p. especially 37-47 & 127-135)

The deposits sealing horizon V seem to demonstrate a period of abandonment, before the city is resettled and rebuilt, with subsequent architecture labelled horizon IV and split into an earlier and a late phase (Akishev, Baipakov and Erzakovich, 1987, pp. 19, 46–47). The excavators describe the combined phases of horizon IV deposits as 2.3m thick, indicating that the earlier stage of architectural remains represents a rebuild after a period of abandonment, although they admit they cannot be sure how long this lasted (Akishev, Baipakov and Erzakovich, 1987, p. 15). The abandonment, which appears to have been excavated as part of horizon IV, is indicated by both the presence of a thick layer, interpreted as a hiatus in occupation between the two phases, and the changing layout of street systems and building plots compared to horizon V, which the excavators see as an indicator of redevelopment in the area (Akishev, Baipakov and Erzakovich, 1987, p. 19; Baipakov and Aldabergenov, 2005, p. 32). Such changes hint at altered patterns of occupation and urban organisation in this period, at least in this part of the city. The suggested chronology for this crucial post-conquest phase is broad, with material dating from the second half of the 13th century in the early layers of horizon IV, to coins minted in at least the 1420s in the later ones (Akishev, Baipakov and Erzakovich, 1987, p. 30). According to the excavators, the evidence indicates that this area of the city may not have been completely abandoned in the decades after the Mongol Conquest, but that the majority of the mudbrick architecture in horizon IV dates to the latter part of the 13th century and later. They also note that these mudbrick structures witnessed multiple destructive events with at least two major fires destroying buildings in this area, likely during the 14th and early 15th century (Akishev, Baipakov and Erzakovich, 1987, pp. 30–31).

To summarise (Figure 4.4), excavations at the site from the 1960s to the 1980s are interpreted as indicative of an apparently flourishing neighbourhood, partly destroyed and seemingly abandoned in the early 13th century, as a result of the Mongol attack on Otrar in 1219-20. This is then followed by a period of abandonment, and then by rebuilding and the recommencement of 'urban' occupation by the end of the 13th century, with the occupation of this phase of architecture continuing until the 1420s or 30s. However, there are a number of uncertainties and gaps in this interpretation of events, many of which are picked up by the original excavators in their critique. Perhaps most crucially, the chronology is far from fixed and dating of the phases from the material culture alone is potentially problematic, because of the seeming disruption of ceramic production and mints in the decades following the Mongol conquest. This may have led to skewed pottery chronologies, due to the lack of stylistic development in the decades following the arrival of the Mongols, and a lack of securely datable material from this period, perhaps leading to mis-identification of post-conquest occupation. The existence of 13th century material within the archaeological sequence, but its lack of association with an architectural phase perhaps also suggests that something more complex is

happening at Otrar. It may be that the occupation is more temporary and ephemeral and therefore not as easily detected archaeologically, pointing to a change in occupation style rather than a complete abandonment. Equally, it is possible that different parts of the city were used in different ways and this small part of the city may be largely abandoned after the Mongol conquest, while urban life continued elsewhere on Otrar tobe.

Horizons as Identified by Akishev et al.	Description	Approx. date according to Akishev et al.
IV	Split into earlier and later phases, unclear whether this is uniform across the area or a localised modification of some buildings. Described as 2.3m thick by excavators.	Late 13th?- 1430
Abandonment	Layer overlying horizon V architecture, described as thick layers indicative of abandonment	1220s-late 13th?
V	Mudbrick architecture, described as Pre-Mongol layout of the city	c. 1100-1220s

Figure 4.4 Phases as identified by excavations in area III

Locating the Mongol Period

Although a significant amount of archaeological excavation has already taken place at Otrar, there is huge potential to better understand this sequence, and therefore the pattern of occupation at the site from the 12th-14th century. The first and most important aim is to achieve more precise dating for the pre and post-Mongol conquest phase of architecture, broadly relating to horizons IV and V in the original report (Akishev, Baipakov and Erzakovich, 1987, pp. 15–30). In particular, investigation of the 2.3m thick horizon IV is crucial as the excavators assigned it a wide date, ranging from the later part of the 13th century to the middle of the 15th, and closer examination will refine the date and length of the abandonment as well as demonstrating the nature of non-architectural occupation in this period. Finally, the work aims to build up a chronological framework based not only on radiocarbon dates, but also pottery and coin evidence which might be used to investigate other parts of the site to see if the pattern observed in excavation III might be typical for the site as a whole.

The methodology used at Otrar was adapted to previous research at the site, aiming to reassess its chronology through a programme of radiocarbon dating, and clarify the sequence of occupation, especially the transitions between each phase. Suitable sections were located for dating and analysis of archaeological stratigraphy, with selection of the well-published excavation III also tying into phases elsewhere on the site, and enabling the dating to have wider relevance beyond this area. Suitable areas within former excavation III were identified for this work, by overlaying phase plans published by archaeologists working at the site in the 1970s and 80s (Akishev, Baipakov and Erzakovich, 1987, pp. 36, 46–7) onto more recent satellite imagery of the excavation areas, initially from Google Earth and then a more detailed orthophoto of Otrar's shahristan captured from drone photography (Figure 4.5). This demonstrated that the original excavation area described in the major publication relating to the period of interest 'Otrar v XIII-XV vekakh [Otrar in the 13th-*15th Centuries]*' (Akishev, Baipakov and Erzakovich, 1987) is still open on the site today, and the conserved architecture in this excavation is that of the horizon V buildings, interpreted as the pre-conquest layout of the town. It became evident from this work that a further part of the area had been excavated since the 1980s and the plans from this work (Baipakov 2013, 101–20) have also been incorporated into the broader discussion and sampling strategy.

Figure 4.5 Orthophoto of excavation III in 2015 showing the section location and digitised overlay of Akishev et al.'s plan of horizon V (in black), the rest of the area has been uncovered since (2007-11) and partially published (Baipakov, 2013, 101-120).

Following this desk-based identification process, selected sections at the edge of the trench were cut back to remove eroded material and straighten them, then cleaned and recorded to better understand the stratigraphy of the area and provide a context for environmental samples (Figure 4.6) and these were given an identifying number from OTR1 to OTR5. Pottery found during cleaning was collected and photographed to provide an approximate chronological framework for the deposits. Detailed section drawings were created to supplement the published architectural plans, and basic archaeological recording including the texture, inclusions and other relevant interpretive information was carried out on the archaeological deposits. This was then carefully phased with the creation of a Harris Matrix, and tied into the Soviet era phasing as far as possible. As the plan overlay work had demonstrated that the lowest level of architecture visible was from the previous excavations' horizon V (Akishev, Baipakov and Erzakovich, 1987, p. 36) tying in published phases to those on the ground was reasonably straightforward.

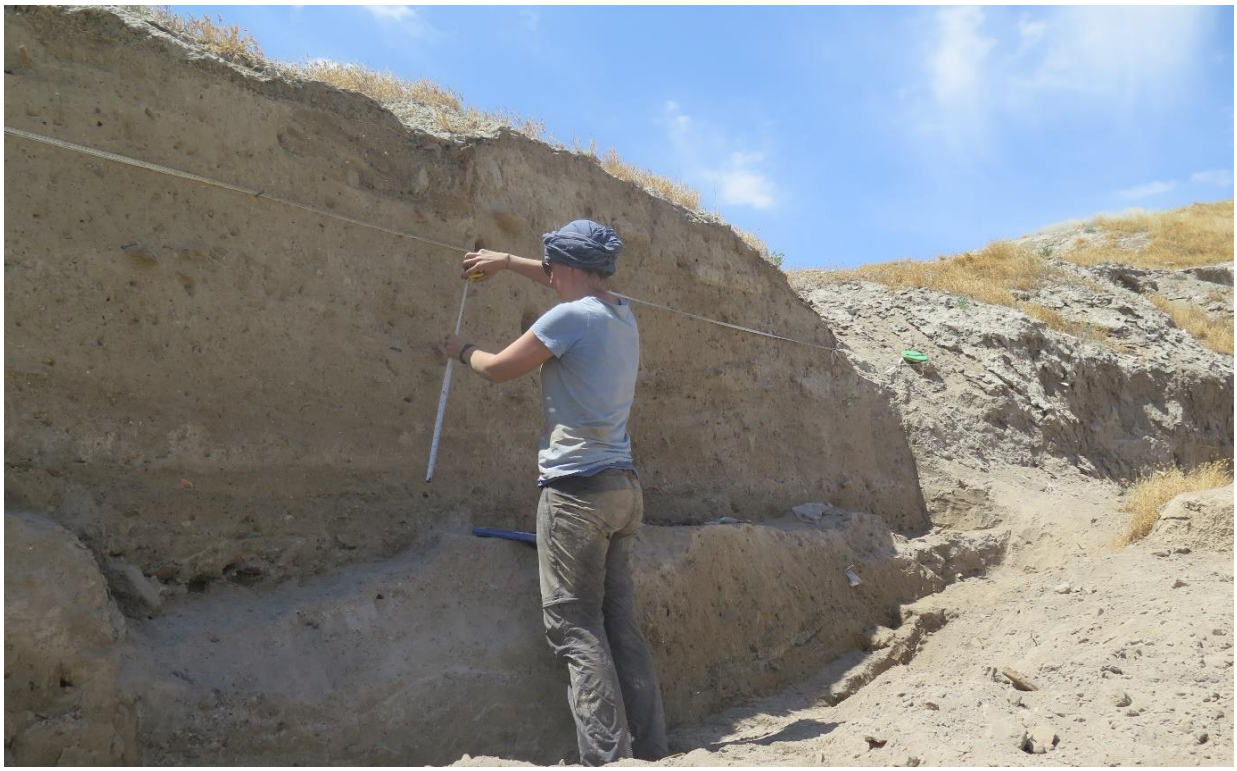

Figure 4.6 Recording section OTR1

Work focussed on the shahristan because it is assumed that the relatively less complex stratigraphy in the rabad has led to a more confident assertion of dates, while the excavations on the city's defences and mosque were also discounted because of the difficulty of obtaining relevant samples due to restoration work. Environmental sampling was carried out at OTR1-5 in excavation III and the 2017-18 Kazakh excavation area, but only three of these sections were selected as having sufficient and suitable material for carbon dating, OTR1, 4 and 5 (Figure 4.7). Priority was given to 'single

event' *in situ* deposits such as the latest fill of a tandoor oven or the burning layer within a temporary hearth structure to ensure the best potential for charred remains and reduce the possibility of collecting residual material. More than 40 samples were collected from these sections, which were exported to Oxford and sorted to extract archaeobotanical material for dating. The organic preservation on the site has proved very good (Figure 4.8), and several charred seeds, charcoal and other material such as reed were recovered from throughout the sequence. From these, nineteen samples were selected for dating and following a successful grant application for carbon dating, were submitted to the Oxford radiocarbon laboratory.

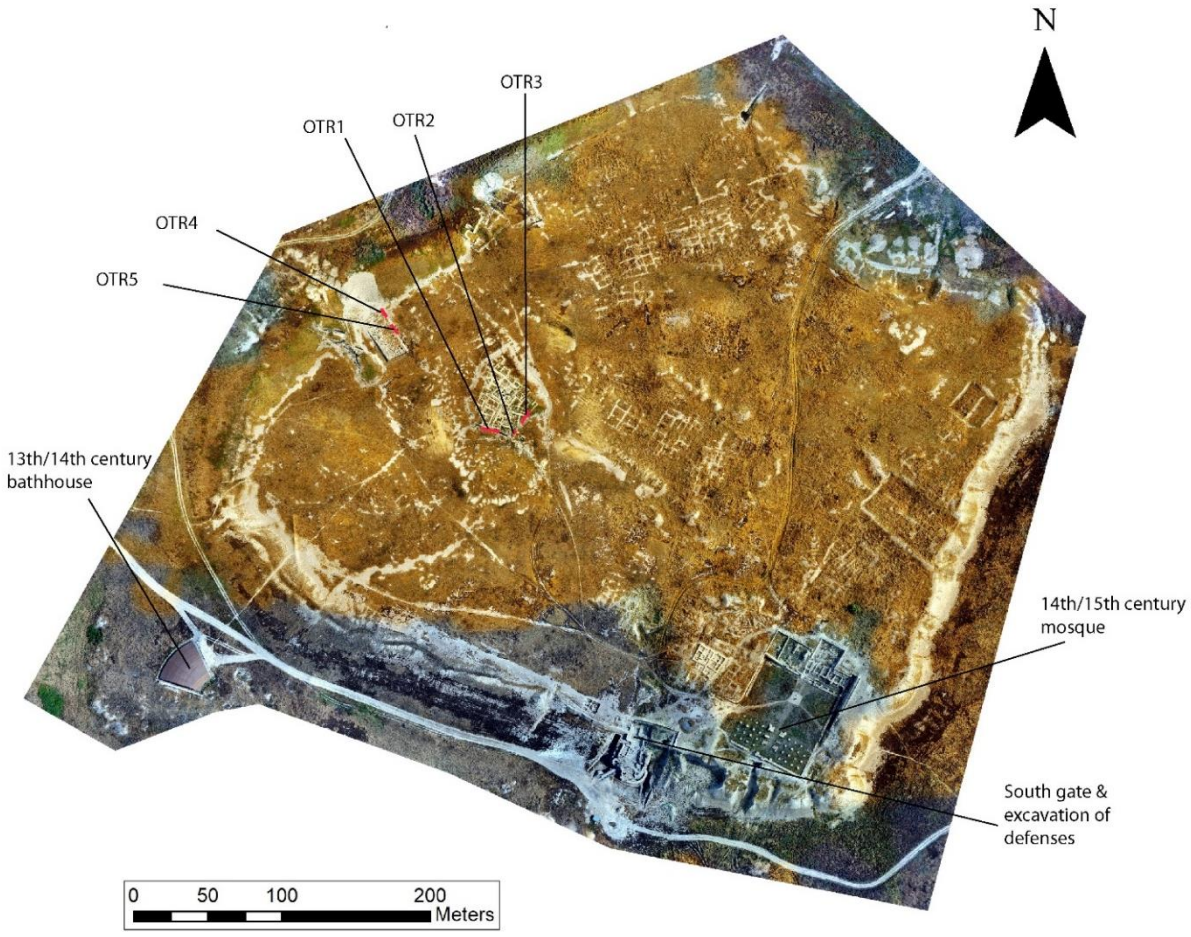

Figure 4.7 Overview of the shahristan/ Otrar tobe indicating the locations described in the text

Figure 4.8 Well preserved reed roofing material from a burnt-down house in a section recorded during 2018 fieldwork

As there are still significant uncertainties over the chronology and nature of occupation of the 13th and 14th centuries, and in particular for the Mongol Conquest itself, this very detailed and carefully focussed approach is necessary at Otrar. Although dating of structures in the rabad is likely more reliable, a detailed look at the main evidence for the 13th century abandonment suggests that both the dating and duration of this event are unclear, while rapid excavation may have missed non-architectural occupation such as camping or open-air craft activity. Therefore, despite the extensive excavations which have already taken place at Otrar, this chapter will focus on contextualising and dating material key to the Mongol abandonment narrative, to provide a reliable chronology and a description of occupation, abandonment, dilapidation and destruction for this part of the city.

Occupation on the Shahristan: Excavation Area III

Five archaeological sections were studied to examine the sequence of occupation at the site from the 12th-14th centuries and demonstrate the interfaces between architectural phases. These were concentrated in the north-west of the shahristan, the highest part of the mound and therefore most likely to have witnessed continuous occupation, as well as benefitting from good access to deposits of the relevant period. Each archaeological section is discussed in detail to demonstrate changing

patterns of occupation at the city and provide an interpretive framework to contextualise radiocarbon and other forms of dating.

OTR1-Multiple Phases of Occupation

Section OTR1 (Figure 4.9) is on the southwestern edge of excavation area III. An overlay of the Soviet plans and orthophoto of the site indicate that the standing remains belong to that recorded and interpreted as horizon V in Akishev *et al*.'s publication (1987, p. 36) and these are visible at the base of the section. The almost 3m tall section therefore incorporated the latter part of horizon V and the majority of horizon IV within it, including the abandonment phase which is apparently caused by the conquest. This is important because it provides an excellent opportunity for detailed examination of occupation in this part of the city between around 1100 and 1500. An initial clean, trowelling back the layers to remove the dried crust, straighten the trench edge, and reveal the archaeological deposits, indicated a complex and continuous accumulation of stratigraphy with several walls, floors, ovens and other evidence of occupation.

There are three main phases of occupation visible, with the walls of horizon V, the pre-Mongol invasion buildings at the base of the section. In the lower centre, the earliest phase, horizon V, consists of a narrow street or alley bounded by an east-west running wall on the eastern (left) side, and a badly eroded wall (recorded at an oblique angle) on its west. The horizon V walls survive to almost a metre in height, continuing below the depth recorded in the section. There is no sign of the burning described in Akishev *et al.'*s report (Akishev, Baipakov and Erzakovich, 1987, p. 15), so it seems that this destructive event might be localised to a certain area or house, and not consistent across the site. An accumulation of loose ash, which has at least two phases, indicates abandonment, disuse of the alleyway and likely incidental build-up of domestic or craft-based waste. It is unlikely to be intentional levelling for building, as it would make sense to use more substantial material such as eroded mudbrick. A small hearth was in use while this ashy deposit was building up, indicative of *in situ* burning, and suggestive of informal occupation in this part of the city, even while partly deserted.

The next phase of occupation sits directly on top of the eroded horizon V walls, corresponding with the abandonment deposit excavated as part of horizon IV, as there is no mudbrick architecture visible in this phase. The 'abandonment' deposit consists of multiple floors which form part of a 2.5m wide surface, which may have been inside a room or other type of enclosure. The floors are later covered with collapse and erosion material, perhaps indicative of another phase of abandonment. It is unclear whether these floors were initially inside a structure whose walls were removed by the robber or rubbish pit, truncating the upper floor surfaces, or whether they are open-

air. The wall and floor at this western end of the section may then belong to an interim phase of occupation. However, the architecture is heavily eroded, and the partial collapse of the section to the west means that is difficult to confirm. Above the abandonment layer is a mixed deposit, probably laid to level the area for the building above, built with a fired-brick faced wall and containing a tandoor oven and an eroded fired brick structure. The fired bricks are likely part of a washing area, as these are often found near tandoors at the site.

As the layers above the horizon V architecture are less than two metres in height, it seems likely that these deposits all fall within horizon IV as described by Akishev et al., which are 2.3m thick (1987, p. 17) and that phase IV would extend above the upper extent of this section. There is no evidence for fire damage as described in the previous analysis, and the phase IV deposits represent two distinct but somewhat unrelated phases of occupation an earlier phase of rather ephemeral occupation, a building or trampled work surface in an open area of the city which was then abandoned, perhaps for some time before the construction of the upper architectural phase. The latest phase is different in nature, distinctive because of its use of fired bricks and tandoor oven. It is also separated from the lower phase by a thick levelling layer, suggesting that this was a planned renovation of the area, with the deposit put down to create an even surface to construct the latest building.

OTR1 provides a comprehensive overview of occupation in this area, demonstrating the eroded remains of horizon V walls and gradual build-up of ashy layers within the alley, indicative of abandonment or dumping of rubbish. There are also hints of activity within this phase, such as the hearth. Horizon IV, especially the earlier phase, does not seem to correspond quite so neatly with the published account, consisting of ephemeral occupation rather than abandonment, and it seems likely that the architecture above corresponds with the early architectural phase of horizon IV. An additional ‘interim’ phase of architecture also indicates that the pattern of occupation is more complex than originally interpreted.

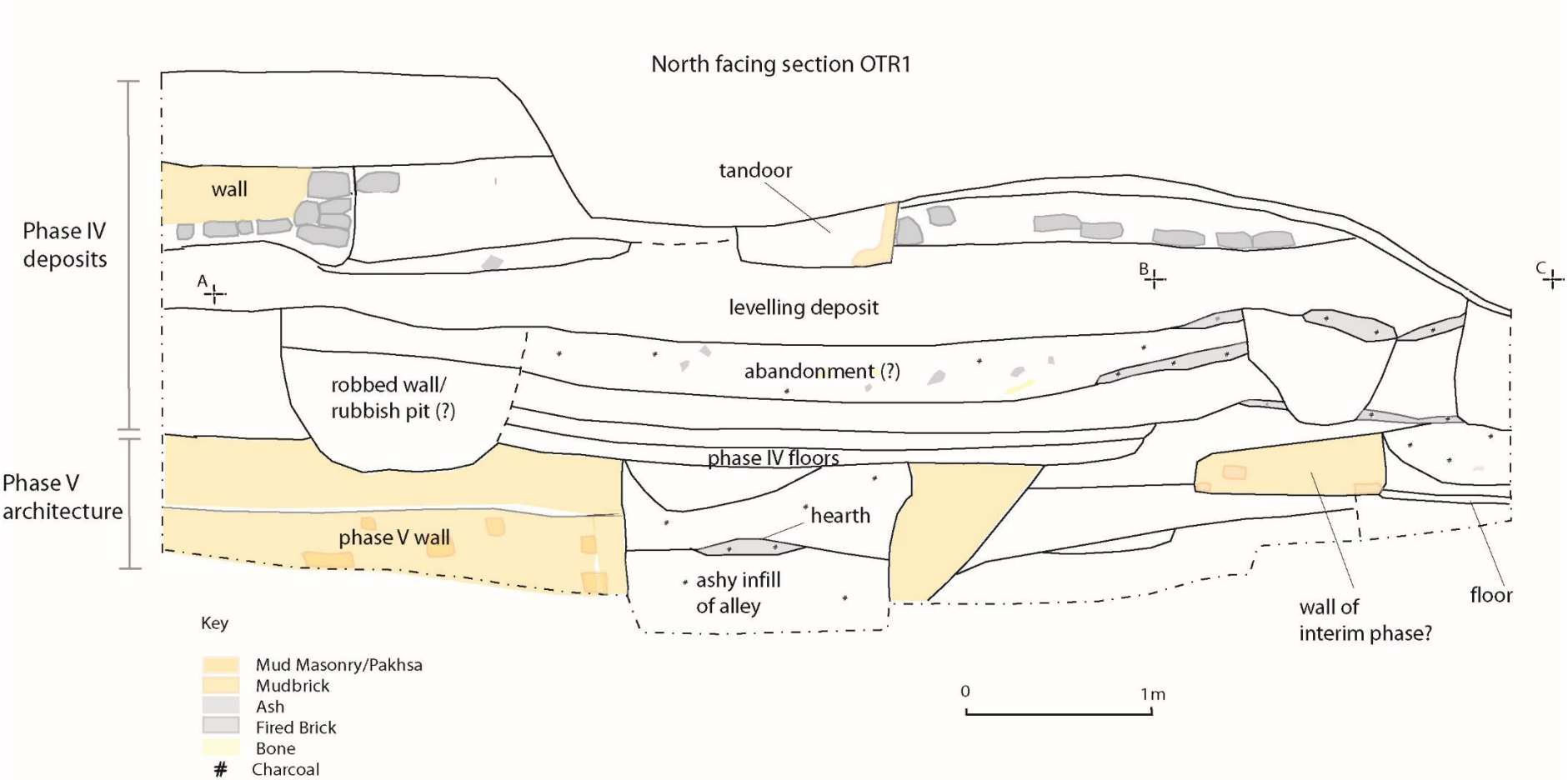

Figure 4.9 Section OTR1 cleaned up on southern edge of excavation area III with labels for major features discussed in the text

OTR2-Burials Between Horizon IV and V

OTR2 (Figure 4.10 and Figure 4.11) is also located in excavation area III, close to OTR1. Mudbrick walls visible at the base of this section are part of the horizon V architecture and equivalent to those at the base of OTR1, so the two sections are directly cross comparable in terms of their position within the archaeological sequence. In this case, two horizon V mudbrick walls are visible in the section at an oblique angle and meet to form the corner of a room, which is visible in plan extending from the base of the section. There is evidence of burning or scorching on the interior of the walls, which may correspond with burning described in the original report (Akishev, Baipakov and Erzakovich, 1987, pp. 15 & 19). Like the horizon V walls in OTR1, these survive to a height of at least 0.7m, indicating that the pattern of dilapidation of the horizon V architecture continues across this area. Two further phases of architecture can also be seen above the horizon V walls, which may broadly correspond with horizon IV occupation in OTR1.

The most interesting divergence of activity in this part of the site is the presence of human remains between the horizon IV and V architecture. In this area, mid-way up the recorded section, a series of human femurs were visible whose layout and uniform nature suggests that they likely form part of an organised burial ground, or at least an organised group of burials. At least three individuals could be seen in the area (with two recorded in the OTR2 section), and these are laid out approximately northwest-southeast, perpendicular to Mecca as per Islamic practice. However, they diverge from normal practice as the heads are in the southeast, meaning that to face southwest towards Mecca, they would have to turn to the left rather than the right (Petersen, 2013, p. 9). Islamic burial would be the most likely for this period, although it is possible these are merely of a divergent burial type which is not uncommon in areas further away from the central Islamic lands, and the uniformity of the remains does indicate some sort of regulated practice. There is mention of skeletons within a horizon IV building at the site, which have died in a destructive event, including one with likely cut marks (Akishev, Baipakov and Erzakovich, 1987, p. 45), but these skeletons are laid out on a purposeful alignment and therefore are unlikely to be part of a random violent event as the ones described in the earlier report.

It appears then that this part of the site was abandoned after horizon V and became a burial place for a period. The reoccupation of this area, with the foundation of a mudbrick wall truncating a grave cut, and further construction at the top of the section indicate that this part of the city was re-occupied not long after the phase of burials. Human burial in the top of abandoned mounds is common across Central Asia and the Middle East, and it is perhaps tempting to see these burials as part of that pattern, and indicative of a long abandonment. However, the presence of burials in this

period evidently demonstrates the existence of people in the area, and it may equally indicate the burial of those living elsewhere in the city, using a conveniently abandoned area to bury their dead.

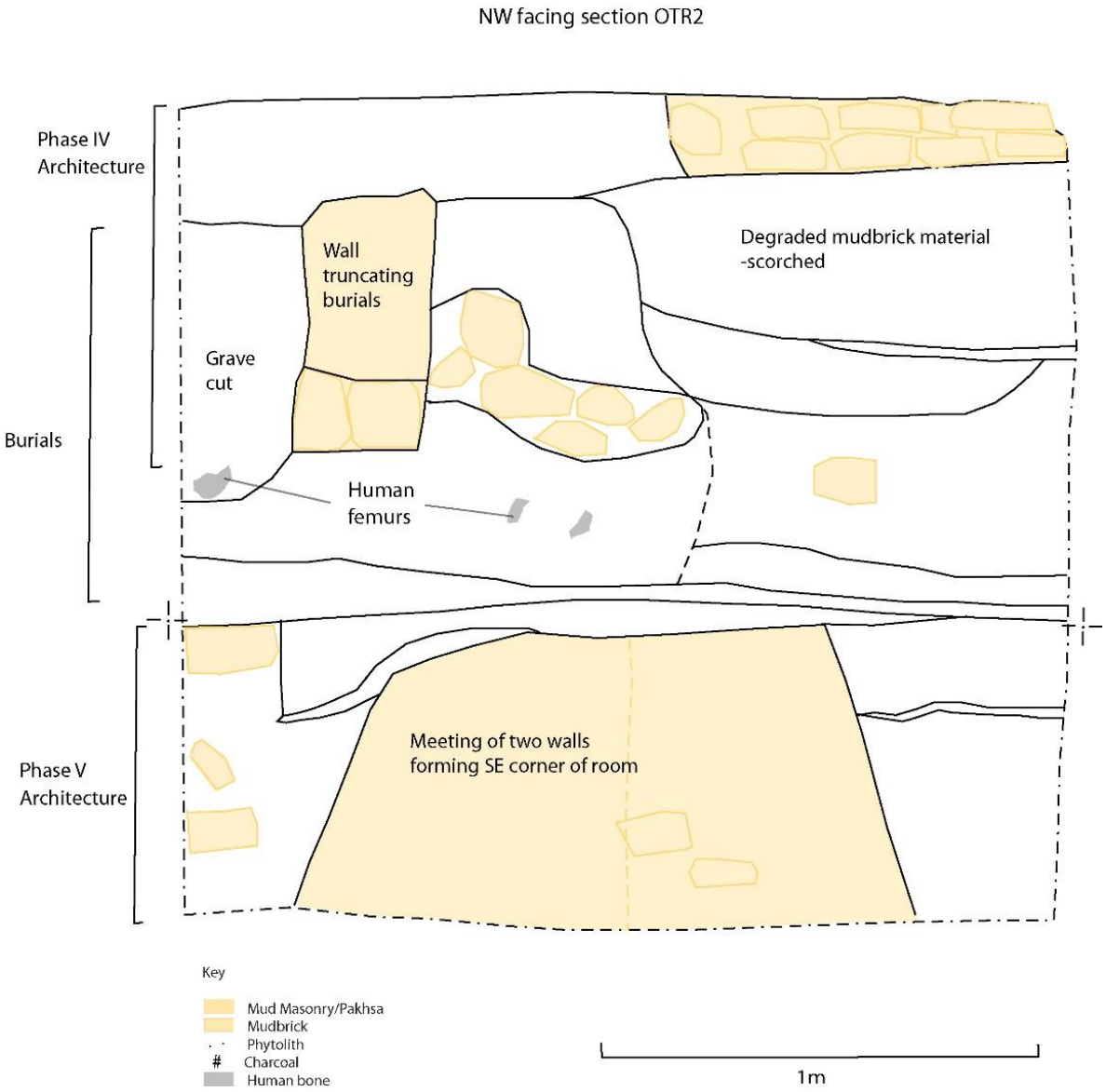

Figure 4.10 Section OTR2 showing the scorched horizon V architecture at the base of the section, a pair of femurs mid-way up the section and further skeletal remains continuing to the left edge of the section

Figure 4.11 Photograph of OTR2, note the burnt material and scorching of walls at base of the section and femurs visible to the left of the image (scale= 1m)

OTR3-Two Streets

OTR3 (Figure 4.12) is situated to the northeast of OTR2 in excavation area III. Like OTR1, the horizon V mudbrick architecture is visible at the base of this section, which extends across an alleyway. Several layers of material have built up within the alley, and unlike the loose ashy deposits in OTR1, layers at the base of the alley are compacted or trampled, as if it continued to function as a walkway or thoroughfare. This is interesting because it suggests that the alley continued to be used, even as the buildings were abandoned and eroding. In addition, although this section lies only a few metres to the northeast of OTR2, there is no sign of human burials in this section. It is possible that these were truncated by the construction of the horizon IV walls in this area, or it may be that the OTR2 witnesses a few opportunistic burials on the mound, likely while this area was abandoned.

Due to stepping of the section and collapse covering the base of the horizon V architecture, the sections recorded on this side of the trench were not as tall as OTR1, but both focus on the crucial interface between the horizon IV and V architecture. In this area, horizon V architecture is overlain by a build-up or dump of eroded mudbrick mixed with charcoal, ash, pottery, bone and other occupation debris which likely accumulated rapidly from the dumping of rubbish in this disused area of the site, possibly with the purpose of levelling the area for construction of the horizon IV building above. This horizon IV architecture can be seen as an elevation through the walls lining a narrow street which runs perpendicular to the alley in horizon V below. This neatly demonstrates the change of layout between the phases, argued by the original excavators to indicate abandonment and re-planning of the city (Akishev, Baipakov and Erzakovich, 1987, p. 19). An entranceway from the alley into the building is visible, with a mudbrick faced *pakhsa* or rammed earth wall on its northeast side, which is built on a mudbrick foundation, in contrast to the unfaced wall to the southwest of the doorway. These two differing styles of construction, with pre-formed baked bricks used alongside courses of rammed earth, with visible ash/phytolith layers between the courses, indicates that at least with this small sample, a detailed analysis of building materials and construction styles to infer chronological or functional differences would be of limited use to this study.

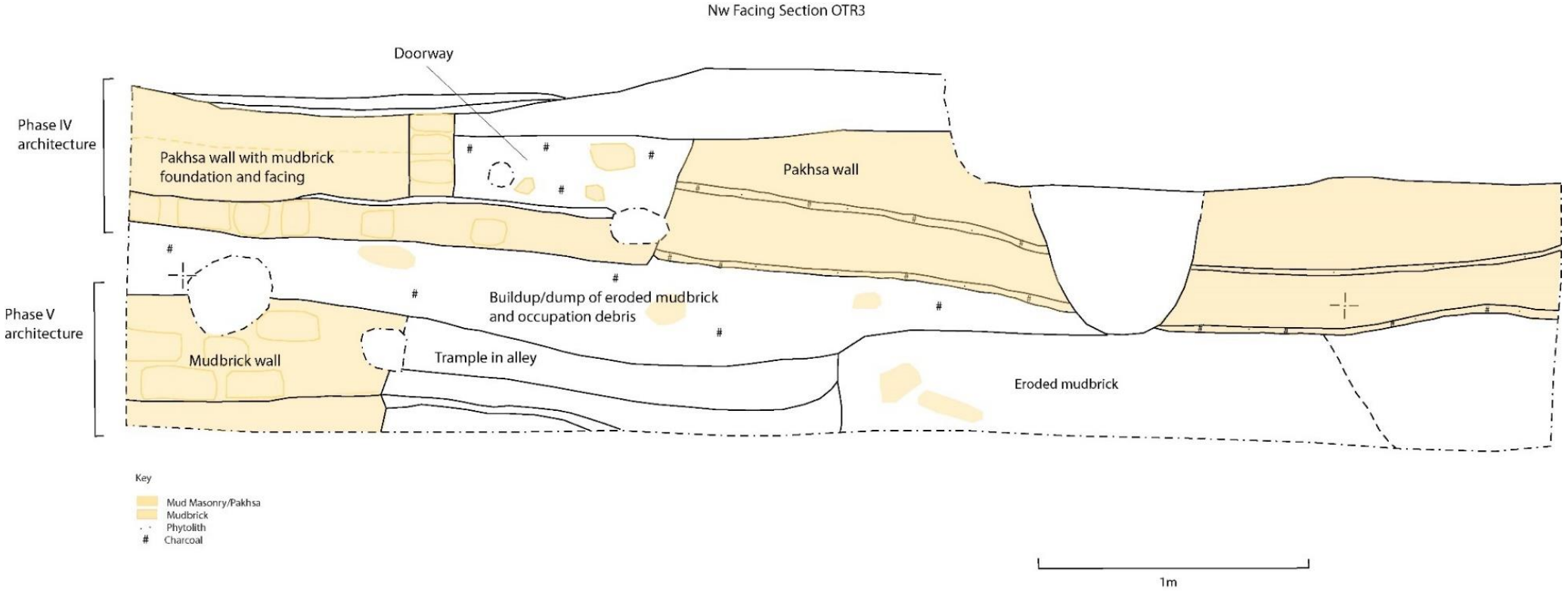

Figure 4.12 Section OTR3 showing alley within horizon V architecture and cross section of horizon IV wall above

Residential Quarter Inside North Wall of City

A second area of the site which was investigated and recorded in the same manner, lies some 100m to the northwest of excavation area III and from 2015 to 2018 has been under excavation by a Kazakh team from Almaty, who have recorded and removed more than 5 metres of archaeological layers in a 40m x 20m trench laid out against the interior of the city's defensive wall. Of particular interest to this study were the archaeological deposits uncovered during their 2018 research season, which were broadly dated to the 12th, 13th and 14th centuries. The residential neighbourhood uncovered by the excavations is similar in character to that revealed in area III, with mudbrick houses consisting of multiple small rooms, and within each household, clay-lined tandoor ovens and washing areas distinguished by their fired-brick floors.

After a thorough visual examination of the excavation area, two sections from the trench edge, which clearly demonstrate the archaeological sequence of occupation in this part of the city were cleaned and recorded as at excavation III. These were chosen following the excavators' advice that the layers dated to the relevant period, with initial analysis of the ceramics pointing to occupation in the 12th to 14th centuries. Additionally, both areas contained a considerable amount of burning, which the current excavators suggested may be related to a destruction of the site, perhaps to that of the Mongol period, based on the approximate dating of the archaeological layers (Kamaldinov, I, pers. comm., August 2018). However, the dating was not yet precise as specialist analysis of the ceramic assemblage from the 2018 season is ongoing at the time of writing. The sequence of occupation in this area provides a useful comparison to excavation III, with archaeological evidence for multiple phases of building and well-preserved, burnt organic remains within some of the houses.

The sections recorded in this area indicated a different pattern of occupation, with the abandonment phase observed in excavation III less visible in this part of the city. There was however a significant amount of burning present in the sections of this trench, and the areas were selected to include at least one building which contained *in situ* burnt material to provide suitable samples for carbon dating. It is important to note is that this burning was not uniform across the trench, appearing to be localised to individual houses, and in some cases two burnt buildings on top of each other, indicating that a rebuild of a structure destroyed by fire had itself burnt down some time later.

OTR4-Burnt Building

OTR4 (Figure 4.13), a west facing section in the south-eastern corner of the Kazakh excavations is not directly linked in the sequence to OTR5, due to stratigraphic truncations from later pits. It was

recorded because of the excellent preservation of burnt remains, which included burnt reed and wood from the building's roof, a store of buckwheat grain and some remnants of felt and charred fabric (Figure 4.14). The building was thoroughly burnt, and little can be seen of the original structure, as its northern wall has been truncated by a large pit. The only remnant of the building visible in this section is a compacted mud plaster floor, in the southern part of the section. The floor was the location for collapsed burnt material and had a fired-brick lined storage installation which was filled with charred buckwheat. The build-up of deposits in this part of the trench is very different from the sequence of architecture recorded elsewhere demonstrating the variability of occupation across this large site. The deposits in this area, just inside the city walls, seem to consist of dumped material and pitting, with the occasional remnant of occupation visible among these layers. It is possible that this area was some sort of yard or open area, within the tightly packed houses of the city. The lack of secure occupation deposits outside of the floor remnant means that the only samples submitted for dating from this section were the buckwheat and a piece of felt found in the building collapse.

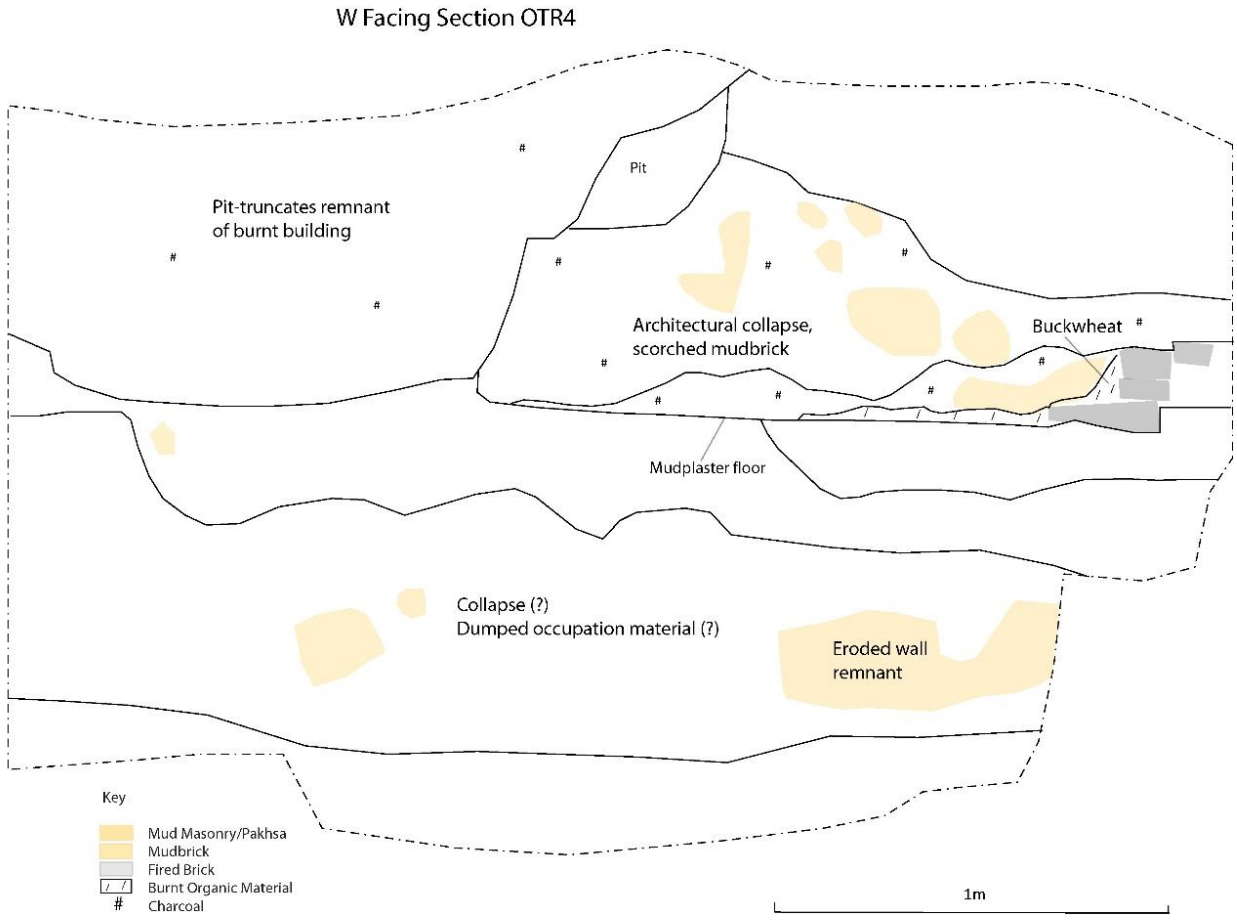

Figure 4.13 OTR4 section, showing remnant of burnt building and disturbed layers

Figure 4.14 Preservation of burnt organic remains in OTR4; top: buckwheat; bottom left: wooden roof support and fabric; bottom right: felt

OTR5- A series of burnt Buildings

Section OTR5 (Figure 4.15, Figure 4.16) in approximately the middle of the eastern edge of the trench consists of three phases of building, constructed predominantly from mud material. All three structures are likely domestic houses, due to the presence of tandoor ovens, and their layout within a tightly packed neighbourhood, similar to that observed in excavation area III (Akishev, Baipakov and Erzakovich, 1987, p. 36). The two lowest houses were destroyed by burning, with particularly good preservation of the collapsed roof in the middle building. The well-preserved burnt roof remains indicate that these mudbrick houses were roofed with tightly packed reeds laid on wooden cross beams. When dry, these would have been extremely flammable, and the presence of tandoors, visible here within the lowest and middle buildings perhaps indicate that the extensive burning recorded at Otrar might be due as much to the internal ovens and flammable roofs as intentional destruction by invading armies.

In spite of the destruction of buildings in this area, the occupation seems to have been continuous throughout this period. Unlike the change of alignment in excavation area III, the houses here are rebuilt almost directly on the footprint of the previous structure, with the northern wall of each building aligning almost perfectly with its predecessor throughout the sequence. The lowest structure in this sequence was exceptionally well built, constructed of very compact, high quality mudbricks forming a substantial wall. Its rebuild however, is constructed from poorer quality, possibly even recycled material, consisting of relatively dirty rammed earth which contains charcoal, bone and pottery inclusions. It is likely this material was collected from the surrounding area, possibly even re-used from the burnt building below in order to quickly and cheaply rebuild the earlier burnt structure. A thin layer of burnt plaster on the southern face of the wall indicates that a mud and lime plaster would have covered its interior face, so the poor quality would be hidden, at least once inside the building. The layer overlying this burnt building consists of a slow accumulation of occupation debris, with the linear phytolith and ash layers indicating that this likely happened slowly, and the area stayed level, rather than the uneven, mixed deposit of arbitrary rubbish dumping. Perhaps the space was re-purposed as an outdoor workspace or used as a thoroughfare for a short while before the construction of the latest building. Although only partially recorded, the latest structure appeared to be well-built, with fired brick facing on the exterior, and was the only one of the three not destroyed by fire.

Figure 4.15 Section OTR5 showing the three phases of buildings, with an indication of the layers from which samples have been taken for carbon dating

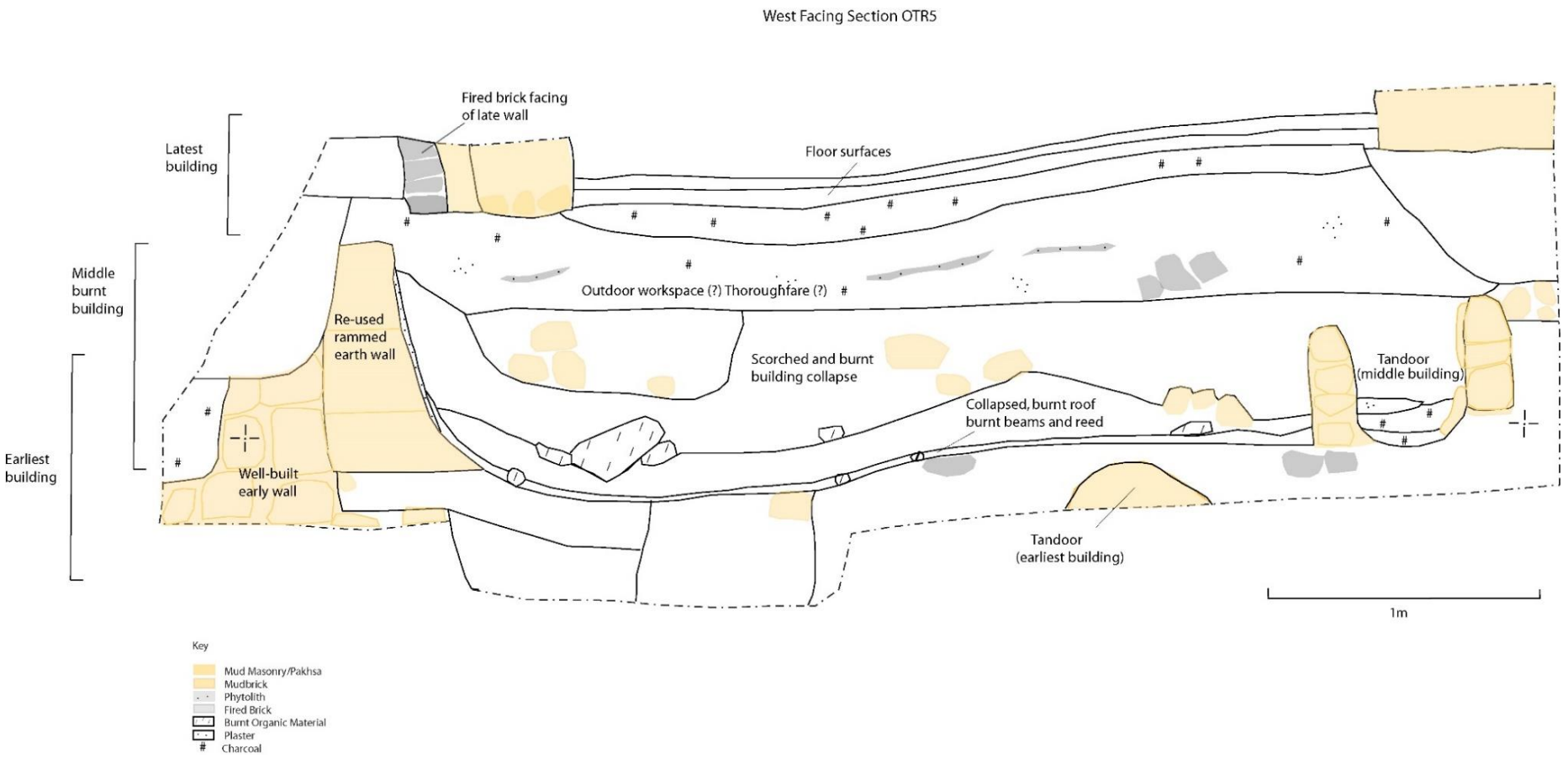

Figure 4.16 Section OTR5, a series of three burnt buildings

Dating

Due to the short time span under consideration, securely dating the archaeological deposits is of primary importance. Dating was initially guided by previous excavation reports to identify areas of the site where 12th-14th century material had already been encountered. However, various issues with the earlier dating, such as an interruption in the minting of coins, confusion surrounding the archaeological sequence, and lack of absolute scientific dating have meant that the chronology of the Mongol period deposits remains vague. In order to refine the dating and better pinpoint the early 13th century layers, apparent abandonment of the city, and to indicate how long this might have lasted, more precise and focussed dating is required. This section reconsiders the evidence originally used to date the site, including pottery carefully excavated and recorded during work on section OTR1 in excavation III, alongside the published coin catalogue, and radiocarbon dates from this sequence.

Pottery

While cleaning the sections, it became clear that ceramics recovered from this exercise, although not numerous enough for a standalone study, would prove useful for a basic dating of the layers. This brief summary aims to introduce some of the material culture from the site, indicating approximate dates for the archaeological deposits based on comparative material from other sites in the region. The pottery presented here comes from sections OTR1 and OTR3 as they were the only ones with sufficient diagnostic sherds to make a comparison worthwhile, with 88 diagnostics collected from OTR1 and 38 from OTR3. Due to the small assemblage, and relatively high fragmentation, analysis focussed on the technology and decoration of the pottery, and only considers form where survival is good enough to clearly indicate this.

Pottery from OTR1, associated with the abandonment of horizon V architecture, is characterised by distinctive lead-glazed, slip painted wares, with a white slip covering the body and painted decoration ranging from black, brown, red and olive (Figure 4.17). This is a common type across western Central Asia, and often referred to as Samanid ware, due to its popularity during the Samanid dynasty's dominance in the region (Watson, 2004, pp. 219–222). Accordingly, in Uzbekistan it is recorded most commonly in the 10th century, but manufacture continues into the 11th (Shishkina and Pavchinskaja, 1993, pp. 53–8; Henshaw, 2010, p. 64). More or less complete examples of this type were found in excavation III (Akishev, Baipakov and Erzakovich, 1987, pp. 17–18) although in Kazakh publications it is generally placed in the 11th-12th century, even stretching into the early 13th (Baipakov and Erzakovich, 1991, pp. 106–126; Baipakov, 2005, pp. 118–9). It is unclear whether this

ware's apparent longevity in Kazakhstan is due to differing analytical techniques, or whether this pottery is genuinely produced in, or exported to Otrar for longer. Scientific analysis of Samanid ware from Akhsiket in Uzbekistan indicate that a dark-coloured glaze rather than slip painting is used in some vessels (Henshaw *et al.*, 2007), so the ware may not be a uniform group. In southern Kazakhstan, development of this type included splashes of different coloured glazes, typically green or yellow in colour (an example can be seen in Figure 4.18) and these tend to be dated to the 11th and 12th centuries (Baipakov and Erzakovich, 1991, pp. 126–7). Nevertheless, the presence of this early pottery type, and absence of later diagnostic material (Figure 4.18) in the abandonment layers of horizon V, places the assemblages at the earlier end of the dating spectrum for deposits apparently of the mid-13th century.

Figure 4.17 Distinctive slip painted 'Samanid' ware, usually dated to the 10th-11th century in Uzbekistan and into the 12th century in Kazakhstan. These examples are from the earliest abandonment deposits in the sequence of OTR1.

Figure 4.18 Pottery from blocked horizon V alleyway in OTR1

Distinctive examples of unglazed wares are also present in the earliest deposits, alongside the more common comb incisions or dripped slip which are visible throughout the assemblage, and have a broad chronological span. Typically, unglazed ceramics are given less attention than glazed wares, with the occasional exception for highly decorated or distinctive unglazed types, such as moulded wares (Wilkinson, 1973, pp. 290–364; Watson, 2004, pp. 106–127 & 134–155) or those of unusual form or function such as sphero-conical vessels (Ettinghausen, 1965; Watson, 2004, pp. 128–131; Galieva, 2014). Assemblages of unglazed pottery have been recorded at several sites in southern Kazakhstan, so there is comparative material for these distinctive, locally produced wares from Otrar (Akishev, Baipakov and Erzakovich, 1972, especially p. 101-106) as well as the nearby sites of Kuiryktobe/Keder (Baipakov, 2005), Shoytobe (Smagulov, 1999), Kuik Mardan and Jalpaktobe (Baipakov, Voyakin and Smagulov, 2006).

Across the assemblage, the diagnostic unglazed pottery is most similar to types dated to the 11th-13th century, although this may be due to a bias in study and recognition of these pre-Mongol decorated wares, which feature elaborate incised and stamped design, alongside unusual applied decoration (see Akishev, Baipakov and Erzakovich, 1972, pp. 93–110; Baipakov and Erzakovich, 1991). One of the most distinctive indicators of pre-Mongol occupation is a type of ceramic table known as a 'dastarkan' (Figure 4.19) pieces of which are found semi-complete in the horizon V buildings and redeposited throughout the later sequence (Baipakov and Aldabergenov, 2005, p. 31) as well as at other sites in the oasis such as Kuiryktobe (Baipakov, 2005, pp. 83–4). The distinctive incised geometric designs and applied conical decorations make these easily recognisable, while the form is also indicative of this type, with a large flat top and single, hollow foot in the centre of the base (Figure 4.19, Figure 4.20, Figure 4.21). This decoration was also prevalent on lids and handles, and a lid fragment of this style was found in the horizon IV pakhsa wall in OTR3, indicating its likely construction from reused material, with the presence of this sherd dating the wall's construction to some time after the 11th/12th century. Although fitting the suggested 13th century date for horizon IV, this dating technique lacks precision, something for which dating mudbrick walls from residual pottery is notorious. More interesting was a reused dastarkan base, found in the layers between phases IV and V (Figure 4.21). This had been carefully removed from the flat table-top to enable its reuse, and perhaps hints at the changing economy during this period of apparent abandonment.

Figure 4.19 'Dastarkan' table in the Otrar Museum 2018, note the decorated underside and large hollow foot which are visible in the mirror placed underneath

Figure 4.20 Assemblage from horizon IV pakhsa wall in OTR3 and close up of decorated 'dastarkan' fragment, the presence of so much pottery in the building material indicates it has been recycled and mixed with occupation deposits

Figure 4.21 Foot of 'dastarkan', carefully removed from the table top and presumably reused as a vessel

The assemblage from horizon IV deposits appears more varied, particularly in the colours and decoration on glazed pottery. Small assemblages of 16 and 18 sherds from horizon IV floor surfaces

in OTR1 are suitable only to get an idea of the pottery types and approximate dating for the section. Samanid-style wares are still visible, some of which include incised decoration alongside the slip painting. Incised wares appear in Iran by the 11th century and are widespread by the 12th (Henshaw, 2010, p. 83), partly as a decorative scheme and partly to contain the glaze of increasingly complex designs. The technique appears to have been adopted by the potters of southern Kazakhstan in the second half of the 12th century (Baipakov and Erzakovich, 1991, p. 34), although there are earlier examples which use a similar, localised technique in incising through slip painting (Baipakov and Erzakovich, 1991, p. 115). The dating for the technique alone therefore is rather broad, but it seems that the dark brown or black and white pottery with the incisions (Figure 4.22) are at the earlier stage in the development of this technique, likely dating to the 11th or 12th century, while the wider colour palette to include green and yellow, and more complex designs are dated to the 12th-13th centuries (Figure 4.23). However, these are only present in the very latest deposits recorded in OTR1. The broader colour palette, including greens, yellows and turquoises, is indicative of developments in pottery and glazing technology in the 12th century, and continued through the 13th and 14th (Baipakov and Erzakovich, 1991, pp. 34–5). Unfortunately, the sherds here are somewhat small and limited in number to make a precise assessment of the date beyond placing these deposits somewhere in the 12th-13th century, which again appears somewhat earlier than their initial dating of the late 13th and early 14th century.

In summary, the small ceramic assemblage recovered from the sections contains many recognisable pottery types from the 11th to 13th centuries, although these are often mixed, fragmented and represent perhaps a sample too small to be relied upon without further corroboration. The assemblage hints that the chronology of the layers may be a little earlier than initially thought, although sample size makes this unreliable as a definitive assumption, and radiocarbon dating should provide clarification. It is interesting that no sherds are of an obviously 14th century type, even though stylistic and technological development produced distinctive wares in this period. Radiocarbon dating aimed to clarify these issues, and provide a chronological framework for each occupation phase, which might be used to reconsider pottery chronologies at the site.

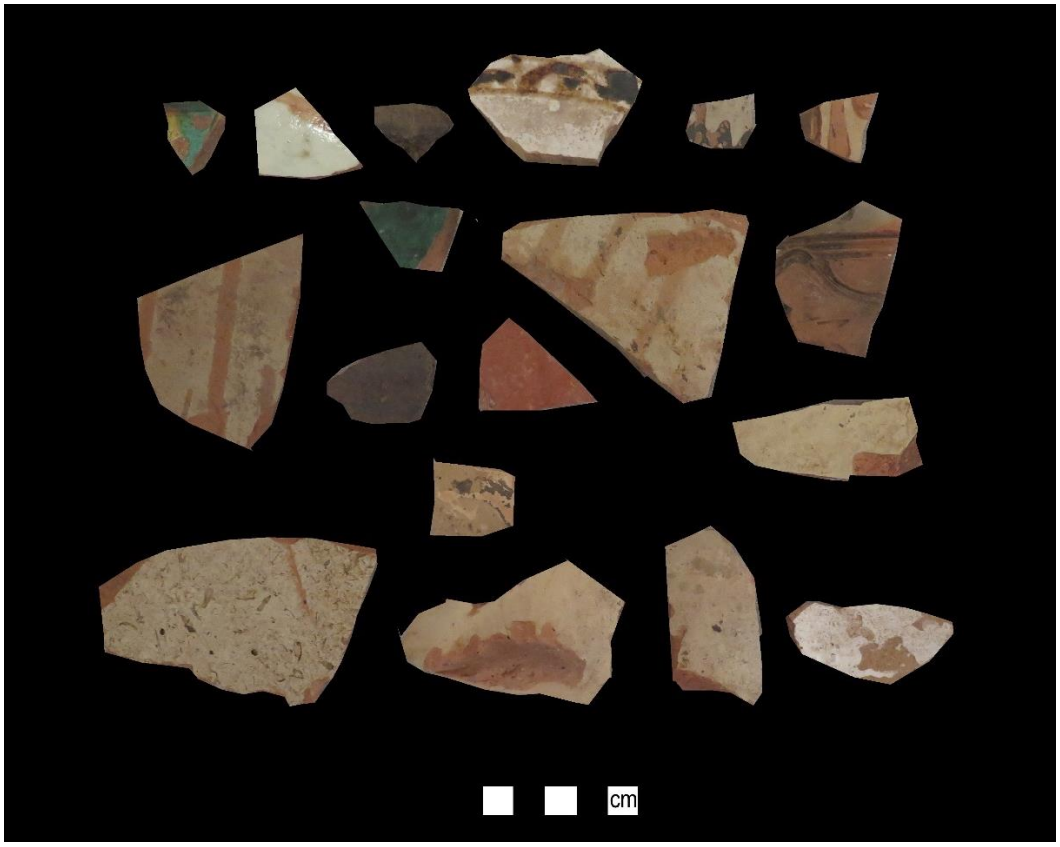

Figure 4.22 Assemblages from horizon IV floor deposits in OTR1

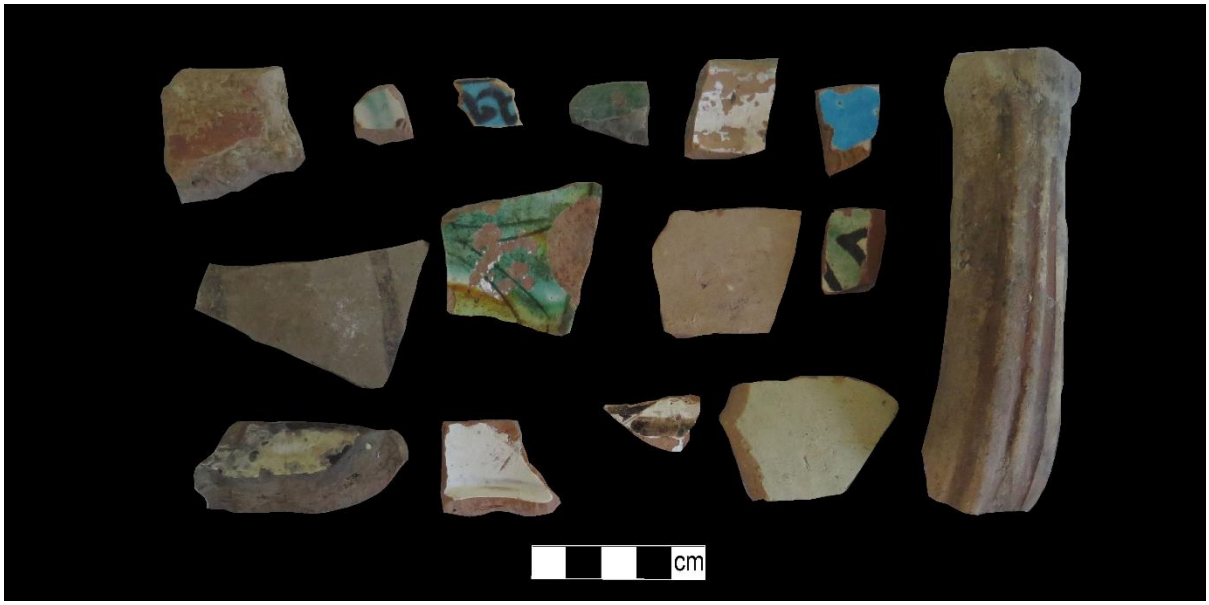

Figure 4.23 Varied material, including turquoise glazed ware with black painted design and incised green glazed ware from the levelling layer between the upper and middle phases

Coins

Excavations in Otrar during the 1970s and 80s valued pottery as a means of dating the layers, but predominantly used numismatic evidence, especially that gained from hoard depositions to clarify dates of occupation horizons (Akishev, Baipakov and Erzakovich, 1987, pp. 18–9 & 30–31). As one of the few major medieval excavations in Kazakhstan, pottery chronologies were still in development while Otrar was being excavated. As a result, coins were considered more precise, and given greater weighting in the overall dating of archaeological stratigraphy, while pottery is discussed with broad comparison to other sites, and often dated by the associated coin evidence (Akishev, Baipakov and Erzakovich, 1987, pp. 18–9). When readable, the coins provide very precise dates, attributable to a single year, or range of around 20 years depending on the minting type, ruler or city governor. However, issues such as the duration of circulation, possible redeposition, and in particular the precision of excavation techniques to identify the coin's location in the sequence, mean that in spite of precise dating, accuracy may be a problem, something which is noted by the excavators themselves (Akishev, Baipakov and Erzakovich, 1987, pp. 18–9).

Compared to pottery, the positions of coin finds were recorded in detail, which indicates the reliance on coins for dating. This information can enable a clear understanding of their findspot to provide better dating, and an opportunity to reconstruct the methodology and interpretive process of the original excavators. Thanks to extensive coin catalogues from excavation III (Akishev, Baipakov and Erzakovich, 1987, pp. 224–246), a reconstruction of the findspot of each coin is possible, with additional information in the catalogue such as the type, date and context of the coin's findspot,

such as in a floor, construction or collapse deposit. Horizon V within excavation area III, the pre-Mongol occupation of the city is primarily dated by two coin hoards, the first of which was found below the floor of a horizon IV building (Akishev, Baipakov and Erzakovich, 1987, p. 18), with the implication that it might be placed between the two occupation horizons. The second was found lower in the sequence, apparently in the lowest floor of a horizon V building, although the excavators indicate that the stratigraphy in this area was difficult to ascertain precisely (Akishev, Baipakov and Erzakovich, 1987, p. 18). However, these coin hoards appear to have been used as the basis for the Mongol abandonment narrative of the residential area in excavation III. The lower of the two hoards contained predominantly 10th and 11th century coins, described as Samanid fels and Chinese issues, as well as some of Karakhanid-type which date from the mid-11th century, with excavators noting that such coins were apparently in use well into the 12th century (Akishev, Baipakov and Erzakovich, 1987, p. 18). This would put the early occupation of horizon V in the late 11th or 12th century. The excavators date the abandonment from the latest identifiable coin in the second hoard, a dirham attributed to Hassan b. Abd al-Khaliq, the last Karakhanid governor of Otrar in the early 13th century, due to the hoard's position between the two horizons. From these hoards alone therefore, an occupation from the second half of the 11th century until the early part of the 13th can perhaps be assigned to the buildings of horizon V, which assumes the hoard was only buried very shallowly.

Comments from the original excavators and a closer look at the published coin catalogue indicates that the excavations in the 1970s and 80s were not carried out in a manner precise-enough to accurately date the construction, occupation and abandonment of each horizon. Although the catalogue provides a great deal of detail which is helpful to reconstruct dating and excavation methodologies, it provides conflicting information on the likely dates of horizons IV and V. Beyond just providing an identification of the coins, the area, house and room number are recorded, as well as where in the room the coin was found such as within the floor layers, abandonment build-up or even within the mudbrick walls and so with careful reading, it is possible to reconstruct not only the dates of coins from secure contexts in each horizon, but identify clusters of coins from various dates. From horizons IV and V, there are a total of 155 coins recorded which have both a distinguishable date and attributed find spot within a room or street (Akishev, Baipakov and Erzakovich, 1987). When viewed together (Figure 4.24, Figure 4.25), it is clear that the assemblages are very mixed, with coins dating from before the 11th until after the 15th century. However, broad patterns can be observed. More than three quarters of the coin assemblage from horizon IV date from the 14th century or later, with a particular cluster of 54 coins, almost half the assemblage dating to the 15th century (Figure 4.25). Such a pattern demonstrates intensive activity in this period, and might place

the majority of horizon IV occupation in the late 14th and 15th centuries, considering the post- 15th century coins were all found in abandonment deposits and pits, which likely intrude into earlier deposits (Akishev, Baipakov and Erzakovich, 1987, pp. 229–45). Horizon V represents a smaller assemblage, but also demonstrates a distinctive concentration of coins in two periods, the 11th and pre-11th centuries (Figure 4.25) perhaps indicating that the most intensive occupation in horizon V is earlier than the date originally assumed by the excavators.

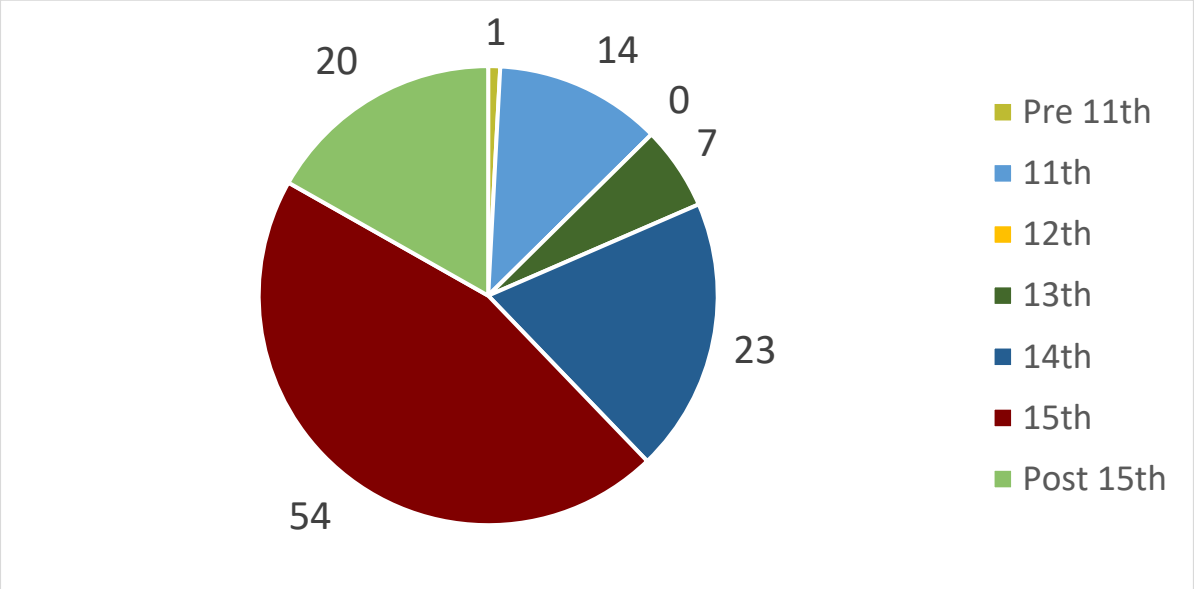

Figure 4.24 Coins from horizon IV by century of minting, 119 in total from attributable find spots

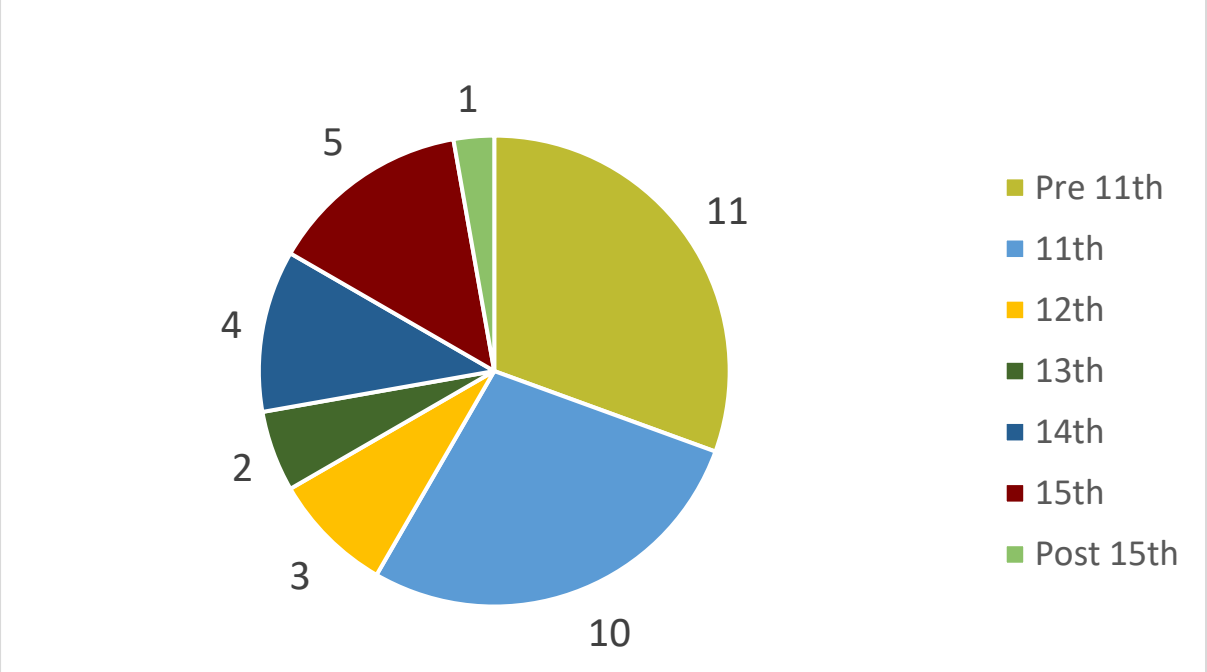

Figure 4.25 Coins from horizon V by century of minting, 36 in total from attributable find spots (for both figures, where the date range spans two centuries the later has been selected, e.g. 1250-1350 has been put in the 14th century)

The relative lack of coins from the 12th and 13th centuries is worthy of note. The small number of coins attributable to the 13th century can perhaps be explained by disruption to mints caused by the Mongols, leading a decrease in new coinage and an economic situation of more barter and exchange (Davidovich, 1972, pp. 27–37; Davidovich and Dani, 1998, pp. 408–09; Waugh, 2017, p. 15), and so possible activity in the area, even it is not strongly evidenced by coin finds. Such lack of coins may also illustrate a wider issue for the visibility of occupation in this period, as pottery chronologies are often formulated with dating evidence from coinage (for example Lunina, 1958, pp. 352–56; Wilkinson, 1973, p. xlii). An almost complete lack of coins dated to the 12th century is perhaps more puzzling, especially when compared with the relatively large number dated to the 11th and earlier. Indeed, all three coins of the 12th century have been identified as Karakhanid issues with a tentative date between 1050 and 1150, and none of those placed in the 13th century, identified as spanning a period from the 12th to the 13th. Numismatically, Otrar was under the control of the Western Karakhanids throughout most of this period, with coins minted in the name 'Farab', although political disruption in the 12th century from the Seljuks and Kara Khitai may have disrupted the mints to some extent (Davidovich and Dani, 1998, pp. 405–407) and numismatic analysis at the site indicates that a wide range of coinage was likely in use at Otrar.

Such a spread of dates provides insights into site formation and excavation techniques, and highlights issues with the use of coins for dating the site, especially when the excavators struggled to differentiate the layers from which they were recovered. Furthermore, the broad date range certainly suggests the potential for an error-margin when dating occupation at this part of the site. In terms of the formation of archaeological deposits, the large number of earlier coins in later-dated contexts suggests a high degree of residuality within these archaeological layers, which is likely explained by the reuse of mudbrick building material to create new bricks collecting artefacts alongside the clay, as well as intensive digging into earlier deposits for construction, storage or water management purposes (Figure 4.26, Figure 4.27). Methodologically, this indicates that the excavators likely removed chronologically mixed deposits at the same time, and in particular failed to excavate or notice cut features which contained coins dating to a significantly later period than the surrounding occupation layers.

Figure 4.26 Dates of coins for the late phase rooms in horizon IV, dated by the latest coin within the latest floor level (adapted from Akishev, Baipakov and Erzakovich, 1987, p. 47)

Figure 4.27 Dates of coins for the early phase rooms in horizon IV, dated by the latest coin within the latest floor level (adapted from Akishev, Baipakov and Erzakovich, 1987, p. 46)

Quantifying the coins may be useful to detect broad trends in occupation in this part of the site, but such patterns should be contextualised within the broader economic and monetary situation of the period, including the potential disruption of the mints in the aftermath of the Mongol conquests. The pattern clearly shows intensive activity in the 14th and 15th centuries in horizon IV and in the 11th century in horizon V, with the excavators indicating that their belief of occupation through the 12th because of the apparent longevity of coins minted in the 11th century (Akishev, Baipakov and Erzakovich, 1987, p. 19). Where a coin is found in a well-recorded context, it tends to be more reliable in terms of dating the occupation deposit, and the coherence of coin finds in both the early and late phases of horizon IV indicate that these were probably well- defined by the excavators and so a date spanning the late 14th to early 15th century for the early phase and until the end of the 15th century for the later phase could be suggested with reasonable confidence. The assemblage of coins from horizon V is significantly smaller and few have a well-defined context, leading to mixed dates of rooms within this occupation horizon (Figure 4.28). This could indicate that the excavators were less able to define and separate different phases of occupation, perhaps because of later pits cutting through the earlier deposits, or because of more ephemeral deposits caused by seasonal or open-air activity rather than well-defined mudbrick structures as in the other horizons.

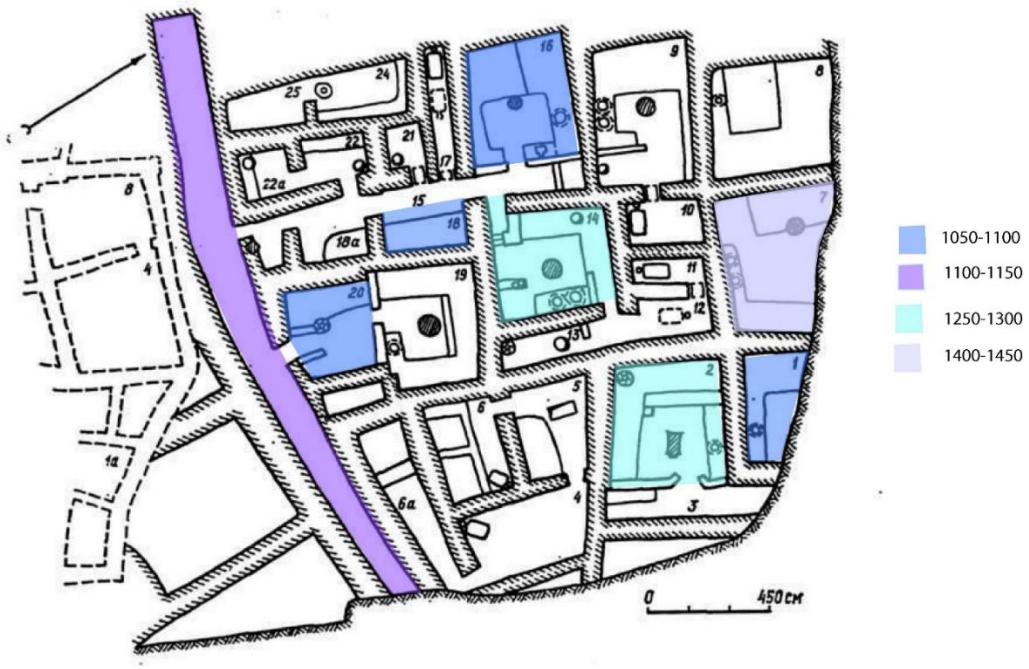

Figure 4.28 Dates of coins from the rooms in horizon V, dated by the latest coin within the latest floor level (adapted from Akishev, Baipakov and Erzakovich, 1987, p. 36)

Radiocarbon Dating

Careful identification and recording of occupation in the archaeological sections meant it was possible to extract well-contextualised, securely provenanced environmental samples from specific deposits, to radiocarbon date the horizons identified by Soviet-era archaeologists. Seeds and other suitable organic material were extracted through bucket floatation of soil samples from occupation layers throughout each sequence, or in the case of the more substantial deposits such as storage bins and collapsed roofs, sampled directly from the section. The flot was exported to Oxford and sorted in the archaeobotany lab to extract and identify suitable ecofacts to achieve the chronological resolution necessary for this project. Nineteen samples were submitted to Oxford radiocarbon laboratory, following a successful application for NERC funding (Table 4.1 and Figure 4.29).

Sample	Site	Context	Context description	Sample type
1	OTR1	6	Tandoor oven	Free-threshing wheat
2	OTR1	17	Burnt patch	Charcoal
3	OTR1	23	Floor surfaces	Charcoal-unidentified
4	OTR1	28	Abandoned street-upper	Prickly burrweed (Xanthium Spinosium)
5	OTR1	29	Abandoned street-lower	Reed tuber
6	OTR1	32	Burnt layer	Reed
7	OTR1	39	Hearth?	Charcoal
8	OTR1	41	Burnt layer/floor	Charcoal-twig
9	OTR1	47	Burning layer/surface	Charcoal-knot of small twig
10	OTR4	1	Burnt building collapse	Free-threshing wheat
11	OTR4	3	Grain store(?) in burnt building	Buckwheat (Fagopyrum Esculentum)
12	OTR4	3	On floor of burnt building	Felt
13	OTR5	11	Building collapse	Millet
14	OTR5	11	Burnt reed roofing	Reed
15	OTR5	15	From tandoor	Free threshing wheat
16	OTR5	23	Make-up layer	Free threshing wheat
17	OTR5	25	Floor layer	Free threshing wheat
18	OTR5	36	Fill of tandoor stoke hole	Charred twig/stick
19	OTR5	37	Adhering to burnt building	Reed

Table 4.1 Table of sample submitted for radiocarbon dating (archaeobotanical identification by Elizabeth Stroud)

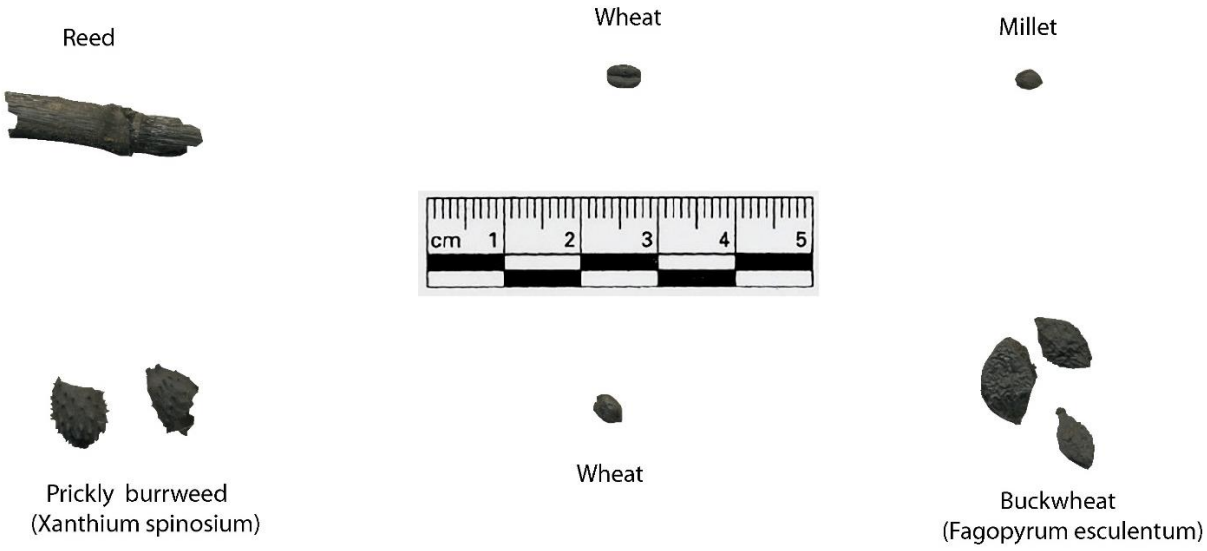

Figure 4.29 Some of the environmental material extracted from floatation and submitted for radiocarbon dating (archaeobotanical identification by Elizabeth Stroud)

The radiocarbon dates from Otrar are crucial to answer the archaeological questions posed at the start of this chapter, but also enable a discussion on previous approaches to dating the site. The narrative from OTR1 corresponds best with previous excavations at the site, but the dates tell a rather different story of occupation between the 12th and 14th century than that suggested by the original excavations (Figure 4.30). The latest date (sample 1), from a grain of wheat found in a horizon IV tandoor oven indicates that this oven was last used between 1420 and 1445. This fits well with the coin evidence, demonstrating an abandonment of this building in the first half of the 15th century. As the earlier excavators surmised, the horizon IV architecture certainly demonstrates a rebuilding of the site after a period of abandonment, but this might last two centuries, with all samples below dating to the 11th and 12th centuries. Perhaps most interestingly, the latest dates from in situ occupation debris below horizon IV date to no earlier than 1155, almost 75 years before the arrival of the Mongols.

Excavation III's abandonment deposit between the two architectural phases actually consists of relatively rapidly deposited occupation material, which likely accumulated in the first half of the 12th century based on the date-range of samples 2 and 8 which fall within this part of the section. Two significantly earlier dates (samples 3 and 7) may be unreliable as lack of suitable seeds led to the submission of charcoal samples from these two deposits, and it is likely their earlier attributions represent growth before the tree was felled, in contrast to greater accuracy from single-year growth of the seeds and twigs. The interim phase of architecture (sample 9) has a range from 1040 to 1160 but because of its low position in the sequence it likely dates to the middle or early part of this

range. Horizon V can be dated by the ashy abandonment deposits in the alley (samples 4 and 5) which indicate that the alley was filling with debris in the mid-11th or start of the 12th century. This means that the horizon V architecture was certainly extant by this date, and likely constructed in the early to mid-11th century, although the length of its occupation remains unclear because of the atmospheric variation in the 11th and 12th centuries (Reimer *et al.*, 2013) leading to broad and overlapping range of dates for these samples.

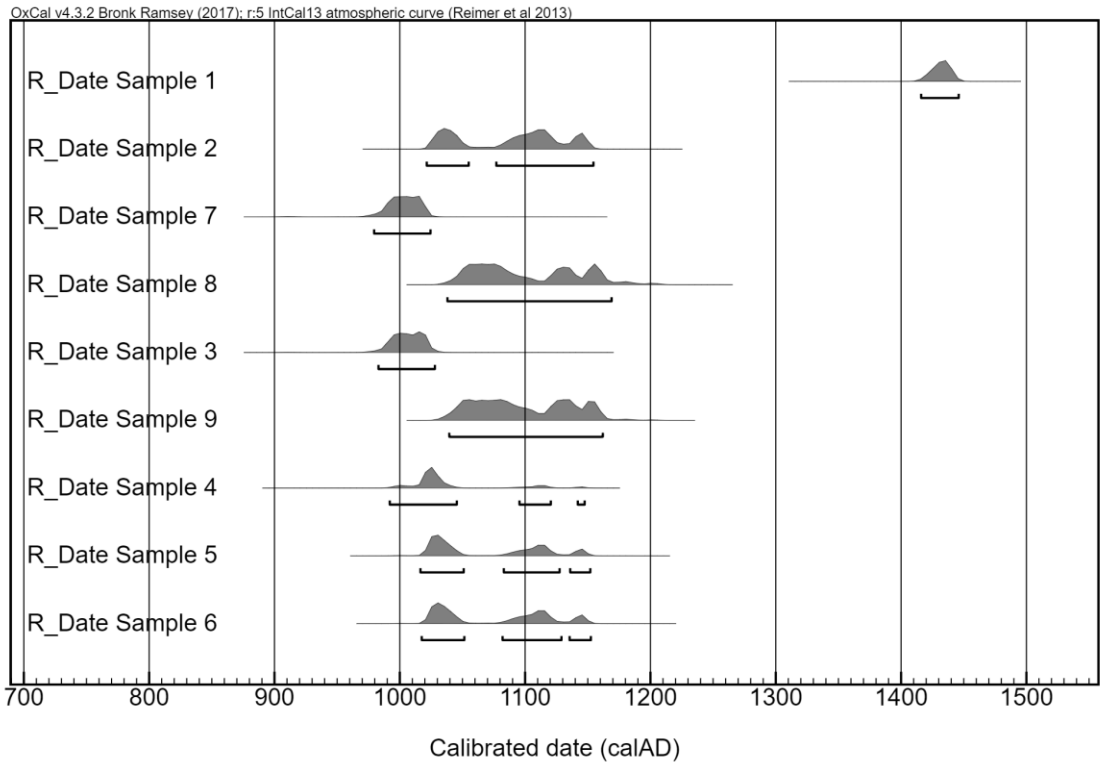

Figure 4.30 Radiocarbon dates from OTR1, arranged stratigraphically from later to earlier deposits

The situation in OTR1 does not represent that of the entire site as dates from the sequence of three overlying houses at OTR5 showed intense occupation through the 14th and early 15th century (Figure 4.31). Dates from floor surfaces in the sequence's latest mudbrick building (samples 16 and 17) demonstrate it was occupied between 1410 and 1445, corresponding with the later phase of horizon IV or early horizon III in excavation area III. The burning, collapse and abandonment of the middle building is represented by three samples from the collapsed building (samples 13 to 15) with sample 15, a charred grain of wheat from the last use of the tandoor oven inside this building indicating that it was abandoned between 1360 and 1385. The reed roofing (sample 14) is highly likely to have been on the roof before the last use of the tandoor oven, so the 1325-45 range is a likely date for the construction of this building. The burning of the lowest building in the sequence (samples 18 and 19) therefore dates to the first half of the 14th century, certainly before 1345, but not earlier than 1315.

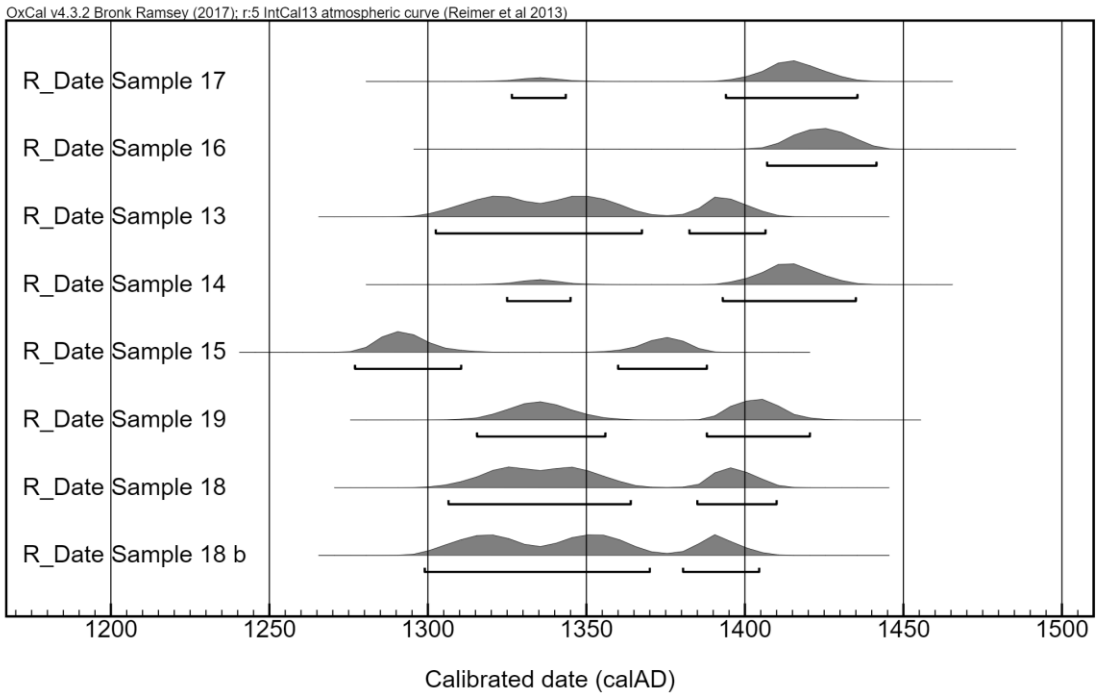

Figure 4.31 Radiocarbon dates from OTR5, arranged by stratigraphic order later to earlier deposits

Conclusions

Although it is necessary to be cautious about extrapolating data from a single part of the site, these interventions have revealed a great deal about Otrar. Perhaps the most significant finding is that although cases of abandonment and destruction can be detected, none correlate with the Mongol Conquest of 1219-1220. Initial examination of these detailed chronological slices through the city, confirmed that pre-Mongol walls survived well, but that these horizon V structures were built, occupied and abandoned in the 11th and early 12th centuries, much earlier than originally proposed by excavators in the 1980s. In fact, it appears that this part of the site was unoccupied for over fifty years before the Mongols arrived, and witnessed up to two centuries of abandonment before the construction of a new architectural phase, probably during the 14th century. Fairly soon after the buildings of horizon V were abandoned, rapid accumulation of ash, surfaces and the interim phase of architecture show continued human presence in this part of the site. It is possible this district of the city underwent alterations of use, perhaps because of social, economic or environmental shifts, leading to a changing or shrinking population. No further deposits in this phase, originally interpreted as 'abandonment' appear to have built up after around 1150, indicating a significant decrease of activity in this part of Otrar.

The complete lack of occupation deposits dated to the late 12th and 13th century is unexpected and intriguing, and suggests shifts in the city's layout, a more widespread abandonment on the

shahristan at Otrar, or indeed the wider region. Of course, this trend has only been proven by radiocarbon dating in this single part of the site, but as excavation III provides the primary evidence for the existing archaeological narrative of Mongol-induced abandonment at Otrar, the earlier dating is highly significant. When combined with coin and pottery data from across the excavation area, little evidence of significant 12th-13th century occupation is visible at the site, with a longer abandonment more likely, perhaps spanning from c.1150-c.1300, rather than the decades long, 13th century abandonment interpreted from previous excavations. The question remains as to how widespread this abandonment might be across the site, and it is possible that the evidence from excavation III represents a shift in occupation to a different part of the shahristan, to the rabad or elsewhere in the oasis. Femurs recorded in section OTR2 indicate the neighbourhood became a graveyard, and although the scale of the burial activity is unclear, it is likely small-scale as no further examples were recorded from this level during the earlier excavations (Akishev, Baipakov and Erzakovich, 1987, pp. 15–100; Baipakov, 2013, pp. 101–120). The appearance of this type of activity may be a clearer indicator of widespread abandonment on the shahristan between around 1150 and 1300, as the individuals are buried during this period, and such graves are commonly dug into the top of these large, abandoned mounds, which are prominent in the flat landscape.

Evidence of destruction due to burning was encountered throughout the sequences, although in almost all cases appears to have been incidental rather than malicious. OTR4 and 5 were specifically selected to investigate burnt structures, and extract charred organic remains for precise dating, and so are not representative of the situation across the site. The two overlying burnt buildings at OTR5 demonstrate that burning is common, but their individual destruction, rather than the fire spreading through the tightly packed neighbourhood suggests a domestic accident, or even a deliberate act to clear the area for rebuilding. Although it is possible that violent invasion caused some burning at the site, the combination of flammable roofs and internal tandoor ovens seems to have been a more potent force in the city's destruction than the Mongols. Furthermore, neither of the two destructive fires seem to have caused long-term abandonment which is indicated both by the radiocarbon dates, and because each house was built on the footprint of an earlier one, demonstrating continuity in the town layout and a constant property boundary. Otrar is in a seismically active area (Campbell et al., 2015) and so larger scale fires may be caused by earthquake activity at various periods in the site's history rather than hostile attack, although the published data currently leaves this theory rather speculative, and only further, careful excavation might provide examples of this phenomenon.

The Mongol Conquest horizon was primarily dated by a coin hoard found below the floor of a horizon IV building, apparently deposited in a long-abandoned area. The relatively few 13th century

coins identified from this hoard and across excavation III likely reflect not only disruption in the coinage, but a general lack of activity. Recovery was certainly well underway by the early 14th century in the north-western part of the city, as demonstrated by the dense occupation recorded at OTR5, and there is little evidence of the abandonment seen in area III, although the excavators might encounter this at lower levels. Ideally further excavation work would be possible across the city to ascertain whether the abandonment seen in excavation III is a localised or a more widespread trend across the site. A comparison of the sequences and their dates based on the various evidence sources (

Table *4.2*) provides a summary of analysis for each of the three sections in excavation III. Combining the data sources used for interpretation and dating, this table underlines the complexity of the urban stratigraphy, which has likely led to confusion in the site's overall chronology. The broad date span of the material can be understood when given context by the radiocarbon dates, but when standing-alone, and without secure locations within the sequence, it would be hard to formulate a chronological framework for excavation III. This mismatch in dates appears to have led to uncertainties for the region's pottery chronology and so may have affected sites beyond Otrar itself, and further work would aim to clarify dating for well-known types at Otrar, which would then allow more precise dating of future excavations.

Complex sections through the archaeological deposits have been key to obtaining precise dates for activity horizons, but the sections are also crucial for analysis and interpretation of layer formation, and therefore a well-dated archaeological narrative of occupation patterns at the city. Interfaces between the architectural phases, which were overlooked by the earlier excavations, have been particularly useful for assessing the character and longevity of any destruction or abandonment, especially when combined with radiocarbon dating. In excavation III, horizon V architecture survives to a greater height than later architectural phases, but eroded mudbrick and ashy dilapidation deposits demonstrate its abandonment. Although this looks dramatic archaeologically, radiocarbon dating shows this process likely took place over a few decades, so ashy deposits in the alley are perhaps more indicative of changing activity patterns, rather than outright abandonment. When compared with the two century abandonment above, which leaves almost no archaeological trace, it seems the early 12th century 'abandonment' might be a gradual decline or settlement shift, rather than a dramatic collapse, and offering a rather different perspective of the Mongol Conquest.

Horizons as Identified by Akishev et al.	Description	Approx. date according to Akishev et al.	OTR1	OTR2	OTR3	Approx. date (pottery)	Approx. date (coins)	C14 dates
IV	Split into earlier and later phases, unclear whether this is uniform across the area or a localised modification of some buildings. Described as 2.3m thick by excavators.	Late 13th?-c. 1430	Mudbrick & fired brick building including tandoor and washing area	Mudbrick architecture	N/A Not present	13th-14th	14th-15th	1st half 15th (abandon-ment)
			Levelling	Mudbrick architecture	Mudbrick building(s)			Unknown/ no sample
			Abandonment	Burials			? early 13th (hoard)	11th-mid 12th
			Interim phase of architecture					11th-mid 12th
			Evidence of occupation, hearth		Trample in alley	11th-12th		11th-mid 12th
Abandonment	Layer overlying horizon V architecture, described as thick and an indication of abandonment	1220s-late 13th?	Abandonment, build-up of ashy material	Abandonment	Abandonment			11th-mid 12th
			Dilapidation of walls	Dilapidation of walls/ burning	Dilapidation of walls			11th-mid 12th
V	Mudbrick architecture, described as pre-Mongol layout of the city	c. 1100-1220s	Mudbrick architecture	Mudbrick architecture	Mudbrick architecture	10th-11th, maybe 12th	11th?	11th?

Table 4.2 Outline of phases from Soviet era excavation compared with my revised dating, OTR1-3

This chapter shows urban change in a few small areas of the site, charting shifting occupation patterns in the city, perhaps unusually through a vertical and therefore chronological standpoint. These sections have shown all the changes usually visible in plan, such as abandonment and dilapidation, destruction and rebuilding and even the apparent continuity of a property boundary in OTR5, and alongside the extensive Soviet-era excavation and publications can demonstrate securely dated, long-term urban shifts. Methodologically, it demonstrates that archaeological deposits can be used to create or supplement a historical-style narrative for medieval cities, but the Soviet-era methodology of excavating thick deposits to record 'cultural horizons' and phases of architecture lacks the precision to achieve this in the dense urban stratigraphy at Otrar. The technique presented here, using careful excavation and recording alongside dating of seeds and other single-year-grown ecofacts presents a viable methodology for the investigation of these cities which have often been subject to extensive previous archaeological research. As a result, the technique can be used to better understand past-excavation methodologies, the chronological span of certain pottery types, and the duration coinage was in circulation, greatly aiding future work at these sites. This technique has the potential to revolutionise our understanding of cities in places like Central Asia, where unlike in Europe for example, few local, medieval documents have survived. The potential for its application is global, and archaeology has enormous potential to illuminate connections, patterns of economic, cultural and urban florescence, which are overlooked or do not survive in historical sources.

Additional work is needed to better understand the situation across the site and clarify whether the city was largely abandoned in the 12th and early 13th century, or if this might be localised to a single area of the shahristan. The findings here are contextualised and discussed further in chapter 7, but they question Juvaini's narrative of the capture of Otrar (Juvaini (trans. J. Boyle), 1997, pp. 78–84), suggesting that we may need to consider the urban status of cities captured by the Mongols more carefully. Targeting sections of previously excavated areas in this large and stratigraphically complex city has proved to be a highly successful, and relatively convenient way of clarifying details of earlier excavations and could be considered at similar sites. This strategy would be most successful alongside open-area excavation and could transform our understanding of these cities. In the following chapter, I focus on Barda, which was the next of the three cities to be impacted by the Mongols after the military commanders Jebe and Subutai swept westwards through Iran during 1220, arriving in the Caucasus later in the year (Mustafayev, 2018, p. 146). My primary method of interrogation at Barda was excavation, and the next chapter enables a wider discussion about both the impact of the Mongol Conquest on urban change at the city, and a comparison of different interrogative techniques in the study of these cities.

5. The Evidence from Barda, Azerbaijan

Introduction

Barda is the furthest west of the three cities under consideration and presents an alternative to Merv and Otrar as it lies in a somewhat different environmental zone, relatively rich agricultural land by the foothills of the Lesser Caucasus. Politically too Barda was different, on the eve of the Mongol Conquest it was not under the control of the Khwarazmshah, but within a complex series of city states, kingdoms and emirates throughout the Caucausus which were at times largely independent and otherwise ruled by a greater power. The city was an important regional capital in the province of Arran, although by the late 10th century, the geographers al-Muqaddasi and ibn Hawqal report a considerable decline in its importance (Minorsky, 1953; Wordsworth, 2018a, pp. 146–48; Imranli-Lowe, 2020, p. 259). Through the 12th century until the arrival of the Mongols in the Caucasus in the 1220s, Barda had been ruled by the Turkic Ildegizids (or Eldigüzids), whose power centred in Azerbaijan, but at their height controlled territory from the Greater Caucasus to Central Iran and Turkey (Bosworth, 1968, pp. 200–201). In the 12th century they were nominally client rulers of the Seljuks, and known as the Atabegs of Azerbaijan, but eventually gained enough power to effectively control the Seljuk Sultan (Minorsky, 1951, p. 872; Bosworth, 1996, pp. 199–200). In the last decades of the 12th century as Seljuk power waned, the Ildegizids found themselves more independent, but increasingly unable to withstand the Georgians who staged a series of invasions in the 1190s, capturing the major Ildegizid cities of Ganja and Shamkir (Ezosmodzghvari (trans. D. Gamq'relidze), 2018, pp. 293–295). Although weakened, they remained the major power in the region until the dynasty's demise when the Khwarazmshah Jalal Al-Din, fleeing his Mongol-devastated homeland, took control of the area in 1225.

In contrast to the detailed dynastic histories (Kouymjian, 1969, pp. 18–28), which provide information about the political situation in the later 12th century and through the 13th, cotemporary accounts of the fortunes of Barda are limited. The city is little mentioned in histories of the time with only a passing comment by Rashid al-Din, and no specific account of the activities of the Mongols or Jalal al-Din in Barda (Rashid al-Din (trans. W.M. Thackston), 1999, p. 756). Juvaini focusses on the activities of the Mongols in regions ruled by the Khwarazmshah, with cursory mention of the Caucasus, and names only the cities of Beylagan and Shirvan in Azerbaijan (Juvaini (trans. J. Boyle), 1958, pp. 148–9), while Ganja-based Kirakos also fails to mention specific detail about Barda's fate. Such omissions have led to the assumption that Barda was largely abandoned or at least unimportant in this period. Historically speaking, the decline appears to have been underway before

the arrival of the Mongols, as Yaqut describes Barda as a village amongst the ruins of the older city by 1200 (Bosworth, 1988). However, continuous occupation has been demonstrated by a series of archaeological excavations in the 20th century which uncovered a wide range of material dating to the 12th to 14th centuries (Garnik, 1960; Nuriyev and Babayev, 2001; Wordsworth, 2018b; Nuriev and Wordsworth, 2020) with the survival of a 14th century tomb tower also indicating continued occupation, possibly of some importance.

To chart urban change in the city, the first step is to characterise occupation in the period immediately before the Mongol Conquest and determine the extent of Barda's decline, then chart the archaeological remains and state of the city through the 13th century to explore the conquest's immediate effect. Finally, the chapter focuses on the 14th century, investigating the processes leading to the tomb tower's construction, contextualising the monument within the surrounding city and wider region, and determining for how long it was maintained and used. Compared to the sites of Merv and Otrar, little archaeological work has been undertaken at Barda, and so extensive background research was required to understand basic information about the city, including confirmation of the location and spread of the ancient settlement. Extensive original survey and excavation data was also required to understand the archaeological remains and tackle the question of urban change.

Locating the Historic City

Barda is somewhat challenging for archaeological study because of the modern-day city which has developed over the medieval remains. Therefore, unlike the cities of Otrar and Merv which have been completely abandoned, it is difficult to gain an overall impression of the ancient site from aerial or ground survey, and this situation has been exacerbated by rapid urban expansion in the 1990s as refugees from the Karabakh conflict were resettled in the area. At first glance, except for a few extant architectural remains including the 14th century tomb tower and enclosure complex, a remnant of collapsed mausoleum, and part of a mysterious bridge, there is little architectural or topographic evidence to suggest that present-day Barda sits on the site of a medieval city. The largest and most studied monument in the city is the mud-built enclosure surrounding the standing tomb tower, which is locally know as 'Torpaq Kala', which has attracted interest from architectural historians and archaeologists, although its relation with the rest of the city has remained unclear.

Substantial but somewhat under-published excavation in the centre of modern Barda, indicates the presence of extensive architectural remains dating to the 9th to 14th centuries (Nuriev, 1986; Nuriyev and Babayev, 2001). Unfortunately, the precise locations of these excavations are not entirely clear,

with recent development of the city obscuring the described trenches, and complicating the task of locating the historic city. By the time Nuriev conducted the only published survey of Barda (Nuriev, 1986), development concealed the *tepe* or mound22, and he was able only to record small islands of surviving architecture to contextualise his excavations in the centre of the modern city. Alongside the tomb tower, he describes two bridges, one of which he dates to the 9th century and the other to the 12th-13th (Nuriev, 1986, p. 4). Both bridges are still visible, although one lies several metres south of the current river, and the other has been considerably restored, with the addition of a superstructure and conservation of existing brickwork so the original construction and form of the bridge is difficult to see. Additional, small-scale investigations during conservation work on the tomb tower uncovered fired brick architecture and a corpus of material dating from the 8th-18th centuries, with concentrations of artefacts in the 8th and 12th-early 13th centuries (Garnik, 1960).

Fieldwalking was carried out by the Archaeological Excavation of Barda (AEB) project23 in open areas of Barda and its immediate surrounds to quantify and date activity in and around the city, with finds dominated by sherds of the 11th and 12th centuries (Wordsworth, 2018a, p. 155, 2018b, pp. 68–9). Find spots follow the street layout in indicating that medieval activity was concentrated to the north of the River Terter, in the approximate location of the centre of the modern city (Figure 5.1). Barda's long history of occupation means that the fieldwalking evidence alone does not indicate this is the site of the city for the entirety of its existence, and it is wise to be suspicious that the medieval settlement may not lie below the modern one, as is the case at other medieval cities in Azerbaijan such as Gabala, Shamkir and Beylagan. Information on Barda's location also appears in historical geographies, with the most useful being the Arab geographer al-Muqaddasi writing in the 10th century. Al-Muqaddasi indicates that the city of Barda sat on a river and approximately two *farsakhs* (c. 12km) from the Kura, with Wordsworth using this and other accounts to argue that the medieval remains found at modern Barda (some 14km from the Kura) likely correspond with the city described by al-Muqaddasi (Wordsworth, 2018a, pp. 146–7).

To investigate the extent of archaeological remains beneath the modern city and substantiate claims that they correspond with the historical site of Barda, several approaches were employed by the AEB project. Historic satellite imagery, especially the Corona dataset from 1970, was used to track the modern development of Barda, providing an indication of the town's spread before rapid

22 There is visible topography in the modern centre of Barda, with height fluctuation corresponding approximately with (at least) the southern edge of the 'likely centre of the ancient city' as indicated in figure 5.1. This may be man-made or possibly natural terracing relating to an earlier course of the Terter. The AEB team tried to undertake total station and photogrammetric survey within the city to record its topography, but had to abandon the task, due to the sensitivities of surveying so close to Karabakh.

23 A project directed by Paul Wordsworth, University of Oxford which ran from 2015-2019, within which the fieldwork for this chapter was completed.

development in the 1980s and 90s. Few historic cities completely hide their pre-modern layout, and the current plan of the city alongside CORONA satellite imagery from 1970, demonstrate that the historic part of the city is on the northern bank of the current course of the Tərtərçay (River Terter), extending some two kilometres northwards, with the street layout mirroring the alignment of the tomb tower's enclosure and so suggesting a certain continuity from the medieval period to the present day (Wordsworth, 2018a, p. 149). In the Islamic world this might be explained by a tendency to build neighbourhoods following *qibla,* but in Barda this is not the case, and it is possible that the current layout follows a pre-Islamic plan, perhaps based on development along natural features such as river channels, or the cardinal points of early churches, although this is difficult to substantiate without significant further excavation.

Equating historically named sites with modern toponyms can be problematic24, but the quantification of medieval occupation in the area through field walking, test pitting (Qasimov, 2018b) and use of historical aerial imagery (Wordsworth, 2018a) indicates widespread medieval activity within and around the modern city, something which is confirmed by archaeological excavation (Tsilossani, 1882; Garnik, 1960; Nuriev, 1986; Wordsworth, 2015a, 2016). The survival of several monumental structures constructed of fired brick such as the tomb towers (Salamzade, 1960) and bridges (Nuriev, 1986, p. 4), as well as structural remains from impressive buildings, both secular and religious (Nuriev, 1986) indicate that the medieval remains form part of a substantial settlement. The two medieval bridges would have aided connections with the regional cities of Ganja to the north and Beylagan to the south, and important long distance trade routes such as those connecting Tbilisi with Tabriz and Ardabil, so the rulers of Barda controlled a key river crossing (Kennedy, 2012a; https://althurayya.github.io/). When considered alongside Arab geographers' descriptions of Barda's location and the historic city as an ancient capital (Wordsworth, 2018a, pp. 146–7), the archaeological remains found by fieldwalking, excavation and survey of the architectural remains of the city indicate that the ancient city of *Bardha'a* lies directly beneath the northern part of the modern city of Barda.

24 The city has several modern and historical name variants, with the modern Azerbaijani spelling Bərdə transliterated to Barda (or sometimes Berde) in the non-Azerbaijani Latin alphabet. The Caucasian Albanian (pre-Islamic) city was known as Partav or Partaw, with Arab sources referring to the city as Bardha'a. For ease, I use Barda throughout.

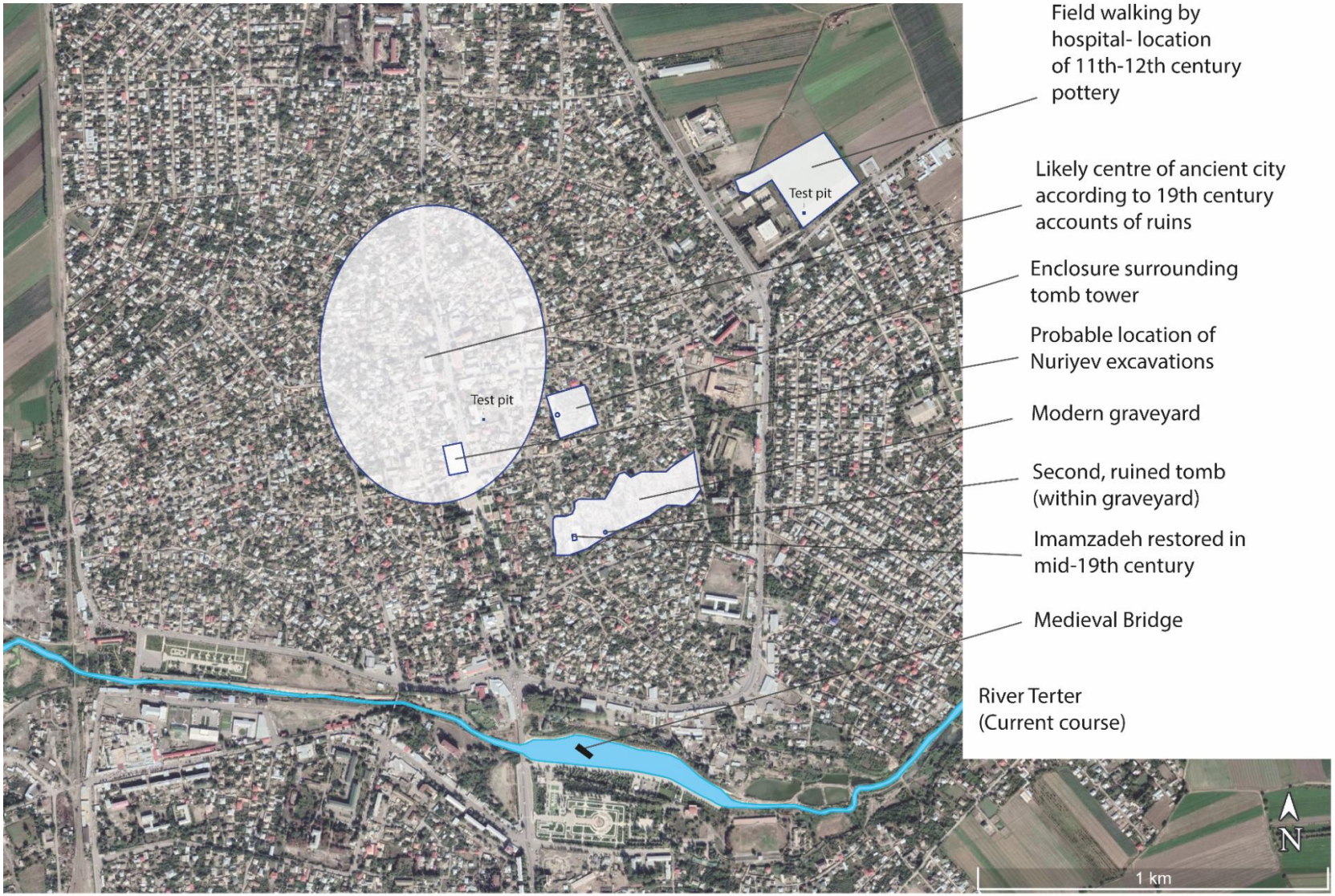

Figure 5.1 City of Barda showing the monuments and excavation locations mentioned in the text (background Google Earth)

Previous Research and Excavations

The first interest in the material remains of the historic town of Barda began with the standing monuments. Russian diplomat Nicholas de Khanikoff25, who spent much of his career stationed in Tabriz, travelled around the Caucasus in 1848 and visited Barda, where he transcribed and translated the inscription on the tomb tower (de Khanikoff, 1862; Royal Geographical Society, 1879, p. 216). Although the city of Barda was much diminished compared to its former glory, and described as ruins surrounded by woodland, parts of the inscription were still *in situ* when de Khanikoff visited, both on the cornicing at the top of the tower and on the doorways on the northern and southern side of the monument. He records the date of construction from an inscription in glazed tile above the southern portal of the tomb as 'the month of Shawwal in the year 722' (de Khanikoff, 1862, p. 70) which corresponds to October/November 1322 and this date has remained in the same location through several rounds of restoration26. The name of the architect Ahmad bin Ayyub al-Hafiz Nakhchivani was recorded above the northern entrance in similar fashion, although no dedication to the patron or occupant of the tower survived (de Khanikoff, 1862, p. 70) and subsequent research has failed to solve this matter. Many current residents of Barda associate the tower with Nushabe, the legendary queen linked to Barda in the Persian poet Nizami's *Iskendername*, who charmed Alexander the Great when he arrived in the Caucasus, and the main street leading to the park is named in her honour *Nüşabə küçesi*. Although such an attribution is far-fetched given the relative dates, it represents the importance of legendary tales and poetry in local ideas of history. In the 1840s, when de Khanikoff asked local inhabitants about the tower, different opinions prevailed, one option was that the tower was perhaps dedicated to a local Shirvanshah ruler and others suggested a dedication to one of the parents of Timur (de Khanikoff, 1862, p. 71). De Khanikoff opines that the latter suggestion seems unlikely to be accurate as Timur arrived in the Caucasus much later in the 14th century, but dedication to a Shirvanshah ruler seems a plausible option as there is evidence that Shirvanshah leaders spent time in Karabakh in order to be close to the Ilkhanid rulers who summered27 in the region (de Khanikoff, 1862, p. 71).

By the mid-19th century, the then 500-year-old tomb tower was in a poor state of repair, with an 1861 drawing by General Bartholomew (Dorn, 1875, p. 68) giving an impression of the tower's situation (Figure 5.2). Comparison with the earliest photographs of the tower, prior to restoration

25 Like many academics in Imperial Russia, Nikolai Vladimirovich Khanykov adapts his name depending on the language he is writing in- in this case a French version of his birth name, which he also uses in English.
26 Technical drawings and photographs of the tower before its initial conservation corroborate de Khanikoff's observations (Useĭnov, 1951, pp. 22, 102–04; Salamzade, 1960, pp. 79–86).
27 According to historical sources, Barda was actually preferred as a place to spend the winter (Mustafayev, 2018, p. 151), and it seems likely de Khanikoff is just confusing the seasons here.

efforts throughout the following century (Sysoev, 1926, pp. 57–8) demonstrate that Bartholomew's drawing might be considered illustrative to some extent, rather than a faithful, technical record of the tower in the 1860s. The minimal decorative detail on the portal surrounding the door means that it is not possible to determine which façade of the tower is portrayed here, even though they are, and were, easily distinguishable, as the northern portal is more highly decorated than the southern28. The base of the tower shows considerable erosion and entrance to the lower chamber is not visible, though this was likely buried until it was excavated by A.E. Pakhomov in 1957, as part of a conservation programme which took place in the 1940s and 50s (Garnik, 1960, pp. 183–4). Indeed, before this discovery, the only indication of a lower crypt appears to have been a large hole in the tower's floor which enabled access into this lower space (Sysoev, 1926, p. 49). Both the 1861 drawing and Sysoev's description of the tower show that although the roof of the tomb tower had collapsed, an inner dome, a common feature of medieval Islamic architecture, had survived (Dorn, 1875, p. 68; Sysoev, 1926, p. 50), protecting the interior of the monument from water ingress, preserving a certain amount of internal decoration, and preventing the tower's collapse.

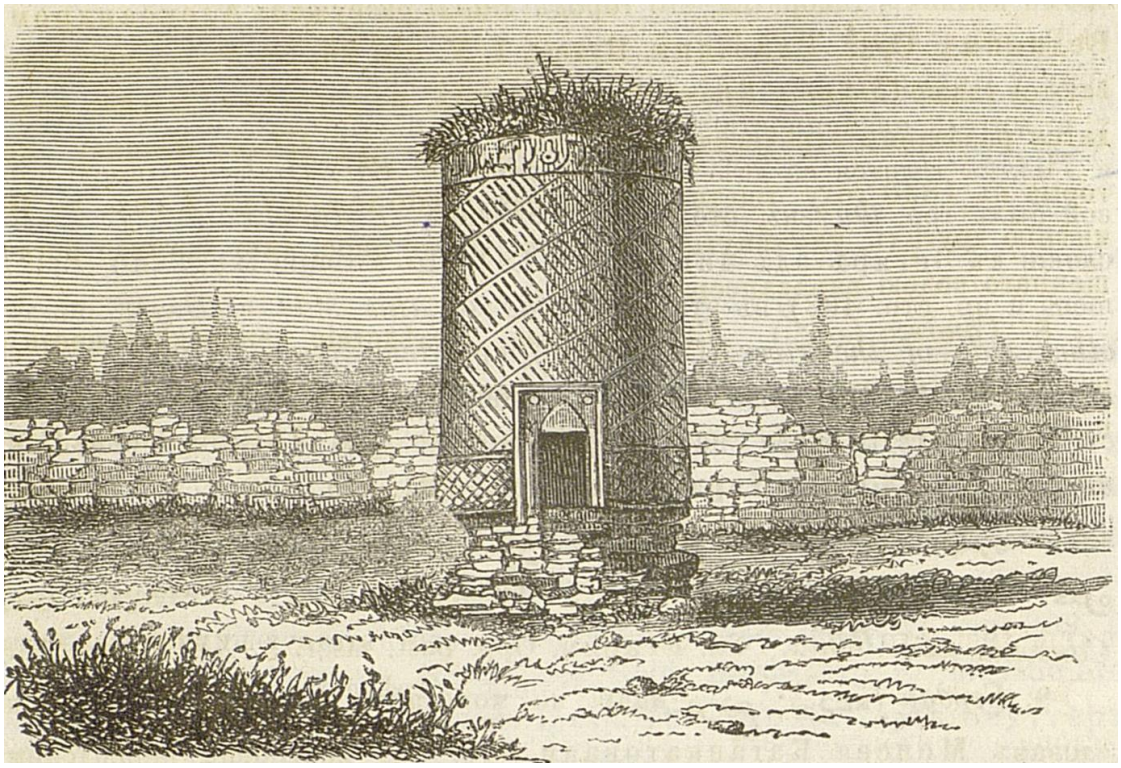

Figure 5.2 Barda tomb tower, drawn by Bartholomew in 1861 (Dorn, 1875, p. 68)

A rare glimpse of the abandoned settlement before new buildings obscured the topography of the historic town is provided by 19th century accounts. It is clear that the town had declined since its

28 In the first systematic description of the tower Sysoev appears to confuse the two entrances, stating that the southern portal is larger (Sysoev, 1926, p. 52).

historical heyday as the capital of the Arab province of Arran, as de Khanikoff and Dorn29, who were both familiar with the historical sources, were somewhat disappointed by its state. De Khanikoff's account of his visit in 1848 describes Barda as a pile of ruins and the only surviving building, surrounded by thick forest, with the devastation attributed to Nader Shah's final attack on the town in the 1730s (de Khanikoff, 1862, p. 70). Such complete abandonment may be a slight exaggeration, or by 1861 there had been a revival in Barda's fortunes, as Dorn similarly describes the ruins of a town surrounded by a pleasant forest, but also some rebuilding taking place, apparently an initiative of the local landowner Husain Ali Beg, who was also maintaining a garden around the tomb tower (Dorn, 1875, pp. 473, 475). Description of extensive ruined structures suggests few people are living in Barda itself, but Dorn notes a cemetery with new graves and a Friday market, suggesting that the site was a focus of regional activity, used by nomadic or semi-nomadic people or those perhaps travelling from nearby villages.

By 1881, Barda's slow revival continued as the Georgian archaeologist N. Tsilossani30, who had travelled to the area to find the ancient city, noted that Barda was a Tartar village with some 50 stalls in the bazaar and a mixed population of Sunni and Shia of around 60 households (Tsilossani, 1882, p. 495). In this period, the condition of the tomb tower was deteriorating, in 1861 Dorn could no longer make out the same inscriptions described by the 1848 expedition and he dedicated more effort to exploring the surrounding area in the company of Husain Ali Beg (Dorn, 1875, p. 474). Nearby the tower, he visited a graveyard containing both old and new graves where he saw an imamzadeh, recently refurbished at the cost of 3000 roubles31 and the base of a second, destroyed tomb tower, which he described as having coloured tiles decorating the wall and ceiling, with a prominent 'seal of Solomon' geometric design (Dorn, 1875, pp. 474–5). Both the cemetery and imamzadeh are still extant today (2019), although the crypt of this second tomb tower, recorded in the mid-20th century by Soviet archaeologists planning a restoration project (Sarkisov, 1960), is now in a very poor state of repair, after the ceiling collapsed sometime after 1960. The decorative tiles and other building material have been removed, so only a few walls and crypt-shaped depression remain.

29 Like de Khanikoff, the German orientalist Johannes Albrecht Bernhard Dorn adapted his name, publishing under the name Boris Andreevich Dorn in Russian.
30 This is alternately spelled Tsilossani and Tsilosani from the original Georgian წილოსანი.
31 Misquoted by Nuriyev as 30,000 roubles (Nuriev, 1986, p. 24).

By the 1920s, Barda had become a large village at the centre of a cotton growing district, and Sysoev32 describes the location of the tower as in the southeast part of the village near the local school (Sysoev, 1926, p. 49), suggesting that the centre of Barda was slightly further north than its current location. The description echoes Tsilossani's 1881 description which states that the ruins of the old city were visible to the north and west of the tomb tower, but not to the south (Tsilossani, 1882, p. 497). Sysoev finds no further ruins inside the tower's 2m high mudbrick enclosure, although a local resident was using the area to grow vegetables (Sysoev, 1926, p. 49). Venturing further south to the river Terter, Sysoev describes a broad channel, some 100 fathoms wide (c. 180 metres) with a long wooden bridge, crossing only a small channel of water in July 1924. Further south was an old, dry channel of the river containing the remains of a bridge surviving to 2 fathoms in height (c. 1.2 metres) with more than ten stone piers visible33 (Sysoev, 1926, p. 56). The bridge today is substantially more complete than in Sysoev's time, thanks to an aggressive restoration project, which rebuilt much of its superstructure in fired brick (Figure 5.3), but is now marooned on an island in the centre of the river, after construction of concrete banks some time between 2011 and 2015. Nuriev's assertions that the bridge dates to the 12th-13th century may well be accurate (Nuriev, 1986, p. 4), but it is unclear how he reached this conclusion, and difficult to revisit as restoration masks the original fabric, and its original context is lost, meaning that it is also difficult to trace the original river channel. Certainly, the course of the river has shifted since the bridge's construction, as it runs at an oblique angle compared to the current river course (Figure 5.1, Figure 5.3).

Figure 5.3 The reconstructed bridge in August 2007, before the Terter riverbed was remodelled (Elmeddin82, 2015)

32 Sysoev's description of the area is a little muddled as he describes the ruined tower and imamzadeh as located to the north of the extant tower (Sysoev, 1926, p. 54), when they are in fact to its south. Corroboration from Tsilossani suggests however his location of the earlier town is likley to be correct.

33 Although the bridge is now clad in brick, photographs (Nuriev, 1986, p. 6) from before its restoration show a stone-built core.

Barda has been the subject of relatively few archaeological expeditions, especially compared with comparable medieval cities in Azerbaijan such as Gabala (Babayev, 2014, 2015, 2016, 2017; Eminli, 2020), Shamkir (Rahimova, 2008; Dostiyev *et al.*, 2013) and Beylagan (Jessen, 1959; Ahmadov, 1962). Dorn considers how one might conduct an excavation at the site after being presented with an old coin at the market, suspecting that excavation would reveal other 'rarities' although the extent of the ruined town makes him ponder where best to excavate (Dorn, 1875, p. 475). It is unfortunate that little systematic recording or archaeological research took place at this time, as the late 19th century might have been an ideal time to excavate Barda, or at least to record the ruins, as the topography and layout of the earlier city would have been far more visible before construction of the modern city. Later layers or structures relating to the 13th and 14th centuries would likely also have been prominent. The first excavation at the city apparently dates to 1881, carried out by the Georgian Tsilossani as part of an imperial initiative which funded extensive archaeological work in the Caucasus, in advance of the Fifth Archaeological Congress which was held in Tbilisi in 1881 (Aristov, 1881, p. 2). Barda was no doubt of interest because of its connection with the Rus, after its incorporation into the Russian Empire earlier in the century. Tsilossani excavated in 14 locations in and around Barda, looking for evidence of the pre-Islamic city and the arrival of the Rus in 943AD, but was disappointed to have only found archaeological remains relating to Islamic period occupation, and it seems he published only a brief summary of work presented at the archaeological congress (Aristov, 1881, p. 2; Tsilossani, 1882). Sysoev is aware of the 1881 expedition, reporting that Tsilossani had recovered coins with Kufic script but that they had all disappeared (Sysoev, 1926, p. 63). Like Dorn, Sysoev comments on the archaeological potential of Barda mentioning that a number of artefacts dating from the Sasanian and Islamic period had been collected by locals in the area surrounding the contemporary village, including coins dating from the time of Alexander to a late Persian issue, although he does not initiate further publication or excavation (Sysoev, 1926, p. 63). At the same time, it seems that the tower also underwent some basic conservation, primarily work to stabilise the eroded base and ensure that it would not completely collapse.

In the era of Soviet administration, interest in historic monuments increased and programmes to understand and conserve archaeological and architectural remains were launched. The mausoleum in Barda was further examined by scholars (Pakhomov, 1936) and incorporated into general works on the architecture of Azerbaijan (Useĭnov, 1951, pp. 20–23) . As interest in the architectural remains of Barda increased, it became clear the mausoleum required further intervention to ensure its stability, and work was undertaken in 1939-40 to record and begin restoration, based on a 1929 architectural conservation plan, although the project was soon halted because of the Great Patriotic War (Salamzade, 1960, p. 69). However, the tower must have been in a precarious state as the

architects recommended it be filled in with earth in 1944 to prevent further collapse, and it was not until the 1950s that the planned conservation work finally took place (Salamzade, 1960, p. 69).

It is important to understand the steps taken to conserve the tower so that its current state, situation and appearance can be better understood, and alongside this work, a number of artefacts were collected, and a small archaeological excavation carried out, which provide some context for the tower's construction (Garnik, 1960). Material was recovered from surface findings around the tower, cleaning of the crypt, trenches dug around the tower's external walls for their conservation and an archaeological excavation, the first comprehensively-published account of excavation at Barda. A 3m x 3m trench was dug to the north of the tomb tower, excavated following standard methodology of the time in spits of 0.1-0.2m, and soon encountered walls made from fired brick, with the trench extended to follow the direction of walls (Garnik, 1960, p. 179). This work uncovered a multitude of objects including glazed and unglazed pottery, metal objects and coins ranging from 8th century Abbasid issues to those of the Karabakh Khanate of the 18th century, but the vast majority of datable finds were from the late 12th and early 13th centuries (Table 5.1, Figure 5.4). Many were associated with a rectangular, brick-built room, discovered some 0.2-2.2m below the surface of the trench, and similar to structures uncovered in the AEB excavations, which took place in the park between 2015 and 18. The large number of residual Abbasid coins is curious but not uncommon, as Abbasid coins are minted in similar styles until the 13th century meaning that degraded coins can be difficult to date precisely, and they were likely in circulation for long periods (Wilkinson, 1973, p. xxx)

The building excavated by Garnik appears to be around 8-9 metres in length and perhaps 2.5-3m wide, with three entrances and no evident dividing walls (Garnik, 1960, pp. 191–193) and due to the presence of Ildegizid coins, he considers that the likely earliest date for this structure is some time in the 13th century. However, the building is constructed, at least in part from reused brick, including three bricks with glazed decoration similar to that on the tomb tower which leads Garnik to propose that they are of a similar date, and possibly the same tiles as on the tower itself (Garnik, 1960, p. 180). Noting the 1322 construction date of the mausoleum and the location of the excavated structure, 'blocking the entrance' of the mausoleum's crypt he suggests that a more likely date is the late 14th century, after the tower's construction and while its importance was declining (Garnik, 1960, p. 180). The coins and pottery recorded by Garnik date predominantly to the 13th century and the lack of later coins from this excavation (Figure 5.4) as well as its relative depth compared to the tomb tower and the appearance of glazed tiles within the building, make it more likely the structure was in use in the 13th century and it was likely demolished to make way for the construction of the tower. The architecture recorded by Garnik is similar to fired brick domestic buildings found in

Nuriyev's excavations, which were also decorated with glazed tiles, described as light blue (Nuriev, 1986, p. 12), and probably similar to those which form the 'Allah' motif on the mausoleum. Nuriyev's buildings belong to an excavation layer containing material from the 10th to 14th centuries and overlie occupation of the 9th-12th centuries (Nuriev, 1986, pp. 11–16) and so it seems likely that both of these structures belong to the 13th or 14th century. It would be interesting to compare the coin evidence from Nuriyev's excavation with Garnik's assemblage to see if they were comparable, and Nuriyev certainly found a large amount of coinage in his excavation, including a hoard (Nuriev, 1986, pp. 8 & 15) but these do not seem to have been published systematically and it is unclear where in Azerbaijan they are stored. Glazed tiles of a similar period are known in this part of the Caucasus (for example Dostiyev *et al.*, 2013, pp. 396–99), corroborating the findings at Barda and certainly indicating their use in structures of this time. It is however unfortunate that the stratigraphic relationship between the building excavated by Garnik and the tomb tower was not fully ascertained during excavation in the 1950s as this would have been useful to better confirm the date and clarify the function of this structure.

Attribution	Mint Date	Mint Location	Material	Quantity
Abbasid- Khalid b. Yazid	783-4 (? Arab governor of Arminiya at various times between 813-845)	Arran	copper	1
Abbasid- Khalid b. Yazid	783-4	Arran	copper	1
Abbasid	8th century	-	copper	1
Abbasid	8th century	-	copper	1
Abbasid	8th century	-	copper	1
Ildegizid	Late 12th century	-	copper	1
Ildegizid- Abu Bakr	1191-1250? d. 1210	-	copper	1
Ildegizid- Uzbek	Early 13th century	-	copper	1
Ildegizid	Early 13th century	-	copper	1
Ildegizid	Early 13th century	-	copper	1
Ildegizid (?)	Early 13th century	-	copper	1
Ildegizid (?)	Early 13th century	-	copper	1
Ildegizid (?)	Early 13th century	-	copper	1
Ildegizid- Uzbek	1210-1256? Rule ends 1225	-	copper	1
Found around tower during conservation work				
Abbasid caliphate- Yazid b. Usayd	759/60	Barda	copper	1
Abbasid	8th century	-	copper	5
Abbasid- Governor Ahmed b. Yazid	800	Arran	copper	2
Abbasid	809-10	Al-Bab	copper	1
Derbent- Malik Muzaffar	1160-1170	Derbent	copper	1
Ildegizids. Abu-Bakr	1191--1210	-	copper	2

Ildegizid	Late 12th-early 13th century	-	copper	12
Ildegizid- Uzbek	1210-1225	-	copper	3
Jalal Al-Din	1226	Georgia	copper	1
Ilkhanid- Abaqa	1281/82	Tabriz	copper	1
Ilkhanid	First half 14th century	-	copper	1
Ilkhanid- Anushirvan	1344-1354	-	copper	1
Ottoman Turkey, Murad I	1444/45	Edirne	silver	1
Karabakh khanate	18th century	Panahabad	copper	1

Table 5.1 Coins found during excavation and conservation work on the tower in the 1950s (adapted from Garnik, 1960, 188)

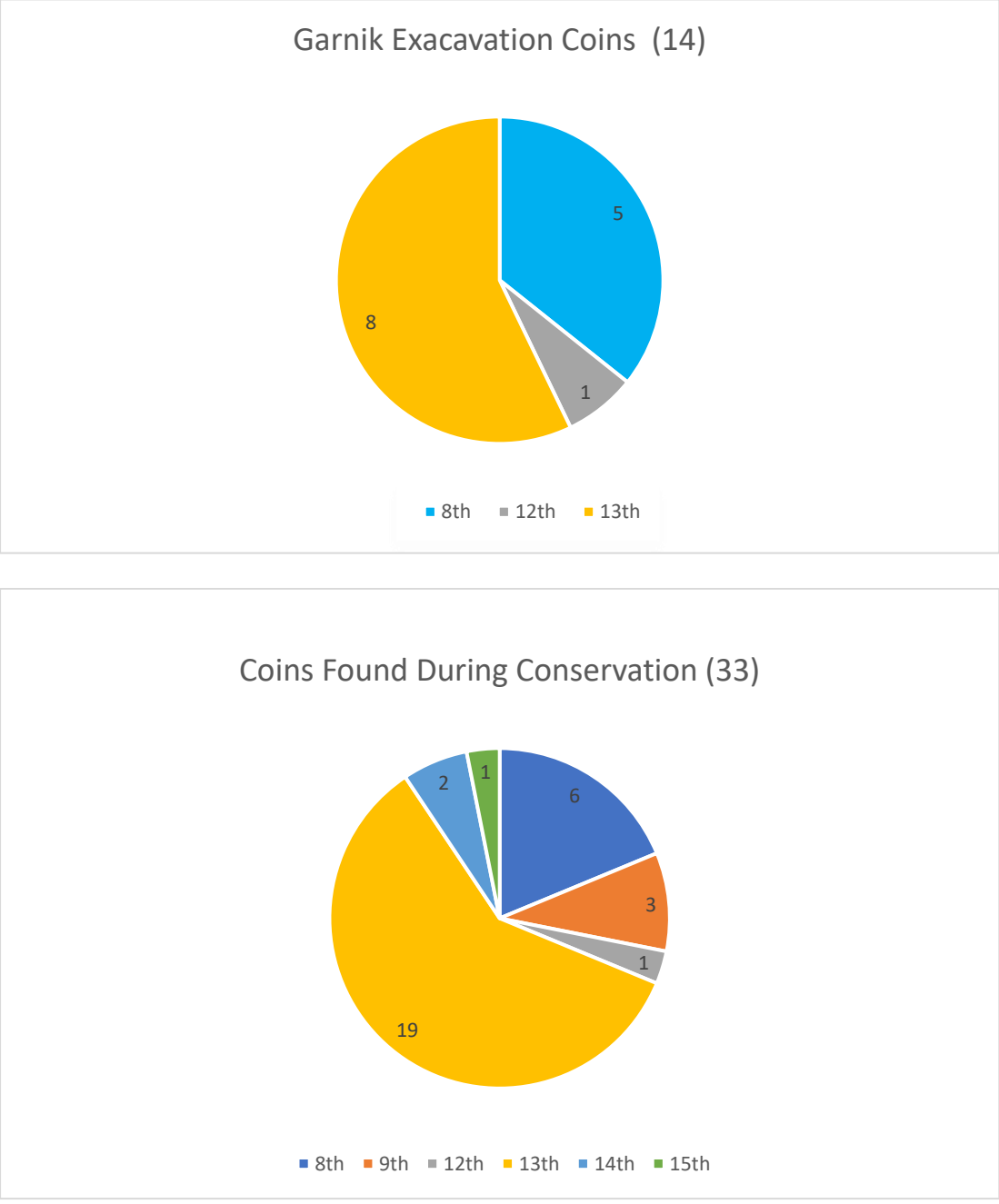

Figure 5.4 Coins by date

Garnik suggested the existence of 'other richly decorated structures' in the areas due to the discovery of glazed tiles in the upper metre of deposits which did not appear to relate to it (Garnik, 1960, p. 181). Such an arrangement would not be unusual in commemorative complexes of the Ildegizid or Ilkhanid period and examples within Azerbaijan include the Momine Khatun complex in Nakhchivan which dates to the mid-12th century and the mausoleum in Qarabaghlar village, both of which form part of larger complexes (Useĭnov, 1951, pp. 17–28). The existence of further structures in Barda is possible, especially as extensive landscaping in the area would likely cover their remains, however the lack of any evidence and indeed the rapid decline of the city shortly after the construction of the tower suggests that were further monuments were present, they were not well used or maintained beyond the 15th century.

Although small-scale, Garnik's excavation is useful to indicate some broad trends in the occupation of this part of the city. The concentration of coin finds in the 8th and 9th centuries and Ildegizid period of the 12th and early 13th centuries, suggest spikes in economic activity in Barda at these times, and perhaps an expanded settlement. Garnik comments on the absence of coins from the 9th and 10th centuries, remarking that pottery from this period is present in small quantities, with 8th-10th century material representing 10% of the identifiable sherds (Garnik, 1960, p. 182). It is possible that the city shifted in different periods, illustrating challenges in locating a specific period within a large city, especially when the overall layout of the ancient city is poorly understood as it is hidden by modern development.

The most recent archaeological excavations in Barda were conducted by A.B Nuriyev34, who undertook a research project in the region between 1984 and 1988, excavating a large area in the centre of the modern city, on Nizami Ganjavi Avenue (Nuriyev and Babayev, 2001, p. 28). Nuriyev's excavation uncovered a wide range of artefacts with the latest layer excavated consisting of courtyard houses built from red fired brick, with tiled floors and glazed decoration, which overlie 12th century occupation and so appear to date to the 13th and 14th century (Nuriev, 1986, pp. 11–17). Such evidence must be presented with a note of caution as although a large area was excavated, it does not appear to have been carried out in a manner systematic enough to provide the precise dates required to support a definitive date for these structures. Nonetheless, the scale of the excavations, the largest since the unpublished research of Tsilossani provide useful architectural and artefact parallels, as well as demonstrating extensive occupation in Barda dating from the 12th to

34 Nuriev when transliterated from the Russian Нуриев and Nuriyev from Azerbaijani Нурийев becomes Nuriyev in present Azerbaijani Latin alphabet orthography. The same is true for Babaev/Babayev and I chose to refer to them by their Azerbaijani spellings, except when citing their Russian language publications.

14th century. Although these excavations are referred to as comparisons throughout the chapter, difficulty in locating, dating, and understanding the finds from these excavations mean they are not further considered independently.

Overview of Archaeological Excavation

The AEB project undertook work in the city from 2015 to 2019 with the aim of understanding the development of Barda, characterise life in the historic city, and date its decline and abandonment. Due to the modern city's extent, the area available for archaeological investigation was limited, and so a public park which surrounds the tomb tower was selected as the focus for archaeological investigation. Two large trenches and two smaller ones were excavated in the park, with further test trenches in other accessible areas of the city to quantify archaeological deposits and identify variations in occupation. As the park contains the most prominent monument to Mongol rule in this region of Azerbaijan, it was ideally suited to investigate changes between the 12th and 14th centuries. The two main trenches aimed to consider the tower's construction in 1322, and delve further into how, and for how long the monument might have been used.

Trench 1 was the largest trench within the park, and was situated to the southeast of the tomb, starting as a 5m x 5m test trench to assess the depth and character of deposits, and subsequently extended to 7m (E-W) x 5m (N-S) by the end of the 2015 excavation season. At the start of the 2016 season, trench 1 was further extended to measure 10m x 10m, avoiding some trees in the north-eastern corner, and over the following three years was excavated to a maximum depth of 80.1m OD, some 4 metres below the modern surface (Figure 5.5). Radiocarbon dating throughout the sequence indicates that excavated deposits date from the present day to the 10th century, with a significant proportion from the 12th-14th (Figure 5.6). Trench 2 was located against the southern mudbrick enclosure wall, aiming to date its construction by examining associated buildings and occupation, to see whether it pre-dated the tower. Measuring 7m x 5m and excavated to a maximum depth of 82.26m above OD, the trench extended to 2.5m below the ground surface of the park. Deposits in Trench 2 were of a similar date to those in Trench 1. Smaller trenches 3 and 5 were dug to assess whether activity was broadly similar across the park, with Trench 3 situated a few metres east of the tower and Trench 5 near the north-eastern corner of the enclosure. Both were excavated to around 1.4m in depth with the earliest deposits in each trench dating to around the period of the tomb tower's construction in the early 14th century.

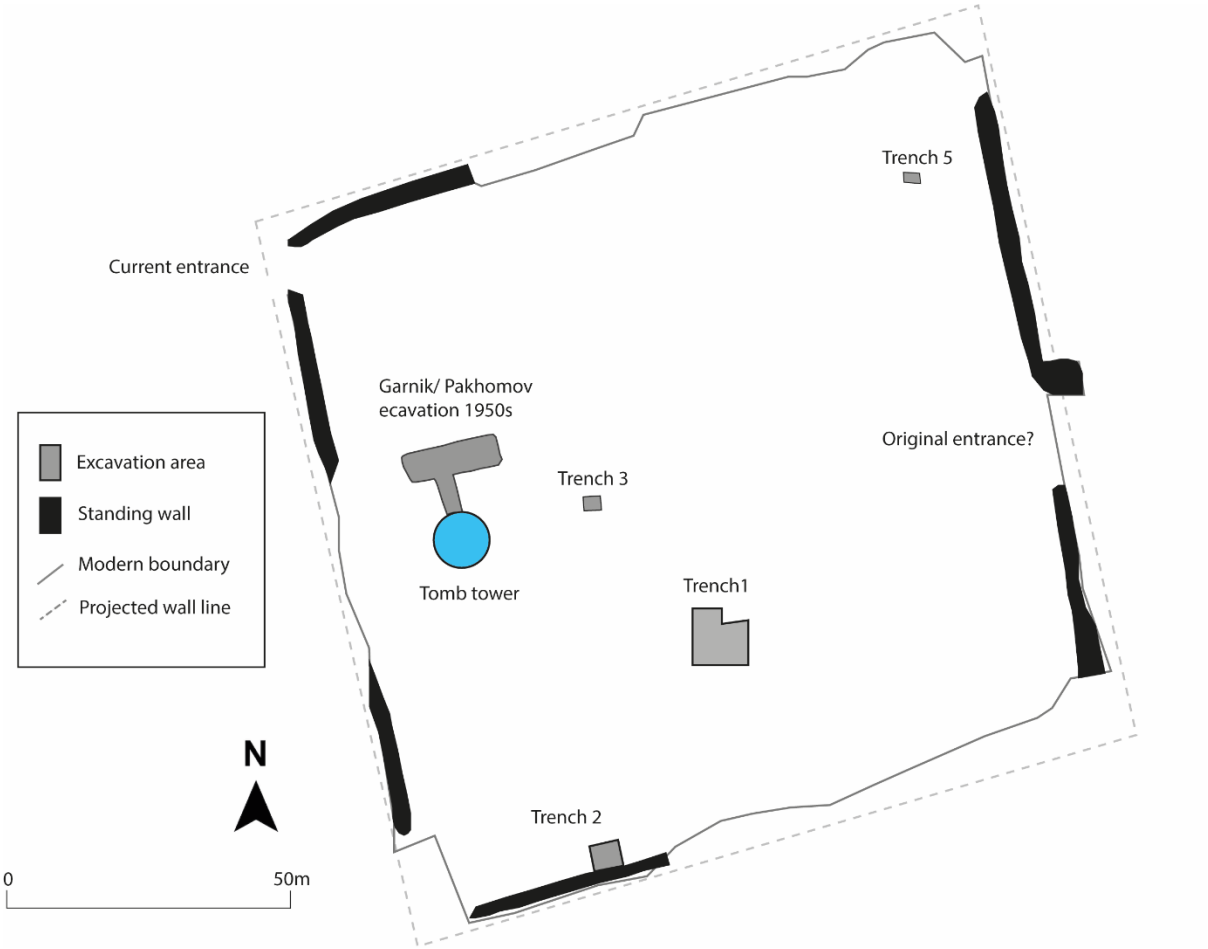

Figure 5.5 Location of trenches within Barda park/ Torpak Kala (adapted from a plan by Alexis Pantos)

The trenches were excavated using single context excavation and recording techniques (Museum of London Archaeology Service, 1994) so that finds and radiocarbon samples can be traced back to a specific context and phase. This is important because it means that deposits were dug systematically to reduce the risk of mixing artefacts from different phases. Material for dating, which includes coins, pottery and radiocarbon samples were taken from secure contexts, ideally from primary 'use' deposits such as the fill of a tandoor oven or hearth. Most of the deposits excavated across all the trenches in the park (site code AEB01) consisted of outdoor activity, with few structural remains. It was therefore important to identify and excavate cut features in the sequence as they seal dating material and identify changes between phases, which in the absence of any solid architectural remains, consist of trampled surfaces and build-up of rubbish and debris. The sequences in all four trenches were split into phases which can be dated relatively precisely, thanks to stratigraphic analysis, coins and radiocarbon dating (Figure 5.6).

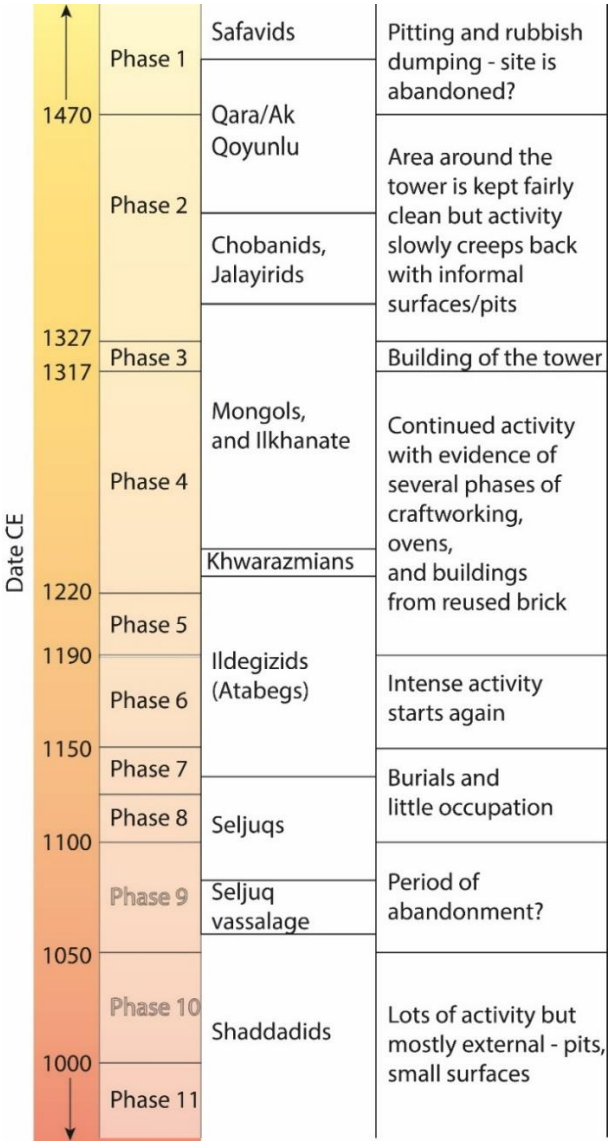

Figure 5.6 Timeline of archaeological deposits from excavations in central Barda (created from radiocarbon dates which will be published in (Wordsworth, forthcoming)

Excavation methodologies and styles impact interpretation, especially in areas with no structural remains. Separating the deposits into distinct periods of activity could be problematic, as many phases, especially in Trench 1, contained similar and continuous occupation. Some transitions were clear, such as those between the later phases 1-4, where changes were abrupt as the deposits formed in different ways, from rapid levelling deposits to slow build-up of occupation debris. The key period, from the mid-12th to early 14th century spanning from before the Mongol conquest until the construction of the tomb tower, comprises four archaeological phases (phases 6-3), of which the earliest three are formed in a similar way. Occupation is continuous, with sub-phases of modification and features such as tandoor ovens repeatedly rebuilt in the same location. In this case, separation of phases was based on horizons of built and cut features (such as pits, hearths, and tandoor ovens), grouping occupation and floor deposits at similar stratigraphic positions to constitute an activity

phase. Each phase (Figure 5.6) had numerous surface horizons which were excavated together for efficiency, with features grouped, based on their stratigraphic location. Once all the visible features had been excavated at a certain level, the next series of floor surfaces were removed to reveal those of the following phase, aiming always to excavate the latest deposits first, and prevent mixing of earlier and later activity. The expansion of the original trench, stepping for safety and the need to backfill and re-excavate the trench at the start of each season meant that records, in particular for phase 4, but to a lesser extent for phase 5 were created over multiple excavation seasons and had to be carefully considered after excavation.

Archaeological remains pre-dating arrival of the Mongols

Trench 1 Phases 5 and 6 (c. 1150-1220)

Careful stratigraphic analysis and radiocarbon dating indicate that archaeological remains in phase 5 represent the situation in Barda in the early decades of the 13th century, before the arrival of the Mongols (Figure 5.7). Occupation in this period was dense, and phases 5 and 6 are continuous, containing multiple features, indicative of intensive occupation, while the layout and general use of the area remained the same. Neither horizon had significant structural remains, but no abandonment phases were evident, and the style of occupation appears informal and somewhat makeshift. Characterised by work surfaces, pits, hearths and tandoor ovens, these phases demonstrate a range of activities, such as cooking and craft processes (Campbell, 2016a). A series of postholes surrounding these features show that work areas were likely covered or shaded with occasional roofing structures, or possibly enclosed with timber or wattle walls, which did not leave an archaeological signature (Campbell, 2017, pp. 3–5). Fired-brick structures were built using re-used material, which was common across Barda and elsewhere in the Caucasus in this period (Garnik, 1960; Nuriev, 1986). Although there was no formal division of the space, there was a difference in organisation between the east and west half of the trench, with activity focussed in the western half, which could be related to structures beyond the edge of the trench. On the eastern side, a series of surfaces mirrored the build-up of occupation in the west, but contained more cobbles and large sherds of pottery, laid to create a stable and well-drained surface, perhaps a work surface or walkway. The archaeological remains include cooking and craft-working activity, perhaps in the yard at the back of a house with domestic and craft activities carried out by a family group, or in a more commercial setting, such as a production area or bazaar. Artefacts underline this commercial activity, with several coins minted in the late 12th and early 13th century in phases 5 and 6, remnants of metal weighing scales, and artefacts which have travelled to the city from the broader region

(Wordsworth, forthcoming). Assuming the veracity of 19th century accounts, this activity is on the south-eastern edge of the medieval city, probably a suburban area used for trade, light production and exchange which may have been in intermittent use.

Figure 5.7 Plan of activity area in phase 5 showing tandoor oven, brick lined-hearth with adjacent brick structure and storage pot (Figure 5.8)

Figure 5.8 Buried pot near hearth, probably used for storage

As activity in Trench 1 gives the impression that this district is on the edge of a city rather than centrally located, it is helpful to identify trends in occupation, rather than tell an overarching history of Barda in this period. The pattern of intensive occupation continues in phase 5, continuing a trend from at least the mid-12th century which persists well into the 13th. The deposits are similar to those in phase 6, with a lack of substantial buildings suggesting occupation may be non-residential, or constituting domestic activity taking place alongside craft and trade. Objects recovered from phase 6, which dates from around 1150-90, include a scale pan (Figure 5.9), small copper alloy weights, multiple coins and loom weights, indicating thriving trade and craft activity. Exchange of high value materials, perhaps metals, precious stones, spices, or medicines is suggested by the small scale pan, while lost coins hint at an area used for trade. Loom weights and bone weaving tools show that yarn processing and weaving were also taking place. Small, glazed vessels with wide, flat rims were found throughout this part of the sequence (Figure 5.10), and have been identified as ink pots (Bakhtadze, 2013, p. 65), though they were likely used for a variety of purposes including for salt and spices. The infrastructure of tandoor ovens, pits and hearths continues in the overlying occupation phase 5, but the finds appear less rich and varied. Although the small size of the excavation means the trend is inconclusive, only one coin was recovered from phase 5, alongside relatively small quantities of metal, worked bone, or substantially surviving glass or ceramic vessel. The assemblage suggests that activities were changing, perhaps to more mundane craft and domestic activities, and this slight decline is also marked by an increase in the reuse of earlier materials such as brick and ceramics.

Figure 5.9 Scale pan before and after conservation and an example of balance scales from the Royal Mint in London (Gilda, 2013)

High status items also appear in the somewhat makeshift environment which characterises phase 5, likely indicating a thriving economic situation elsewhere in the city, although their appearance here may also suggest a decline in the city overall. A small cobalt and lustre bowl was found in the occupation deposits next to the hearth in phase 5 (Figure 5.10) and was one of only a few complete vessels recovered from excavations in central Barda. The body is of stonepaste, made primarily from crushed quartz, to enable a finer and more delicate body, with its lustre decoration one of the

Iranian world's most distinctive designs in the 1170s-1220s (Watson, 2004, pp. 347–361), although production continued to some extent through the 13th century (Mason, 1997, p. 116). This object demonstrates Barda's inclusion in a much wider artistic and commercial world, apparently inclusive of areas which might be considered 'marginal' to the city centre. Alongside this lustre bowl, several other sherds found in layers of this period were likely imported to Barda from the south, including further sherds of lustre ware and enamelled Mina'i ware (Akhalaia and Wordsworth, forthcoming). Traditional narratives link the production of such wares almost exclusively to the city of Kashan in Iran, although it is clear that stonepaste vessels are produced more widely (Watson, 2004, pp. 54–55), including at several sites in the Caucasus including Rustavi and Tbilisi (Bakhtadze, 2013, p. 13) and production of lustre ware within regional centres seems plausible.

Figure 5.10 Lustre bowl from phase 5 in Trench 1, 'ink pot' from sondage in north west of trench 1, phase 5/6

Archaeological deposits dating from the time of the Mongol Conquest to the early 14th century

Trench 1 Phases 3 and 4 (c. 1220-1325)

Phase 4 dates broadly to the period which involves the disruption caused by the arrival of the Mongols and displacement of Jalal al-Din Khwarazmshah into the Caucasus until the construction of the mausoleum in the early 14th century. Historical sources indicate that events in the 1220s led to significant instability in the Caucasus region thanks to the dual disruptions of the Mongols and Jalal al-Din (see for example Nasawī (trans. O. Houdas), 1895; Juvaini (trans. J. Boyle), 1958; Kirakos Gandzakets'i (trans. R. Bedrosian), 1986). In Barda, the archaeological remains indicate a certain amount of continuity, with occupation in Trench 1 very similar to that of earlier phases 5 and 6. In phase 4, tandoor ovens, pits and hearths constitute the main occupation evidence, with sub-phases of remodelling and refurbishment showing continuous and long-term occupation. During this phase, fired and mudbrick-built structures also appear in the park, but are fragmentary because of later regeneration and robbing activity, and so their function and context is hard to understand. Despite historically attested events, the excavated remains in Barda have no indication of destruction or prolonged abandonment during this period.

Understanding the transition between phases is crucial to reach an interpretive narrative of Mongol activities, and their impact in the Caucasus. Radiocarbon dating of a seed in the final use of a tandoor in phase 5, combined with further radiocarbon dates and analysis of coins and pottery across the sequence, indicate that one of the tandoor ovens in phase 5 was likely used for the last time in the 1210s. Even though other features in the phase may continue in use slightly longer, the transition between the two phases lies in the crucial period when the Mongols first arrive in the region. A similar style of occupation to phases 5 and 6 seems to continue in phase 4, with the addition of fired brick structures. The most substantial of these structures, a wall (wall 36) running northeast-southwest in the northern part of the trench appears to have been constructed fairly soon after the last use of the tandoor in the 1210 as the oven's clay lining survives to more than 60cm (Figure 5.11) and is in good condition, except where it is truncated by the construction cut of wall 36. The curious relationship suggests that either the tandoor oven was almost completely buried during its use or that occupation deposits surrounding its 'above ground' portion built up quickly and thus preserved the oven in good condition. Either way, it seems the wall was built soon after the tandoor oven's final use, and dates to the late 1210s or 1220s, the period which witnessed the initial arrival of the Mongols and the instability caused by the activities of Jalal al-Din.

Figure 5.11 Left: the tandoor oven representing latest activity in phase 5, clearly showing its truncation by the construction cut for wall 36, right: David and Vasif collecting soil samples from the fill of the tandoor oven

Alongside wall 36 and at the same archaeological level were several other structures built from fired brick, including what appears to be a modification of the original structure. Wall 157 runs on the same northeast southwest alignment as 36, with only a small section of this wall exposed in the south-eastern corner of the trench. Alongside 36 were two further, but less substantial wall fragments on the same alignment, wall 37 and wall 155, with a further remnant of a brick structure 170 on the western edge of the trench to the north of wall 36 (Figure 5.12). These walls were constructed from reused fired brick, ranging from orange to pinkish red, similar to that described by Nuriyev (Nuriev, 1986, p. 12), and are likely different firings of the local clay source, similar in colour to the local pottery fabrics. Reusing bricks seems to be widespread in Barda at this time as Garnik also notes their use as a construction material (Garnik, 1960, p. 180) and photographs published by Nuriyev show the latest structure in his sequence is made from worn bricks of different colours (Nuriev, 1986, pp. 9–13) indicating that the reuse of bricks was widespread in this period. However, no earlier fired brick structures were found in the AEB excavation, and the inclusion of occasional mis-fired bricks within the construction shows that a wide range of building materials were used. Such a trend is noticeable in this region, where it is common to build walls out of multiple materials including fired and mud bricks, worked and unworked stone and probably even wood, with many examples of three or more materials used side by side in a single phase of wall (see for example Dostiyev *et al.*, 2013, pp. 30–31). These structures are not particularly substantial with the largest wall 0.76m wide and surviving to eleven courses or 0.68m in depth. It is likely that they represent the foundation of a building which had a mudbrick superstructure, similar to that found in Trench 2 (Naskidashvili, 2017, p. 15).

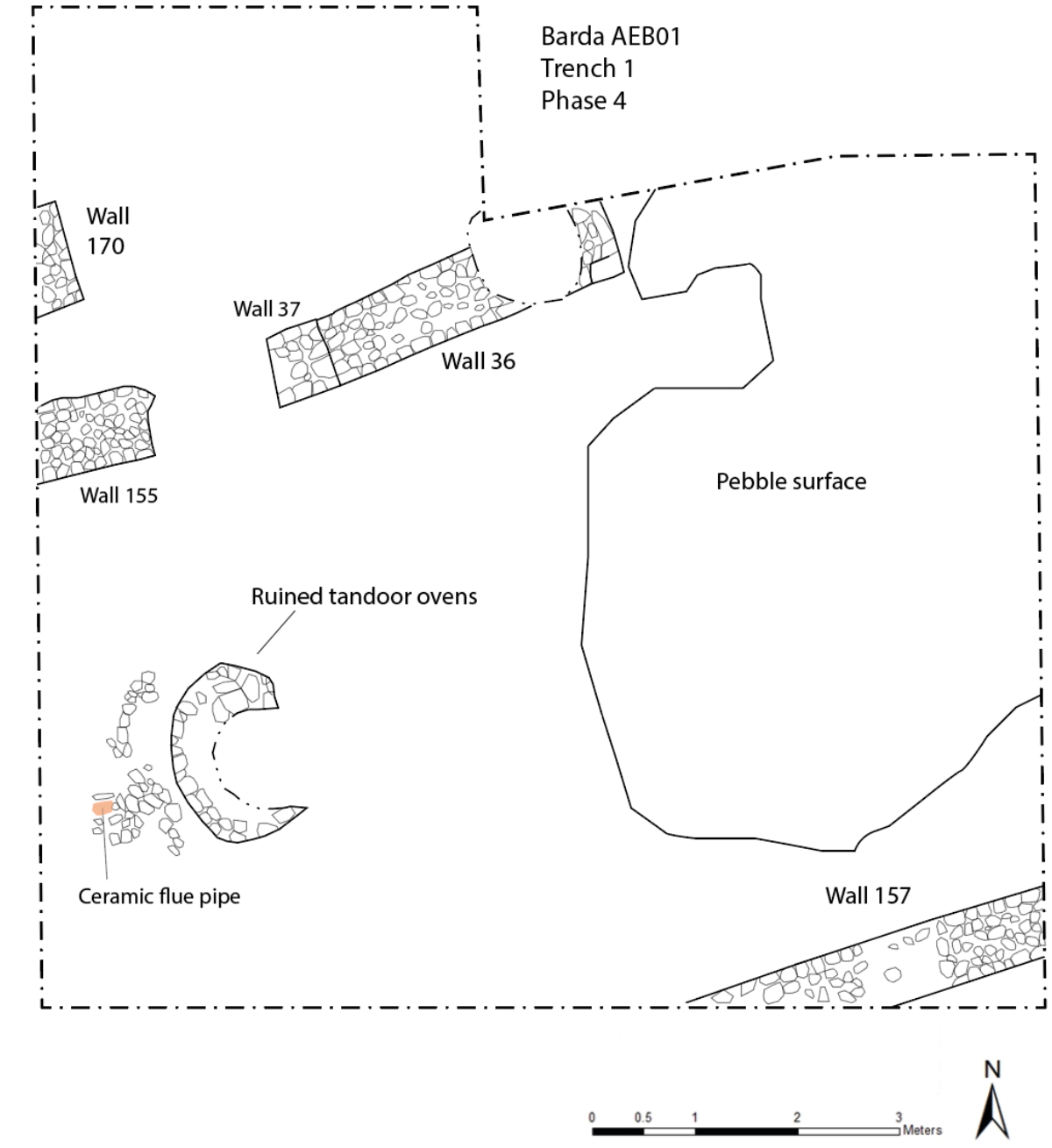

Figure 5.12 Plan of key features in phase 4, trench 1

Unfortunately, no occupation or floor surfaces associated with these structures were found due to the transition between phases 4 and 3, which is marked by a clearing of the buildings in phase 4 in preparation for the 14th century tomb tower's construction, and so the occupation phase of these earlier buildings is hard to date. This significant demolition event cleared the area before the levelling activity of phase 3, truncating walls and other surrounding features such as tandoors, and transforming the area into an open park space which surrounds the tomb tower to this day. As the transition into phase 4 from phase 5 has been pinpointed by radiocarbon dating to within a decade

or so of the 1210s, and the transition between phases four and three to shortly before 1322, phase 4 has a secure beginning and end date, but as many features are truncated, the sequence of events within the phase is more difficult to chronologically order with confidence. Occupation in phase 4 can therefore only be interpreted as dating broadly to the 13th century, rather than being able to discern differences in occupation during this long phase of occupation.

Several cut features were found at the same depth as the fired brick wall foundations, which demonstrate similar activities are taking place in the area to those in phases 5 and 6, with tandoor ovens, pits and cobble surfaces present. The major difference is the addition of brick architecture, and the location of the walls indicate they are likely exterior walls for structures which extend out of the north-western and south-eastern edges of the trench. Features such as ovens and pits found centrally in the trench likely indicate activity in a courtyard or open area, assumed to be broadly contemporary to the use of the brick structures. Nuriyev found similar buildings in his excavation, adjacent to an open area where he found several tandoor ovens (Nuriev, 1986, pp. 11–13). Similar to the activity in earlier phases, other features consist of pits, possibly dug to hold a post, for storage or use as a toilet, and reused for rubbish disposal. The fills again indicate low-level craft activity going on in the area, with a large pit in the north-eastern corner of the trench containing many large sherds of pottery, especially glazed, decorative pieces which appear to have been collected and partially prepared for re-working into other objects (Figure 5.13). Thicker base sherds have been removed from vessels and perhaps stored or latterly discarded in this pit. Re-worked glazed ceramic objects have been found throughout the upper half of the sequence, with sherds re-modelled as tokens or gaming pieces, and pierced disks which were probably used as loom weights or spindle whorls (Figure 5.13). Such material indicates a continuation of activity focussed on light craft and domestic activities from the mid-11th century into the 13th and possibly until the construction of the tower in the early 14th century, when the use of this space changes drastically.

Figure 5.13 Above Part of the ceramic assemblage from pit [157] which was in the north-eastern corner of trench 1, a reworked glazed sherd, maybe for use as a gaming piece or spindle whorl recovered from the base of a demolished tandoor in phase 4

Despite the difficulty of differentiating sub-phases within phase 4 leading to its rather imprecise dating attribution of an entire century, a cluster of tandoor ovens demonstrate reuse of the area and a continuity of its layout, with at least four rebuilds of an oven in the same place (Figure 5.14). Within this cluster, one oven survives as a near complete structure, replacing an earlier tandoor of which the lining and ashy fill survive. Remnants of an earlier, brick flue were found below this lining, while two later oven structures survive only as the curving brick foundations and a fragment of

ceramic flue pipe. Ceramic flues are unusual within the sequence, with the only one recorded in Trench 1 dated by radiocarbon to the early 15th century (Wordsworth, forthcoming). Earlier ovens tend to have a simple brick chimney to draw air into the enclosed tandoor. It may be a gradual change in the style of oven or that these ovens are used for different purposes, which require hotter burning temperatures. Although ovens often have a domestic use, it seems likely that the various styles of oven excavated in Barda were used for a range of domestic and non-domestic functions. Fragments of cooking pots show that food preparation was taking place in the area, which could relate to domestic activity or support for a small craft or commercial zone (Figure 5.15). Many ovens in this phase are completely destroyed, preserving only the brick foundation, indicating demolition of the later phase of occupation is dramatic and presumably obliterated much of the archaeological information which represents occupation of this area in the latter part of the 13th century.

Figure 5.14 : Western edge of Trench 1 at level of destruction and regeneration with the three tandoor oven structures visible in the foreground and nw-se running wall at the far end of the trench (the lower area in the centre is the depth reached in the first year of excavation)

Figure 5.15 Partially reconstructed cooking pots found in phase 4

The widespread truncation of occupation in phase 4 at a level of between 82.7m and 82.6m OD seems to be an intentional demolition of structures and occupation in the area to prepare for a regeneration associated with construction of the tomb tower by 1322. Such a demolition might be associated with accounts of Mongol destruction if careful stratigraphic excavation and radiocarbon dating had not pinpointed the date so precisely, but this 'destruction' appears to be an act of Mongol regeneration rather than devastation. Following this event, a thick layer of material comprising occupation debris mixed with a large quantity of mudbrick was brought into level the area, covering the remnants of occupation to make a park surrounding the tomb tower. It is likely that this 40cm-50cm thick deposit consists of building material and occupation debris from the surrounding area, perhaps including the mudbrick superstructures of the fired brick walls excavated in Trench 1. Finds recovered from this layer show a wide chronological range, with a mix of pottery dating from three or four centuries before its deposition in the early 14th century, and further underlining the scale of the event and depth of the demolition. The composition of this layer, relatively sterile, with no sign of occupation deposits such as ashy or humic layers, built or cut features within indicate that the material was deposited as a single event, rather than a slow build-up from ongoing occupation. Despite the lack of occupation debris and homogeneity of the layer, it was rich in finds, demonstrating a density of occupation in Barda in these centuries. The deposition may indicate a 'bulldozing' style destruction of an area which is at least partially abandoned where

the standing mudbrick remains have been flattened over the remnants of occupation, ensuring that the ground surface is level afterwards to facilitate the installation of the park.

Following the levelling of this area, the tomb tower was constructed at the same time as the mudbrick enclosure wall. From this period, the space is archaeologically empty, indicating its use as a garden or open space. The tower has been substantially conserved and partially reconstructed in the 20th and 21st centuries, but Bartholomew's etching alongside Sysoev and Salamzade's descriptions show it has largely retained the approximate decorative scheme and structural style of its earlier construction (Dorn, 1875, p. 68; Sysoev, 1926; Salamzade, 1960). One major exception is the conical roof, which was rebuilt in concrete in the mid-20th century (Salamzade, 1960) and renovated with the addition of turquoise tiles between 2015 and 2018. The inscribed year 1322 given by de Khanikoff based on his visit in the 1840s provides the date of construction for the tower. Phase 3 broadly correlates with this date, which also corresponds to evidence from radiocarbon dating, coins, and ceramics. Little activity is seen in the period after the tower's construction, demonstrating that in the 14th century the park area was maintained as a garden, with no formal paths, floor surfaces or intrusive occupation activity such as ovens, hearths or rubbish pits as seen in the earlier phases. Such activity does return to this area, with tandoor ovens, pits and hearths reappearing in the earliest parts of phase 2, with radiocarbon dating indicating that this does not appear until some 100 years after the tower's construction, probably in the early 15th century (Wordsworth, forthcoming).

According to the archaeological deposits excavated in Trench 1, the situation in Barda is broadly as follows: Barda witnesses an increase in activity, at least in this part of the city in the second half of the 12th century, consisting of a mixture of intense domestic and light craft activity. The phase that follows spans the 13th century and includes probable mudbrick buildings with fired brick foundations, further domestic and craft activity. There is no evidence of destruction or abandonment until hints of decline or desertion in the latter part of the 13th century, based on abraded ceramics on the interface between phases 3 and 4, before the tomb tower's construction. This massive regeneration of the area and conversion to a park indicates significant investment in Barda at the start of the 14th century, but the extent of the demolition means that much of the 13th century occupation has been destroyed and is difficult to fully understand. Barda's revival in the early 14th century appears to be short-lived with the area used as a park for a century or so before the return of makeshift domestic activity to the area, with the appearance of cut features such as tandoors and pits in the 15th century.

Trench 2 Phases 3, 4 and 5 (c. late 12th century-1325)

Trench 2 was situated against the mudbrick enclosure wall to investigate associated deposits and understand its construction date relative to the tomb tower. Occupation patterns in trenches 1 and 2 are similar, although slight variations make it difficult to equate the phases exactly. A notable variation in surface heights between the trenches exacerbates the issue as similarly dated deposits in Trench 1 are some two metres lower than in Trench 2, a big difference as they are less than forty metres apart. Two phases of brick buildings were excavated in Trench 2 (Naskidashvili, 2017, pp. 14–16), with both constructed from reused fired brick, similar in style to those in Trench 1. Based on coin, pottery and radiocarbon evidence, the two building phases are roughly equivalent to phases 4 and 5 in Trench 1, with the lower walls likely dating to the end of the 12th or early 13th century (Figure 5.16). These are truncated by construction of a semi-subterranean basement room, likely in the 13th century. The enclosure wall sits some 40 cm above the late 12th/early 13th century phase, with further deposits relating to the later basement phase forming before levelling for construction of the Torpak Kala wall. Extensive remodelling in Trench 1 suggests that major landscape alteration took place in the early 14th century, and Garnik's earlier excavation shows extensive Ilkhanid-era investment in the city, with the construction of the crypt, tomb tower and enclosure wall (Garnik, 1960, p. 191). Construction of the rammed earth wall would require significant gathering and preparation of building material, and alteration of the area may also relate to this activity, although no direct evidence of this activity was detected in the excavations.

Figure 5.16 Trench 2, phases 5 and phase 4 viewed from the top of the pakhsa enclosure wall. The basement is in the top left, with the bench or 'ramp' built on to the external face of its southern wall.

The fired brick structures are probably foundations for earthen buildings, and a mudbrick superstructure is partially visible in the earlier wall (Naskidashvili, 2017, p. 15). However, this structure only survives to four courses, with a few centimetres of earthen superstructure indicating that the fired brick foundations were insubstantial, and the construction cut was not deep. Unlike in Trench 1, surviving floors consist of compacted, trampled mud, probably indicative of low status dwellings or functional structures. It is possible that a more sophisticated floor structure has been lifted for reuse, but the discovery of numerous coins within two cm of 83.42m OD in the lower structure and all within the 'room' space created by the fired brick structure indicates that they lie on a level surface, the mud floor of this building. Such floors were difficult to detect during excavation because they are a slightly compacted version of the surrounding ground surface and are often worn, but they were recognised during excavation, and are common throughout the sequence as both interior and exterior surfaces.

In terms of the layout of the structures, it seems they are closely related, with a certain amount of continuity in use of the space which ends with the construction of the large mudbrick enclosure wall. The earliest structure was in use in the late 12th and early 13th century, corresponding with phase 5 in Trench 1, according to coins found on its floor (Wordsworth, forthcoming). The purpose of this building is unclear, although its construction seems to be somewhat haphazard with the earlier wall phase made of reused bricks, a compacted mud floor and a slightly crooked configuration with the north-south wall not quite at a 90 degree angle to its perpendicular partner. Such a construction style indicates that the building may be opportunistic in nature, perhaps taking advantage of the apparent boom in Barda in the 12th century, although too little was revealed to indicate whether it was a domestic or commercial premises. The number of coins on the floor and lack of overt domestic occupation perhaps points towards a more commercial function, although it is possible that domestic and commercial activity may be happening side by side. The surviving upper course of the wall is almost 40 cm lower than the base of the mudbrick enclosure wall (Figure 5.17), with the structure extending southwards and westwards out of the excavated area, so further excavation of the building was not possible. Attached to the southern face of the northern wall of this structure was a compacted mud structure with a facing built of fired brick (Figure 5.16). This has been interpreted as a ramp into the second phase of structures in the northwest corner of the trench (Wordsworth, 2016, p. 18; Naskidashvili, 2017, p. 15), although seems more likely to be an eroded part of the earlier structure such as a bench, built onto the edge of this wall.

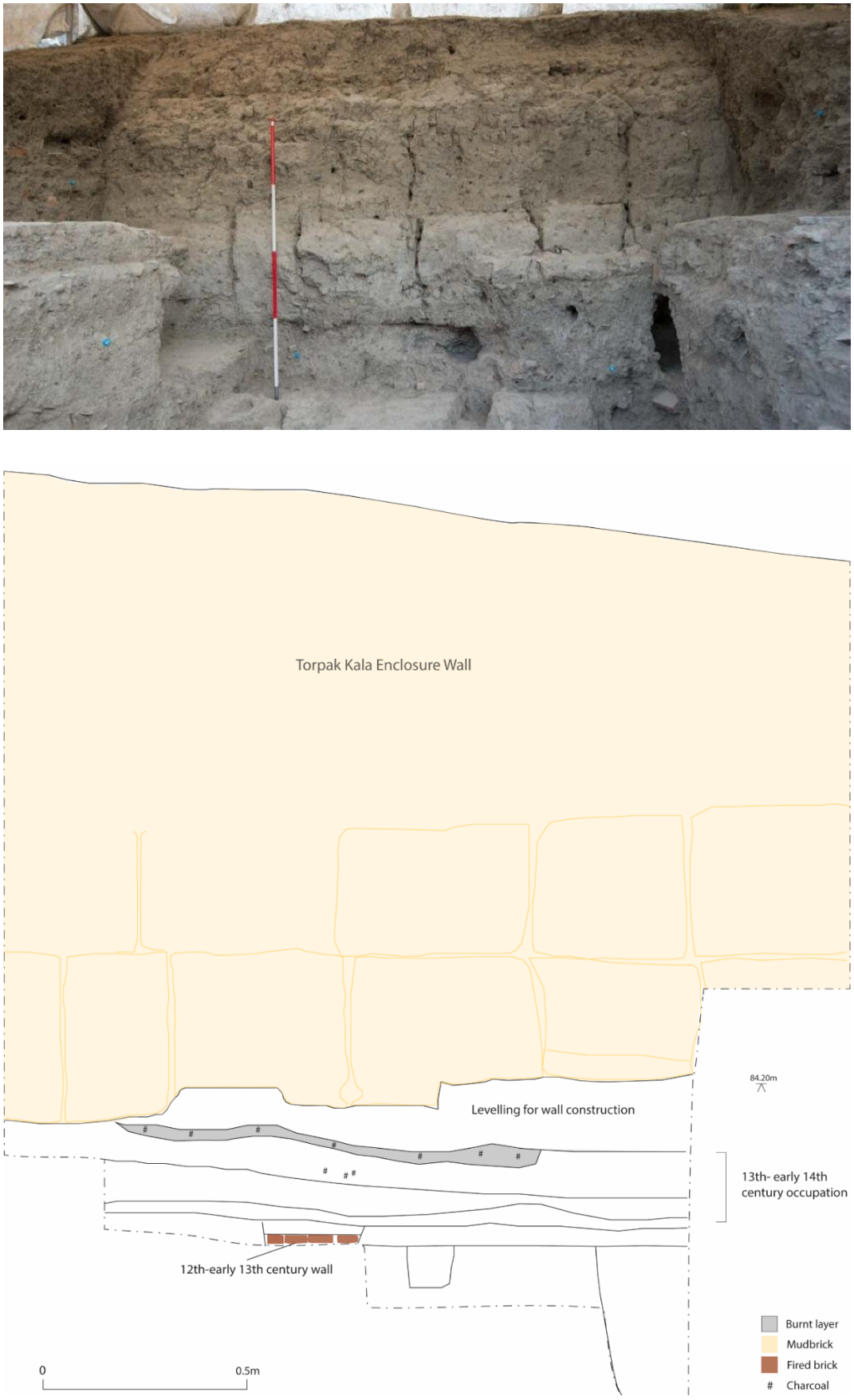

Figure 5.17 Northern face of earthen enclosure wall within Trench 2. Photograph and section drawing, the base of this wall is approximately 84.00m OD

The later phase of fired brick wall foundations survives to a greater height, thirteen courses of a wall which partially reuses the earlier walls as a foundation. This perhaps indicates an adaptation of the pre-existing structure, rather than a complete rebuilding. The structure is located in the north-western corner of the trench and was partially subterranean, with at least one step surviving, which leads down into the room (Naskidashvili, 2017, pp. 14–15, Figure 5.18). By the time the later structure was in use, the earlier walls appear to have been dismantled, as they are below the construction level of the subterranean structure and no mudbrick superstructure is visible in the western part of the earlier phase. In terms of use and function of these structures, relatively little material survives, and no floor surface was identified during excavation, so it was likely a compacted mud surface. The partially subterranean nature suggests that the room may have been a storage area and cleared before abandonment, leaving little occupation debris in the room. A small hearth feature was excavated inside the room and may relate to its primary use or informal occupation after its abandonment.

Figure 5.18 Entrance to partially subterranean structure in northwest corner of the trench with step and threshold visible, looking north; the entrance has a finely constructed face with more complete brick selected for this area

The basement structure and enclosure wall have no direct relationship, but their relative heights, and the basement's likely correspondence with lower surfaces to the south indicate the construction and use of this structure pre-dates erection of the enclosure wall. The basement likely dates to the first half or middle of the 13th century, broadly corresponding to phase 4 in Trench 1. Unlike in

Trench 1 however, it is possible to see the whole lifespan of these buildings, including their decline. The most dramatic dilapidation deposit is the layer of broken pottery which lies between the two structures and relates to the final occupation and abandonment of the earlier phase (Figure 5.19). The deposit predominantly consists of large fragments of cooking or large storage pots, which are unusually complete compared to the rest of the site, indicating that they have probably broken *in situ* and then quickly buried. Alongside the unglazed pots were sherds of finer glazed wares and fragments of glass, although these were considerably less complete and unlikely to be *in situ*. In general objects in the assemblage can be dated to the early 13th century thanks to a lustre fragment and the fragments of a distinctive type of cooking pot, containing fragments of reused turquoise glazed wares set in the clay fabric for decorative effect. Such pots are dated to the 12th-13th century by excavations at the nearby city of Shamkir (Dostiyev *et al.*, 2013, p. 241) and so the abandonment of this structure likely occurred in the first half of the 13th century. Several later pits truncate this layer and have disturbed or removed part of these vessels, but even with this disturbance they constitute one of the most complete assemblages excavated at the site, and the spread fits well into the space created by the lower phase of walls indicating the pots were probably stored in this room and broke as it collapsed.

Figure 5.19 The pottery spread between earlier and later phase of brick buildings, looking east

In terms of function, this could be a large domestic assemblage of cooking vessels and provisions, destroyed by a collapse of the mudbrick superstructure, or perhaps it is a small store within a

commercial unit. Apart from the layer immediately above the pottery spread, the deposits around these structures are loose, with relatively small amounts of fired and mudbrick building material. Infill of the basement is also loose, with fired brick spread throughout the deposit, and indicating slow decline, and gradual filling of the space rather than collapse of the surrounding walls, or dumped deposits from rubbish build-up after the structure was abandoned. Such evidence suggests the basement was in use during the mid-13th century, experiencing a period of abandonment and decline towards the end of the century, before the regeneration of the area with tomb tower and enclosure wall in the early 14th century.

After construction of the tomb tower, the pattern of occupation in Trench 2 is like that in Trench 1, with no further structures, and little evidence of occupation debris, indicative of an open, maintained area such as a garden. When activity returns to the area, its location next to the wall showed it as used for more private activities, with a series of pits used as toilets and rubbish pits (Figure 5.20). Near complete pots found in many of the pits are of a type often used for washing, further supporting interpretation of this function, and the large mudbrick enclosure wall would make such activity more private. The date of the pits is unclear due to mixed finds, as they cut through earlier deposits, alongside the difficulty of precisely dating local early modern, coarse ware vessels in the Caucasus. However, they certainly post-date the enclosure wall, cutting through its lower courses, and it might be plausibly assumed that this activity broadly corresponds with phase 2 in Trench 1, beginning in the 15th century and continuing over the following centuries.

Figure 5.20 Pits in Trench 2, taken from the mudbrick enclosure wall and a pot found on the base

Other trenches at AEB01: The park; AEB03, hospital and AEB05, school

Further test trenches were dug in the park and in other areas of the city to better define the deposits in different areas and assess how typical the sequence in trenches one and two might be. Two further trenches were excavated in the park (AEB01), trench 3, excavated in 2017 was a 5m x 5m trench excavated around 25m to the east of the tomb tower and trench 5, excavated in 2018, a smaller 2 x 1m test pit in the north-eastern corner of the park (Qasimov, 2018a) (Figure 5.5). Both trenches reached a depth of approximately 1.4m below the ground surface (Qasimov, 2018a, p. 15), equivalent to phase 4 in the other trenches, and contained a similar sequence of deposits to the larger trenches, with layers of occupation and dump deposits representing repeated levelling and remodelling of the park area from the tower's construction. Trench 3 contained almost no features in the upper layers, suggesting that renewed activity in the area from the fifteenth century was concentrated in the areas further from the tomb tower, probably respecting its ongoing use and importance. Evidence of the slow decline of the tower was also noted with glazed tiles from the tower also found within the sequence (Figure 5.21). The smaller test pit, trench 5 contained a similar sequence of deposits to both trenches 1 and 3, with modern levelling material at the top of the sequence and a brick structure at the equivalent level as phase 2 (Qasimov, 2018a), underlining that denser occupation of the park area is concentrated further from the tomb tower. As in Trench 1, the ceramic finds were mixed, showing a similar process of demolition and levelling across the park area.

Figure 5.21 Glazed tiles from the park, left side found in trench 3 and right side found on the park surface

Outside the park, Barda's modern layout meant the opportunity for excavation was limited, but permission was gained to excavate in two further areas of the town. The first test trench was dug at AEB03, on the north-eastern edge of the city near the present hospital, in an area where fieldwalking

indicated the presence of medieval occupation (Figure 5.1), from ceramic sherds dating to the 11th and 12th centuries. A second test trench measuring 2m x 1m was dug in an open field near the hospital to a depth of 1.4m. The top layers were relatively sterile and consisted of the build-up of erosion and agricultural deposits in the area. Near the base of the trench, a burnt horizon was found, including the remains of a burnt mudbrick wall, alongside a quantity of pottery dating to a similar period as that recorded in the earlier fieldwalking, the 11th-12th century (Qasimov, 2018b, pp. 30–31). The final test trench was excavated some 200m to the west of the park in the grounds of a school, and just to the east of Nizami Ganjavi street, the main north-south axis in the present city. Again, this was 2m x 1m in size and excavated to a depth of 1.2m, with several thick deposits excavated before a wall constructed from reused fired brick, and similar in style to those found in trenches 1 and 2 in the park (Qasimov, 2018b, pp. 31–32). It was interesting that the sequence of deposits was so similar to that within the Torpak Kala enclosure, as the later part of the sequence is greatly affected by the construction of the tomb tower and enclosure wall. This phenomenon may therefore be wider than just within this part of the city, with a broader regeneration than just the tomb tower, although significant further excavation would be required to explore this possibility.

The Tomb Tower and Enclosure

The most striking development of Barda in the Mongol period is the change of use from a site of domestic occupation and craft production to the construction of a monumental tower, surrounded by an enclosure and garden. Alongside the extant Barda tomb tower within the present park (Figure 5.22), is a further tomb known as ‘Akhsadan Baba’ which had collapsed by the 19th century, but likely also dates to the early 14th century (Useĭnov, 1951, pp. 23–24; Sarkisov, 1960). Travel accounts demonstrate the second tower was already in a poor state of repair by the mid-19th century, but also record enough to suggest they are broadly contemporary (de Khanikoff, 1862; Dorn, 1875). The construction of two tomb towers represents a significant investment in the city at the start of the 14th century.

Figure 5.22 Barda park and tomb tower, looking southwest, photographed summer 2018

The tower lies in the central western part of a square mudbrick enclosure, which measures 125m x 125m. Excavation in trench 2, showed it is constructed of large *pakhsa* blocks which had been moulded in shape as the wall was under construction, most likely placed and compressed with the help of wooden shuttering. Early visitors to Barda somewhat overlooked the enclosure wall, focussing instead on the rather more spectacular tomb tower, although it does feature in Bartholomew's illustration (Figure 5.2), apparently in a poor state of repair. Following survey and excavation work in Barda, Nuriyev produced the first published plan of the complex, which indicates a tower on each corner and in the middle of each wall (Nuriyev and Babayev, 2001, p. 186). This is curious as little evidence of these structures survives, and they do not seem to have been recorded or photographed, nor mentioned by any of the earlier visitors or archaeologists at the site. During recording work by the AEB project in 2015 (Wordsworth, 2015a, pp. 2–4) it became clear the wall had undergone a series of haphazard reconstructions and additions from the residents in the houses surrounding the park whose gardens abut the wall, and therefore may be somewhat changed since the 1980s, when Nuriyev was working in Barda. The present entrance is a modern insertion, in the western edge of the enclosure's north-western corner, corresponding with access from the current city centre, and from the location of the small settlement of Barda described in the 19th century. Nuriyev and Babayev (2001, 186) place the original entrance in the centre of the southern wall, although it presently seems more likely to be on the eastern wall due to the existence of a protruding architectural feature in this area which may form part of an original monumental

entranceway (Figure 5.5). From a design point of view, an entrance from the east makes more sense as the initial view of the tomb would be framed in the centre of the far end of the enclosure, with an approach through the surrounding garden.

In terms of the enclosure and tower's orientation, neither the surrounding wall nor any of the entrances to the tower are aligned to *qibla*, with this direction being approximately to the south-west, meaning it is unlikely the enclosure or tower were built for overtly religious use. The tower and enclosure do however appear to be part of a broader memorial landscape on the eastern side of the city, which may align with pre-existing features, roadways, or neighbourhoods. Some 200 metres to the south of the enclosure is a large cemetery surrounding a tomb which has become an imamzadeh shrine and mosque dedicated to Ibrahim (Figure 5.1; Figure 5.23). This is the 'old imamzadeh' described by Dorn, restored by Ali Beg in the mid-19th century (Dorn, 1875, p. 475) and remains a centre for pilgrimage, devotional practice and a focus for burials in the modern city, something which is common for mausolea associated with the spread of Islam (Daneshvari, 1986, p. 73).

Figure 5.23 The imamzadeh mosque, surrounded by cemetery to the south of the enclosure

The tomb tower is cylindrical, with stairs down to a lower crypt on the north side (Figure 5.24) and portals on the north and south, with decorative tilework surrounds, tiled muqarnas and inscription panels. Most of the current decoration dates to 2018 and the tower's most recent renovation, apparently broadly based on previous recording of the tower (Sysoev, 1926; Salamzade, 1960). Some original tiles remain mostly above the upper doorways. Bartholomew's drawing from the mid-19th century shows that the exterior of the roof had already collapsed (Dorn, 1875, p. 68). One of the most striking decorative features of the tower are the turquoise tiles 'Allah' on the exterior wall, which can also be seen at the similarly dated Qarabaghlar mausoleum in Nakhchivan. A banded tile inscription below the roof of the tower appears on Bartholomew's mid -19th century drawing, but appears substantially more degraded by the time Useinov recorded the tower less than a century later (Useĭnov, 1951, p. 102). Both this and a narrower band of decoration encircling the tower's base have been substantially replaced to include verses from the Quran. Very little of this has survived to the mid-20th century, so it is unclear how much they reflect the original décor on the tower. Inside the tower, no original decoration has survived and the interior walls are re-plastered and whitewashed. The lower crypt is almost completely decorated with new tiles and a cenotaph, although a few areas of apparently original decoration survive. The richly-tiled remains are similar to the second, ruined tomb tower (Sarkisov, 1960), although a physical tomb or cenotaph does not appear to have originally featured in either crypt.

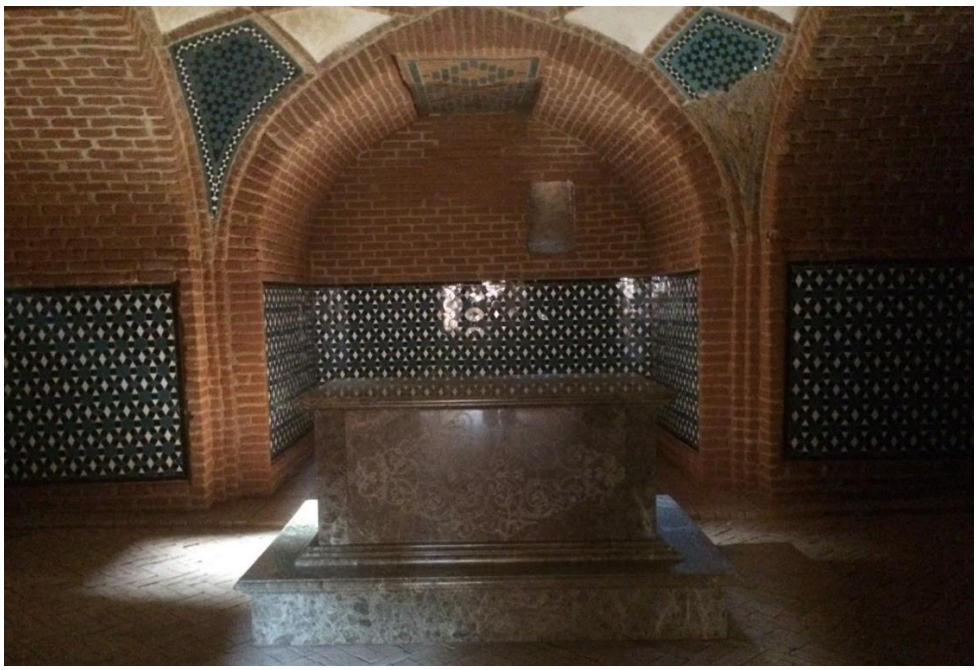

Figure 5.24 The crypt below the tomb tower looking South, photographed in summer 2018

Given the apparent decline of the area, placing two large towers on the edge of the city of Barda in the early 14th century certainly carries significance, an act of memorialisation alongside the socio-

political statement of this monumental building project within the city. The question of who might have commissioned these two tombs and for what purposes remains, although the surviving date, location and style allows a certain amount of conjecture. Memorialisation of an individual with a monumental structure has a long history, and within Islam developed into a distinctive tradition based on Quranic depictions of paradise, pre-Islamic traditions of grave marking and local design influences and styles across the vast area of Islamic influence. In the period before the arrival of the Mongols such towers were widespread across the Persian world, with examples ranging from Azerbaijan to Khorasan and beyond (Useĭnov, 1951, pp. 15–20; Daneshvari, 1977). Construction of a tomb represents a significant act of patronage. The monuments served as a focus for religious activity and pilgrimage dedicated to the memory of a religious person or secular ruler, who might use the structure to indicate their piety or stamp a perception of their permanence on the city (Daneshvari, 1986, pp. 72–74). The rule of Ghazan Khan (1295-1304) is pivotal in the increased adoption by the Mongols of aspects of sedentary Persian culture, as the new Khan converted to Islam, severed links with the Great Khan in China and extended their patronage of mosques, khanaqahs and tombs (Blair and Bloom, 1994, pp. 6–7). Surviving examples of such tombs throughout the Ilkhanid period (1256-1353) illustrate this change, as the Mongol rulers of Persia enthusiastically continued the Seljuk tradition of tomb tower construction (Figure 5.25) with a particular boom in the period after 1300, when all but six of the forty one tombs were constructed.

Figure 5.25 Location of Ilkhanid period tomb towers across Persia and the Caucasus region, created with data from the Aga Khan Foundation's online database of Islamic architecture (Aga Khan Trust for Culture, 2020a). Note that 41 were recorded but there are 8 Ilkhanid tombs in Qom so fewer dots than towers

Tomb construction under Ilkhanid patronage occurred across their territory, and although inscriptions which might indicate the patrons of the extant tombs often do not survive, direct links to the Ilkhanids can be traced. The most closely linked to the royal dynasty are the tomb of Oljeitu at Sultaniya (d. 1316), and the now destroyed tomb of Ghazan in Tabriz (d. 1304), with evidence also for the construction of tombs for family members such as a tower at Bastam, which was built for an infant son of Oljeitu (Hillenbrand, 1982; Blair and Bloom, 1994, pp. 8–10) and less convincingly the tomb at Qarabaghlar, where a surviving inscription mentions 'Goday Khatun' (Useĭnov, 1951, p. 134; Gink and Turánszky, 1979, pp. 41–43) who has been identified as a wife of Hulegu (Useĭnov, 1951, p. 134) or perhaps one of Abaqa (Aga Khan Trust for Culture, 2020). Ilkhanid rulers appear to have sponsored additions or renovations of religious tombs, and governors and viziers in the service of Ilkhanid rulers were also commemorated by monumental mausolea, often patronising schools and other charitable foundations which were built in their vicinity (O'Kane, 2017, pp. 604–05). Some of these are attested only by literary sources such as that of Rashid al-Din in Tabriz (Blair and Bloom, 1994, p. 6), while standing monuments have been linked with governors such as the Gunbad i-Ghaffariya, in Maragha, where surviving iconography suggests a dedication to its governor Amir Shams al-Din Qarasunqur, who died in 1328 (Wilber, 1955, pp. 171–72).

The identity of the patron or occupant of either of the tombs at Barda remains unclear, but relevant tiles would almost certainly have advertised this information before they were removed or fell from the extant structure. Where it is not otherwise evident from inscriptions, attributions for the occupants of mausolea, especially imamzadehs, are often based on popular legend and local tradition (Hillenbrand, 2000, p. 237). This pattern can be seen at Barda with the current link to Nushabe, and 19th century suggestions that it was dedicated either to a Shirvanshah ruler or one of the parents of Timur (de Khanikoff, 1862, p. 71). It is notable that a religious dedication does not seem to be part of the local tradition. In the absence of an inscribed dedication, consideration of wider trends such as the distribution of known-attributions, and evidence for how the towers were used and venerated after their construction enables a certain amount of speculation on their patrons, and enable further consideration of the reasons and means of their construction.

There are a number of reasons why it seems unlikely the towers are dedicated to a religious personality (or personalities), as burials next to tombs with religious dedications are common (Daneshvari, 1986, p. 73), yet the focus for Barda's main cemetery lies to the south of the extant tomb tower and although several burials were found in earlier phases within the park, none are associated with the tower. Meanwhile, the ruined tower of Akhsadan Baba lies on the edge of the

cemetery and does not appear to have been used as a focus for later burial (Figure 5.1). Additionally, spatially mapping tower construction within the Ilkhanid period indicates geographic trends which link the tomb towers' dedication to either a religious or secular individual (Figure 5.26). The majority of the surviving imamzadehs in central and southern Iran were dedicated to religious individuals, while those on the eastern and western fringes of the Persian world were more likely to be dedicated to secular rulers or close family members. This is a trend which continues northwards from the area surrounding the three Ilkhanid capitals Maragheh, Tabriz and Sultaniya into the Caucasus (Figure 5.26). As the centre of Ilkhanid power was in northwest Iran, it follows that the dynasty was memorialised by monumental architecture in this region, most notably Oljeitu's enormous tomb at Sultaniya and Ghazan's now destroyed tomb on the outskirts of Tabriz (Blair and Bloom, 1994, pp. 6–8; O'Kane, 2017, pp. 604–05). Officials such as governors and viziers including Rashid al-Din were also commemorated with mausolea in this region, with the two surviving towers in Nakhichevan also dedicated to secular individuals, the mausoleum of Qarabaghlar village retains an inscription to Goday Khatun, and the earlier Momine Khatun tomb is dedicated to the wife of an Ildegizid ruler (Useĭnov, 1951, pp. 87-89, 128-35; O'Kane, 2017, pp. 604–05).

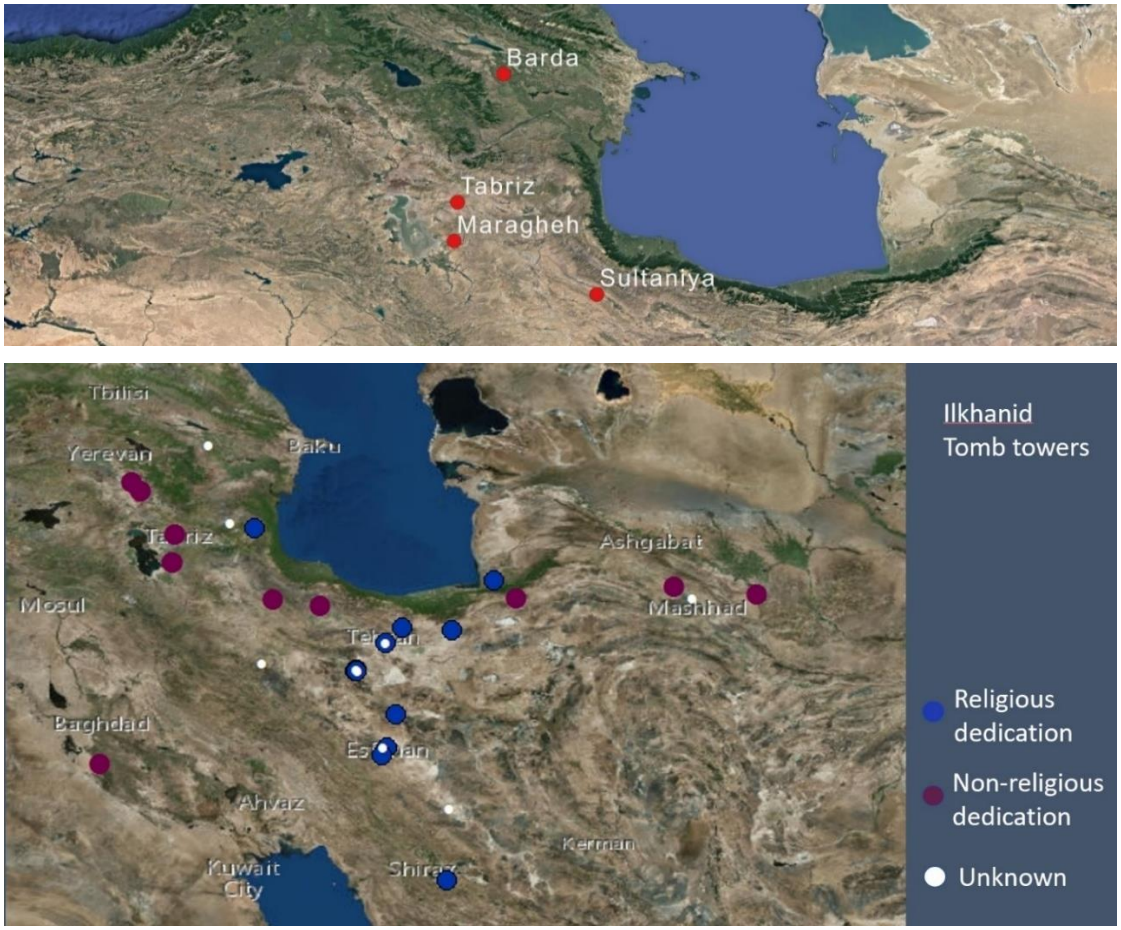

Figure 5.26 Barda and the Ilkhanid capitals; Tomb towers dedicated to religious and secular individuals, created from the Aga Khan Foundation's online database of Islamic Architecture (Aga Khan Trust for Culture, 2020a)

Due to their geographic location on the edge of the Ilkhanid centre of power and as they are not a focus of later burial activity, Barda's surviving tomb tower and probably the ruined Akhsadan Baba tower, follow the model of mausolea in north-western Iran and Nakhichevan, and were likely dedicated to secular rulers, their close family members or perhaps a related official such as a governor or vizier. It is possible de Khanikoff's local informants were correct when they suggested dedication to a Shirvanshah ruler (de Khanikoff, 1862, p. 71), but Barda lies far from their centre of power further east, and this would represent an unusual dedication to client rulers in the first decades of the 14th century when Ilkhanid power was at its strongest. Barda was unlikely a major administrative centre, but was a focal point in the landscape of Arran and *en route* to Karabakh where the Ilkhanid rulers often spent the winter months (Rashid al-Din (trans. W.M. Thackston), 1999, p. 124; Mustafayev, 2018, p. 152). With a diameter of 10 metres and height of 14m[35] (Salamzade, 1960, p. 65), the extant Barda tower is probably too small to be dedicated to a khan, but is more comparable in scale to Qarabaghlar (Figure 5.27, diam. 5m, height 16m) and Bastam (diam. 14.42 and height 20m) (UNESCO, 2011, pp. 125, 183). It seems likely therefore that the extant tower at Barda was dedicated to secular patrons, possibly a member of the Ilkhanid royal family, or a local governor. The neighbouring tomb is more difficult to analyse, but may well have a similar origin.

Figure 5.27 Mausoleum in Qarabaghlar village, Nakhchivan which has a dedication to Goday Khatun and probably built during the reign of Abu Said (1316-35) (photo: Kyle Olson, 2014, used with permission)

[35] This height corresponds to the tower without its roof. Once the tower had been restored, including the newly re-built roof, it is around 19m tall.

The change of use within what is now the Barda Park must have carried some significance in Barda, both in terms of the cityscape, and the transformation of this suburb of the town into a mausoleum complex. It is possible that the tombs were part of a larger complex, as was the case at Qarabaghlar (Useĭnov, 1951, pp. 128–131; Gink and Turánszky, 1979, pp. 41–43), although no evidence for this has yet been found, and from the archaeological evidence, it seems likely that the large enclosure surrounding the Barda mausoleum was used primarily as a garden. The construction of these tombs and enclosure on the edge of the city, would have also been visible in the surrounding landscape, and the tombs would have become visible landmarks in the flat landscape surrounding Barda. In spite of a lack of certainty of the patron of the tombs at Barda, I would argue that surviving evidence at Barda, combined with other mausolea across the Ilkhanate suggests both Barda towers had a secular dedication, and that their patrons or occupants would have been connected to the Ilkhanid ruling dynasty, either as family members or symbols of their rule as a governor, vizier or other official. By extension, the towers would have been a powerful symbol of control in the grasslands of Arran and a visual expression of power in the (perhaps by now symbolic) city of Barda.

The Later 14th century

Despite signs of investment at Barda in the early 14th century, the image of permanence projected by the construction of these monuments became an illusion as the ruling dynasty faltered with the death of Abu Said in 1335. The Ilkhanate began to fragment into a series of smaller successor states, and archaeological evidence begins to show signs of decline in the city. Excavations have shown that the enclosed area was likely maintained as a garden, or completely abandoned for around a century after the construction of the tower, with lack of activity in the area indicating continued use as a garden space, or complete abandonment of the city. By the early 15th century, activity was creeping back into the park, and it seems that the tower retained a certain importance. This is demonstrated by the five trenches excavated in the present park which found later activities occurred at a respectful distance from the tower, preserving the monument as a place of memorial.

Conclusions

The challenges of understanding Barda's layout, the limitation of previous excavation, and scant historical sources mean the extent, circumstances and chronology of the city are far less known than Otrar and Merv. Excavation and survey, alongside collation of accounts from travellers and archaeologists, indicate that the medieval city of Barda covered approximately the area of the central part of the modern city, and likely extended slightly further north of the current core. Barda's

hinterland and surrounding landscape have likely changed dramatically since the medieval period, with shifts in the river course and Soviet agricultural reforms leading to significant landscape alteration since the 13th and 14th centuries. The park and tomb tower are situated on the south-eastern edge of the ancient city and were likely inserted into a pre-existing landscape of cemeteries and memorialisation, transforming a suburb used for domestic and light craft activity to an area of monumental architecture, likely patronised by and possibly dedicated to the Ilkhanid rulers.

Radiocarbon dating, coinage and specific types of ceramics allowed relatively precise identification of the Mongol period, with the construction horizon for the tomb tower providing a useful date of 1322. Excavations in Trench 1 indicate a clear continuity from approximately the mid-12th century until well into the 13th, consisting of ephemeral occupation which lacked substantial architectural remains, alongside evidence of domestic and light craft activities. Increased occupation density and the range of finds indicate a relative boom at the end of the 12th century[36] (Wordsworth, forthcoming), although the structures and urban life do not reflect the riches which might be gained from such trade, suggesting that the focus of the city was elsewhere. It is interesting to note that the Georgian 'conquest' in the 1190s does not seem to have affected Barda despite the Georgian chronicles boasting that they 'inspired such fear in Ganja and Barda even a child could not cry in his mother's arms' (Ezosmodzghvari, 2014, p. 295). Fewer carbon dates from Trench 2 meant the chronology is not so precise, but it is possible to equate phases between the two trenches. Aided by coin finds, this showed a rapid abandonment in Trench 2, leaving a large assemblage of cooking and storage pots in the room, likely dating to the middle decades of the 13th century. Following this event may be a short period of abandonment evidenced by the layer of smashed pottery, and the only abandonment perhaps dating to the period of Mongol destruction. However, this is quickly followed by the construction of a fired brick basement, with the sequence in Trench 2 suggesting a decline before renovation in the 13th century when the area is transformed by the tomb tower's construction. The multiple fired brick walls in Trench 1 meanwhile appear to be built around the time of the major abandonment in Trench 2, suggesting that any abandonment may be partial and at most indicates a slow decline in the middle of the 13th century, rather than a dramatic destruction or desertion of the city.

A relative boom in occupation during the 12th century, provides a different impression to some historic sources which suggest Barda was in decline by the 11th century and almost abandoned by

[36] The evidence for this consists not only of the archaeological sequence presented in this chapter but also the changing butchery techniques and range of food consumed (the zooarchaeological and archaeobotanical evidence) and changing evidence for personal adornment, which provide proxy data for the relative wealth of the city.

the 12th (Wordsworth, 2018a, pp. 147–148) and has implications for understanding changes to the city in the 13th and 14th centuries. Ildegizid coins, minted in the decades before the arrival of the Mongols in the early 1220s, and likely beyond (Garnik, 1960, p. 188) in this suburban site, demonstrate that Barda was well integrated into the regional economy. The appearance of at least one (possibly overstruck) Georgian-minted coin of Jalal al-Din in Garnik's small assemblage shows that economic activity continued well into the 13th century. Interestingly, 13th century coins recovered from Barda are primarily mints of the Ildegizids, Jalal al-Din and the Ilkhanids, with no local Georgian issues recorded. This contrasts with other Azerbaijani cities including Shamkir where multiple Georgian coins have been found, in particular those of Rusudan (r. 1223-1245) (Dostiyev *et al.*, 2013, pp. 477–479). It seems links in the central Caucasus, between eastern Georgia and parts of present-day western Azerbaijan were strong in the period, perhaps local associates were able to exploit political instability as Jalal al-Din tried to establish himself, and Mongol disputes continued in the region. The minting of such coins well into the 1220s and 30s, before the first Ilkhanid issues appeared in the 1250s, indicate regional powers in the Caucasus retained a certain level of independence, and the practical means to continue the minting, somewhat different from the 'moneyless situation' discussed by Waugh in Khorasan and Transoxiana (Davidovich, 1972, pp. 129–30; Davidovich and Dani, 1998, pp. 408–09; Waugh, 2017, p. 15).

Mongol impact in the Caucasus in the mid-13th century therefore might be seen as a slow decline, with recovery through the century's later decades, rather than the sudden collapse of the Khwarazmshah further east. The political organisation of the Caucasus, with several small independent or client kingdoms and beyliks, likely enabled a certain amount of continuity through the political disruption caused by the Mongols and Jalal al-Din in the region with excavations in Barda indicating continuity through the 13th century, demonstrating a slowdown of economic activity rather than a complete collapse. Fertile land, lesser reliance on complex and labour-intensive water management systems may have also played an important part in ensuring that the area produced enough food for the Mongols and local population, with recovery from disruption likely aided by the buoyant economic situation in the region at the start of the 13th century.

Barda's eastern suburbs experienced their greatest change at the start of the 14th century, with the transformation of this area from one of domestic and craft activity to one with monumental architecture, likely patronised by the Ilkhanid dynasty, or its close associates. Barda's proximity to the Ilkhanid centre of power in present-day northwest Iran, as well as its situation near the foothills of the Lesser Caucasus mean that the region was favoured as seasonal pasture and residence for Ilkhanid rulers (Mustafayev, 2018, pp. 151–52) explains the choice of location for this investment. Indeed, the transformation of this area might be seen within the broader context of the economic

and cultural changes which occurred in Mongol Iran from the late 13th century until the sudden weakening of the dynasty with Abu Said's untimely death in 1335 (Lane, 2003) as a demonstration of the Mongol's new Islamic and Persian identity. The construction of these tomb towers within a wider devotional landscape, demonstrates that Barda is an important part of this Mongol Persian world, and would have brought an economic and status boost to the city. It is likely that further development occurred in the city at this time, and other excavations may have located architecture from this period but dated it more broadly.

The work at Barda shows the importance of carefully excavated archaeological trenches to understand these cities, providing a detailed summary of different areas, with careful phasing and radiocarbon dating providing chronological precision which allows the archaeological evidence to be fitted onto a historical narrative. Barda does not seem to have suffered negatively from the Mongol Conquest, or the decades of apparent chaos across the region from the 1220s. Instead, the new political map, and the Mongols' decision to centre their power in north-western Iran meant that Barda found itself near the Ilkhanid rulers' centre of power. Construction of the tomb towers show that Barda benefitted from their patronage in the early 14th century and was an important symbol of their power in Arran. I discuss the towers further, within urban models for Turco-Mongol rule in chapter 7 as well as the reasons why Barda thrived compared to other cities in this period. In the following chapter, I discuss Merv, which was the most negatively impacted of the three cities during the conquest and subsequent political changes. It is also the city for which we have the most comprehensive archaeological evidence for the Mongol period, and provides an example of the type of archaeological narrative which can be achieved from multiple trenches excavated across the city.

6. The Evidence from Merv, Turkmenistan

Merv is the largest of the three cities under consideration, the one which witnessed the most drastic changes in this period, and also features prominently in historical sources. Extensive archaeological research took place at the city from the late 19th through the 20th century, and it currently hosts a long-running international collaborative research project between the Turkmen Ministry of Culture and UCL. Although the Merv Oasis has been continually occupied since at least the Bronze Age, the group of surviving ancient cities listed as the UNESCO World Heritage Site of 'Ancient Merv' date from around the 6th century BC, with a pattern of shifting urban settlements on this section of the Murghab River until the present day (UNESCO, 1999). Although settlements of all periods were eventually abandoned, the starkness of desertion at Merv's vast medieval city, Sultan Kala emphasises the apparent impact of the Mongol Conquest on the region, while providing an unparalleled opportunity to explore urban changes in this period. The vast acreage of urban occupation makes the task somewhat daunting (Figure 6.1, Figure 6.2), and this chapter aims to use archaeological data to draw out broad themes, collating and reassessing published material, alongside extensive unpublished evidence to synthesise for the first time data relating to the Mongol Conquest. Charting the evidence for both abandonment and continued occupation within and around Sultan Kala, I analyse and contextualise data collected over the past century to provide an archaeological narrative of the 12th-14th centuries at Merv.

Figure 6.1 View from the earliest city Erk Kala (founded c. 6th century BC), across the Seleucid and Sasanian city Gyaur Kala (founded 3rd century BC) towards the Islamic city Sultan Kala. The mausoleum of Sultan Sanjar can be seen on the horizon and the Great Kyz Kala, in the Western suburb is visible to its left.

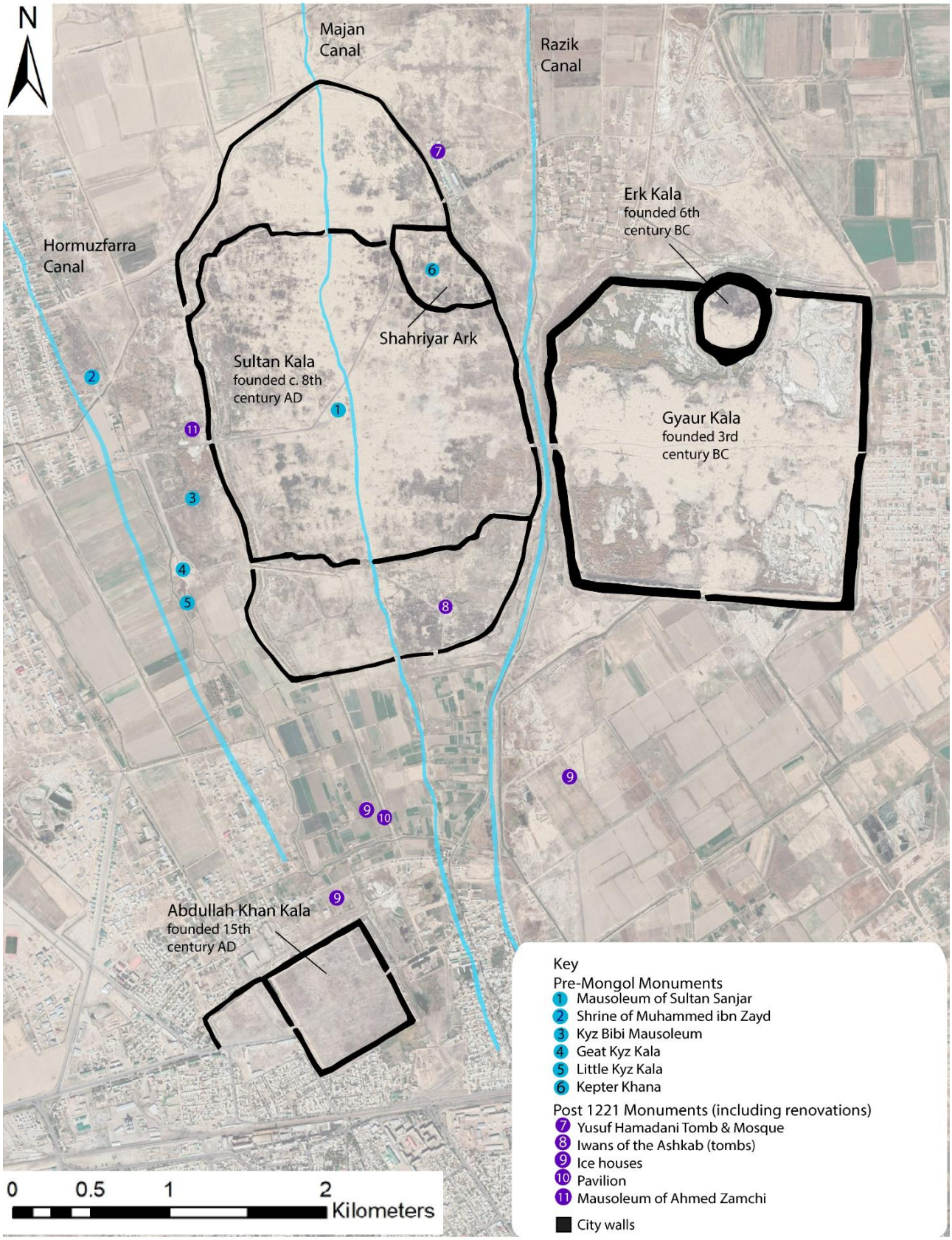

Figure 6.2 The cities and monuments of Ancient Merv (background: Google Earth)

Background to Archaeological Investigation

Visitors to Merv in the 19th century had varied success in trying to map, quantify, and interpret the ancient urban remains. In the early part of the century, British military officers, Persian travellers, engineers, and a German Jewish-Christian missionary all published accounts of their travels through the Merv oasis (Zhukovskii, 1894, pp. 95–110). From the 1870s, the oasis became a place of particular interest to the colonial powers vying for influence in the region, especially the British and the Russians. Accounts of Merv in this period are concerned with the rivers, roads, agricultural and natural resources to assist or prevent imperial expansion (for example Rawlinson, 1879). According to these accounts, occupation in the oasis comprised small villages and mobile settlements, with the largest containing ten to twelve thousand inhabitants, and the oasis known generally as 'Merv' (O'Donovan, 1882, p. 168). The Irish journalist, Edmund O'Donovan spent several months in the oasis, visiting the ancient cities and drew a somewhat inaccurate plan of their layout. He reported their complete abandonment, with evidence of significant recent deterioration including a series of suburban structures and gardens still identifiable to the south of Sultan Kala. Mudbrick walls, houses and a bathhouse were also visible at the most recently occupied city, Abdullah Khan Kala, which the Turkmen told him was abandoned in 1784 following an attack by the Emir of Bukhara (O'Donovan, 1882, pp. 170–71; 239–40). Despite the abandonment of the ancient cities, there appeared to be no lack of activity on its site, with Merv's location on the caravan route between Mashhad and Bukhara leading many to stop at the caravanserai of Yusuf Hamadani (which appears to have incorporated the better known shrine). The area along this route and the centre of the city was peppered with holes 4-5ft deep, dug by visitors determined to find some of Merv's famed treasure, while on a more practical level, O'Donovan notes that building material has also been removed in some quantity from the site (O'Donovan, 1882, pp. 245–51). His Turkmen guides (and sometime captors) were most animated when they passed the city's many shrines, where they stopped to pray without removing their leather riding boots. The tomb of Sultan Sanjar was the primary place of pilgrimage and homage, and several smaller tombs dedicated to various imams, remained important to inhabitants of the Merv oasis in the 19th century (O'Donovan, 1882, pp. 248–54) and indeed to the present day.

Once the oasis was annexed by the Russians in 1884, the first academic expeditions began, with the enormity of the site and over two millennia of urban occupation leading to a wide range of research on the archaeological and architectural remains. Relatively little of the early research focussed on the medieval city, with the 13th and 14th centuries almost completely overlooked, although the Mongol Conquest of 1221 looms large in histories of the city. The St Petersburg- based orientalist Valentin Zhukovskii visited in 1890 and subsequently published the first comprehensive

archaeological recording of Merv. This included several photographs of architectural remains alongside an overview map, providing important early images of the site, almost unique for this period (Zhukovskii, 1894; Abdullaeva, 2009). Zhukovskii's publication demonstrated the survival of several pre-Mongol structures including the mausoleum of Sultan Sanjar (d.1157). His photographs of the post-Mongol, Timurid city Abdullah Khan Kala, show the ruined gate houses, multi-storey residential buildings and a bathhouse (Zhukovskii, 1894, pp. 111–173). He also made use of his training in Oriental languages, contextualising the archaeological remains alongside a comprehensive overview of major historical sources, charting Merv's history from classical Greek writers to travellers of the 19th century (Zhukovskii, 1894, pp. 3–94). Using the geography of Yaqut al-Hamawi, who lived and studied in Merv for two years before leaving in 1219, Zhukovskii concludes that although the rule of the Khwarazmshah in the late 12th and early 13th century was not without unrest, Merv was flourishing on the eve of the Mongol conquest and suffered a great tragedy with widespread slaughter of the inhabitants and destruction of the city (Zhukovskii, 1894, pp. 33–55). A relative dearth of sources covering life in Merv in the following centuries leads Zhukovskii to conclude that Merv only recovered in the reign of Timur's son Shahrukh, who served as governor of Khorasan before succeeding his father in 1405. Hafiz-i Abru's historical geography, commissioned by Shahrukh, indicates his role in regeneration of the city of Merv and describes how he organised the rebuilding of the dams, cleaning and renovation of canals and the founding of mosques, caravanserais and baths from around 1409 (Zhukovskii, 1894, pp. 62–65).

Zhukovskii's publication on Merv was so comprehensive and subsequent archaeological research so focussed on the earlier, pre-Islamic occupation in Erk and Gyaur Kala, that his narrative of the medieval city of Merv, especially the Mongol period remained largely unchallenged. Archaeology however has an important role to play in understanding Merv, something which was quickly recognised for the earlier periods, although targeted study of medieval Merv only began in the late 1940s. General Komorov, who led the Russian forces into the oasis, and negotiated its inclusion into the Russian Empire, undertook the first archaeological surveys at the site in the 1880s which were published piecemeal in a local newspaper and catalogue (Herrmann, Masson and Kurbansakhatov, 1993). These do not appear rigorous enough to have attracted much attention from later researchers. The Harvard-based geologist and archaeologist Raphael Pumpelly led an expedition to Turkmenistan, and his colleague Hubert Schmidt published excavations carried out at both Merv and Anau, with Hubert Schmidt excavating 4 trenches, the largest of which was 50ft (15.2m) x 25ft (7.6m) and 40ft 4'' (13.5m) deep, alongside seven shafts across Gyaur Kala and Erk Kala (Schmidt, 1908, pp. 187–188). The coins from these excavations were mostly Sasanian, alongside some later examples, which included 8th century Abbasid coins, 9th century Samanid, 11th century Ilek Khan

(Karakhanid) issues and an 18th century Afghan coin, found predominantly in the upper levels in Gyaur Kala which also contained Sasanian finds (Schmidt, 1908, pp. 196–7). However, the additional description of incised, glazed pottery and sherds decorated with Kufic script (Schmidt, 1908, pp. 195–96) indicated some later activity in this area. Such exploits were later followed by art historians and archaeologists such as Cohn-Wiener (Cohn-Wiener, 1930), with conservation work by Bachinskii on Sultan Sanjar's mausoleum leading to excavations around the monument which apparently uncovered a mosque adjoining it to the east (Pugachenkova, 1958, pp. 315–16). These initial projects were successful in demonstrating that earlier occupation was concentrated in Erk and Gyaur Kala, with Sultan Kala founded in the early Islamic period, and the primary urban centre in 1221.

The most significant archaeological project at the city was initiated in 1945 at the first all Union archaeological conference in Moscow, after which a multi-year, multi-disciplinary project, the South Turkmenistan Comprehensive Archaeological Expedition (ЮТАКЕ/YuTAKE) began its first fieldwork in 1946 (Masson, 1949, pp. 5–6). This project, which included researchers trained in subjects as diverse as topography, geology, archaeology, architecture and art history, aimed to scientifically record and investigate the landscape, archaeology, culture and ethnography of Southern Turkmenistan. It comprised multi-national researchers from across the USSR, predominantly from Tashkent and Ashgabat. The YuTAKE project was to publish regular volumes on its work until 1989, when the 19th in the series was released, with team members also publishing several additional monographs using data from the project. Over forty years, YuTAKE transformed knowledge of occupation within the ancient cities of Merv by unleashing teams of multi-national researchers on the archaeological and architectural remains of South Turkmenistan. Despite the magnitude and importance of this work, it is sometimes overlooked in syntheses of the archaeology of the region or acknowledged but not scrutinized. As the YuTAKE volumes contain a significant amount of primary excavation data relevant to the period by this thesis, they are subjected to detailed review, with their excavation and survey data integrated with more recent research at the site.

Since independence, international teams have worked in the city and wider oasis, with the Turkmen Ministry of Culture and UCL leading fieldwork in the city of Merv itself. The question of Mongol Merv, which had been considered extensively by their predecessors from YuTAKE remained of interest to the latest Turkmen/British archaeologists working at the site, thanks to reports of significant Mongol material excavated in the city (Herrmann and Kurbansakhatov, 1994, pp. 54–55; Khodjaniyasov and Petersen, 1995, pp. 56–57). A large portion of their work focussed on Gyaur Kala, but further surveys of Sultan Kala were initiated, leading to an excavation in the medieval citadel, Shahriyar Ark to examine a large structure, believed to have been constructed in the Mongol period. Extensive work on the medieval defences and investigations of industrial production also

encountered Mongol era activity, with the work published annually through the 1990s in the journal 'Iran' (see Herrmann, Masson and Kurbansakhatov, 1993 etc).

From the early 2000s, the focus of archaeological activity in the city shifted fully from Gyaur Kala to Sultan Kala with excavations carried out across the medieval city. These ranged from small-scale excavations by UCL to examine the Majan Canal, central 'bazaar', a street northeast of Sultan Sanjar and a caravanserai in the western suburbs, to major excavations by a Turkish team around the mausoleum of Sultan Sanjar and by the Merv Park staff at the great Kyz Kala (Eravşar, 2016; Williams *et al.*, 2018). This increased focus on the medieval remains enabled precise, stratigraphic excavation of smaller areas alongside a better understanding and refined dating of material culture thanks to greater comparative and scientific analysis. This chapter therefore aims to examine the methods and material used to date activity of the 13th and 14th centuries at the city, and highlight areas and types of Mongol-era activity to present a more complete picture of Mongol occupation at Merv.

Locating the Mongols in Merv

The abandoned cities of Merv provide an almost unique opportunity to examine Mongol activity in a city which historical sources describe as substantially destroyed by the event. Conventional urban occupation appears to have moved by the early 15th century to the upstream settlement of Abdullah Khan Kala, so the upper layers in Sultan Kala represent occupation from the 13th and 14th centuries. However, generations of archaeologists have struggled with the problem of precisely dating Mongol-era activity, particularly when the minting of coinage is interrupted (Davidovich, 1972, pp. 27–37; Davidovich and Dani, 1998, pp. 408–10; Waugh, 2017, p. 15) and the lack of development in pottery design means that only a few well-known forms are securely dated to the 13th century (Watson, 2004, pp. 373–93). The YuTAKE archaeologists faced similar issues when they began work at Merv (Masson, 1949, pp. 6–7) although decades of research in the region led to familiarity with medieval urban sites and their material culture. Tashkent-based archaeologist, Svetlana Lunina published much of the excavation in Sultan Kala, providing a comprehensive overview of pottery produced in Merv until the Mongol conquest (Lunina, 1962). She also excavated several kilns in the pottery quarter (Lunina, 1958), which provide an excellent summary of medieval ceramics, and an important corpus to contextualise recent work at Merv. Unfortunately, unlike the comprehensive publication of Sasanian ceramics from Merv (Puschnigg, 2006), a recent survey of the medieval pottery does not yet exist, meaning that excavators must refer to the Soviet literature and find comparisons with sites in Iran or the Central Asian republics.

As the ancient cities of Merv are completely abandoned, with Sultan Kala apparently never recovering from the Mongol assaults of the 1220s, the simplest way to look for areas of later occupation is to carry out a walkover survey to record multi-period pottery distribution. Such a survey was first carried out over three weeks in 1947, YuTAKE's initial activity in Merv, under the guidance of Z. Al'khamova, a graduate student from Tashkent. Unfortunately, her untimely death means only a brief report was published, with little further analysis (Al'khamova, 1953, p. 404). Luckily her field sketches from the survey were published, and they form a useful summary of the surface distribution of pottery types. Her notes also summarise the main wares used to date activity between the 10th and 15th centuries, through a synopsis of the major forms, glazes and other decorative elements (Al'khamova, 1953, pp. 409–412). Such types include flat walled dishes with polychrome glazed decoration in green, yellow and brown; similarly glazed wares with incised patterning and vessels with white and dark brown glaze decorated with geometric and epigraphic designs, deemed as characteristic of the tenth to mid-12th centuries; blue glazed vessels with fine ornament for the late 12th to early 13th centuries and white and blue glazed vessels indicative of the 15th century (Al'khamova, 1953, pp. 410–11). It is difficult to interrogate whether the methodology was robust due to the lack of drawn or photographic records, although given the methodical nature of most YuTAKE projects, it seems likely that illustrative samples were collected for each period, although not included in the publication. Similar publications on pottery from the medieval city of New Nisa (Masson, 1947; Pugachenkova, 1949) by Al'khamova's YuTAKE colleagues show a good grasp on ceramic chronologies and so the survey might be assumed to be broadly accurate, although it is curious that distinctive 13th-14th century underglaze painted blue on black wares are not mentioned.

Al'khamova and her team surveyed the area around both Sultan Kala and Gyaur Kala, northwards toward the Giliakin-Chilburdzh (Гилякин-Чильбурдж) wall which was built as an additional northern defence in the 3rd century BC, but remained a usefbarrier against hostile arrivals from the north into the Islamic period. The survey found 10th- early 12th century pottery had a wide distribution, and was plentiful inside the city, spreading outside the city walls, northwards into the Murghab delta (Al'khamova, 1953, p. 409). The survey likely encountered an especially large assemblage of ceramics of this period, as the plan uniquely indicates density of material across the site (Figure 6.3). Activity shrinks inside the walls of Sultan Kala during the 12th and 13th centuries, with continued activity in the northern suburb, western edge of Gyaur Kala and between the two ancient cities (Figure 6.3). The team appear to have assumed the city was largely abandoned in the 13th and 14th centuries (Al'khamova, 1953, pp. 410–11), and although they identified certain types from the 13th

and 14th centuries such as Mina'i[37], celadon and local blue and black 14th century wares in Sultan Kala, no distribution map was produced. Apparently with some surprise, they found a wide distribution of 15th century material, showing a southward shift towards Abdullah Khan Kala (Figure 6.4), with widespread activity also visible in the older cities (Al'khamova, 1953, p. 406).

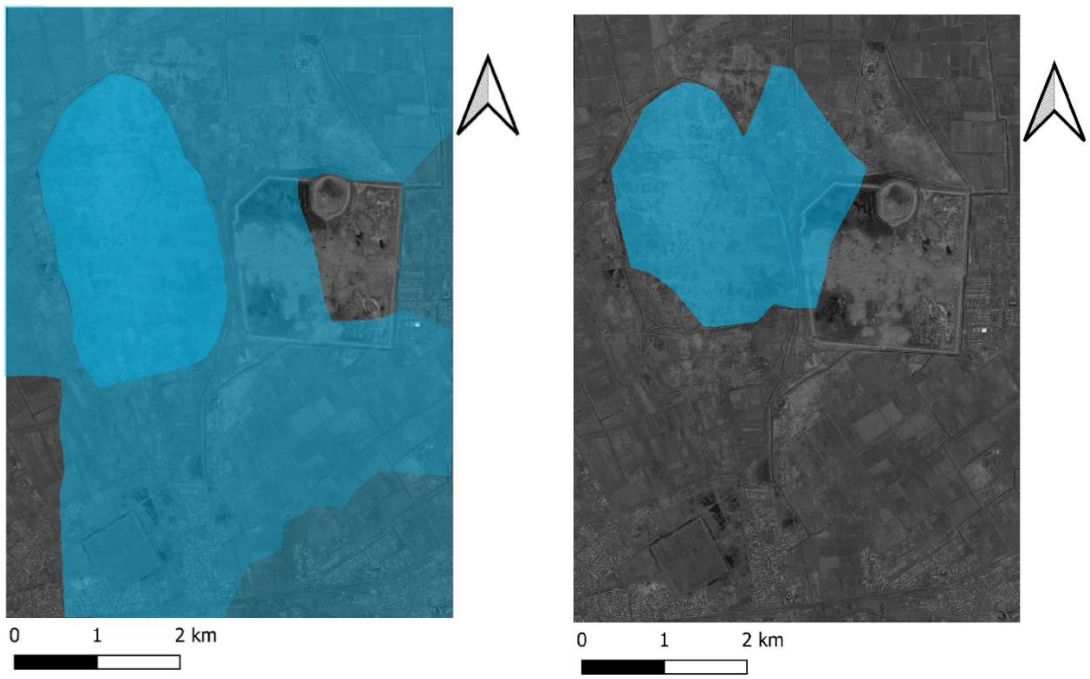

Figure 6.3 Left: pottery distribution of the 10th-first half of 12th century across the ancient cities of Merv with colour indicating the density of material; Right: Pottery distribution from the second half of the 12th century to the early 13th century (adapted from Al'khamova, 1953)

Figure 6.4 Pottery distribution of the 15th century across the ancient cities of Merv (adapted from Al'khamova, 1953)

[37] Production of Mina'i is now generally thought to have ceased at the time of the Mongol Conquest (Watson, 2004, p. 55)

According to the pottery distribution, Al'khamova and her colleagues conclude Merv was hit hard by raids of the Ghuzz Turks in 1153 (Al'khamova, 1953, p. 410), which led to the weakening and collapse of Seljuk rule in the city and the abandonment of smaller towns in the region such as the nearby site of Dandanakan (Zhukovskii, 1894, p. 38). This explains the reduction of activity to within the main walls, rather than making use of the suburbs in the late 12th and early 13th century, the period immediately before the arrival of the Mongols. It is curious that Al'khamova does not map distribution in the Mongol period, perhaps the strength of Zhukovskii's narrative led her to assume there was no occupation in the city in this period, or perhaps the team did not identify sherds they considered to be Mongol. Although the survey is clearly carried out and published in imperfect conditions and without the benefit of several decades of additional research on pottery of the Merv oasis and the wider Persian world, it provides a useful indication of the distribution of better-known pottery types of the period, and the initial understanding that the YuTAKE team had of the site based on previous excavations and historical compilations.

The Ancient Merv Project (AMP) undertook a similar survey in the early 2000s, led by the project's medieval ceramicist Dave Gilbert, which focussed on Sultan Kala, both within the central city and suburban walls. The area was laid out in grids, with pottery collected and spot-dated to provide an indication of activity in each part of the city, and chronological periods for this survey aimed to be more neutral, with pottery identified by century, rather than aiming to fit into known historical periods (such as Seljuk, post-Seljuk, Mongol). Gilbert's survey found a similar pattern to Al'khmova's with the centre of the city around Sanjar's mausoleum experiencing continuous occupation throughout the Mongol period. It is notable that Al'khamova suggests activity moved northwards in the late 12th and early 13th centuries rather than southwards (Figure 6.5), and 15th century material also appears to be much reduced in Gilbert's survey compared to Al'khamova's. Unfortunately, the key pottery types used to date activity of each century have not been published and so it is unclear whether the 13th century activity includes material from the early 13th century, or only that deemed to be post-Mongol. If the ceramics considered '13th century' includes material over the whole century, it would support Al'khamova's conclusions that the city was already in decline after the mid-12th century. If it only relates to Mongol period 13th century material, the distribution might be used to indicate a certain amount of continuity after the Mongol Conquest, and slow decline until those remaining in Sultan Kala finally moved to Abdullah Khan Kala.

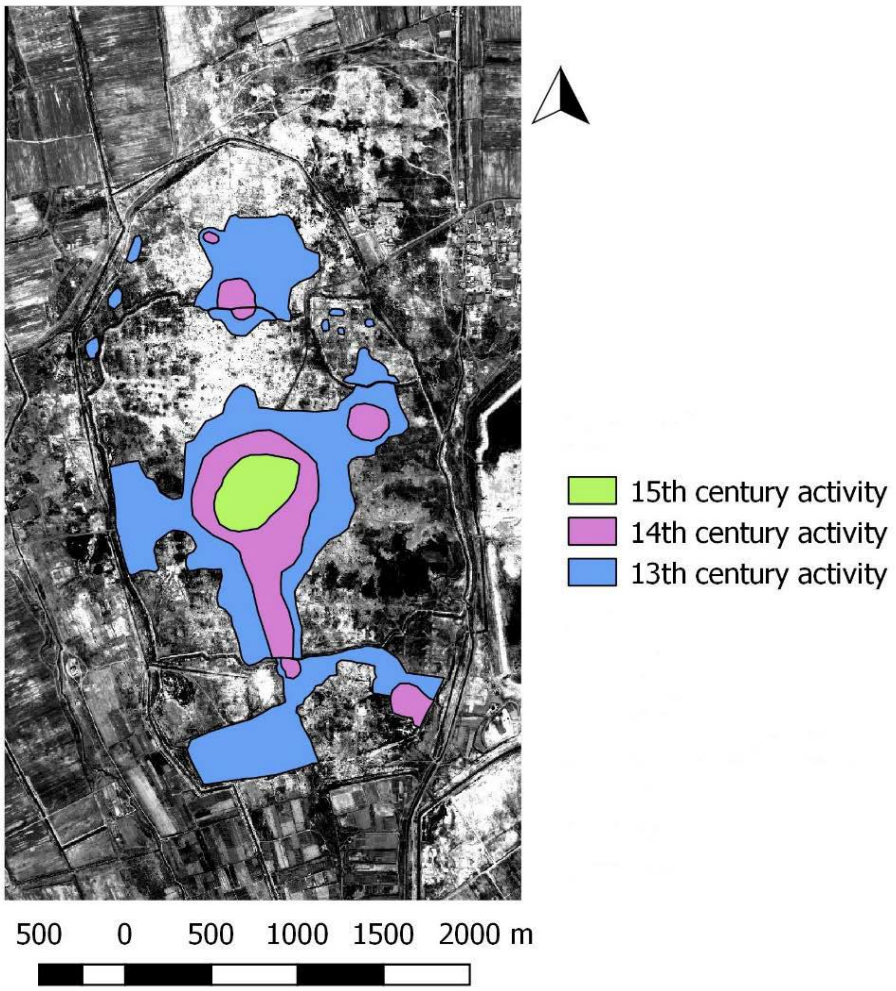

Figure 6.5 Distribution of ceramics from Dave Gilbert's walkover survey (Ancient Merv Project archive, UCL)

A significant programme to investigate Mongol occupation in Merv was launched in the early 1980s and continued throughout the decade. A team led by T Khodjaniyasov excavated 37 sondages and cleaned 50 areas relating to Mongol era activity in the city. They collected indicative material for study, especially light blue glazed ceramics, including many with black underglaze design (Khodzhaniiazov, 1991, p. 48). Such ceramics were apparently found across the city except in the southeast and southwest quarters. Extensive workshops which produced this material were found in the southern part of Merv's north-western quarter, with further industrial activity described along the northern boundary of Sultan Kala (Khodzhaniiazov, 1991, pp. 48–49). Unfortunately, political events at the end of the 20th century meant that the YuTAKE series ceased to publish their work at Merv, and Turkmen archaeologists struggled to find the resources to enable publication of this ambitious project. Close collaboration between local archaeologists and the UCL team in the 1990s likely explains the ongoing assertions of significant 13th and 14th century occupation at Merv (Herrmann and Kurbansakhatov, 1994, p. 54, 1995, p. 56; Herrmann, Kurbansakhatov and Simpson,

1996, p. 16, 1997, pp. 2–4). However, this later activity is difficult to quantify or assess as, unlike earlier work by YuTAKE teams, so little has been fully published.

Extensive survey activity during the period of Soviet administration is likely to have affected the results of later walkover surveys. Although it is unclear how much material was collected by Al'khamova, it seems likely she removed some for further study, and Khodjaniyasov targeted the collection of ceramic material in particular (Khodzhaniiazov, 1991). A few years later, a further small-scale survey undertaken by Petersen and Khodjaniyasov, walked six transects in the centre of Sultan Kala, to collect the more distinctive forms for further study (Khodjaniyasov and Petersen, 1995, pp. 56–57). None of the ceramic surveys of Sultan Kala have been published, so it is unclear which types were considered and how much ceramic material was removed from the site. By the 2000s, a certain amount of ceramic material must already have been removed from the surface of the site. Gilbert's survey may therefore also indicate the areas where subsurface deposits have been disturbed because of archaeological excavation or 'treasure hunting' activity such as that described by O'Donovan (O'Donovan, 1882, p. 245), which continues occasionally at Merv. Although survey data from Sultan Kala seems on occasion frustratingly incomplete, it indicates significant changes in the urban occupation of Merv between the 12th and 15th centuries. Al'khamova's survey pinpoints Sultan Kala as a focus of later activity, with Gilbert providing more targeted information, and Khodjaniyasov conducting widespread excavation to contextualise the surface finds, though this important work remains under-published. Whether decline of urban consumption patterns begins in the late 12th or 13th century is unclear based only on this data, but both surveys show a decline in ceramic material of the 13th and 14th centuries, with only a few areas experiencing later activity. Such hotspots include the centre of Sultan Kala, around the mausoleum of Sultan Sanjar, Shahriyar Ark, and possibly areas near the western gate of the city, and in the south towards Abdullah Khan Kala. Although walkover survey is useful to indicate general trends over the centuries in question, a comparison between these surveys highlights the importance of presenting raw data and methodologies employed, while underlining the need for targeted excavation to further investigate the fate of Merv in the 13th and 14th centuries.

Excavation within Sultan Kala/Medieval Merv

Dozens of excavations have taken place in Sultan Kala since the 1940s, with Turkmenistan's broader political changes, international relations and the personal circumstances of individual archaeologists leading to a mixed history of publication both in terms of frequency and content. Locating Mongol era occupation within these excavations is theoretically an easy one, as any such occupation should be encountered fairly quickly in an excavation within Sultan Kala, due to the southward shift of the

population to Abdullah Khan Kala in the early 15th century. Remains of the 13th and 14th centuries would therefore be in the upper layers, and the first encountered in systematic archaeological excavation. Locating Mongol era activity has certainly been an interest of several excavators at Merv, but lack of recent publication and problems with archiving means the period remains mysterious. However, this task is dogged by the recurring problems of identification of securely dated Mongol era ceramics, lack of publication when such activity is reported and the desire to dig through perhaps less substantial occupation to reach well-built Seljuk period structures. Through a compilation of publications and other archival material it is possible to create a preliminary map of activity in the city from the mid-12th century to further investigate Al'khamova's suggestion of post-Ghuzz decline, charting the location and types of activity taking place at Merv during the 13th and 14th centuries.

YuTAKE Excavations 1947-1990s

The 40 years of YuTAKE research provide a framework for changes taking place between the 12th and 14th centuries. Targeted excavations investigated a particular monument such as Sultan Sanjar's mausoleum (Lunina, 1969, pp. 110–112) or answered questions such as the chronological span of the pottery quarter (Lunina, 1958). Much of the material is published in the '*Trudy YuTAKE*' [Proceedings of the YuTAKE] series which spans 19 volumes. Other articles appeared in journals or standalone monographs, published in the Central Asian Republics and Russia so they can occasionally be difficult to find. Three major issues have hampered the inclusion of YuTAKE data into the overview map of Mongol Merv. The first is the lack of ground plan to locate excavations in Sultan Kala between the 1950s and 1980s, as Lunina's overview simply describes rough excavation locations. Some are located fairly precisely such as 210m north of the road leading to the Firuz gate and 250m east of the city wall (Lunina, 1969, p. 132), although others are merely described as an 8m^2 pit in the north-western quarter of the city (Lunina, 1969, p. 114). A few can be found on plans created by the AMP in the early 2000s during extensive survey at the site, although erosion meant many were no longer visible. The second problem is the lack of documentation produced during excavation. Although section drawings of 'cultural layers' are published in Lunina's summary, few plans are included, even when multi- room buildings were excavated (Lunina, 1969, pp. 118–129) leading to limited opportunity for interrogation or reinterpretation. The map of Mongol Merv (Figure 6.6) is created using a wide variety of archaeological publications and archival material from YuTAKE to the present-day UCL project and locates reported findings as accurately as possible. This composite map portrays activity dated to the 12th-14th centuries to visualise and discuss changes taking place in the period. In the following section, I explain each cluster of sites and what they tell us about the impact of the Mongol Conquest, beginning with the city's defences.

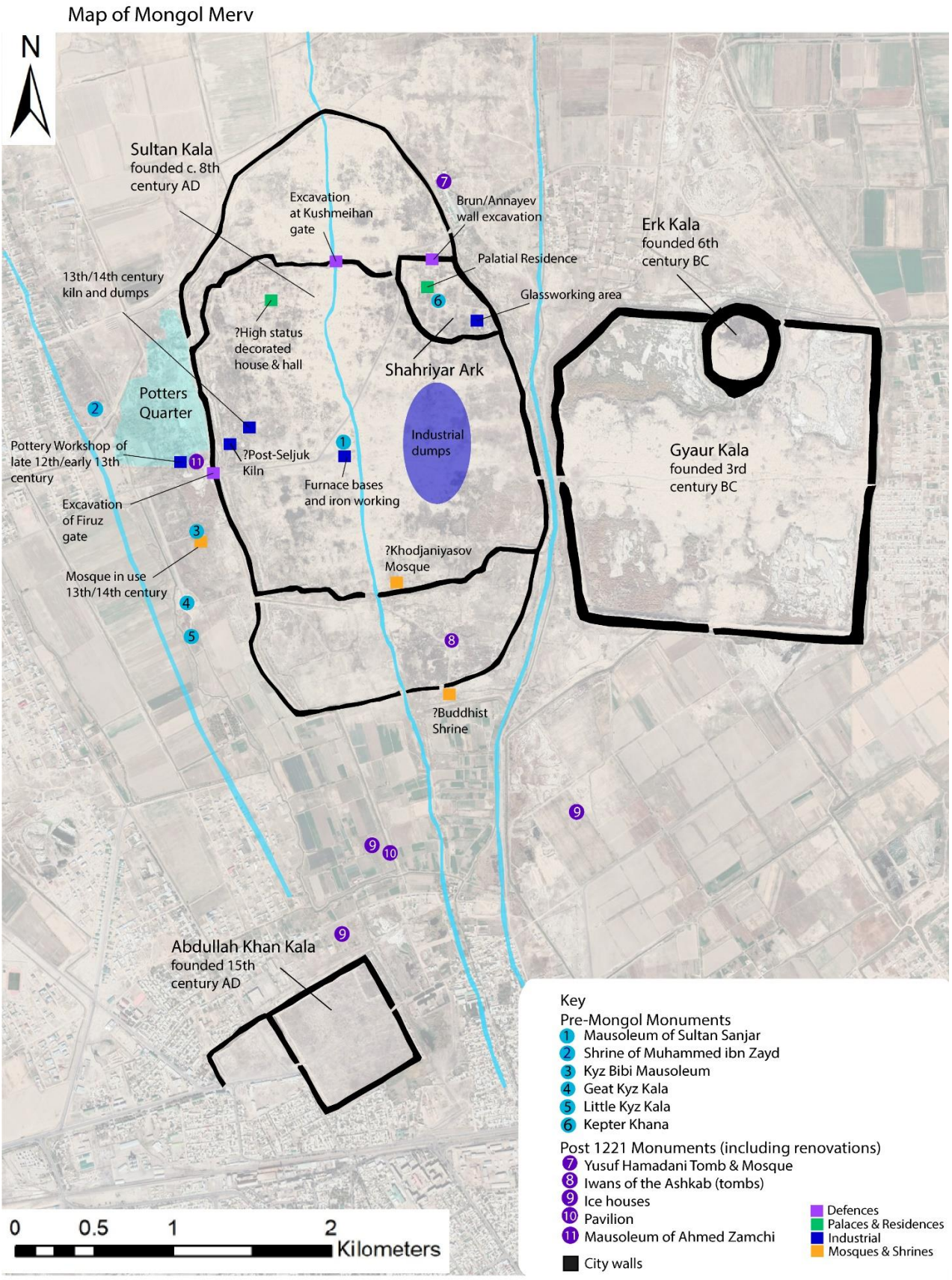

Figure 6.6 Excavated sites relating to Mongol Conquest and activity in the 13th and 14th centuries, entries with a ? in front of them have been put in the estimated location based on the descriptions of the excavators

The Defences

Sultan Kala is surrounded by 13km of defensive walls, including two large suburbs to the north and south (Williams, 2018b, p. 419). As the city is not overlain by later phases, nor has a modern city encroached too far onto the remains, it is possible to see the defences faced by the Mongols when they arrived in 1221. The first obstacle to breach on arrival at Merv would have been a large moat 25-30m wide and 4m deep (Brun, 2000, pp. 48–49). This could be filled from the Majan and Razik canals during attacks, but was likely kept dry to prevent water damage to the mudbrick fortifications. Across the moat was a *fausse-braye* and huge defensive wall constructed primarily from mudbricks, which survives to a height of 5m, and would have originally been over 8-9m high (Brun and Annaev, 2000, pp. 24–25, 2001, p. 35). Semi-circular towers dotted the walls, every 25-30m in the east and west, and 15-25m on the northern and southern side, of which 189 survive from an estimated total of 244 (Brun and Annayew, 1998, p. 68). The mudbrick defences were built on a *pakhsa* platform measuring 12-17.5m in width, and were battered to reduce the impact of siege engines, tapering to the upper walkway at some 5m wide (Brun and Annayew, 1998, pp. 70–71). Entrances to the city were situated approximately in the centre of each of the four walls. The north and south were served by the Kushmeihan and Alamdar gates respectively, while the Firuz gate led into the western side of the city, and the Shahristan gate, was in the east, leading to Gyaur Kala. The west and north gate were partially excavated in the early 1990s by Khodjaniyasov and Loginov who found the gates had been built to strictly control access into the city, and aid in its defence. At the Firuz gate, the entrance to the city was through a corridor in the wall, which was remodelled to become more complex, and limiting access to the city in later phases. Excavation in the north wall showed the Majan canal flowed through an underground conduit to protect the city from incursion (Brun and Annayew, 1998, p. 69; Khodjaniyasov, 2000, pp. 28–29).

The massive size and scope of the medieval walls represent a significant investment in infrastructure, with ongoing maintenance and strengthening visible throughout their lifespan, showing that Merv required a high level of protection even before the arrival of the Mongols. Merv's medieval defences were studied extensively by P Brun and A Annaev in the late 1990s as part of the International Merv Project (IMP), with targeted excavation in several areas along Sultan Kala's wall circuit revealing two major construction phases (Brun and Annaev, 2001). The first, hollow phase of defences was built in the 11th century (Lunina, 1969, p. 117; Brun and Annaev, 2001, pp. 40–41), with a lower arched corridor and wall-walk providing access for defenders to protect the city via numerous arrow slits (Brun, 2000, p. 69; Williams and Kurbansakhatov, 2002). Protruding towers enabled archers to fire on attackers trying to breach the curtain wall. According to Brun and Annaev,

the second phase dates to the late 12th or early 13th century[38], when the hollow corridor and wall-walk were filled with rubble and clay, partly as the result of damage caused by an earlier attack (Brun and Annaev, 2000, pp. 24–27). The upper part of the earlier defences seems to have been damaged or destroyed by bombardment of clay balls or stones from a catapult set up outside the city walls (Brun and Annaev, 2000, p. 26, 2001, pp. 38–40). A body was found buried in the earlier wall phase, immediately before infilling. This was interpreted as a casualty during defence of the city, who was buried in the wall as the cemeteries were inaccessible (Brun and Annaev, 2000, pp. 24–27). Although this is a possibility, burial within walls is not uncommon during this period in Central Asia, with examples in certain parts of Merv (Brun and Annaev, 2001, p. 37) and a probable 12th century example excavated at Otrar (Akishev, Baipakov and Erzakovich, 1972, p. 70). This case may therefore be unrelated to the defence of the city. Nonetheless, a fortification of Merv occurred at some point in the 12th century, after wide-ranging damage to the earlier walls, demonstrating that the city must have been refortified with knowledge of contemporary tactics of siege warfare.

The exact date of the damage and refortification is unclear, but it is tempting to equate the damage with the Ghuzz who apparently devastated the city after an argument over taxes. They captured the Seljuk ruler Sultan Sanjar in 1153 and subsequently marched on Merv to embark on a campaign of destruction. Historical sources mention looting and capture of Merv's residents, causing economic and urban decline from the 1150s, but there is no direct narrative of damage to infrastructure (Zhukovskii, 1894, pp. 29–30; Lunina, 1969, p. 117). A more likely contender for the destruction might be the Seljuk prince Arslan Arghun who was involved in Seljuk power-struggles, with sources reporting that he destroyed the defences of several cities in Khorasan, including Merv and Sarakhs in 1095 (Paul, 2014). A destruction in the late 11th century followed by rebuilding under Ahmad (later, Sultan) Sanjar while he served as governor of Khorasan (1097-1118) or Seljuk Sultan (1118-57) fits with the chronology proposed by both sets of excavators, and is probably correct (Lunina, 1969, p. 117; Brun and Annaev, 2001, pp. 40–41). Strengthening and refortification of the walls from the earlier, hollow phase to the subsequent solid one appears to have begun in the early 12th century, with these improvements also raising the height of the wall with a new walkway and parapet, although this is now very eroded (Brun and Annaev, 2000, p. 27). A final fortification effort is apparently associated with the Mongol threat, and seems to be the last attempt to fortify the defensive circuit of Sultan Kala before the move southward to Abdullah Khan Kala (Herrmann,

[38] YuTAKE also dug a trench through an unspecified part of the wall, finding three major wall phases, dating the first to the 11th century, associating its construction with Alp Arslan (r.1064-1072), with the second dating to the first half of the 12th century and, a final fortification dating to the early 13th century, just before the Mongols appeared (Lunina, 1969, p. 117). Brun *et al* took radiocarbon samples from their excavations which might resolve the timeline.

Kurbansakhatov and Simpson, 1999, p. 22). 13th and 14th century occupation is still present along the defences of Sultan Kala, with structures abutting the city wall interpreted as low-status houses[39] (Herrmann, Kurbansakhatov and Simpson, 2001, p. 44).

Historical accounts of the complete destruction of Merv's citadel and outworks by the Mongols (Juvaini (trans. J. Boyle), 1958, p. 162) are likely exaggerated and almost no damage of this period has been observed, a notable contrast to extensive damage in the earlier phase (Brun and Annaev, 2000, p. 26, 2001, p. 40). Indeed, the large breaches in both the north and south walls of the city, assumed to be caused by the Mongols (Pugachenkova, 1954, p. 140) are instead interpreted by Brun and Annaev as the result of increased erosion on these walls due to the prevailing north wind (Brun and Annayew, 1998, p. 69). There are hints of unrepaired destruction in the city wall, including a collapsed tower in the northern defensive wall of the Shahriyar Ark, but this event is hard to date, and the excavators appear unconvinced by evidence of widespread Mongol destruction (Brun and Annaev, 2000, p. 27). Neither YuTAKE nor Brun and Annaev find any indication that the walls are maintained after the Mongol Conquest. This demonstrates waning investment in the urban infrastructure at Sultan Kala in the 13th century, suggesting a shift in the priorities of its new rulers and showing that it was no longer defended in the same way. The investigation of other urban infrastructure is therefore likely to prove more fruitful to investigate changes in the later 13th and 14th centuries.

Palaces and Residences

A major factor for understanding Mongol rule in Merv is identifying where the rulers lived, and to what extent they invested in high status residences, religious and educational buildings, as was the case elsewhere in the Ilkhanid world. Alongside this problem is the question of the extent and speed of the city's depopulation, from an apparently thriving city under the Khwarazmshah according to Yaqut (Zhukovskii, 1894, pp. 33–49) to depopulation and physical destruction of the city (Juvaini (trans. J. Boyle), 1958, pp. 161–64). Shrinking occupation portrayed by walkover surveys and the thoroughly dilapidated state of the city today demonstrate substantial decline in Merv from its apparent zenith in the Seljuk period. Activity can be seen at shrines, alongside continued industrial production, although such activity does not necessarily indicate a permanent, settled population.

Archaeological survey and excavation have not yet located Merv's administrative centre during the Mongol period and relatively few have attempted to trace the general spread of population in the

[39] The location(s) and quantity of these structures is unclear.

13th and 14th centuries. Historical sources for urban life in the Mongol period are scarce, despite widespread material evidence for occupation in the city and the existence of a mint (Herrmann, 1999, p. 18). Juvaini mentions that when the governor Arghun arrived in Merv sometime in the late 1240s[40], several days of feasting in the royal palace ensued and the new governor then rebuilt the palace and restored the park, while his ministers built mansions and laid out parks in Arzanqabad (Juvaini (trans. J. Boyle), 1997, p. 510)[41]. The only mention of Mongol era Merv in the generally comprehensive history of Rashid al-Din, relates to a squabble over the eventual border between what were to become the Chagatai realm and Ilkhanate (Rashid al-Din (trans. J. Boyle), 1971). Such political wrangling might further explain the lack of economic and reconstruction activity in the area until the formation of the Mongol states and the arrival of Arghun.

Excavations in the city have provided evidence for both rapid, and more gradual abandonment of residential buildings in the 13th century. One particularly fine example was excavated in the north of Sultan Kala, revealing a large, highly decorated residential building[42] (Lunina, 1969, pp. 118–29). This multi-phase structure particularly interested the YuTAKE excavators as it echoed Merv's fortunes through the 12th and 13th centuries. An earlier, more complicated phase fell into disrepair, around the time of the Ghuzz raids, while a later hall built on these ruins was abandoned mid-meal, apparently as the Mongols approached (Lunina, 1969, p. 129). Featuring walls adorned with painted plaster, including several episodes of replastering, the later building was well-maintained and had coloured glass windows, an alabaster *panjara* screen and geometric decoration on the external walls (Lunina, 1969, pp. 120–121). Exterior wall decoration included moulded, turquoise glazed tiles and geometric mosaic tiles, and indicate a late construction date, as such geometric tiles (with the better-dated lustre glaze at least) do not appear until around 1200, and are more numerous during the Mongol period (Watson, 1985, pp. 122–30, 2006, pp. 331–32). Several vessels and animal bones were found on the floor, suggesting a rapid abandonment. The ceramic assemblage included many fine-ware vessels of the late 12th or early 13th century, including locally-made greenish and yellowish lustre portraying plant and epigraphic motifs on a white background, white and blue glazed Kashan vessels, and multiple blue-glazed Kashan pendants (Lunina, 1969, pp. 122–29). Thanks to the circumstantial evidence of a sudden abandonment, clear and well-dated construction phases, and

[40] Boyle comments that the date given by Juvaini 648 AH (1250-51) must be wrong because of corresponding events mentioned in the narrative and Arghun likely arrived in or before the Spring of 1247 (Juvaini (trans. J. Boyle), 1997, p. 510)

[41] Pugachenkova (who appears to use Juvaini as her source) names the place as Razikabad (Pugachenkova, 1954, p. 205), indicating its proximity to the Razik stream/canal which runs between Gyaur Kala and Sultan Kala. This is apparently the source of subsequent uses of Razikabad/Raziqabad (Esin, 1972, p. 67; Prazniak, 2014, p. 661). It seems likely that this is a muddling of RZQ/K in transcription or translation, and does relate to the Razik, but I could not detect where in the process this shift occurred.

[42] 450m from west wall, 250m from north near the (SE-NW) running street which goes to Kushmeihan gate

distinctive ceramic finds of the relevant period, we can be sure this building was abandoned quickly and unexpectedly around the time of the Mongol Conquest. The lack of later occupation hints at depopulation in the city, as the original residents failed to return home, and this grand house was not reused during the Mongol period. In summary, this substantial building provides a fascinating timeline of the 12th and 13th centuries at Merv. An original structure was abandoned around the time of the Ghuzz assaults, and a hall rebuilt in the later 12th century was abandoned at the time of the Mongol Conquests, with the lack of reoccupation of this grandly decorated building, demonstrating the gradual depopulation and decline of Sultan Kala in the 13th century.

Locating the administrative centre of Mongol Merv remains a major issue, not least because it is likely to contain fine wares and architectural decoration distinctive to the Mongol period, and its careful excavation could help with chronological issues surrounding Mongol occupation of the 13th century. Khodjaniyasov suggests that a rulers house and mosque, evidenced in part by a polychrome ceramic tile from a tombstone dated to 678 AH (1279/80), functioned in the Shahriyar Ark during the Mongol Period (Khodzhaniiazov, 1991, p. 49). Perhaps because of this, the IMP team began an excavation in 1995 in the Shahriyar Ark to further investigate Mongol Merv, focussing on a mound to the northwest of the distinctive Kepterkhana structure. The excavations uncovered a large domestic building measuring 33m (E-W) x 24m (N-S) whose mudbrick walls contained fragments of Seljuk pottery, leading the team to interpret the building as having a relatively late construction date. Once the large structure had been fully revealed, the phasing was relatively clear but the dating ambiguous. Excavation of the domestic range at its western end placed construction in the second half of the 12th century, with extensive Mongol and even Timurid occupation continuing in this area. This was indicated by ongoing, poor quality architectural modifications, reuse of brick, and repaired vessels dating from the 11th and 12th centuries (Herrmann, Kurbansakhatov and Simpson, 1998, pp. 71–72).

When excavations were extended to the east, several large rooms and a four-*iwan* courtyard were revealed, alongside extensive remains of carved stucco wall decoration which had been painted in vivid colours including dark blue/black, pink and golden yellow (Pearce, 2000; Wicke and Simpson, 2000). The rooms surrounded a tiled courtyard with unglazed, fired tiles laid to form a geometric floor pattern containing a star-shaped drain (Hull, Cerasetti and Leoni, 2001, pp. 32–33). The stucco shared design similarities with the mausoleum of Sultan Sanjar (built c. 1150), although the carving technique was different, and in some places it does not appear to have been completed, with areas roughed-out but not fully carved (Pearce, 2000, p. 15, Figure 6.7). The grand, stucco-lined entrance hall and large rooms were dated to the Seljuk period as a result of their decoration, and subsequent excavation of the platform upon which the structure was built apparently indicated a late 11th or

early 12th century construction date (Wicke and Simpson, 2000, p. 14), almost a century earlier than observations from the first year of excavation. The incompleteness of the stucco décor and similarity to Sultan Sanjar however make it tempting to date the initial phase to the mid-12th century, similar to the date ascribed to Lunina's large, residential building which also had comparable carved stucco decoration on its walls and a patterned fired brick floor (Lunina, 1969, pp. 117–22).

Figure 6.7 Stucco decoration from MSK1 including a section of 'roughed out' stucco ready for carving (Ancient Merv Project) and see (Herrmann, Kurbansakhatov and Simpson, 2000 Plates Vb-VIb)

Whatever date the early stucco phase, there is clear evidence of several later phases of occupation and renovation of the space. Firstly, the floor and surrounding thresholds were raised and re-laid, apparently because the drain became blocked (Hull, Cerasetti and Leoni, 2001, p. 14). This seems like a rather drastic way to deal with a blocked drain, especially in such a fine building, and the unfinished plaster may indicate a sudden abandonment during construction, with the building then reoccupied and 'finished' once occupants returned. This might account for a mid-12th century construction or renovation, with re-occupation and possible expansion to the west in the later part of that century, although it is unclear whether the excavated sequence might fit this interpretation. Sometime after the floor was raised, the building was again modified, with subdivisions inserted into the rooms to make them smaller (Hull, Cerasetti and Leoni, 2001, p. 15). The stucco decoration was stripped from the walls and the whole building covered with white plaster, with this phase relatively

long-lived, as the floor surface was regularly replaced. Towards the end of the occupation sequence, the presence of dung suggests this once-fine building is deserted or being used to house animals (Hull, Cerasetti and Leoni, 2001, p. 15). Ceramics recovered from 'secondary floor levels'[43] include two bowls of underglaze painted blue on manganese, indicating that late phases of occupation date to the 13th century with other forms found in the construction deposits of Abdullah Khan Kala (pre c.1409) found above the courtyard (Gilbert, 2001, pp. 44–46). The earlier phase(s) appear to have been kept very clean, with only a few, small diagnostic sherds, among which are examples of Mina'i, Lustre wares and celadon demonstrating occupation within the building on the eve of the Mongol conquest (Gilbert, 2001, p. 46). The excavations, which took place between 1995 and 2000 have not yet been fully published but represent one of the best chances to observe the continued occupation of a building from the 12th to the 14th century, clearly demonstrating Mongol period re-purposing and renovation of buildings within the city.

According to Khodjaniyasov's survey, there is extensive Mongol era occupation across the city and along its main roads. The richest inhabitants of Mongol Merv apparently lived in the north-eastern quarter of the city, near the Shahriyar Ark and on both sides of the road heading north from Sultan Sanjar to the Kushmeihan gate[44] (Khodzhaniiazov, 1991, p. 49). Unfortunately, such claims are unsubstantiated by published evidence, but surveys during the first years of YuTAKE's work by B Turganov indicated later ceramics were spread along the main roads of the city (Lunina, 1969, p. 144). Lunina recorded several mounds of burnt domestic waste to the north of Sultan Sanjar, with the depopulation of the city in the 13th century allowing residents to throw their rubbish into the ruins of earlier houses (Lunina, 1969, pp. 143–44). This proposed pattern of Mongol-era occupation, along the arterial roads of the city is broadly corroborated by Dave Gilbert's walkover survey (Figure 6.5). Besides this survey evidence, Khodjaniyasov reports on the excavations of a house lying 250m north of Sultan Sanjar and 15m east of the main road which contained a substantial amount of material from the 13th and 14th centuries (Khodzhaniiazov, 1991, p. 49). However, this is not fully published, and the mention of Mina'i ware present on the site suggests it may have continuous occupation from the 12th-14th century.

Alongside evidence for urban occupation, extensive 'squatter style' activity has been recorded within Merv's standing buildings, showing that the city remained a focus of attention because of its

[43] It is unclear whether this refers to the remodelling phase when the courtyard is raised but stucco remains intact, or to the later floors associated with replastering (or both). I think the discussion may insinuate Ilkhanid material is present in the earlier remodel, with continued occupation through the next century represented, including the major remodelling and pottery similar to that found at Abdullah Khan Kala, but it is unclear how this would relate to other finds and the text is ambiguous

[44] This is the main gate from Merv heading north from the city into the northern suburb

religious monuments, standing ruins and location on the main route between Mashhad and Bukhara. There is extensive evidence of 'squatter style' activity at most sites excavated in Sultan Kala, including in the Shahriyar Ark, indicated by hearths, ovens and temporary structures built from reused bricks (Herrmann, Kurbansakhatov and Simpson, 1996, p. 18). The largest standing building at Merv is the Great Kyz Kala, a semi-fortified palatial structure situated in the western suburbs, and likely built in the 8th-9th century (Williams *et al.*, 2018). This large building would undoubtedly have caught the interest of later inhabitants of the city, and there is evidence of late activity, including both robbing and occupation. Ovens inserted into presumably extant rooms, alongside more informal activity such as hearths and pits show the building was used long after its abandonment (Campbell, 2016b, pp. 48–50). It is unclear how long it might have functioned as a palatial residence before the disintegration of the walls, but ceramics dating to the 14th and 15th centuries have been found on the surface and from excavation (Figure 6.8). Such evidence testifies to post-Mongol use of this part of the city, even though the impressive architectural remains likely acted as a focus for later intermittent activity, rather than continuous urban occupation.

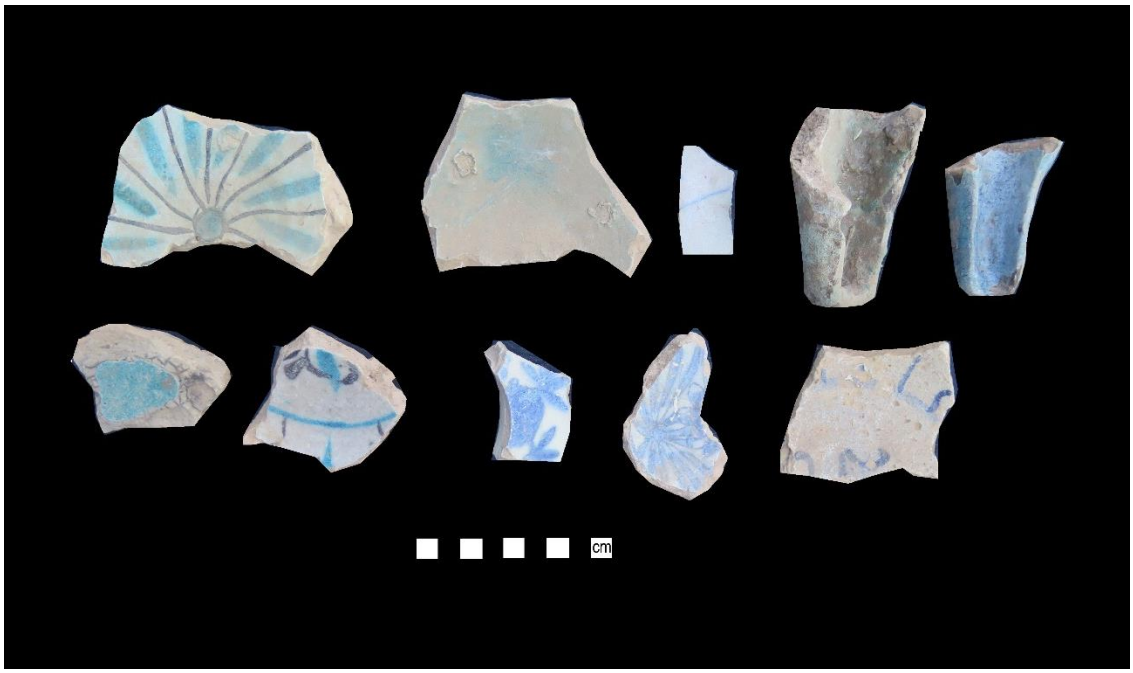

Figure 6.8 14th-15th century material from the Great Kyz Kala

Pottery Production and other Industrial Activity

Survey of Sultan Kala and its suburbs, begun by Al'khamova in the 1940s but curtailed by her death, indicated an industrial zone outside of the western defences, which was identified as the potters

quarter of the medieval city (Lunina, 1958, p. 349). In this part of the city, dumps of wasters, kiln furniture and kiln remnants can still be seen, and a pottery industry in the area ties into historical accounts of the western suburb, bounded to the east by the city wall and the west by the Hormuzfarra canal which was integral to the potters' activities (Barthold, 1910, pp. 116–118). Ceramic surface-finds demonstrated large-scale pottery production in the medieval period, and excavations were conducted between 1954 and 1958 in order to clarify technological and chronological details of the industry (Lunina, 1958, 1962, pp. 217–225). YuTAKE researchers found that the earliest pottery produced in the area was of the 10th -11th century, demonstrated by 'Ishkor' types, alkaline glazed wares characterised by vegetal or geometric designs in green, turquoise, dark blue, or lilac, and the latest were 13th or 14th century wares decorated with black stripes or swirls on a blue background, with brick kilns found in the northern part of the quarter (Lunina, 1962, p. 218). Multiple excavations across the area show that the quarter was arranged into individual workshops some of which can be identified by stamps or signatures, alongside temporary kilns which had a variety of lifespans, rather than all becoming deserted on the arrival of the Mongols (Lunina, 1962, pp. 219–230).

Although pottery production continued into the 13th and 14th centuries on the western edge of the city, changes can be seen in the organisation and location of the kilns. In some areas, the uppermost excavated kilns had certainly been abandoned in or before the 12th century (Lunina, 1958, pp. 363–64). However, the largest excavation in the western suburb where the YuTAKE team removed 1700m^3 of material to reveal a substantial workshop, indicated the kilns' final use had been in the early 13th century (Lunina, 1962, pp. 219–225). This marks a significant slow-down of activity, and probably large-scale or complete abandonment (Zhukova, 1978, p. 99). This workshop was located to the west of Ahmed Zamchi's mausoleum, near the western gate to the city. It was producing a wide variety of unglazed wares including distinctive moulded wares, sphero-conical vessels and water pipes within a series of large kilns, which were heated simultaneously emphasising the scale of the production (Lunina, 1958, 1969, pp. 288–364). The workspace appears to have been kept very clean, with the final uncleared layer containing coinage of Mohammed Khwarazmshah (r. 1200-1220), and leading the excavators to assume that it was abandoned around the time of the Mongol Conquest (Lunina, 1958, pp. 352–53). Further excavation indicated that the workshop was abandoned very quickly. Pre-prepared lumps of clay and several vessels prepared for firing were found laid out in the courtyard when it was abandoned, adding further weight to the supposition that the workshop was abandoned with some haste as the Mongols approached (Lunina, 1962, p. 370).

It appears that no Mongol period kilns were excavated in the potters quarter, although 13th-14th century material was noted (Lunina, 1962, p. 219) and there is evidence for industrial production moving within the city walls after the 1220s, situated within previously residential neighbourhoods. Although this trend is not particularly unusual, the large workshop near Ahmed's Zamchi's mausoleum for example was constructed above a residential building of the 10th-11th century (Lunina, 1962, pp. 220–221; 368), the movement of industrial activity into the walled city must indicate a reduction in the population within Sultan Kala. The amount of water required by potters would dictate where they could work, and any movement of production was likely informed, at least in part, by water supply. Kilns inside the city may therefore suggest that certain canals and conduits were still functioning in formerly residential areas, while those feeding the potters quarter may have ceased.

Following survey within the western walls of Sultan Kala, a Mongol era kiln was identified and excavated, alongside extensive surrounding ceramic dumps (Lunina, 1969, pp. 131–32). The kiln itself had a diameter of 2.75m, slightly larger than most excavated in the potters quarter, but very similar to those of the 12th-early 13th century workshop (Lunina, 1962, pp. 219–225). It contained many fragments of blue glazed pottery including a complete bowl with a three-legged kiln rod still in place. A plan and photo were published alongside Lunina's description of the work (Lunina, 1969, pp. 131–32) but these focus on the kiln itself rather than its surrounds. It is therefore unclear whether this kiln is within a larger workshop, or a single, isolated example. Data gathered in a walkover survey to map previous excavations (Williams and Kurbansakhatov, 2003, p. 20) recorded a single kiln which was part of three excavated features, and although these were not identified further, it is the likely location for this kiln and has been used in the map of Mongol Merv. Rather than the kiln, the focus of the YuTAKE excavation appears to have been on the recovery of ceramic material from a large dump to its east, to better understand pottery production in the Mongol period.

Excavation of the pottery dump provides a useful summary of types produced in the 13th and 14th centuries at Merv, indicating that architectural decoration and vessels were produced near this kiln. The dump overlies ruins of a house containing ceramics dating to the 12th century, including sherds described as 'Kashin'[45], and so supportive of an early 13th century abandonment (Lunina, 1969, p. 141). A few photographs and forms are published by Lunina (1969), but no wider study or catalogue appears to have been published, which is a shame as this would help to refine chronological issues in other parts of the city. The dump contained an array of vessel forms including bowls of various sizes,

[45] The YuTAKE team used this term based on Yaqut's description of 'Kashi' (i.e. from Kashan) to describe glazed wares on a frit body, including those of Central Asian type (Dresvyanskaya, 1969, p. 80). These are generally dated to the late 12th-early 13th century, although some apparently date to the 11th.

jars and flasks, indicating an industry wider than a single kiln. Both glazed and unglazed vessels were being produced in the area, with some examples pre-fired to prepare for glazing (Lunina, 1969, p. 136). The decorative schemes described are consistent with regional production in the 13th-14th centuries, as most vessels have a bright blue glaze, and some have Manganese purple or black ornamentation on a blue or blue-green background (Lunina, 1969, p. 136; Figure 6.9). Underglaze painting, the technique used to produce the black or dark purple ornamentation appears around 1200 on fritware examples, and is often used as an indicator of Ilkhanid period activity because of its enthusiastic use in this region during the 13th century. This is evidenced by frit bodied examples found at Sultaniya and a vessel dated to August 1277 in the Victoria and Albert Museum, as well as on the earthenware vessels at Merv (Watson, 2006, pp. 339–41). Architectural fragments were also found, many with a blue glaze and some with geometric decorations described as intertwined white and purple stripes on a blue background (Lunina, 1969, p. 133). The latter were identified by the excavators as very similar to tiles found at a mid-13th century Buddhist shrine in the southern part of the city (Pugachenkova, 1954, 1958, pp. 356–57). Lunina however prefers to link the kiln to the economic revival under Ghazan Khan in the very late 13th and early 14th centuries (Lunina, 1969, p. 140). The broad array of finds however, seems to indicate ceramic production took place in this area throughout the 13th century and probably into the 14th.

Figure 6.9 Restored bowl excavated from 13th-14th century pottery dumps in Sultan Kala with marks from kiln furniture. Photographed in the Mary Museum (2017)

The question of continuity in pottery design and production is an important one, as pottery is so crucial to dating occupation in the city, and the disruption of the Mongol conquest is often assumed to have severely impacted pottery production (Watson, 2006, pp. 325–30). As a result, mid-13th century occupation is often difficult to date archaeologically. One ware which is often considered as indicative of 12th century occupation (Gilbert, 2000) and to have ceased production in Merv after the Mongol Conquest is a (normally) unglazed moulded ware, many examples of which were excavated in the workshop near Ahmed's Zamchi's mausoleum (Gilbert, forthcoming; Lunina, 1962, pp. 288–364). The YuTAKE team's excavation of ceramic dumps inside the western city wall however found moulded wares and their moulds (Lunina, 1969, pp. 136–138). Although the presence of such wares might be considered residual in other parts of the city, the presence of kilns and moulds in this area make clear these wares are being produced within the city walls at Merv, and it seems that the moulds came from a dump above a ruined 12th century building. Examples of moulded ware attributed to the 13th and 14th centuries have also been found at Otrar (Akishev, Baipakov and Erzakovich, 1987, pp. 162–166; Baipakov and Erzakovich, 1991, p. 155). Lunina argues that the presence of such wares indicates a certain amount of continuity in the pottery production at Merv. She draws a direct comparison with the pre-Mongol workshop by the Mausoleum of Ahmed Zamchi and the kiln inside the city to suggest that individual master craftsmen survived the Mongols, and continued to practice their craft (Lunina, 1969, p. 138). The precise context of the moulds is unclear, but the lack of comparative moulded ware securely dated to the 13th and 14th centuries also leaves the possibility of a more gradual shift of pottery production from the potters quarter to inside the city from the 12th century, rather than a sudden change associated with the Mongol conquest.

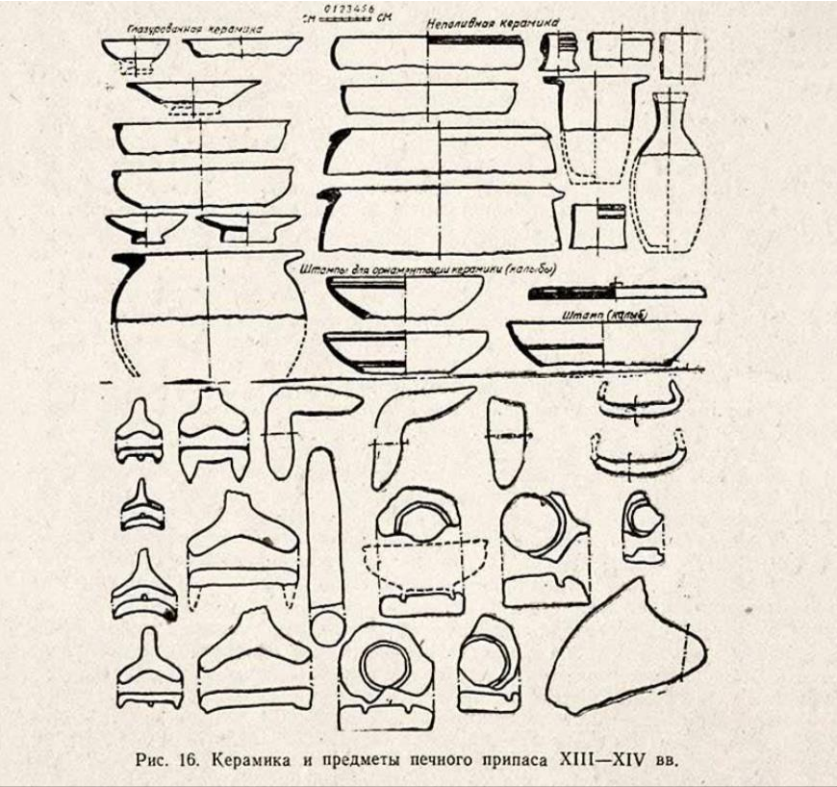

Figure 6. 10 Pottery forms attributed to the 13th-14th century by Lunina (after Lunina, 1969, p.134)

Across the city, ash mounds and dumps of mis-fired ceramic material were traced, many containing wasters of wares described as 'Kashin' (Lunina, 1969, pp. 142–145), indicating they were produced in or after the late 12th century. Such mounds range from around 5m-120m in width, and industrial activity is clearly widespread within the abandoned town, ranging from the edges of the city to the area around Sultan Sanjar. This activity has been assumed to date from the 13th century and produced by local craftsmen enslaved by the Mongols within the ruined city. However, the presence of Mina'i and other wares dated to the late 12th- early 13th century at more than one of these locations (Lunina, 1969, pp. 143–44) presents the possibility at least some of this activity dates to before the conquest, continuing through the 13th century. Detailed survey work across the city, summarised by Lunina, but apparently not published elsewhere, indicated that 13th-14th century material which formed part of domestic rather than industrial waste, was concentrated along the main roads in the city (Lunina, 1969, p. 144). This indicates a pattern of occupation where the city's inhabitants remained along these routes, while districts further from the thoroughfares were abandoned and possibly used for industrial activities. The YuTAKE researchers also reported significant ceramic assemblages from the late 12th and early 13th centuries within the dumps, and concluded that Merv was already witnessing significant urban decline from the second half of the 12th century (Lunina, 1969, p. 145).

In the 1990s, a further kiln was excavated inside the western city walls by Khodjaniyasov, which was partially published by the team from UCL working in Merv at the time. The exact location is unclear, but it is described as being within the western city wall (Herrmann, Kurbansakhatov and Simpson, 1997, p. 26) and just inside the western gate of Sultan Sanjar in a report on the ceramics (Joyner, 2001). The kiln is of a somewhat unusual form, being rectangular in shape and its firing chamber smaller in size, 1.57m x 0.57m in plan, compared to diameters of over two metres in many previously excavated circular kilns. The excavators dated the kiln as post-Seljuk, implying that it began production in the later 12th century, based on the wide range of material it was producing. This included jars and flasks with comb-incised decoration and cylindrical spouts, monochrome glazed bowls in green and light-blue as well as large thick-walled basins (Herrmann, Kurbansakhatov and Simpson, 1997, pp. 27–28). Although the wares produced are not conclusively diagnostic, the most similar material from Merv are vessels with tapering, cylindrical spouts and incised decoration found in the rapidly abandoned, early 13th century assemblage at the workshop near Ahmed Zamchi's mausoleum (Lunina, 1962, pp. 350–358)[46]. With synthesis of this data, we can be confident that pottery production was taking place inside the city walls before the arrival of the Mongols, with a suggestion of continuity in the production of moulded wares, even if the exact chronology is not yet certain. Further survey of the western districts of Sultan Kala, within the city walls or radiocarbon dating of archaeobotanical remains within kiln fuel may help to clarify whether some of the assumed pre-Mongol wares are produced into the 13th and 14th centuries. This could have significant implications for the dating of later occupation in Merv and at other sites in the region.

In addition to the shift of ceramic production from the pottery quarter to inside the city walls, several other districts in the city were used for industrial activity, in an apparent shift from residential and administrative functions. The area around Sultan Sanjar's mausoleum, especially to its south and east has widespread industrial material including slag and hearth bases visible on the surface. Herrmann's team noted this in the 1990s and interpreted the material as the remains of post-Seljuk iron working, intending to do a targeted survey of the area which does not appear to have been carried out (Herrmann, Kurbansakhatov and Simpson, 1997, p. 26). Lunina also surveyed the area, reporting enormous piles of metalworking and other industrial debris about half way between Sultan Sanjar's mausoleum and the eastern wall of the city, with the slag piles also containing ceramics dating from the 13th-15th century (Lunina, 1969, pp. 144–45) Cleaning work undertaken by the AMP in 2010 on a previously-excavated herringbone fired brick surface in a madrasa, south of the main entrance to Sultan Sanjar's mausoleum, recovered several fragments of

[46] Petrographic analysis of sherds from this kiln was undertaken at the British Museum by Louise Joyner and found a continuity in the fabrics from early Islamic types (Joyner, 2001)

hearth bases and slag associated with the metalworking activity (Figure 6.11). More recently, excavations by a Turkish team led by Osman Eravşar in 2014 found at least one brick-built, circular kiln in the upper levels of an excavation area southeast of Sultan Sanjar's mausoleum (Eravşar, 2015, pp. 81–82). However, the work is not yet published, and it is unclear what was produced in the kiln. Although this activity is difficult to date, it is clearly widespread and Lunina's identification of ceramics dating from the 13th-15th centuries indicates that much of it dates to the period following the Mongol Conquest. Locating industrial activity in central and administrative parts of the city, next to the shrine of Sultan Sanjar and within or above substantial ruined buildings, demonstrate the decline of the grand centre of Seljuk Merv and a shifting layout of the urban settlement. Such activity also suggests a certain continuity of water provision within the city, with the Majan canal, running northwards, to the east of Sultan Sanjar likely providing water to the city's centre, even after the buildings had lost their original function.

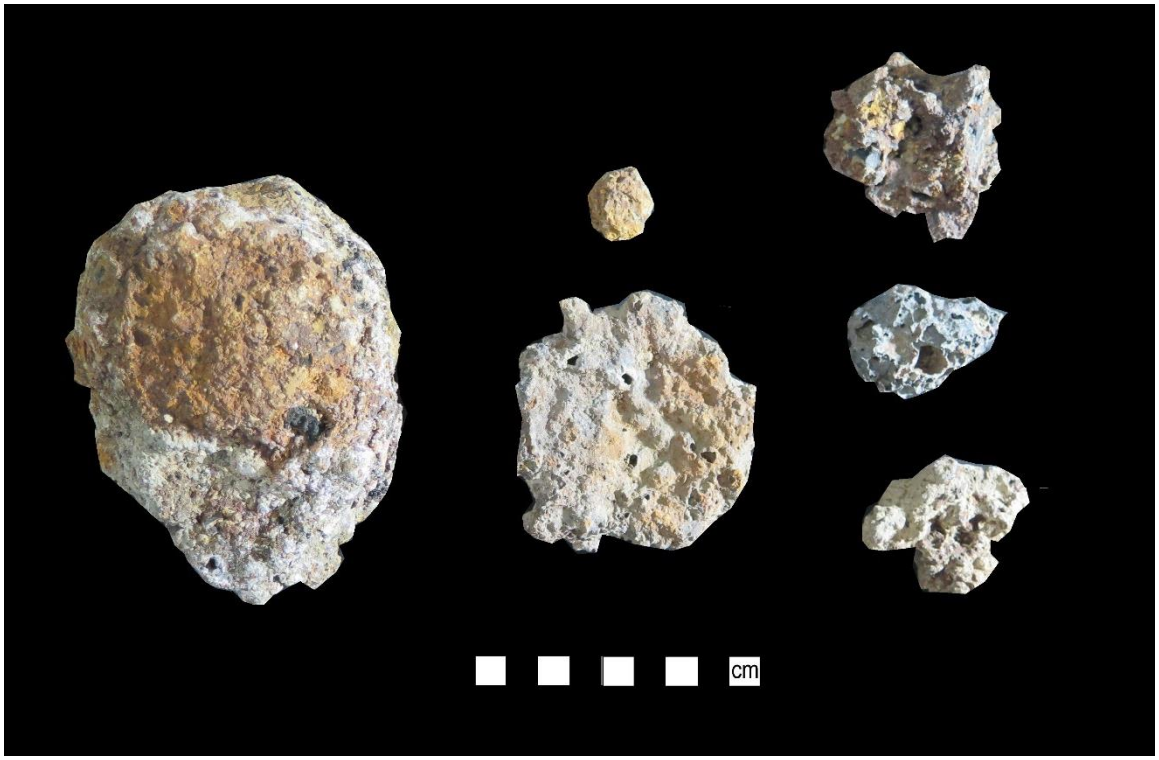

Figure 6.11 Fragments of hearth base and slag from smithing activity, collected during cleaning and backfill of previous excavations to southwest of Sultan Sanjar's mausoleum

Industrial activity has also been reported in the Shahriyar Ark, which originally functioned as a fortified residential citadel for the rulers of Merv, and a survey in 2011 identified an area of glass production in the south-eastern part of the citadel (Feuerbach, 2011). A small 2m x 1m test trench

excavated in this area in 2013 retrieved evidence of glassworking debris including trailers, frits and fused glass but no substantial remains of a workshop (Conger, 2013, pp. 26–27; Figure 6.12). This suggests production may have been *ad hoc* or perhaps temporary as part of construction processes. As with metalworking debris around Sultan Sanjar, this activity is hard to date, but when contextualised with finds across the site it is widespread, and probably has a broad date range from the 12th-13th century onwards. All of the sites investigated by AMP project teams in the 2000s, in the centre near Sultan Sanjar, the north of the city over the Majan canal and a street in the east of the city, recovered some evidence of glass production (Conger, 2013, pp. 35–36). This suggests that small-scale glass-working was taking place in several parts of the city, rather than being exceptional in the Shahriyar Ark. Nevertheless, the presence of glassmaking in the Shahriyar Ark and across the city again underlines the encroachment of industrial activity from at least the 13th century.

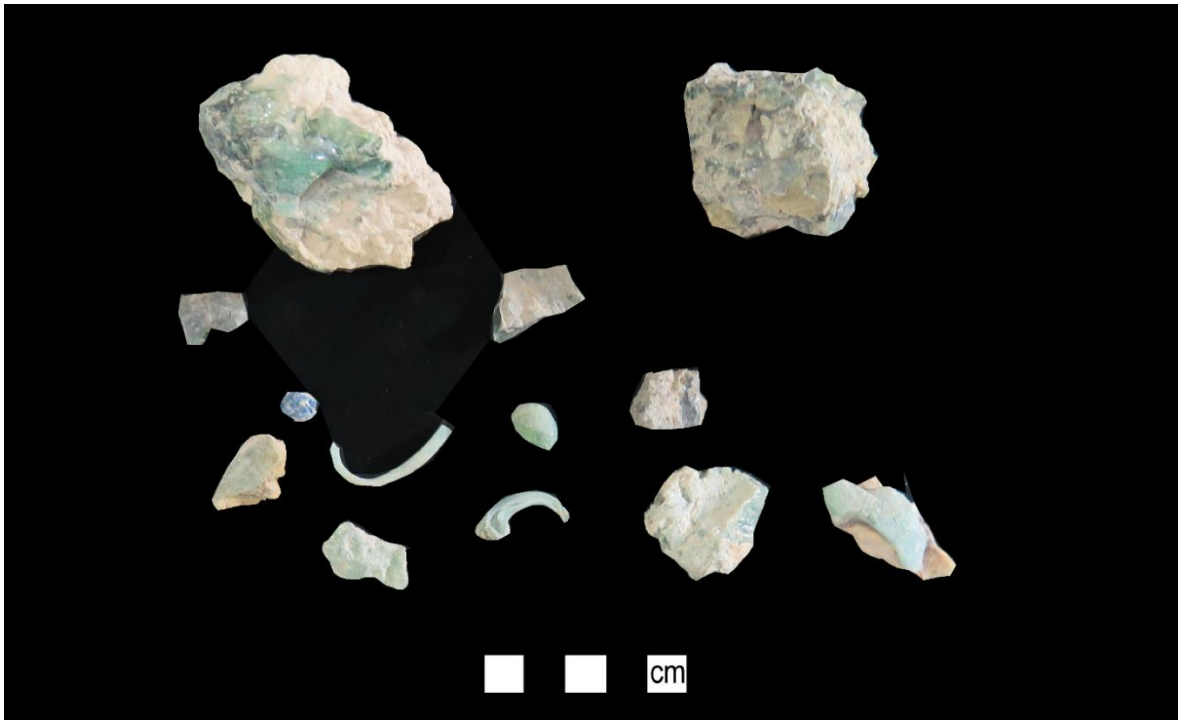

Figure 6.12 Glass working debris from MSK033, south eastern part of Shahriyar Ark

Shrines and Mausolea

The Mongols who sacked the city of Merv in 1221 are largely thought to have been polytheist Shamanists in their beliefs, although their expansion into China and Tibet was already leading to an interest in the Buddhist religion. Encounters through intermarriage, overlordship and administrative office with those from Christian, Muslim or Jewish backgrounds has led to a discussion of religious

fluidity and tolerance among Mongol rulers in the 13th century (Bausani, 1968; De Nicola, 2017, pp. 182–85). Merv and Khorasan had a mixed population but had been ruled by Muslims since the killing of the last Sasanian ruler by the Arabs in 651, and so the arrival of the non-Muslim Mongols marked a significant change in religious practice and architecture for the region. The first five Ilkhanid rulers likely had mixed sets of personal beliefs, but after Kublai (r.1260-1294) shifted the Mongol Empire towards Buddhism, the Ilkhans tended towards this religion. They apparently promoted it within the lands of the Ilkhanate, while continuing an array of Shamanistic practices and expressing interest in the monotheistic religions in the region (Bausani, 1968, pp. 540–541; Esin, 1972; Vaziri, 2012, pp. 117–118). Buddhist shrines and temples were erected throughout the Ilkhanate including at Merv, with the Merv example associated with the Mongol governor Arghun, who renovated palaces and gardens at the city in the 1240s and 50s, likely inviting craftsmen from the east to help build the Buddhist shrine (Pugachenkova, 1954, p. 205; Lane, 1999, p. 471; Prazniak, 2014, p. 661). However, such changes appear to be short-lived with the conversion of Ghazan Khan to Islam, shortly before he became ruler of the Ilkhanate in 1295, returning Khorasan to Muslim rule, which persisted as Ghazan's successors continued this trend. Once he came to power in 1295 a decree was issued to destroy Buddhist shrines, temples and pagodas and they were duly expunged, including the one at Merv, while adherents of the religion were forcibly converted to Islam (Bausani, 1968, p. 542).

Historical accounts of the Mongol attack on Merv indicate that the invaders dug up the tomb of Sultan Sanjar in their search for treasure, and eventually set fire to the building (Ibn al-Athir (trans. D.S. Richards), 2008, p. 226). Pugachenkova points out there is no sign of fire damage in the surviving building, and the account is a half-truth (Pugachenkova, 1958, p. 316). Other, later accounts report that the Friday mosque built by the Khwarazmshah Terkesh (r.1172-1200) was set alight (Juvaini (trans. J. Boyle), 1958), and it is possible, if not probable that the religious and administrative complex centred around Sultan Sanjar was damaged in the Mongol attack and its aftermath. Collapsed remnants of moulded tiles found in excavations near Sultan Sanjar's mausoleum in 2014 (Eravşar, 2015, pp. 63–68) may have fallen from this mosque, although it does not appear that buildings in this area are destroyed by fire either. Such tales of Mongol destruction of religious monuments are widespread in accounts of their progress through Transoxiana and Khorasan, with their ungodliness underlined by Rashid al-Din's summary of Genghis Khan's arrival in Bukhara, where he went to the Friday mosque and declared from the minbar that he was the punishment of God (Rashid al-Din (trans. W.M. Thackston), 1999, pp. 246–7). Such narratives underline the brutality and uncivilised nature of the Mongols, although as the case of Sanjar's mausoleum demonstrates, the accounts may be untrue or exaggerated.

The state of the mosques and mausolea in Merv in the conquest's aftermath is unclear, although finds of Mongol period and later ceramics around many of those still standing today indicate that they were the focus of post-conquest activity. Ghazan's conversion, and the apparent economic boom of the late 13th and early 14th century as well as his promotion of Islam and Muslim monuments led to the rebuilding of many damaged or neglected in the 13th century (Bausani, 1968, pp. 542–43). It is unclear whether Merv benefitted from such activity, but the mid -11th century mausoleum of Abu Said Abul Khayr (Meana Baba) some 180km southwest of Merv, on the Turkmen side of the Iranian border, was renovated at this time, apparently at the behest of Ghazan (Lunina, 1969, p. 140; Mamedov and Muradov, 2013, pp. 145–46). Most pre-Mongol buildings which survive in Merv are these shrines and mausolea, which is testament to the continuation of Islamic faith from the 13th century to the present day. These shrines were also some of the few buildings in the city constructed of fired brick, meaning that they required less frequent maintenance than their mudbrick counterparts, with early travel accounts indicating that the shrines were the site of ongoing devotional practice and were well used in the 19th century, long after the city was abandoned (O'Donovan, 1882, pp. 248–54). A certain amount of maintenance must have been practiced to ensure these buildings remained standing, and in particular discouraging the practice of robbing the brick for reuse, which was widespread once the city was in decline. However, maintenance appears to have been haphazard, presumably with individuals paying to renovate or repair specific buildings, and Pugachenkova's extensive architectural survey of the city and wider Merv oasis demonstrates that by the mid-20th century many of these mausolea were in a poor state of repair (Pugachenkova, 1958), although a few have since been restored.

The Buddhist interlude of the 13th century is of particular interest, as material relating to this activity is distinctive and clearly indicative of early Mongol rule, as well as being almost entirely unknown archaeologically, apart from the occasional hint of a shrine or rock cut monument, contextualised within the historical evidence (Ball, 1986; Prazniak, 2014; Azad, 2016). The YuTAKE team located and excavated a structure interpreted as a 13th century Buddhist shrine 60m south of the southern city walls in 1950-1951 (Pugachenkova, 1954, p. 140)[47]. Situated on a small mound, near a breach in the city walls, it was built on a 0.65m thick foundation above an earlier structure with a staircase leading from the ground level onto this platform and an enclosed shrine above (Pugachenkova, 1958, p. 352). According to the excavators, the building had been substantially and deliberately destroyed with smashed wall plaster, brick, wall and roof tiles covering the building's foundation, and making it difficult to understand its original plan (Pugachenkova, 1954, pp. 140, 145). Following the historical

[47] This is mistakenly recorded as 60km in Pugachenkova's architectural compilation for south Turkmenistan (Pugachenkova, 1958, p. 351) and later reported as 50m by Khodjaniyasov (Khodzhaniiazov, 1991, p. 50)

sources, construction might be around 1250, when Arghun renovated other buildings in and around Merv (which seems plausible although no Buddhist monument is mentioned). The shrine would have continued in use until Ghazan's decree of 1295, providing a rare and important snapshot of 13th century Mongol art and architecture. The excavated structure was almost square in plan with a width of around 11m, and the spatial organisation is interesting, consisting of a small room and a corridor (Figure 6.13), sharing similarities with the layout of traditional Buddhist monuments in Central Asia (Nakamura and Okazaki, 2017) and temples of the 12th-13th century in northern China (Wood, 1996; Watson, 2014), but with slightly unusual features. The shrine is entered from the north, climbing a short staircase onto the raised platform, which was probably covered by a wide, pagoda-style roof from which numerous tiles were found in the excavation. The main shrine was likely in the room opposite the staircase, with the narrow corridor at the edge perhaps containing a further staircase to allow access to an upper storey or second tier of roofing (Pugachenkova, 1958, p. 354).

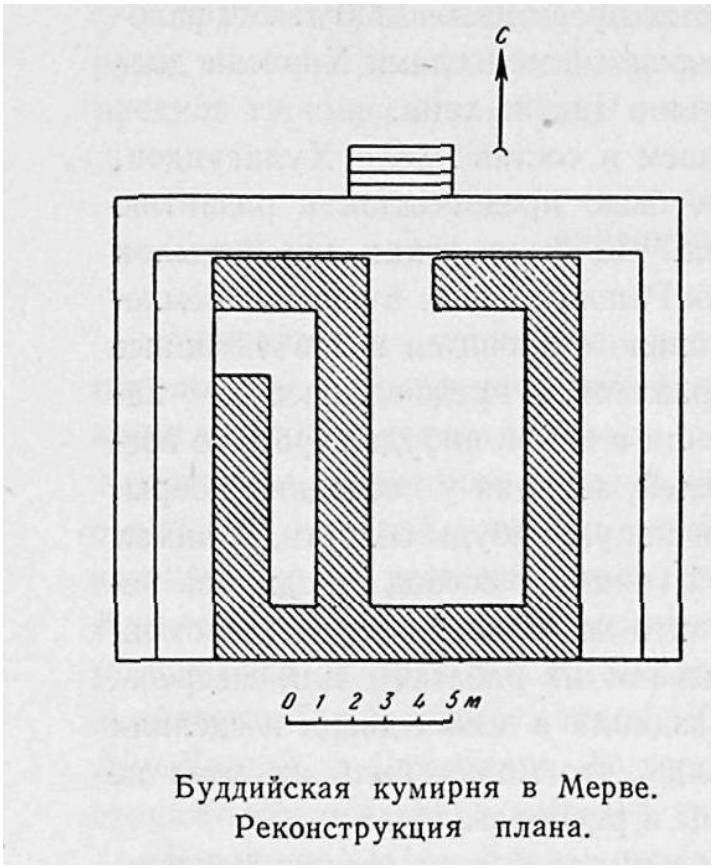

Figure 6.13 Plan of Buddhist shrine excavated to the south of Sultan Kala, it should be noted that Pugachenkova's plans are often partially reconstructions (Pugachenkova 1958, 352)

The decoration of this shrine is remarkable, and so far unique among excavated remains in Central Asia, with its attribution as a Buddhist monument of the Mongol period coming primarily from its architectural and stylistic signatures, alongside the evidence of deliberate destruction. During excavation, hundreds of tiles were found, most of them from the enormous roof. Pugachenkova notes that the 1.5m thick walls are unusually wide and needed to be so in order to support this structure, which was likely two-tiered (Pugachenkova, 1954, p. 142). The roof tiles were made from an unusually dense grey clay fabric, sharing similarities with a few other ceramics found in Merv, but with a stylistic origin much further to the east. The closest excavated comparisons are from the Mongol capital, Karakorum, where excavations from 1948-49 by S.V Kiselev uncovered the architectural remains of several buildings of similar 'Chinese style' to the one published by Pugachenkova at Merv (Kiselev, 1965, pp. 342–69; Elikhina, 2014, pp. 358–59). These tiles are of a similar 'grey' colour and as at Merv, have the impression of course fabric on their reverse. They were found during the excavation of the palace of Ogedei, khagan of the Mongol Empire from 1229 to 1241 (Elikhina, 2014, pp. 193–95). A construction date in the 1240s, therefore seems reasonable both pragmatically and stylistically for this structure.

Although the link with China was emphasised by the identification of Chinese characters on some of the tiles (Pugachenkova, 1958, p. 354; Figure 6.14), these are not Chinese and instead suggest a Mongol or steppe origin. Although not positively identified, the characters seem closest to the Turkic alphabet, with the outside chance they are a tamga or seal. Other distinctly eastern decorative material includes a large, carved plaster frieze depicting two dragons (Pugachenkova, 1954, pp. 143–44, 1958, pp. 353–55) and the frightening anthropomorphised images of lions, which formed part of the roof decoration (Figure 6.15). Depictions of dragons[48] are routinely used as an indicator of Mongol period activity across Central Asia and Iran (Masuya, 1997; Komaroff, 2002, pp. 176–80; Kadoi, 2009, pp. 107–10), while lions appear often in Buddhist iconography, from Ashoka's famous lion capital in Sarnath, Uttar Pradesh to the protective Fu lions which guard Buddhist temples across China (McArthur, 2002, pp. 134–35). Rounded, and moulded semi-circular roof tiles were also found in this dense, grey clay, indicative of other key parts of this temple-style roof (Figure 6.16), although the supporting wooden beams have long since disappeared. The materials used, such as large wooden beams and the Chinese characters on the tiles indicate that much of the building material was imported to Merv, and Pugachenkova suggests that one or more master craftsmen came from China to construct the shrine (Pugachenkova, 1954, p. 144). Certainly, such investment and importing of high quality material and expertise indicates that the Mongol rulers of Merv intended to stay, and at least partially rebuild a viable settlement in the city.

[48] Although some have argued that they were already a common motif before the Mongols (Grube, 2006)

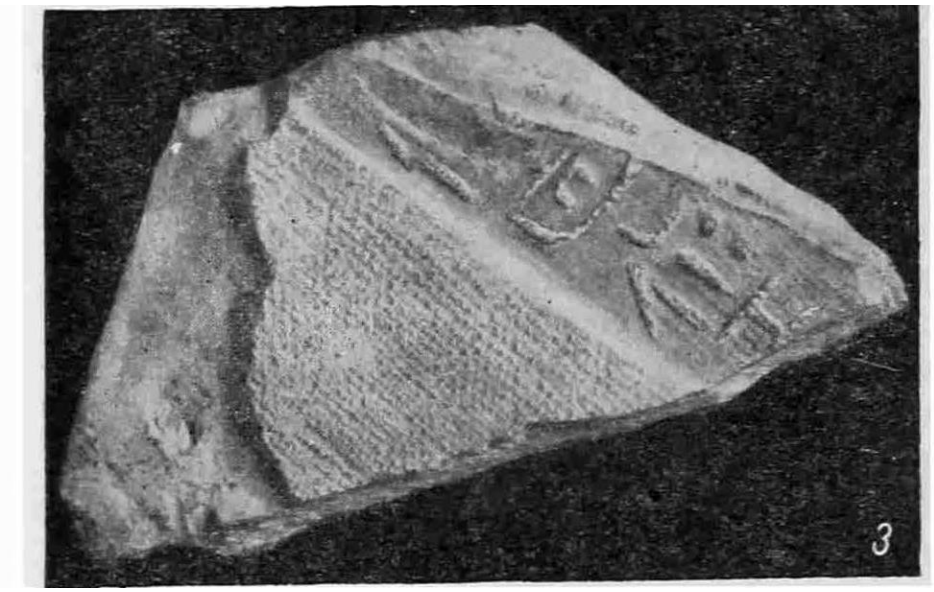

Figure 6.14 Fragment of tile found during YuTAKE excavations showing fabric impression and impressed characters (Pugachenkova, 1954, p. 142)

Figure 6.15 Anthropomorphised lion from decoration of the shrine's roof (photographed in National Museum of Turkmenistan, Ashgabat, 2010)

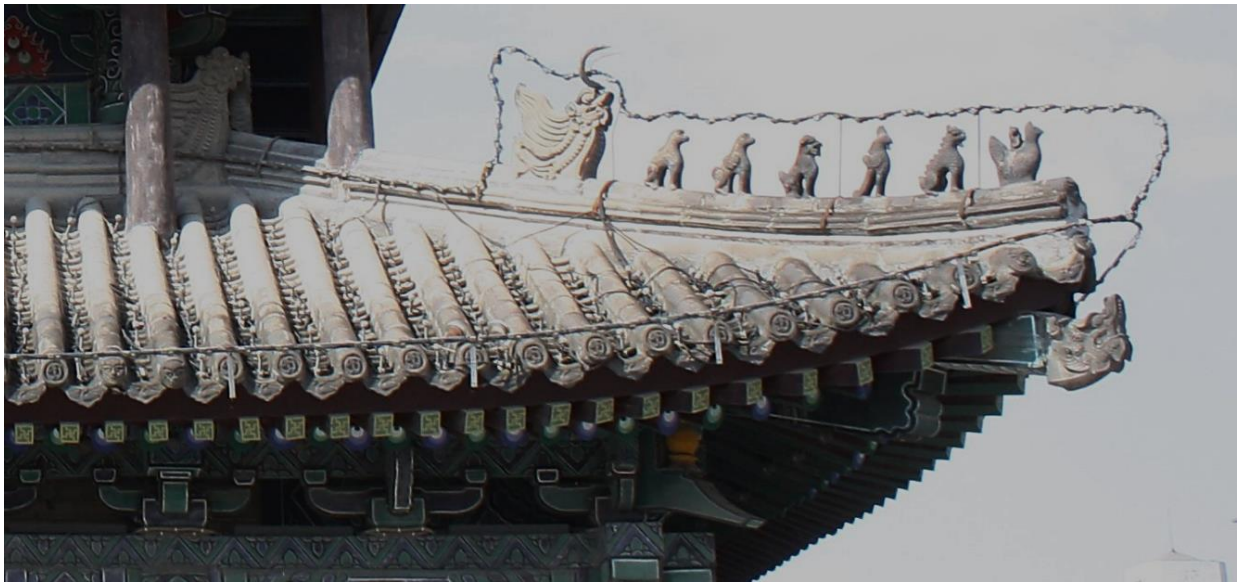

Figure 6.16 Chinese style roof similar to that on the Buddhist shrine, this example is a restored Ming dynasty building in Xian

Alongside the eastern, Buddhist iconography were hybrid decorative pieces, likely adornments made by local craftsmen in Khorasan, some in the western side of Sultan Kala, near the Mongol-era kiln. In addition to the carved dragon frieze, the YuTAKE team reconstructed tilework design from shattered fragments found inside the building, which combines local geometric designs, with a representation of the Buddhist dharmachakra in the centre (Pugachenkova, 1958, pp. 356–357; McArthur, 2002, p. 123). Unfortunately, only a drawing of these moulded tiles, which are decorated with turquoise, manganese purple and white glaze has been published due to their highly fragmented state (Pugachenkova, 1954, p. 145, 1958, pp. 356–57; Figure 6.17). From the drawings and description, it appears that the tiles are made in a square mould, with the differing height of the linear decoration allowing the craftsmen to ensure the different-coloured glazes did not run together. The design consists of interlaced octagons, reducing in size to smaller octagons, picked out in raised white lines, with turquoise and purple glazed decoration in the lower areas between. The reconstructed tiles are reported as 17.5cm x 17.5cm x 4-5.5cm, and were made with the distinctive Merv yellow clay fabric (Pugachenkova, 1958, p. 355).

Figure 6.17 Pugachenkova's reconstruction of the tiles (1958, p. 357) and an example from, Takht-i-Suleiman, NW Iran, excavated by a German team between 1959 and 1978, this example is dated 1270-76 (Museum für Islamische Kunst, Cat 4/67.14)

The sole depiction of tiles from this monument likely conforms to Pugachenkova's reconstructive, illustrative approach, and they are difficult to interrogate further because of the lack of photographs and the unknown location of the tiles. However, Pugachenkova's depiction likely flattens the tiles and makes them look more delicate compared to their 4-5.5cm width. Assuming the 1240s date is correct, these moulded tiles represent an early example of this type of design, using the variations in height to keep different coloured glaze separate rather than the *cuerda seca* technique which became ubiquitous in the 14th century. This is acknowledged by the excavators who admit the style of decoration is not widely known until the 14th century at the early tombs of the Shah-i-Zinda in Samarkand, and although a team in Turkmenistan discovered versions of such designs from the late 13th century in Nisa (Masson, 1947, pp. 76–81; Pugachenkova, 1958, pp. 365–368), the Merv example would be among the earliest tiles of its type. It is possible that techniques used further east of three coloured glazed architectural and Buddhist devotional statues are arriving in Central Asia for the first time. Kilns producing material using a similar technique are apparent by the 11th century in China, with the excavation of kilns in Longquan in the suburbs of Beijing producing three-coloured Buddhist sculpture (Leidy *et al.*, 2010, pp. 112–16). This may therefore be an early example of the fusion of Chinese technologies with steppe, Buddhist and Islamic design, which is much discussed on single objects, but rarely seen in its original context. Here, the assemblage of architectural decoration showcases a wide range of different styles, designs and technologies, and is invaluable for understanding stylistic and technological developments in the 13th century, a period which is often problematic for art historians and archaeologists due to the lack of securely dated material.

Outside of Turkmenistan, similar tiles were found at Takht-i-Suleiman in Iranian Azerbaijan (Museum für Islamische Kunst, Cat 4/67.14 & 4/67.15; Masuya, 1997, pp. 260–66, 2002, p. 93). These examples were found during excavations in the 1970s by a German team within the summer palace of the Ilkhanid ruler Abaqa (r.1265-1282) and can be fairly securely dated to the early 1270s thanks to dated inscriptions on tiles within the palace and historical details of its construction (Masuya, 1997, pp. 354–55; Huff, 2006). The Takht-i-Suleiman tiles are of a similar size to those in Merv 18.2cm x 18.2 cm but more refined in thickness at 2.3cm (Museum für Islamische Kunst, Cat 4/67.14 & 4/67.15) compared to 4.5-5cm (Pugachenkova, 1958, p. 355), suggesting perhaps a refinement in the technique since the Merv tiles were made, or more skilled craftsmen at the royal palace. Both sets of tiles are made locally, with fragments of the Merv tiles found in pottery dumps in the west of the city, and moulds found for geometric tiles found at Takht-i-Suleiman (Masuya, 1997, pp. 226–228, 263).

Further decorative elements are described, which could be transformative in the way we understand technological and stylistic advances in architecture and ceramics during the 13th century in Central Asia. Unfortunately, the high level of destruction in the building, and lack of comparative material at the time of its publication has led to a somewhat cursory treatment of this important assemblage, and it seems worthwhile to summarise it here. Pugachenkova mentions sculptural animal and dragon decoration adorning the ribs of the building's roof (Pugachenkova, 1958, pp. 353–54), which are somewhat mysterious as they are not fully described, drawn or photographed, but seem likely to be in a similar format to the tile discussed above (Figure 6.15). Of particular interest to the excavators were roof decorations described as hollow sculptures of 'ducks' with folded wings, which had a tube shaped attachment instead of legs, and appeared to fit onto a vertical pin (Pugachenkova, 1958, p. 353). Again, information on these elements is limited, but speculation about animal sculptures on buildings of the Chinese style (like Figure 6.16), seems to suggest a relatively complete, if very damaged assemblage of this type (Pugachenkova, 1958, p. 354). Although it is unclear whether the damaged artefacts described here were collected, and where they might now be located, some examples are on display in the Mary Museum. In the same display case is a curious object (Figure 6.18), which also comes from Sultan Kala although when it was excavated is unclear. In the light of both the fusion of local and Mongol styles and design, this ceramic dragon may have been a roof adornment for this or another building in the south of Sultan Kala. It looks rather unlike the classic Chinese dragons on for example the lustre tiles at Takht-i-Suleiman in northwest Iran (Masuya, 1997, p. 256), but may represent a fusion of local style and technology which has led to such artefacts often being dated to the pre-Mongol period. At the very least, the decorative elements at the Buddhist shrine in Merv show that a greater consideration should be

given to the impact of Buddhist, Chinese and steppe architectural and stylistic elements, and their influence on 'Islamic' and Central Asian art and architecture in this period.

Figure 6.18 Artefact in the Mary Museum, possibly a dragon adorning the roof of a shrine or similar-style building in Sultan Kala.

It is notable that no direct images of Buddha were found in the building, but the systematic destruction recorded at the shrine, probably means that all direct religious imagery was thoroughly destroyed. The distinctive plans and design of the decorative scheme at the shrine indicates a significant Mongol era building in Merv of the Chinese style. Its connection with Buddhism comes from the layout, distinct roof tiles, Chinese and Buddhist iconography from the protective lion tiles to dragons on the carved plaster frieze. Yet this shrine also includes local design, with novel decorative tiles, perhaps using Chinese technology to prevent glazes mixing for the first time in what was to become the Ilkhanate. The combined Mongol-Chinese aesthetic is much discussed in art historical literature (Masuya, 2002; Kadoi, 2009) as well as the cultural and economic ties which led to the long-distance exchange of goods across Eurasia (Allsen, 1997), but rarely do such finds have the context crucial to understanding the impact of the Mongols in individual cities. The shrine in Merv demonstrates that its new rulers were willing to invest in the city. It was built perhaps for the personal use of the local governor Arghun, or anticipating a broader desire for Buddhist devotional infrastructure. The position of the shrine on the southern edge of the city, indicates that the move southwards towards Abdullah Khan Kala began long before the start of the 15th century, and the

little-examined area between Merv and the later Timurid foundation may prove fruitful for the location of further buildings of the Mongol period[49].

Although Buddhism witnessed a brief florescence from the mid-13th century until 1295, Islamic monuments were the mainstay of devotional practice in Merv. The surviving shrines were a focus of continued activity, with excavation indicating significant post-1221 occupation in their vicinity. Excavations carried out by Annaev in the 1990s of a small mosque, next to the Kyz Bibi mausoleum, which likely originally dated to the Seljuk period, uncovered a significant depth of post-Seljuk stratigraphy. A mihrab was found in the west wall and a paved courtyard lay to the east, with further structures on the southern edge of the courtyard (Herrmann, Kurbansakhatov and Simpson, 1996, p. 19). Although the excavations have not been fully published, Herrmann's team worked with the local archaeologists at Merv to help map the building and photograph some of the finds, intending to include this material in their final report (Herrmann, Kurbansakhatov and Simpson, 1996, p. 4). Some of the larger fragments of glazed pottery were photographed from this excavation and demonstrate the use of this area over a long period, with sherds of 13th century Kashan/Sultanabad ware, to much later examples of underglaze painted wares, which might date from as late as the 16th century (Herrmann, Kurbansakhatov and Simpson, 1997, p. 27; Figure 6.19). The underglaze painted blue landscape on a white background with two deer was identified as a Chinese import, likely of the Ming dynasty by Herrmann's team, but they mention Safavid potters copied these designs closely, and it is possible this is a Safavid imitation based on similar finds from Kandahar and Nisa (Pugachenkova, 1949; Crowe, 1996, pp. 318, 356–57; and see Golombek *et al.*, 2014).

Khodjaniyasov's summary of his survey work in the 1980s indicates that he excavated a mosque in the southern part of the city, which was interpreted as being active from the 13th to early 15th century. The team found the small mosque and a monumental one room building, which may have been a residence or hall in the southern part of the south-eastern quarter of the city in an area which was not heavily built-up (Khodzhaniiazov, 1991, p. 49). Although the exact location is not indicated, a walkover survey carried out by the AMP recorded a large excavation, of approximately 35m (E-W) x 12m (N-S) which contained a mosque in the southern part of the city[50] just within the city walls. It therefore seems likely that this is the mosque and building excavated by Khodjaniyasov in the 1980s. The dating and its location near the southern wall are interesting, and although it is unclear whether, like at Kyz Bibi this mosque is a Seljuk foundation which continues in use through the 13th and 14th centuries or a truly Mongol-era construction, it is another indication of activity

[49] Unfortunately, much of this area (including the probable location of the shrine) is now a large and expanding cemetery, which will make further archaeological examination difficult.
[50] Intervention 179 on the Ancient Merv Project Database, UCL

concentrating in the southern part of the city in this period. The relative proximity of this mosque to the Buddhist shrine also makes it tempting to see a relationship between the destruction of the Buddhist monument and the use of the mosque between the 13th and 15th centuries as marking the transition of the Mongol elite from Buddhism to Islam at this time.

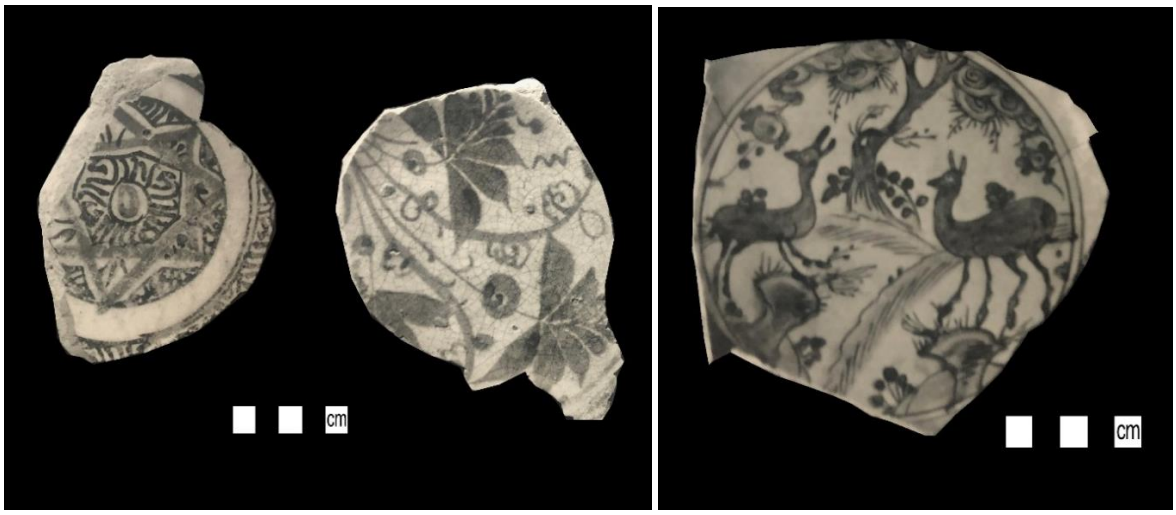

Figure 6.19 Pottery bases from excavation to the south of the Kyz Bibi Mausoleum (Ancient Merv Project, UCL)

The various walkover surveys of Sultan Kala indicated that the city's centre remained a hub of activity, even after other parts were abandoned, with witnesses reporting that Sultan Sanjar's mausoleum continued to be well-visited even in the 19th century (O'Donovan, 1882, pp. 248–54). Although the area to the east of the mausoleum became increasingly used for industrial activity, the area to the west, along which the main road now passes appears to have witnessed more domestic activity. Ceramics similar to those produced in the Mongol-era kiln were found in this area during cleaning and conservation activity by the AMP in 2011 (Figure 6.20). Alongside Sultan Sanjar, the Mausoleum of Ibn Zayd is the only shrine in Merv with substantial survival of its pre-Mongol features[51]. Excavation and conservation work was also carried out at this site in the 1990s and early 2000s, with substantial late occupation also reported (Herrmann, Kurbansakhatov and Simpson, 1997, p. 4) although the results of the excavations again appear to be unpublished. An underglaze painted wall tile with a foliated design in black and white on a cobalt background was found at a koshk near the 1112-13 shrine of Ibn Zayd (Figure 6.20) which has similarity in design if not technique to tiles found at the summer palace of the Ilkhan Abaqa (Masuya, 1997, p. 561). This suggests that a substantial Mongol building (or renovation) might be located in this area, either

[51] Pre-Mongol survivals remain in the wider oasis but not in the city, while the Askhab of Merv were substantially renovated in the Timurid period and again since 1991(Pugachenkova, 1958, pp. 400–404)

residential or perhaps relating to the earlier shrine, which retains its 12th century stucco decoration inside.

Figure 6.20 Left: Base sherd with geometric design in manganese on turquoise background found to south of entrance to Sultan Sanjar during cleaning of Herringbone surface; Right: Black and white foliated design on cobalt back background, found on 'dig house' koshk c. 200m south of Ibn Zayd

Conclusions

Archaeological evidence from Merv gives a comprehensive account of the impact of the Mongol Conquest on a single city, providing an important counterpoint to the military histories dominant in the written sources. Instead of the emphasis on the large numbers massacred, it highlights those who continued living in the city, while also providing a broader narrative of changes already underway before the conquest, and the catastrophic results of abandonment on this mudbrick city. This study demonstrates the domestic, economic and industrial impact of the Mongol Conquest at Merv, with archaeological data enabling the tracking of medium and longer term urban and social changes in the 13th century, a period which is dominated by historical narratives of conquest and destruction. With the abundance of excavated evidence collated here, Merv provides not only an alternative narrative for the Mongol Conquest and its impact on individual households, districts and industries, but a model for how to approach these large urban sites which were seemingly abandoned as a result of the conquest.

The archaeological evidence for Merv shows that the city witnessed considerable change from the 12th through the 13th and 14th centuries. Soviet researchers emphasised the role of Ghuzz attacks of

the 1150s and Sultan Sanjar's capture in 1153 from Al'khamova's initial survey (Figure 6.3, Figure 6.4) to Lunina's highly decorated building with its change to commercial premises before rebuilding around 1200 (Lunina, 1969, pp. 117–20). Movement of the industrial areas also indicates that the urban layout of Merv is changing in the second half of the 12th century. Industrial activity was moving into the city before the arrival of the Mongols, with this transition evidenced by abandoned kilns in the suburban potters quarter (Lunina, 1958, pp. 363–64) alongside the pre-Mongol examples of industrial activity within the city walls (Lunina, 1969, pp. 143–45; Herrmann, Kurbansakhatov and Simpson, 1997, pp. 26–28). Rapidly changing technology and design means that ceramics of the late 12th and early 13th century are distinctive. Found across the city, these demonstrate urban stability, and mirror the contemporary observations of Yaqut who reports a thriving city in the 1210s, emphasising the wonderful libraries, mosques and gardens (Arberry, 1951, pp. 10–12). The pre-Mongol decline therefore was likely significant, but clearly not catastrophic to Merv's fortunes in the later part of the 12th century.

Archaeological evidence for the Mongol destruction of Merv remains surprisingly absent, with limited signs of burning and inconclusive evidence that the walls were substantially, if at all destroyed during or after the capture of the city. Given the 13km wall circuit at the city, it is perhaps unsurprising that specific examples of Mongol destruction are difficult to identify, but the situation does contrast with the evidence for an earlier damage and destruction of the city's fortifications (Brun and Annaev, 2000, pp. 24–27, 2001, pp. 38–40). Instead of the dramatic destruction described in historical sources, it seems Merv was rapidly abandoned. Grand buildings were left mid-meal (Lunina, 1969, pp. 122–29) and potters' workshops preserved as if the craftsmen intended to return the following day to work the pre-prepared clay into vessels (Lunina, 1962, p. 370). Whether this evidences the widespread massacre outside the city described by Juvaini (Juvaini (trans. J. Boyle), 1958, pp. 161–63) is debatable, but Merv appears to have been abandoned with some speed. Presumably some in Merv pre-empted the arrival of the Mongols and fled westwards, including Yaqut who left in 1219 (Arberry, 1951, p. 12), while others either tried to escape when the Mongols arrived or were captured by them.

The first decades after the Mongols captured Merv are difficult to detect in the archaeological record, partly because of assumptions that the materials used for precise dating such as coins and fine ceramics cease to be produced (Davidovich, 1972, pp. 27–37; Davidovich and Dani, 1998; Watson, 2006, pp. 329–30; Waugh, 2017, p. 15). Although the extent of this problem is likely over-stated, changing occupation patterns and disruption of the ceramic industry seen at Merv, as well as the difficulty of precisely dating archaeological activity have affected the detection and identification of early Mongol occupation. In addition, the problem of accurate chronological attribution can

become a circular one when coinage is the main means of dating pottery and archaeological deposits and may obscure production or developments in ceramics in the decades when fewer or no coins are minted. Reuse deposits within buildings may be difficult to date, but changes of use are evident, and the palatial structure excavated in the Shahriyar Ark presents an example of occupation within a surviving building during this period (Hull, Cerasetti and Leoni, 2001). Continued occupation throughout the city is also demonstrated by Al'khamova and Gilbert's walkover surveys, which broadly align with observations that domestic activity continues along the city's main thoroughfares, with industrial debris concentrated in abandoned residential areas, further from the centre (Lunina, 1969, pp. 144–45).

Later historical accounts may also reflect the changes taking place in the 1220s and 30s, with the well-irrigated agricultural land surrounding the city used as a major wintering pasture. This area was reportedly suitable for a tumen-sized garrison (Masson Smith, 1999, pp. 54–6) which would have comprised 10,000 men with an average of five horses each (May, 2004, pp. 34–5, 88), perhaps demonstrating a shift from labour-intensive agriculture to pasture suitable for a garrison of nomadic pastoralists. As Merv is constructed almost entirely of mudbrick and fed by carefully managed and maintained canals (Williams, 2018a, p. 165) in a delicately balanced oasis environment, the city would have been more vulnerable than others to a short abandonment, due to the organisation and manpower required to maintain mudbrick structures and waterways. The city's position on recently-flourishing routes (Wordsworth, 2015b, pp. 235–238) and the economic decline (Watson, 2006, pp. 329–30) caused by political instability would also have diminished the appeal of (re)settling in the city. Indeed, it may be this period rather than the conquest itself which caused the greatest damage to Sultan Kala, with the city declining to such an extent that it was no longer viable as a large urban settlement. As the excavations demonstrate, Merv was able to recover from damaged defences (Brun and Annaev, 2000, pp. 24–27) and weather tough economic and political situations through the 12th century. Perhaps this weakened the city, making it more susceptible to, or less able to recover from the Mongol assault, but the depopulation apparent from the 1220s would have certainly made it much harder to revive the city to its former glory. Gradual, rather than abrupt decline can be observed in renovation and partitioning of earlier grand buildings, alongside reuse of ceramics and building material from the 11th and 12th centuries (Herrmann, Kurbansakhatov and Simpson, 1998, pp. 71–72) before the eventual founding of Abdullah Khan Kala almost two centuries later.

Traditional narratives of the 13th century often place economic and cultural recovery in the final decades of the century, associated with the rule and reforms of Ghazan Khan (for example Petrushevsky, 1968, pp. 483–500) and this has influenced archaeological interpretations (Lunina,

1969, p. 140). Recent work argues that the revival was underway much sooner, at least from the arrival of Hulegu in Persia in 1255, and that Ghazan's role is embellished and exaggerated by later historians, especially Rashid al-Din, because of his conversion to Islam (Lane, 2012, pp. 257–59). The Buddhist shrine in Merv is supportive of an earlier revival as it certainly predates the rule of Ghazan (1295-1304) and was likely constructed in the late 1240s or 1250s (Pugachenkova, 1954, p. 144; Juvaini (trans. J. Boyle), 1997, p. 510). This distinctive building represents securely dated construction in Merv in the mid-13th century, refuting the suggestion the city was completely abandoned from the 1220s until the construction of Abdullah Khan Kala around 1409. The decoration of the shrine with its fusion of Chinese, Buddhist and local geometric designs and iconography is further indication of the burgeoning mix of ideas, culture and design that becomes a hallmark in tilework, textiles and ceramics of the later 13th and early 14th centuries (Kadoi, 2009). The construction of the shrine represents significant investment in the region by its new Ilkhan rulers, while its location outside the southern walls of the city indicates the administrative shift southwards from the Shahriyar Ark and central Sultan Kala. Presumably the Mongol rulers built the shrine in the area they chose to live, and the existence of other, perhaps less distinctively Mongol buildings in this area is probable. Further investigation of the area between Sultan Kala and Abdullah Khan Kala may therefore prove fruitful to identify further Mongol occupation, as although plenty of domestic and industrial activity is visible within Sultan Kala, architectural investment appears to be concentrated outside the Seljuk city.

Lunina's interpretation of a certain amount of continuity in pottery production at Merv, asserting that individual craftsmen appear to have survived the conquest (Lunina, 1969, p. 138) is also intriguing, indicating that pockets of survivors or (re)settlers may have been living and working in Merv throughout the period. It appears that they contributed to the construction and decoration of the shrine, with the glazed tiles at least made at Merv (Lunina, 1969, p. 133). The upsurge in pottery production through the 13th century in the western side of Sultan Kala and the development of new styles such as the shrine's tilework, indicate that craft production in Merv was not simply functioning at a survival level but was developing in this period. Further evidence such as a glazed tile dated 678 AH/1279 from the Shahriyar Ark (Khodzhaniiazov, 1991, p. 49) also suggests that activity from this period is present across the site. Equally, widespread metal working and glass production visible in Sultan Kala in this period demonstrates its change of use from residential to industrial, while surviving occupants moved elsewhere or never returned from their flight from the Mongols.

In summary, the Mongol Conquest of Merv caused significant depopulation in the city and across the wider region. Merv's unusually large population and troubles in the mid-12th century, as well as the maintenance required by irrigation systems and mudbrick architecture means that rebuilding would

have been a task beyond the capacity of its new rulers and surviving population. Indeed, the pattern of movement from one city to another happened frequently in Merv's history, with Gyaur Kala being used for industrial activity long after its abandonment as a functioning residential settlement (Herrmann, Kurbansakhatov and Simpson, 1997, pp. 10–16). Depopulation caused by the Mongol Conquest would certainly have sped up this process, if not entirely initiated it. Returning to the historical narratives, it is difficult to find much archaeological evidence that fits with the great detail provided by historians describing the destruction of Merv (Juvaini (trans. J. Boyle), 1958, pp. 153–68), but the collapse in its fortunes are visible enough. The value of the archaeological evidence in this case is that it demonstrates the complex factors at play in the 13th century within religious, artistic and economic life and provides a narrative for the residents of this city who were often assumed to be absent.

This third case study illustrates the full potential of archaeology to contribute a coherent narrative of the Mongol Conquest, and indeed other historical events. Collating archaeological evidence excavated at Merv since the 1940s shows how this data can be critically assessed and combined to produce a fuller picture of urban changes in Merv through the 13th century. Perhaps the two most important findings from this work are the decline visible in the 12th century and clear evidence that Sultan Kala's current ruined state is caused by desertion rather than destruction. The archaeological evidence points to significant depopulation in the 13th century which likely began in the mid-12th and triggered the southward shift to Sultan Kala's suburbs and eventually to Abdullah Khan Kala. In the case of Merv, the Mongols appear to have exacerbated pre-existing decline, leading to a much greater negative impact on the city and eventually the complete abandonment of the large and unsustainable settlement of Sultan Kala. However, alongside this apparent devastation are important indicators of Mongol period occupation and industrial production. Foremost among these is the architectural and stylistic evidence from the Buddhist shrine, and the industrial area linked to production of its tiles, showing a combination of continuity and new Mongol architecture and design.

These three cities provide a wide-range of data to examine the impact of Mongol Conquest on urban centres, demonstrating a far more complex narrative than the written sources. In Merv especially, it has been possible to chart the impact of the conquest on individual buildings, districts and to an extent on the city's economy and industries. In the next chapter, I contextualise the data from Merv, Barda and Otrar within its broader historical, geographic and archaeological context. This enables both a discussion of broader trends in the period and demonstrates how a narrative created from carefully excavated, critiqued and compiled archaeological data provides important local, and non-

military perspectives on the Mongol Conquest, and its effect on individual households, cities and regions.

7. Discussion

Archaeological examination of Otrar, Barda and Merv has shown that when carefully considered, the physical remains of these cities can contribute greatly to historical narratives of the Mongol Conquest and beyond. The methodology and interpretive framework devised for each site produced a historical narrative based on archaeological remains, and an outline for how to approach large urban centres in Central Asia. These three cities are linked by historical descriptions of the Mongol Conquest, which impacted each of them within a two-year period from 1219 when the Mongols arrived at Otrar to the sack of Merv in early 1221. Archaeological research through the 19th and 20th centuries at both Merv and Otrar informed scholarly work on the Mongol Conquest, but little has featured prominently in western scholarship (apart from a few notable exceptions such as Waugh, 2017). Although methodological issues remain, previous archaeological work can be enhanced by detailed study of individual excavation projects, and contextualisation of their findings within recent advances in archaeological, historical and art historical research. This project has taken a holistic approach to the sites, compiling and critically assessing both published and unpublished work to identify the major issues hindering the archaeological narrative, and solving these through further work. Due to diverging research strategies, different scales of analysis were possible at each site, and so a direct comparison of data is not appropriate. Instead, the discussion here will focus on expanding upon the findings at each site and contextualising them within broader narratives of the Mongol period, through an examination of wider themes raised by this work.

Archaeological Signatures of the Mongol Conquest

Perhaps the most striking finding of this research was the lack of destruction attributable to intentional human actions in the conquest period, which does not correlate with historical reports of widespread devastation. Specific accounts of destruction at Merv and Otrar in particular (Juvaini (trans. J. Boyle), 1997, pp. 84–86; 159–64), seem to be at odds with the archaeological evidence. This situation is not uncommon among 'archaeological conquests' with almost no evidence of destruction relating to the Arab Conquests among excavated urban remains (Pentz, 1992, pp. 74–75; Kennedy, 2007, pp. 30–33; Walmsley, 2007, p. 47; Intagliata, 2018, p. 113). Few reliable signs exist for other major conquests, including those described in similarly destructive terms to that of the Mongols. One such example is the Sasanian sack of Jerusalem, where reported destruction of churches and residential areas have failed to materialise in extensive archaeological excavations. This has led to suspicions that historical accounts of the destruction might have been unduly applied to the

interpretation of archaeological remains (Stoyanov, 2011, pp. 17–23). Overall, archaeological investigation of conquered cities would likely lead to the conclusion that no conquest occurred (Hoyland, 2015, pp. 259–60). To an extent, this is likely due to visibility in the archaeological remains, and the enormous size of these cities, meaning that excavation could easily miss specific incidents of destruction. Given the reported scale of Mongol-era destruction, it is however curious that almost no destruction can be reliably equated with this event. As with the Sasanian attack on Jerusalem, a closer look at some of the apparent Mongol destruction events can be shown as incidental or of the wrong date, such as the burning and abandonment at Otrar.

Destruction and Desertion

Archaeological excavation is capable of locating, and does find direct evidence of battles and destruction, indicative of intentional hostile attacks. Across Eurasia, excavation of medieval urban remains has revealed battles, massacre and destruction, but few of these events can be tied to the Mongol Conquest. In Sidon, on the Lebanese coast, damaged defences, large catapult projectiles and mass warrior burials were radiocarbon-dated to the 12th-13th century period of Crusader battles, perfectly preserving the battle site and its victims (Mikulski, 2019, pp. 100–15). Further west, apparent casualties of the Mongols include a family killed in the destruction of a Hungarian village, with further bodies found in ditches around the settlement showing the violence of this event (Laszlovszky, 2012). The unfortunate family comprised a mother and two children found sheltering in a tandoor oven in a destroyed settlement near Cegléd, some 45 miles southeast of Budapest. Their deaths were dated to the 1240s by coin evidence (Laszlovszky, 2012, pp. 1–2). Later Mongol destruction, attributed to an attack in the 1250s by Golden Horde Khan Berke has also been described at Rustavi, a city in south-eastern Georgia. Excavators found a glass workshop destroyed by burning with precious minerals *in situ*, and dated the event from the latest mint date of 25 coins found on its floor, correlating this with known attacks in the region (Chilashvili[52], 1958, pp. 84–85). This could be another example of incidental burning, as six tandoor ovens were found inside the workshop. However, evidence of extensive earlier destruction, correlated with a Seljuk sack in the 1060s provided more substantial evidence of enemy attack. Widespread destruction of the citadel was recorded, with collapsed, burnt beams and smashed roof tiles overlying thick ashy layers (Chilashvili, 1958, pp. 68–72). The hostile nature of the destruction was underlined by the discovery of a decapitated woman, alongside particularly extensive architectural destruction in the northern part of the walled citadel (Chilashvili, 1958, pp. 70–71).

[52] The Georgian spelling is ლევან ჭილაშვილი but I have chosen to use the Latin transcription used when he published in English (rather than a strict transliteration) so relevant work is easier to find.

The tendency of some excavators to associate any sign of destruction or abandonment to the Mongol Conquest remains a problem, making the few such events equated with the Mongols such as in Rustavi difficult to fully understand without further information. Imprecise excavation techniques and problems with archiving since the dissolution of the Soviet Union exacerbate these issues for some sites. Evidence of destruction was visible across all three cities in this study, but tends to be incidental rather than intentional, with Otrar in particular suffering Mongol attribution to non-Mongol destruction. Accidents, regeneration, neglect or natural forces such as earthquakes have played as much of a role in urban destruction as ravaging Mongols. Examples of this can be found across the cities, with the patchy reports of burning in Otrar shown to be accidental. Careful excavation and recording, compared to the rapid work of Soviet teams demonstrated the burning of individual buildings, rather than neighbourhoods. Flammable building materials and inbuilt ovens are likely the culprit for this destruction, with overlying burnt buildings demonstrating the commonness of this problem. Meanwhile, contextualisation of destruction in Barda shows this is an act of Mongol-era regeneration, rather than hostile razing of the urban remains.

Evidence for Mongol destruction is rare but occasionally appears, with the most convincing coming from the Russian town of Yaroslavl, some 250km northeast of Moscow, where rescue excavations in 2005-06 initially revealed a 1200m^2 area in the centre of the city. The excavations, directed by A. Engovatova of the Russian Institute of Archaeology have continued until at least 2018 (Buzhilova and Goncharova, 2009, p. 286; Engovatova, 2019). Excavators uncovered numerous wooden buildings, with a significant destruction layer across the site in the early 13th century (Engovatova *et al.*, 2012, p. 619). Several burnt and destroyed structures were found, as well as bodies of human and animal victims, with people generally buried close to their burnt dwellings, sometimes alongside articulated animals (Engovatova *et al.*, 2012, pp. 285–86). Numerous radiocarbon dates were taken from the skeletal remains, placing them broadly from the 11th to mid-13th century (Engovatova *et al.*, 2012, p. 622), but dendrochronological analysis provided much more precise dates. Suitable samples were taken from wooden houses destroyed by the violent event and those from the subsequent phase of rebuilding, with the first dating to no earlier than 1230 and the second no earlier than 1248 (Engovatova *et al.*, 2012, p. 285; Engovatova *et al.*, 2012, p. 622). As the Russian chronicles state Batu's attack on Yaroslavl took place in February 1238 (Engovatova, 2019, p. 98), the dating strongly correlates with this event. Anthropological analysis of individuals in the multiple mass graves demonstrates that most met a violent end, with a pattern of trauma caused by arrows and blunt instruments, likely from a horse-rider (Buzhilova and Goncharova, 2009, pp. 292–98; Engovatova, 2019, p. 98). The bodies were not buried immediately, with entomological analysis suggesting a burial in late May or June, and grim details have emerged, including evidence of rats chewing on

leather garments and fly pupae within boots (Engovatova, 2019, p. 99). The overall picture fits well with the classical narrative of the Mongol Conquest, and underlines that it is certainly possible to detect such events through archaeological means. Destruction layers and scattered human remains in Yaroslavl cover a large area of the city, with the unfortunate victims buried close to where they died in various depressions and purpose-dug mass graves (Engovatova *et al.*, 2012, pp. 286–88). This important example underlines the role of secure dating, and the multiple methods which can be employed to achieve this and expand the archaeological narrative. Furthermore, it provides an example of what a Mongol sack might look like archaeologically, evidence of the pathologies caused by their weapons and the example of a destroyed city.

With the exception of Yaroslavl and Cegléd, few victims of the reported massacres have been found, and it is unclear whether locating them is a realistic proposition at Merv, Otrar and Barda. Despite the lack of direct evidence for massacre, depopulation appears widespread in the 13th century. This comes from both historical and archaeological evidence with a significant decrease in the population attested by census data in China from before and after the conquest (Melville, 2009; Allsen, 2014). At the same time, eyewitness accounts of Central Asia in the early 1220s suggest that migrants are arriving to help with the harvest due to a lack of labour caused by depopulation (Li Chih Cha'ang (trans. A. Waley), 1931, pp. 92–3). A survey of archaeological evidence for urban abandonment in the 13th century might add further information, but it would be a complex undertaking, and difficult to achieve the chronological precision required. Individual, wholesale shifts or abandonment in city sites at around the same time as the Mongol conquest such as Merv and Afrasiab (Samarkand) have also been linked to Mongol destruction or depopulation (Herrmann, 1999, p. 18; Soustiel *et al.*, 2003, p. 67). Although the scale of these abandoned medieval cities evokes a substantial crisis in urban occupation at the time of the Mongol Conquest, this process is more complex than it appears, and the trend is not uniform across the region. Archaeological evidence at Merv and Otrar for example shows that the cities experienced decline from at least the mid-12th century, rather than a sudden collapse in the 1220s. Scepticism of the extent of Mongol massacre, or at least serious questioning of how literally accounts of the slaughter should be understood, is already well developed (Melville, 2009; Lane, 2012, pp. 248–50), but the extent of destruction less so. Decades of archaeological research have struggled to positively identify substantial evidence of destruction which can be reliably dated to the Mongol period. It is therefore important to critically consider the mechanisms causing the decline apparent in these cities, examining the accounts of Mongol destruction and massacre alongside a range of other factors which might contribute to urban decline.

At Otrar and Merv, which witnessed terrible devastation according to historical sources, the evidence points to abandonment and desolation rather than demolition, and critiques applied to the veracity of Mongol massacre, might also be appropriate for the narrative of destruction. Certainly the scale of the destruction was exaggerated, but as Lane points out, the trauma, especially in Khorasan appears very real (Lane, 2012, p. 247). Widespread desertions instead of destruction might look archaeologically similar but can be differentiated with careful excavation and contextualisation of the evidence. This is especially true for mudbrick-built cities where constant maintenance is required to retain the urban fabric, and buildings are frequently abandoned rather than repaired, leading to more visible ruins where building material is not removed for reuse. Desertion is historically corroborated by Yaqut's description of leaving Merv before the Mongols arrived (Arberry, 1951, pp. 10–11), accounts of involuntary desertion including widespread conscription into the Mongol armies, and depopulation of conquered areas (Allsen, 2014). Such evidence of desertion may also apply to other mudbrick-built areas. Although the relationship between correlation and causation should be carefully considered, archaeological evidence of desertion, rather than destruction, is more important to the changes visible in the 13th-14th century. Furthermore, these changes occur over a longer period than the few decades following the Mongol Conquest, demonstrating greater complexity in the decline of these cities than the conquest histories might suggest.

Considering bias and limitations of the archaeological evidence to narrate a particular event through deposits built up over centuries is important. Archaeological data lends itself to relatively longue durée narratives, due to the difficulties of obtaining precise dates, its breadth and (literal) depth, and the approach has strongly influenced scholarship at urban sites in the Middle East and in relation to the Arab Conquests (Walmsley, 2007, pp. 11–12; Schloen, 2009, pp. 1–2). This study has aimed to look beyond the historical narrative of the Mongol Conquest itself to identify and consider longer term urban changes from the 12th to the end of the 14th century. As a result, precise dating of events within this timeframe is important, and has shown that the abandonment phase in Otrar was not caused by the Mongol Conquest, with recovery in the area under consideration not seen until the 14th century. Alongside the long-term trend of urban abandonment visible at Merv and Otrar, individual incidents can also be detected. At Merv, these have been convincingly dated by coin and pottery evidence to the early 13th century, and likely constitute primary evidence of urban desertion as the Mongols approached. The urgent and hostile nature of this abandonment is underlined by the suddenness of the desertion, with examples including a half-eaten meal, and potter's workshop with pre-prepared clay lined up in the courtyard (Lunina, 1962, p. 370, 1969, pp. 122–29). The evidence represents a sudden and probably major, single event in the depopulation of Sultan Kala, which can

be contextualised thanks to the quantity of archaeological work, which uniquely for the sites examined here, provides substantial evidence spanning the period of interest.

Abandonment and Decline

Although both Merv and Otrar experienced decline in the 12th century, the patterns of occupation are rather different. At Merv, there is a clear continuity of urban occupation from the 12th to 14th century. During this period, the city experienced a slow decline from its zenith in the mid-12th century, to almost complete abandonment by the 15th. By contrast, occupation in the residential area examined at Otrar ceases for more than a century, with the early phase of buildings completely buried by the mid-12th century. The post- Mongol recovery of this area only occurs in the 14th century, shown by radiocarbon dates and the assemblage of coinage found across this excavation area. Some activity may continue, but the dating, artefacts and build-up of deposits are indicative of prolonged desertion, and the only visible activity was the burials, showing a dramatic change of use from the tightly packed houses of the 11th century. Expanding from this residential area, there are signs that the pattern of abandonment observed here is echoed across Otrar's shahristan, not only in excavation area III, which is re-examined in chapter 4.

Extensive excavations between 1971 and 1977 revealed residential districts across Otrar tobe (Akishev, Baipakov and Erzakovich, 1981),predominantly consisting of occupation of the 15th-18th century, although numerous coins of earlier dates were collected and catalogued (Akishev, Baipakov and Erzakovich, 1981, pp. 289–342). Of the hundreds of coins recovered from excavations I and II (in the north and south of the shahristan respectively) 33 were of pre-Mongol date. Of these 1 was pre-Islamic, 4 were identified as Samanid of the 9th-10th century, 22 as Karakhanid issues of the 11th century, 2 as Karakhanid of the 12th, and 3 Khwarazmshah of the early 13th century (with a further 2 possibly late 12th-early 13th century) (Akishev, Baipakov and Erzakovich, 1981, p. 340). No coins of the early Mongol period were found, but a few of the 3rd quarter of the 13th century were recovered and there was a dramatic increase in coin finds from the late 13th century. These were residual coins found in later layers of occupation, but show a notable gap in coinage of the 12th and early 13th century.

It has been argued there were problems with coinage, especially silver supply in the 12th century across Central Asia, notably in Ferghana (Davidovich, 1972, pp. 125–27) but copper or debased silver dirhams were issued in several cities (Mayer, 1998, p. 8; Waugh, 2017, p. 15) and silver plating was also used on coins of this period (Davidovich, 1972, p. 126). It is unlikely therefore that an overall disruption in the coinage is responsible for scarcity of later 12th century material found at Otrar. The

distinct lack of coins is echoed by radiocarbon dates from excavation area III, and the lack of coinage from much of the 12th-13th centuries appears also to have impacted coherent and precise dating of ceramic, as earlier material has been erroneously attributed to this period. Otrar tobe therefore may have been largely abandoned in the 12th century, at least in terms of its urban function. It is possible the population were concentrated in the rabad in this period, that they had become more nomadic or were living at one of the other urban sites in the oasis. Certainly, Otrar tobe's apparent abandonment during the 12th and early 13th century calls into question the character of some of the 'cities' conquered by the Mongols, and perhaps even a reconsideration as to whether it was in fact the location of the Mongol siege described by the Persian historians (Juvaini (trans. J. Boyle), 1997, pp. 84–86). At the very least, the unexpected dating of the abandonment at Otrar shows that careful excavation is vital to understand patterns of occupation in these cities, and that they may not be continuously occupied, or their purpose may not always have been recognisably urban in character.

In Merv, although continuity of occupation has been recorded from the 12th-14th century and beyond, the city experienced substantial change in this period. Continued occupation, rather than the complete abandonment suggested by written sources, is revealed by the archaeological findings of YuTAKE and UCL teams at Merv. The material evidence indicates shifts in use, foci and character of occupation, rather than a neat abandonment or destruction. YuTAKE walkover surveys demonstrate shrinking occupation areas from the second half of the 12th through the 13th century and a significant recovery by the 15th. Their work also showed that abandonment of kilns in the pottery quarter from the later 12th century, corresponded with a gradual shift of this activity within the city walls, rather than constituting a sudden development in the wake of the Mongol Conquest (Lunina, 1962, pp. 219–30, 1969, pp. 131–32; 143–44). Decline is also evident through the subdividing in the Mongol period of the palatial residence, allowing a more practical living arrangement within the original large, elegantly decorated rooms (Hull, Cerasetti and Leoni, 2001). Clusters of later activity have been demonstrated across the city, centred in the area around Sultan Sanjar, Shahriyar Ark, along the main thoroughfares and Majan canal, major koshks and shrines. Several archaeological projects at Merv have attempted to quantify the impact of the Mongols on the city. A significant amount of material from this period has been recovered, and often noted, although rarely fully quantified or published, probably leading to a bias in late activity, which has been regularly reported without further analysis (Khodzhaniiazov, 1991; Herrmann and Kurbansakhatov, 1994, p. 54; Herrmann, Kurbansakhatov and Simpson, 1997, p. 4; Herrmann, 1999, p. 18). As a result, although there were areas of continued occupation, the overall picture shows that large parts of the city were abandoned in the period, with the area of urban occupation shrinking to

areas surrounding the city's main arteries and monuments from mid-12th century but accelerating after 1221.

Signatures of desertion may also form part of the shifting occupation pattern, rather than outright abandonment, exemplified by the shift of kilns inside the city, and this is likely true also for the residential areas. A major problem in understanding Mongol Merv is that the administrative centre has not been reliably located. As the Mongols erected at least one monumental building in their own distinct style, the Buddhist shrine (Pugachenkova, 1954), it is probable they also built more structures in the city. Historical sources suggest the Mongols constructed further buildings in the mid-13th century in the Merv oasis, with the location described as 'Arzanqabad, near Merv' (Juvaini (trans. J. Boyle), 1997, p. 510). A village called Arzanqabad is mentioned by Yaqut who locates it in Merv Shahijan (Zhukovskii, 1894, p. 36) (i.e. greater Merv) suggesting that it was either within the city walls or nearby. Pugachenkova equates this with Razikabad, comparing the location with Yaqut's mention of a different village called Razik, near the tomb of the Ashkhab Bureyda al-Islami, which is commemorated in the southern suburb of Sultan Kala (Zhukovskii, 1894, p. 44; Pugachenkova, 1954, p. 205). Such an attribution is tempting, given the nearby discovery of the Mongol shrine and Razik canal, after which the village is named, but the villages are clearly distinct in Yaqut's survey of Merv. Juvaini's father Baha al-Din was from Khorasan and worked for Emir Arghun, future ruler of the Ilkhanate in the 1240s and so the author would likely have access to reliable administrative information reporting the governor Arghun's activities in Merv (Lane, 2009). An as-yet unidentified Mongol administrative centre could dramatically change the narrative of the 13th and 14th centuries in Merv, and would provide unique information about Mongol governance in Central Asia.

Construction and Revival

Construction of monumental buildings is another signature identified to assess the relative situation in urban centres, generally used to indicate prosperity or recovery. Otrar's recovery in the late 13th and early 14th century is identified in part due to the construction of several monumental buildings including bath houses and a central mosque (Akishev, Baipakov and Erzakovich, 1987, pp. 103–26). Neighbourhoods, demonstrating a densely packed shahristan have also been excavated, showing a populous settlement on the raised mound in the 14th century, a substantial transformation from the earlier abandonment (Akishev, Baipakov and Erzakovich, 1987, pp. 44–66). The city was also fortified in this period, with major strengthening and additions to the defences dated to the 13th and 14th century (Akylbek, 2013). At Barda, construction of monumental buildings in the early 14th century demonstrates investment in the city in this period. Renovation of a low-status domestic area,

construction of the tomb tower and enclosure alongside the second, similarly dated tower (Salamzade, 1960; Sarkisov, 1960) marks a substantial change to this part of the city. A likely association with a secular ruler demonstrates Barda's importance, with a strategic investment in a commemorative landscape to physically manifest the prestige and permanence of its rulers. Domestic activity of the 13th century was excavated in the area surrounding the tomb tower, showing continuous occupation of the city, but its extent by the 14th century is unclear due to the excavation in the area around the tomb tower. It would be interesting to further investigate Barda during this period to see whether the tomb towers form part of a larger city, or whether Barda has become a symbolic centre, functioning as a 'mausoleum city' similar to Sultaniya and Ghazaniya in north-western Iran (Haneda, 1997, pp. 143–146; Biran, 2013a, p. 258).

In contrast, the abandoned monumental structures of Sultan Kala and foundation of the much smaller Abdullah Khan Kala suggest that Merv suffered a dramatic collapse of its urban status, although this took place over more than 200 years. The Mongols focussed their attention on constructing monumental structures outside of the Seljuk city including the Buddhist shrine, mausolea at Gok Gunbad in the north of the oasis, and renovation of Meana Baba in the nearby Tejen oasis (Pugachenkova, 1958, pp. 353–379; Mamedov and Muradov, 2013, pp. 145–46). Again, the focus is on mausoleum structures, partly because these are the ones which survive, are better known and easier to date. They may also have been prioritised by the Mongol rulers over, for example administrative or other religious buildings such as Buddhist shrines and mosques. Equally, the location of surviving mausolea shows that in some cases they were deliberately maintained (Kyz Bibi, Mausoleum of ibn Zaid), with the survival of more remote examples such as Gok Gunbad possibly due to their remote location and therefore lack of brick robbing for later construction projects. The pattern of monumental construction in the Merv oasis perhaps echoes assertions that the Mongols only realised the full economic and symbolic importance of cities once the empire had split into individual khanates in the 1260s (Biran, 2013a, p. 265). By this time, decades of neglect and depopulation at Merv likely meant that areas outside of Sultan Kala provided a better setting for the construction of new monumental buildings.

Although not exhaustive, these signatures of conquest illustrate the carefully considered interpretive background of this project, situating the archaeological evidence within its broader urban and historical context. Practical constraints and the history of previous research meant that each city yielded evidence of a different scale, from the broad survey of Merv to the multiple small, but very detailed trenches at Barda. However, pinpointing these specific signatures and describing the evidence and their interpretive basis helps to provide a greater transparency for this archaeological survey, diverging from some of the previous work carried out at these sites. Additionally, the

signatures of destruction, desolation and abandonment, reuse and rebuilding can be seen across all of the cities, regardless of the scale of the investigation. They constitute an interpretive framework for the archaeological investigation of conquest at urban sites, and have the potential to produce an archaeological narrative to complement the historical sources in further discussion of the Mongol Conquest.

The 12th century

Alongside the lack of evidence for destruction which could be reliably attributed to the Mongol armies, was a trajectory of decline before they even arrived. In Merv, urban decline is evident from the 1150s, while the shahristan at Otrar appears largely abandoned in the 12th and early 13th century. This pattern was recognised by YuTAKE researchers at Merv from the late 1940s, with the activities of the Ghuzz, and subsequent volatility as Seljuk power waned, perceived as triggering this process. Ghuzz raids on the city may be slightly overstated, but their capture of Sultan Sanjar certainly caused political instability and hastened the collapse of the ruling Seljuk dynasty, plausibly contributing to the economic and urban decline visible at Merv in the later 12th century (Al'Khamova, 1953, pp. 409–11). Further work explored this narrative, and tracked patterns of continuity in decline across Sultan Kala (see especially Lunina, 1969; Khodzhaniiazov, 1991). Shifting occupation patterns at urban sites and signs of decline are visible in the later 12th century, but by around 1200 under the control of the Khwarazmshah, the situation in the city appears to have stabilised. This is evidenced by the rebuilding of previously abandoned houses (Lunina, 1969, pp. 128–29) and historical accounts of the construction of a new mosque which was taller than the main Hanafi one (Zhukovskii, 1894, p. 33). However, alongside this appearance of revival, which may explain Yaqut's assertions that Merv was flourishing (Arberry, 1951, pp. 10–12), industrial activity was creeping into the city with ash dumps, and waste from pottery production and metalworking accumulating inside its walls (Lunina, 1969, p. 166). The occupied urban area was therefore already shrinking, and Merv was less populous than in the mid-12th century.

In Otrar the decline was more dramatic, and the careful stratigraphic recording and radiocarbon dates presented here show that abandonment layers attributed to the Mongol Conquest of 1219-20, in fact date to no later than 1150. Stratigraphic evidence from excavation area III shows the abandonment was both rapid and virtually complete, with almost no activity identified between 1150 and the 14th century. This is corroborated by numismatic finds from Akishev et al.'s excavations (Akishev, Baipakov and Erzakovich, 1981, pp. 289–342, 1987, pp. 224–251), indicating that much of Otrar's shahristan was depopulated for more than a century. In this case archaeological evidence of

abandonment was fitted onto the historical narrative of the Mongol Conquest by the original excavators. Although they caveat their interpretation (Akishev, Baipakov and Erzakovich, 1987, p. 18), their broad-brush excavation techniques made it difficult to date layers and so historical sources were used to formulate an archaeological narrative. Unfortunately, the misattribution has probably been compounded, with finds from Otrar feeding into regional pottery chronologies, and so likely affecting the dating of sites beyond Otrar. Although it is wise to be cautious about the universality of the trend, as it is only visible in these two cities, a picture is emerging of longer term urban decline in Central Asia, which begins before the arrival of the Mongols.

On the other side of the Caspian, the pattern of occupation in Barda follows a rather different trajectory, and the city experienced economic stability through the period, with a relative boom in the later 12th century. This is despite the lack of specific mention in conquest narratives which suggested its insignificance, and historical reports of Barda's decline, with the site described as ruined by the 12th century (Bosworth, 1988; Wordsworth, 2018a, pp. 147–48). Archaeological excavations show the decline is overstated in historical sources, instead demonstrating extensive activity from around 1150. The uptick in activity is demonstrated by an assemblage of 12th-early 13th century coinage, and radiocarbon dates showing intensive occupation in the late 12th century. Recent refinement of ceramic chronologies demonstrates the return of domestic, craft and commercial activity after a period of abandonment in the late 11th and early 12th century (Akhalaia and Wordsworth, forthcoming). Zooarchaeological studies further support this trend of urbanisation and agricultural specialisation, with a reduction in the diversity of animal species consumed during the 12th century. Fewer wild species, chicken, buffalo and pigs were detected in central Barda from around the 1150s, with a shift to reliance on animals such as sheep, goats and cattle (A. Haruda[53], pers. comm., January 2021). Whatever the cause of the decline in the oasis cities of Central Asia, it does not appear to be affecting cities in the Caucasus in the same way.

Despite intensive inquiry into the causes of the Mongol Conquest, and the processes behind the sudden cohesion of steppe tribes which enabled their domination of vast sedentary polities, relatively little scholarship has focussed on dynamics in the conquered areas which left them unable to resist the Mongol armies. This is probably in part due to the vast size of the Mongol Empire leading to region-specific studies, and although the compartmentalisation of Mongol scholarship (Allsen, 1981, pp. 32–33) has been addressed in recent years with collective volumes considering the empire more comprehensively (Amitai and Biran, 2005; Biran and Amitai, 2015; Rossabi, 2017), Central Asia remains poorly represented compared to China, Persia and the Middle East. Although

[53] This research will be published in a collected volume on AEB project research (Wordsworth, forthcoming).

the direction of Mongol expansion was initially southwards, subsuming their steppe neighbours before capturing sedentary areas of northern China, the most dramatic growth came between 1219 and 1221 with the conquest of territory from the western borders of Mongolia to the Black Sea. The speed of this advance is exceptional, and while emphasis has rightly been placed on the composition and tactics of the Mongol armies in understanding the momentum (May, 2004, pp. 100–132), better understanding of the situation in Khwarazmshah territories on the eve of the conquest could prove transformative in considerations of this westward expansion.

Both Merv and Otrar experienced continued political change through the second half of the 12th and early 13th century, with the demise of the Seljuks and political developments in China leading to power struggles between the Kara Khitai, Karakhanids and Khwarazmshah (Bregel, 2003, p. 32). Yet, unlike careful consideration of factors within the areas conquered by the Arabs (Kennedy, 2007, pp. 68–71; 101–103; Walmsley, 2007, pp. 31–47; Hoyland, 2015, p. 4), with long-running wars between the Byzantine and Sasanian Empires, civil war and the emergence of plague in the western Sasanian world seen as important reasons for the rapid Arab advance. The situation in the Khwarazmian Empire is rarely given significant consideration in narratives of the Mongol's westward expansion. Archaeological evidence of decline within Central Asian cities underlines the importance of the decades before the arrival of the Mongols, suggesting that weaknesses within Khwarazmian territories and pre-existing urban decline is an important factor to consider when assessing the impact of the Mongol Conquest.

Reasons for urban decline in the latter part of the 12th century are likely to be complex, with no single cause responsible, and more information is required to chart patterns of urban foundations, decline and revival across the region. Such work could provide clues to the extent of urban decline in this period and demonstrate some of its causes. Fortunately, this research has shown these patterns of occupation can be tracked with reasonable precision through archaeological means, and a better understanding of patterns of urban occupation in Central Asia would provide useful additional data for a broad range of historical, art historical, archaeological and environmental debates. Pre-Mongol decline is not unique to Merv and Otrar with archaeologists reporting this trend at other sites in the region. Excavations by the Metropolitan Museum of Art, New York (Met) in the 1930s found that at least one area of Nishapur was abandoned in this period[54], and attributed this to either an earthquake in 1145 or an attack by the Ghuzz (Wilkinson, 1973, p. xxx). Closer to Merv, the site of

[54] This is dated by the pottery, of which Wilkinson is probably considered a foremost expert of his time. 376 (286 readable) coins were found in the excavation, with most apparently minted between the second half of the 8th and the 10th century. Wilkinson explains his dating by the fact that earlier dated coins are not found at the lowest levels, and therefore must be in use for a long period, which is corroborated by excavation in other parts of Nishapur (Wilkinson, 1973, pp. xxx–xxxi).

Dandanakan, a smaller city between the Merv and Tejen oases is described by Yaqut as abandoned in the mid-12th century. He observes that it is covered in sand and deserted in the 1210s, and sees remnants of its grand buildings, attributing its state to a Ghuzz raid in 1158 (Zhukovskii, 1894, p. 38). Recent survey and excavation by the Met at Dandanakan have confirmed Yaqut's description, with a lack of pottery dating to the latter part of the 12th century or later found at the site (Wordsworth *et al.*, forthcoming). Regional urban decline in the 12th century is easy to support when cherry-picking evidence, as must be the case over such a vast area, and it is probably too early to confidently describe a broader trend beyond Otrar and Merv. However, at the very least, the data indicates that urban sites may not be continuously occupied, or at least witness significant fluctuations in population, from the stated foundation date to the city's abandonment.

Climatic and Environmental Change

Despite reservations in attributing a direct cause to this decline, and the need for more data to understand the scale of this trend, a clear contender for closer examination is data on paleoclimate and environmental change. Environmental aspects of the Mongol conquest, especially relating to the factors causing the Mongol armies to irrupt from the steppe and rapidly conquer much of Eurasia, have witnessed an increase of interest in recent years. At first, environmental motivations for the conquest were proposed using a combination of historical sources and paleoclimatic data, including evidence from ice cores, snow-line data and contemporary accounts of climate and agricultural conditions (Jenkins, 1974). Jenkins combined the data sources to demonstrate a long-term decline in mean annual temperatures between 1175 and 1260. He suggested this decline caused hardship on the steppe, encouraging the Mongol tribes to put aside their differences and unite in order to survive, enabling the conquests (Jenkins, 1974, pp. 225–26). More recently, higher resolution data from tree rings suggests that a series of warmer and wetter years from 1210 to 1227 allowed the steppe-dwelling Mongols to strengthen their herds and population thanks to these favourable climatic conditions (Pedersen *et al.*, 2014; Putnam *et al.*, 2016). The warmer, wetter model now appears to be the dominant interpretation (May, 2018, p. 3).

It is important to stress that the use of climate data to correlate with historically attested accounts of the Mongol Conquest has proved controversial, exemplified by lively debate on how to weight different evidence sources and avoid environmental determinism in interpreting major events such as the Mongol Conquest of Hungary (Büntgen and Di Cosmo, 2016, 2017; Pinke *et al.*, 2017). Most research in this area concentrates on the steppe, focussing on the exceptionalism of the Mongols rather than considering the areas they conquered (Jenkins, 1974; Pedersen *et al.*, 2014; Putnam *et*

al., 2016). However, to understand the role of climate in the Mongol Conquest, I would argue it is necessary to consider both the impact of climatic fluctuation on the steppe economy, and the conquered sedentary areas. Recent research on correlation between climate, population, society and urban complexity in earlier periods of the Middle East, is revealing trends which might provide some context to the situation in Central Asia. Broadly, a correlation can be detected between warmer, wetter periods and population growth, while colder, dryer periods lead to decline and sometimes collapse of urban societies (Palmisano *et al.*, 2021). However, the data remains fragmentary and trends must be seen within longer-term patterns, the broader context of local environments and societal ability to adapt (Lawrence *et al.*, 2016, 2021). Therefore, this line of argument will proceed with caution, acknowledging the important role of climate in oasis cities, but also the relative dearth of reliable supporting data, and the complex range of factors which might contribute to urban decline at Merv and Otrar.

The biggest hinderances to understanding the impact of climatic changes on the Mongol Conquest and Central Asian cities is a current lack of consensus on overall trends in this period, and the enormous datasets and analysis required to show regional variation. The vast area covered by the Mongols, extreme landscape variation and resulting subsistence strategies mean that regional fluctuations, and local populations' ability to adapt are a crucial part of this picture. Furthermore, the complex, interrelated ecosystems of Central Asia, where for example changes in glaciation or spring melts in mountain ranges affect the river-dependent cities in Transoxiana thousands of kilometres away, further complicate the task of formulating a climatic narrative for this region. Alongside the importance of understanding regional variation, the level of interconnectivity in Eurasia by the start of the 2nd millennium AD means negative changes in one area would likely have a wider effect on regional economic and political stability.

From the various climate-proxy datasets (Chen *et al.*, 2010, Table 1; Che and Lan, 2021, Table 1), several trends can be seen, and differing interpretations have been applied to each. Jenkins' model suggested a cooling in the late 12th and early 13th century (Jenkins, 1974), but more recent data shows the situation is complex. It also suggests that the mountainous areas, upon which the cities are dependent for water may have differing climate systems, or at least are impacted in multifaceted and often unexpected ways by climatic variation. Tree ring data from predominantly mountainous areas across western Central Asia broadly corroborate Jenkins' model of climate deterioration, with progressively poorer growing conditions from 1000-1200, which continue until around 1500 (Esper, Schweingruber and Winiger, 2002). Other data provides a different perspective. In contrast to Jenkins' model, pollen collected from coring in the Aral Sea suggests a colder, more

arid climate until around 1200 , with gradual warming and increased moisture after this event (Sorrel *et al.*, 2007; Boomer *et al.*, 2009, pp. 84–85). Increased salinity and a regression of the Aral Sea were also observed from c. 920-1230 (Sorrel *et al.*, 2006, pp. 221–23), with historical accounts and archaeological data suggesting lower lake levels continued into the 14th century and worsened in the 15th (Boroffka *et al.*, 2005). Conversely, coring at a lake in Kyrgyzstan suggests a warmer, dryer episode from c. 500-1400 AD (Aichner *et al.*, 2015), and dust deposition in the Aral Sea has also been used to suggest a relatively warm period between 720 and 1400 (Huang *et al.*, 2011).

Recent syntheses of climate data and computational modelling also show a range of climate chronologies and are difficult to interpret without a specialist knowledge of the limitations and dating of the datasets. Some have shown a cooling climate in Central Asia in the 13th and 14th centuries (Shi *et al.*, 2015; Che and Lan, 2021) or a warmer period until around the 1270s followed by cooling (Lan *et al.*, 2018). These follow from earlier syntheses which suggest a warmer and drier period through the 13th century until at least 1350 (Yang *et al.*, 2009; Chen *et al.*, 2010), and much of the same data is employed across these studies to reach different climate chronologies (Chen *et al.*, 2006; for example Sorrel *et al.*, 2006; Austin *et al.*, 2007; Kroonenberg *et al.*, 2007 are used in both Che and Lan, 2001 and Chen et al., 2010 to reach different climate models). Additionally, most of the climate datasets are from western China, the Pamir and Tien Shan mountains, aided by coring in the Aral and Caspian Sea (Che and Lan, 2021, fig. 3), which are some distance from the three sites under consideration.

With the differing scales of these datasets and no reliable overall model for medieval climate fluctuations in Central Asia, let alone the capacity to track regional variations, convincingly equating records of historical events with data for climatic change is difficult. I have therefore not attempted it overall for the findings in this thesis, or for individual cities. Indeed, the array of proxy-datasets available, the wide range of the conquests and wildly differing climate models for the period means that it is relatively easy to find a model to fit one's interpretive purposes, and few arguments resting on climatic causation are entirely convincing.

However, many of these studies show important environmental change, and the proxy data, rather than overall climate trends inferred by the authors, may be more useful to understand stresses in the oasis cities such as Merv and Otrar. In spite of vegetation suggestive of warmer and wetter weather around the Aral Sea after 1150 (Sorrel *et al.*, 2007), increasing salinity and regression from the 10th-early 13th century (Boroffka *et al.*, 2006, p. 731; Sorrel *et al.*, 2006) show important changes which would likely have impacted settled human populations in Transoxiana. The mechanisms behind increased salinity and regression in spite of a wetter climate are poorly understood, but the

authors highlight the role of a decrease in seasonal meltwater from the inflowing Amu and Syr Darya rivers, the possibility of reduced rainfall and surface evaporation as factors (Sorrel *et al.*, 2006, p. 321). Problems of water supply in this period may therefore have contributed to the depopulation of Otrar in the early 12th century and Merv's decline in the 12th century, and there are hints of changing water supply at both Otrar and Merv in the 12th century, from the abandonment of canals in Otrar between the mid-11th and mid-12th century (Toonen *et al.*, 2020) and perhaps also the shifting pottery quarter into the city of Sultan Kala, perhaps to make use of the water supply in this city.

Human activity may also have played a role, in particular canals constructed to divert water for agricultural purposes, which began in prehistory and were well-developed by the early Islamic period (Groshev, 1985, pp. 145–47; Williams, 2018a; Toonen *et al.*, 2020). Destruction of irrigation systems during the Mongol Conquest (Boroffka *et al.*, 2006, p. 731; Sorrel *et al.*, 2006, p. 324; Oberhänsli *et al.*, 2007, pp. 178–79) or occasionally by Timur (Létolle *et al.*, 2007, pp. 67–68) have also been blamed for a diversion in the Amu Darya's course in the 13th (or 14th) century, although the mechanisms behind this remain unclear. This was one of several events when the river's instability in the soft, desert sediments of Central Asia led to significant diversions in the course of the Amu Darya, including periods where it flowed westwards towards the Caspian Sea (Létolle *et al.*, 2007). The impact and causes of these events remain under-examined and poorly understood, but the dependence of the oasis cities on this water and clear fluctuations in its supply in this period demands further investigation, and may have a considerable importance in understanding patterns of urban decline in central Asia. Any changes to the flow patterns of the Amu Darya and Syr Darya, which discharge into the Aral Sea would have affected settlements in its vicinity and probably also the cities upstream and in the wider area, including Otrar and Merv.

Impact on the cities

In light of the evidence for 12th century urban decline in Merv and Otrar, it is possible that climate fluctuations also contributed to problems in the conquered cities before the arrival of Mongol armies in Central Asia. Sedentary and nomadic populations have different strategies to respond to changes in their environments triggered by climatic variation. Sedentary areas have a predominantly agricultural subsistence strategy, which allows for various approaches to deal with long-term climate changes. These include agricultural diversification or intensification, local mobility, infrastructure construction (such as canals, qanats), storage and exchange (Flohr *et al.*, 2016; Palmisano *et al.*, 2021). Closely connected to a city or society's resilience in the face of climate deterioration is the extent to which it might have pre-existing stresses such as over-population or unsustainable

agricultural production, (Lawrence *et al.*, 2016, 2021). The Aral Sea data suggests significant transformations to hydrological networks between the 10th and 14th centuries, and the impact of these changes may have been felt in the oasis cities. Further work is required for clarification, but it is plausible they could have contributed to urban decline in the centuries before the Mongol Conquest.

As well as further datasets to provide a clearer consensus on overall climatic trends in the 12th-14th century, targeted archaeobotanical research would be the most reliable way to assess any changes and investigate the impact of climatic and hydrological fluctuations on these cities, but is sadly underdeveloped in Central Asia and soil samples are not typically collected during excavations. No archaeobotanical work has yet been carried out at Otrar, while research from Merv consists predominantly of interim reports (Herrmann, Kurbansakhatov and Simpson, 1996, pp. 18–19; Boardman, 1997, 1999), and although funding was granted for a three year study of archaeobotany in 1998 (Boardman, 1999, p. 13), no major publication seems to have appeared. Without further, targeted research, additional comment is somewhat speculative, but constraints on oasis agriculture and a rapidly growing population in the early 12th century (Chandler, 1987, pp. 16–17), alongside climate fluctuations might help explain urban decline in Merv during the late 12th century, with cumulative change causing exponential difficulties.

When considering interactions between mobile and sedentary societies, climatic fluctuations and resulting environmental changes could have a positive impact on one society and negative on the other, contributing to a more pronounced mismatch in strength and changes to their normal interactions. This might lead to extraordinary events such as the Mongol Conquest. For longer-term, gradual climate changes, farmers can switch to different crop types, adapt irrigation systems and store food to survive briefer disruptions. There is some evidence for agricultural adaptations in Barda where production shifts substantially from predominantly summer to winter crops in the late 12th century (Stone, 2021, p. 444), which might suggest climatic changes or shifting occupation patterns in the city. It would be interesting to see if similar trends might be observed in the other cities. Less information is available for the marginal oasis cities of Merv and Otrar, although these may be more susceptible to changes in climate and weather patterns because of pre-existing agricultural intensification and finitude of the surrounding cultivatable land.

Much of the climate data collected demonstrates long-term change, with individual events more difficult to detect in the climate record, although tree-rings provide a notable exception. Neither the steppe or arid sedentary areas of Central Asia provide many suitable locations for the collection of tree-ring data, as trees tend to be smaller and shorter-lived than in the piedmont regions, which can

provide reliable data spanning the past millennium, and occasionally longer (Esper, Schweingruber and Winiger, 2002). Longer-term climatic changes may have had a greater effect on the cities, compared to the sudden harsh winter or dzud conditions, which can be catastrophic to nomadic subsistence, and appear to be freak weather events, independent of longer term climate patterns[55] (Rao *et al.*, 2015, p. 10), and therefore difficult to detect without documentary evidence. Two other factors, compared to just unusual cold in winter, have been found to have an important impact on livestock, rainfall and density of animals in each area, with droughts compounding the effects of cold winters and overpopulation of herds also exacerbating problems (Sternberg, 2010; Rao *et al.*, 2015). Recent herd overpopulation was the result of political changes following the fall of the Soviet Union combined with a decade of particularly warm winters from 1988. While both these modern examples are difficult to project with confidence onto past situations, they show that short- term events rather than longer-term trends have a more prominent impact on the Mongol subsistence strategy. The tree-ring data in central Mongolia (Pedersen *et al.*, 2014), shows individual years of climate fluctuation, and is therefore more useful to understand subsistence dynamics on the steppe. This data cannot show the prevalence of dzud conditions but it at least demonstrates that drought was not a problem at this time, which might suggest any dzud would have been less severe. Climatic information from coring and other longer-scale proxy data may show changes which have a greater impact on the sedentary areas rather than steppe groups, although this also remains under-studied.

At present, insufficient evidence exists to draw firm conclusions on climate as a contributory factor for urban decline or changing function of cities in the century before the Mongol Conquest, although it remains an important line of inquiry. Data from the steppe appears more convincing, perhaps because of the perceived greater importance of climate to mobile pastoralists compared to city dwellers. Although a decline, at least at some of the cities is now clear, the diverse environments in Central Asia and complexity of debates over patterns of climate change means it is important to collect environmental data from individual areas and cities. Indeed, the strength of the warmer, wetter climate and steppe prosperity thesis (Pedersen *et al.*, 2014) is the location of the tree-ring data in central Mongolia and its annual resolution, placing these changes in the geographic and chronological situation of the rise of Genghis Khan's armies. Limited comparable evidence yet exists for the urbanised areas, with archaeobotanical and geoarchaeological data probably the best options for understanding the impact of climate on the cities.

[55] This paper shows that the decade of winters from 1999/2000-2009/10 represented once of the worst since modern records began for dzud or mass livestock deaths, and while there are more reasons than climate for this, they emphasise the greater threat of sudden cold winters (such as 2009/10, the coldest since the 1940s), which corresponded with a major dzud event. despite the general rise in winter temperatures of more than 2.5C over the last century (Rao *et al.*, 2015).

The altered chronology presented here transforms the narrative of the Mongol Conquest of Merv and Otrar, moving the focus from the early 13th century to the mid-12th, indicating that changes in the 12th century may be key to understanding the apparent urban decline inflicted by the Mongols in parts of Central Asia. In terms of explaining the causes of the Mongol Conquest, it highlights that examination of the conquered cities is important, maybe more so than the factors leading to the cohesion, strength and military tactics of Turco-Mongol groups. The causes for this urban decline are far from clear, though environmental and climatic change, political crises and possibly overpopulation may be important factors to consider. Finally, the issues affecting the two Central Asian cities appear to have been relatively localised, with Barda experiencing relative prosperity in the later 12th and 13th century. It is possible this situation contributed to the Ilkhanid decision to situate their capitals in north-western Iran, and this sudden shift of power from the traditional capitals in the eastern Persian world may be both a symptom and an exacerbating factor of a longer term pattern of urban decline in Central Asia.

Cities under Turco-Mongol Rule

In recent years, emphasis has been placed on the importance of regional and urban histories in the medieval Islamic world. In some ways this has turned away from earlier narratives of expansive empire and imperial dynasties (for example Grousset, 1970), emphasising regional responses to broader political changes and focussing on local actors, rulers and trends (Paul, 2018). Archaeology is well-placed to explore both regional and urban histories, but is not yet well-integrated into historical discussions (Biran, 2013b, p. 1024; Durand-Guédy, 2013a, p. 12). It has been argued that Turco-Mongol rule on the whole was detrimental to cities, with a new type of urban model termed ‘the pastoral city’ emerging across Iran and Central Asia (Haneda, 1997; Durand-Guédy, 2013a, p. 3). This model focusses on the importance of pastureland, as compared to the urban centre associated with the crucial oasis-havens on trade routes in Central Asia. The rich pastures of north-west Iran are seen as the natural homeland for such an urban model with Oljeitu’s summer capital Sultaniya and the Tabriz suburb of Ghazaniya often seen as the standard examples (Haneda, 1997, pp. 142–46; Durand-Guédy, 2013a, p. 3). The impact of these developments have been surveyed also in the oasis cities of Central Asia, where lack of pasture, and the heavily irrigated and managed agricultural hinterland may have clashed with nomadic ideals of a suitable power-base. In the light of such observations, both for the period of Mongol rule and the preceding century, two themes have been the focus of recent scholarship, the urban governance of ‘nomadic’ rulers and the impact this had on the form, function and fortunes of individual cities. It is therefore useful to situate the findings from

this work within these debates, contributing an archaeological narrative for Mongol-era cities in Central Asia.

The pre-Mongol Period

The Mongol Empire was part of a long-running trend of Turco-Mongol rule in Central Asia and Iran, which slowly replaced the existing Persian-speaking dynasties, eventually changing the linguistic and cultural identity of the region. Although incorporation of the lands around the Syr Darya into the Turkic Khanate in the 6th and 7th centuries continued a long-running interaction with steppe groups, Central Asia experienced a prolonged period of Turco-Mongol rule from the 11th century, which had a significant impact on later Mongol governance. The Turkic Seljuks, Karakhanids, Khwarazmshah and Mongol-speaking Kara Khitai controlled the region through the 12th century, meaning that Central Asian cities conquered by the Mongols were already ruled by groups that had once been steppe nomads, although some of these, especially the Khwarazmshah had become highly Persianised (Bosworth, 1996). These rulers had an impact architecturally, culturally and probably economically on the cities of Transoxiana, although the extent and nature of this are still debated (Durand-Guédy, 2013a, pp. 12–17). Historical and archaeological interrogation has shown various approaches to urban rule from these 'nomadic' dynasties, especially in terms of attitudes to urban construction and where they chose to localise centres of power (Morgan, 2015, pp. 640–41). The Mongols took control of Otrar, Merv and numerous other cities from the Khwarazmshah, and would already have been aware of aspects of sedentary rule through relationships with existing Turco-Mongol dynasties, especially the Kara Khitai (Biran, 2004, pp. 32–34). In this sense, Mongol rule in the urban centres of Central Asia would have been a continuation of two centuries of rule by steppe groups. Some aspects of this are clearly visible, such as employment of administrators who had previously served the Seljuks and Khwarazmshah (Boyle, 1958, pp. xv–xvi). Yet the Mongol Conquest and their subsequent rule is often seen as a rupture, which transformed these cities, in some cases catastrophically. Each of the three sites considered here follows a very different trajectory, and although there is evidence that the Mongol Conquest had a direct negative impact on Merv, its effect on the other two does not fit the 'destruction narrative', with evidence that Mongol rule revived Otrar and Barda.

One theme that has been considered at length is the extent to which these rulers kept the mobile habits of their steppe ancestors and the impact this had on the cities. It has been argued that rulers in the pre-Mongol period, especially the Seljuks, were essentially nomadic, moving constantly and camping in the vicinity of cities, rather than constructing permanent administrative buildings for

their rule (Durand-Guédy, 2013b). Shifting urban layouts, such as the late 11th century construction of the Shahriyar Ark, a new, fortified administrative area in the north-eastern quarter of Sultan Kala, compared to its previous location in the city's centre (Williams, 2018b, pp. 422–23; Williams *et al.*, 2018, p. 167) may be a sign of these changes. It is also possible that the apparent abandonment of Otrar in the 12th century indicates the reduced importance of a permanent administrative centre, or at least a change in its character and location. This evidence can be contextualised within historical studies on this theme, which increasingly include archaeological evidence (see especially Durand-Guédy, 2013c). Although the arguments for a mobile court, and a distinctly different style of rule and administrative infrastructure have merit, archaeological evidence indicates the situation is complex. It has been shown that Merv experienced a construction boom in the 11th and early 12th centuries, while under Seljuk rule. Monumental construction projects, including the Shahriyar Ark and its buildings, the 13km circuit of city walls, and a later refortification, as well as the monumental mausoleum of Sultan Sanjar (Brun and Annaev, 2001; Gye and Hillenbrand, 2001; Williams, 2018b) show large, centrally-organised construction projects were taking place in the Seljuk capital. If the Seljuk rulers were living in tents, and the large palatial structures at Merv might suggest that this was at best temporary, or perhaps even symbolic, it did not appear to have a detrimental effect on the urban fabric of their major city. A similar pattern has been found at Samarkand while it was under Karakhanid rule. The Uzbek-French team who have been excavating at the city since the 1990s found that despite a scarcity of documentary evidence for construction while under Karakhanid rule (Karev, 2013, p. 121), ample evidence for monumental construction exists through the 12th century, and a similar pattern can be seen at Bukhara, the other major city under Karakhanid rule (Karev, 2013).

Yet the theme of mobility is an important one, and the Turco-Mongol rulers of the cities of Iran and Transoxiana were certainly highly mobile, often moving seasonally between different regions under their control or to more formalised summer capitals. The extent to which this breaks with earlier models of rule and the direct impact it might have had on these cities remains entwined with other patterns of urban change and decline, and would probably benefit from targeted archaeological excavation. Further historical enquiry might provide focussed information for individual cities, with Merv in particular perhaps benefitting from this approach (Paul, 2018, p. 12). Archaeological research can also offer information on how the cities are changing in this period, by charting shifting administrative centres, investment in urban construction projects and in some cases indications of centralised control or property ownership from changing urban boundaries.

One trend that can be detected and does seem to be relatively widespread is an increase in the construction of monumental buildings outside of the city and a preference for the rulers to live on

the edge of urban centres, something which has been noted from the Karakhanids to Timur (Haneda, 1997, pp. 151–52; Karev, 2013, p. 122; Paul, 2018, p. 18). Although this is not an entirely new trend, for example the construction of large, fortified residences, known as 'koshks' was widespread around Sultan Kala from around the 8th century (Herrmann, 1999; Williams *et al.*, 2018), it appears that a wider range of buildings were erected beyond protective walls and administrative centres from the 11th century. There is also some evidence that the new rulers chose to live further from the centre of these cities. This may be part of a 'pastoralisation' process, signifying a more direct relationship with agricultural production, similar to the 'ruralisation' process observed in urban centres in the Levant in the wake of the Arab Conquest (Haneda, 1997; Walmsley, 2007, p. 130). It may also have connections with the importance of herd animals as a source of wealth, even if this might be increasingly symbolic in an oasis city.

As with the Arab Conquests it is unclear whether this represents a different way of living in an urban (or suburban) space (Kennedy, 2007, p. 31) or the beginnings of a longer term decline of urbanism in Central Asia. While koshks appear to have been houses of the nobility, situated close to the centre of power but in more spacious areas outside of the city (Herrmann, 1999, pp. 81–82), the 11th and 12th century sees examples of rulers' residences and administrative centres moving from the old urban cores into suburban areas. When the Karakhanids captured the Samanid realm, after initially staying in the pre-existing central palaces, at least some of the new rulers chose to live in a suburban palace (Karev, 2013, p. 122). New palatial residences were constructed on the edge of the city, (Karev, 2013, p. 123) during the period of Karakhanid rule in Bukhara, while at Merv the construction of the Shahriyar Ark demonstrates a distancing of rulers from the city's centre from the late 11th century (Williams, 2018b, p. 422). In effect, the Mongols arrived in an urban zone which had already experienced more than a century of Turco-Mongol rule, including at all three of the cities discussed here. Some of the trends observed in this period may have had an important impact on the perceived importance of these cities as economic and administrative centres. It is possible that some of the changes in urban organisation already underway in the earlier period might be attributed to the Mongols, either through unreliable dating of archaeological remains or because of the persistent image of Mongol destruction which seems to have impacted so much urban interpretation across the period.

Nomad-City Relations

The Mongols fitted into a pre-existing framework of highly-mobile rulers which began in at least the 11th century. Their seasonal movements are shown through written accounts, the physical remains

and historical descriptions of summer and winter capitals and camps across the Mongol Empire (Masuya, 2002, pp. 75–81, 2013; Shiraishi, 2006, pp. 84–85). Initial assumptions that the Mongols retained their nomadic lifestyle and lived in tents have been critically interrogated, with archaeological excavations, especially in Mongolia also showing a certain permanence of centres of power, even on the steppe. Survey and excavation have shown that Genghis Khan's *ordu* had a permanent location, including buildings in the Chinese style at the site of Avagra, in east-central Mongolia. A large 27m x 22m raised platform was also discovered and assumed to be for a large tent (Shiraishi, 2006, pp. 87–93). Dating of this site shows that it was in use from the late 12th or early 13th century, through to the 14th, possibly acquiring symbolic or religious meaning in its later phases (Shiraishi, 2006, pp. 90–91; Fenner *et al.*, 2020). The pattern of nomadic rule in the cities appears to be modelled on Genghis Khan's example from the steppe, with seasonal movements culminating in extended stays in specific camps, or in the case of Avagra 'camp city'. In the most urbanised areas under Mongol rule, including the Ilkhanate, the new rulers adapted their peripatetic lifestyle to a more regulated system of movements, with the second Ilkhan Abaqa (r. 1256-65) standardising the court's seasonal migrations, and implementing a functional administrative and economic capital at Tabriz (Masuya, 2002, pp. 76–77).

Although the Mongol khans moved seasonally throughout the period of their rule, they had recognised centres of power, with an administrative framework largely inherited from their Turco-Mongol predecessors. A pattern of seasonal movement between specific locations was already taking place among the Seljuks (Durand-Guédy, 2013b, pp. 172–73), Ghaznavids (Inaba, 2013, pp. 89–94) and probably also the Karakhanids, although fewer written descriptions of this survive (Karev, 2013, pp. 101, 125–27). The style and mobility of Mongol rule was therefore probably not a drastic diversion from pre-existing patterns of mobility among the rulers of Central Asia. The first few decades of Mongol rule however, probably caused the biggest rupture, and this might be reflected in the archaeological remains at Merv and possibly also the resettlement pattern at Otrar. Earlier Turco-Mongol rulers had demonstrated that seasonal mobility and a mobile court was not necessarily detrimental to rule in the sedentary areas, but the chaotic early years of the Mongol Empire, with little centralised rule or coherent administrative basis probably had a greater impact on the economy and overall structure of urban centres in Central Asia than tent-dwelling or seasonal movement.

In terms of changes in urban form, perhaps the most notable shift in this period is the movement of administrative areas and rulers residences away from the citadels, shahristans and urban cores of the cities. At Otrar, no major palatial structure or convincing administrative buildings have yet been found, despite decades of intensive excavation in the shahristan. Indeed the only monumental

structure excavated was a large mosque in the southern part of the shahristan which was built in the later 14th or 15th centuries (Akishev, Baipakov and Erzakovich, 1987, pp. 103–112). As a result, there is no indication as to where the administrative centre or a ruler's residence might have been situated, and it is unclear whether it would have been on the shahristan or elsewhere. In Merv, the shift in rulers' residence and the administrative centre of the city in the late 11th century (Williams, 2018b, pp. 422–23) and again during the Mongol period, probably to the south, shows the shifting nature of these administrative centres. The pastoral city model (Haneda, 1997) and the movement of administrative centres to suburban zones, taking advantage of pasture land, additional open space, and perhaps forming part of a 'noble landscape' (Paul, 2018, p. 18) may demonstrate a larger trend of residential movement into the suburbs, while industrial activity shifted within city walls. This can be seen most clearly at Merv, with similar activity visible at other cities such as Bukhara and Samarkand (Karev, 2013). In Merv the abandonment of the Shahriyar Ark, Mongol construction in the south of the city and the eventual construction of Abdullah Khan Kala shows that the shifts from the old city continued.

It is likely that the urban shifts taking place in the pre-Mongol and Mongol period, especially in terms of the movement of the physical centres of power to the periphery of ancient urban cores caused some of the gradual urban changes which appear more dramatic because of the apparent extent of urban abandonment. Incorrect attribution of these changes to the Mongol Conquest may also occur. The extensive archaeological evidence available from Merv shows that although the city's most prosperous period was certainly in the mid-12th century, the slow decline and likely move of the administrative centre outside of the city precipitated the eventual move to Abdullah Khan Kala in the early 15th century. Although gradual abandonment of the urban centre through the 12th century caused the degradation and eventual desertion of the large mudbrick city of Sultan Kala, it may have been the Mongol decision to construct their shrine, and probably other buildings in the southern suburb which began the move to Abdullah Khan Kala. One possible explanation for this shift is the preference for these Turco-Mongol rulers for pastureland and desire for more space for camping and pasturing activities. Specific mention of parkland in Arghun's reconstruction activities and the construction of mansions for the rulers outside of the city (Juvaini (trans. J. Boyle), 1997, p. 510) may also underline the importance of this resource.

In Otrar, the trend is more difficult to track because of the later activity concealing 12th-14th century layers of the city. It is possible that the abandonment recorded in the 12th and early 13th century may instead be an urban shift, although the large size of the city and the fact that no palace or administrative area has yet been discovered, means this would be difficult to investigate further. In contrast to Merv however, Otrar becomes convincingly urban once again in the 14th century, with

tightly packed residential buildings and monumental structures such as the mosque in the shahristan. Pottery workshops attest to industrial activity in the rabad, and a 13th-14th century bathhouse in this area also indicates a return of urban occupation (Akishev, Baipakov and Erzakovich, 1987). Otrar continued to thrive and was an important city in the Timurid period and beyond (Akishev, Baipakov and Erzakovich, 1981, 1987). The dynamics behind Merv's decline and Otrar's revival are unclear but the environmental and political setting of each city probably played a part. Although the Otrar Oasis is heavily irrigated, it has better links to the fertile Semirechye region, and the piedmont of the Pamirs and Tien Shan and it was also firmly within the Chagatai Khanate. Merv meanwhile was on the far eastern edge of the Ilkhanate, whose capital was thousands of kilometres to the west in Azerbaijan. Its strategic oasis location was less useful in the altered economic and political configurations which emerged after the Mongol Conquest. Furthermore, its pastureland was relatively limited, with the plains of Radkan, northwest of Tus being the preferred grazing lands in this period (Kennedy, 1999, pp. 40–41).

The Mongols may have had a greater impact on urbanism in Central Asia than the historical accounts of destruction and apparent urban abandonments of the period might suggest. The prevalent narrative of destruction in the written sources has led, perhaps not always consciously, to an assumption that urban centres were destroyed or abandoned across Central Asia as a result of the Mongol Conquest. Although this was a de-stabilising event, the lack of archaeological evidence for any destruction in the cities of Central Asia shows that the current, ruined state of many cities is due to desertion rather than destruction. Archaeological investigation has often echoed this narrative of destruction, partly because of the ruins of cities which apparently became deserted in this period such as Sultan Kala at Merv, Afrasiab at Samarkand and Otrar's shahristan, and partly because few identifiably Mongol-period structures (with the exception of tombs) have been found anywhere in these cities.

The detailed construction of archaeological narratives at each of these cities demonstrates a complexity beyond the thesis of 'Mongol abandonment'. The abandonment at Otrar predates the Mongols by almost a century and although the population at Merv probably shrunk rapidly in the 1210s and 20s, the city continued to be occupied, with new structures built in the southern suburbs. Most importantly perhaps is the shift of administrative buildings outside of the city, which probably means that they are rarely located or excavated by archaeologists. They have tended to focus on the centres of the main cities, or the tallest parts of the mound, assuming they represent the most complete occupation record or monumental buildings. Mongol activity in Merv may have acted as both a push and pull factor in the movement from Sultan Kala to Abdullah Khan Kala in the centuries after the conquest. Deteriorating mudbrick buildings and canals pushed people from the city, while

the centre of power likely shifted southwards, pulling people and new construction further upstream and outside of the city's southern suburbs. This may be unique to Merv, but the pattern of a more mobile elite and shifts to the suburbs or even completely outside of the city may aid archaeological work and understanding of urban dynamics in this period, as well as encouraging a different perception of cities under Mongol rule.

Local Responses and the Importance of Azerbaijan

While Merv and Otrar appear to be suffering economic and urban decline in the late 12th and 13th centuries, Azerbaijan experienced a period of relative prosperity. When the Mongol Ilkhanid rulers set up their first capital at Maragheh in the 1250s, it may have been informed partly by political expedience (Lane, 2012, pp. 251–52). Yet on a practical level, the choice of this region for their powerbase, rather than in the eastern Iranian world or more centrally located in their territory, was likely because of the importance of pastureland and seasonal movement to Turco-Mongol rulers (Durand-Guédy, 2013a, pp. 2–3). The plains of Azerbaijan and Caucasus piedmont provided the only large-scale opportunity for such seasonal movement within the Ilkhanid Empire. Unlike Merv and Otrar, Barda and the broader region of Arran found itself close to a key centre of power and visited by the Mongol rulers such as the Emir Arghun (Rashīd al-Dīn (trans. J.Boyle), 1971, p. 124). This situation may explain the sudden construction of the tomb towers in the early 14th century, and transformation of a suburban craft area into a monumental complex.

The tomb towers may have been constructed in a pre-existing devotional landscape, although the date of the nearby imamzadeh is difficult to prove, despite claims of its great antiquity. It is equally possible that this shrine was constructed much later, in response to the existing towers. The enthusiastic adoption of mausoleum structures, Islamic iconography and practices is interesting, given that the Ilkhanids were nominally Buddhists until the 1290s, and apparently retained Shamanist beliefs, tending to practice burial in natural places, and rarely marking the grave. The first ruler of the Ilkhanate Hulegu for example, was buried in a 'forbidden spot' in northwest Kermanshah, with treasure and young women, following traditional Mongol burial practices (Atwood, 2003, p. 226). Although the tomb at Barda may not be directly linked to the Ilkhanid dynasty, it is part of a revival in the construction of monumental tombs in the 14th century, which has been seen as an attempt by the Ilkhanids to forge an identity separate to the rest of the vast Mongol Empire, embracing sedentary Persian culture and perhaps more importantly stamping their authority and marking their permanence as rulers in Persia (Daneshvari, 1986, pp. 74–75; Blair and Bloom, 1994, pp. 6–7). This phenomenon has been most clearly observed in the Ilkhanid centre of

power in north-western Iran (Haneda, 1997), and the concept of 'pastoral' or 'mausoleum' cities may have broader implications for ideas of urbanism and the physical manifestation of Mongol power (Biran, 2013a, pp. 257–58). It is interesting that the Barda tomb is constructed in (or on the edge of) a pre-existing urban centre, and further excavation at other sites identified as 'pastoral cities' may show such construction projects adapted to pre-existing patterns of urbanism, rather than building at new sites on the grassy plains.

In several cases, tombs became the focal part of a cityscape and were often situated next to symbols of temporal power such as Oljeitu's palace in Sultaniya or Ghazan's 'garden of justice' and madrasa in Tabriz. On a smaller scale the Qarabaghlar tomb is also within a wider complex, although little of it survived into the 20th century (Useĭnov, 1951, pp. 25–26). The tombs in Barda likely represent an attempt to demonstrate the permanence and power of its rulers in the early 14th century, likely with a direct link to the Ilkhanid dynasty, a governor or client ruler. This represents investment at a site which archaeological evidence shows had a greater importance in the 12th and 13th century than historical accounts of decline would suggest. It also indicates that Barda likely had a strategic or perhaps Ilkhanid familial importance, which led to the investment in monumental architecture in the city. With the construction of the towers, Barda would have become a landmark in this period, and although the size and character of the surrounding settlement is presently unclear, the relatively rapid abandonment of the site in the period following the collapse of Ilkhanid rule, underlines the importance of proximity to imperial rule, rather than having a wider strategic or economic role.

Although the location of our major excavations in Barda were inside the tomb tower's enclosure and it was therefore difficult to see what was going on in 'normal' parts of the town, the material culture from test pitting and fieldwalking suggests Barda's decline began soon after the tower's construction in 1322. The 14th century trajectory for Merv and Otrar is rather different, both compared to Barda and each other, which highlights the importance of considering each city individually, before trying to draw out regional trends. At least parts of the shahristan at Otrar witnessed urban occupation, with radiocarbon dates from the residential area inside the west wall suggesting it contained densely-packed mudbrick houses by the early 14th century. Large parts of the great 550 hectare city of Sultan Kala at Merv must have been depopulated and in substantial decline by the mid-14th century. It is unclear what proportion of the city would still have been inhabitable or inhabited by this time, but the movement of industrial activity into administrative centres of the ancient city would have been widespread. Once the population had moved to the new city of Abdullah Khan Kala in the early 15th century, the depopulation of Sultan Kala was probably largely complete, but activity in suburban mausolea and mosques continued.

Approaches to Urban Sites in Central Asia

Methodologically this study has shown the utility of radiocarbon dating, alongside the use of coinage and well-attested pottery types. Further careful excavation at these sites is an important tool to better understand the urban transformation which occurred in the centuries before and after the Mongol Conquest. However, the large, previously excavated areas at these urban sites also provide an opportunity to better understand the cities, as demonstrated by the work at Otrar. Soviet-era research is often substantial and well-published, with several important and high-quality studies on urban sites in Central Asia, such as at Merv. However, it should be considered critically, and although substantial difficulties in accessing archival and even published material for the region remain, this situation is slowly improving. The complexities of working in this region, in terms of grappling with different disciplinary approaches, finding and accessing archival material scattered by complex research at these sites and the political histories of the countries should not be underestimated. However, the scale and scope of previous excavation work at these vast sites provides an unparalleled opportunity to assess quantities of data that would be difficult to gather today. Several of these sites are in the fortunate situation that small-scale targeted research can unlock large amounts of information. This approach may be more impactful than sprawling and ambitious projects, although increased collaboration between historians, archaeologists, environmental scientists is important for future research.

Dating has been a problem in both past and present archaeological investigation of Mongol-era sites in Iran and Central Asia. This issue is something that was important to overcome in the course of this research, and the methodologies presented here provide a collection of approaches to tackle issues of archaeological dating from the 12th to 14th centuries. Assumptions that there was a large collapse or complete cessation in the production of certain pottery types has frequently led to 'invisibility' of 13th century occupation as ceramics of the period are poorly understood by comparison with those of the late 12th and 14th centuries. In some cases, well-dated remains have highlighted a certain amount of continuity in production (Akhalaia and Wordsworth, forthcoming; Lunina, 1969, pp. 137–38; Danti, 2004), and although the overall picture remains unclear, it seems likely that further work will corroborate this trend, in some areas at least. Coinage of the period is generally well-understood and is an important resource for dating, but its utility is undermined by imprecise excavation techniques, which in some cases have led to confused interpretations such as at Otrar. Apparent issues with coinage supply in the 12th century and increasing levels of barter rather than monetary exchange (Waugh, 2017, p. 15) have also been used to explain the lack of artefacts of this date at Otrar, where in fact there may have been limited occupation. The role of coin forgery, which may have been widespread in this period of political instability is also rarely considered, despite the

occasional discovery of counterfeiting equipment of the Mongol period (Masson, 1933). In summary, the archaeological evidence has often been skewed to fit the vivid historical narrative, which can lead to an ingraining of these errors as pottery chronologies are composed from key sites such as Otrar. The way forward must rely on further, careful excavation of these complex urban sites, with further study of the material culture, and a chronology underpinned by radiocarbon dating.

Discussion of these three cities has shown the importance of understanding different archaeological signatures and expands on the lack of direct Mongol-era destruction at any of the sites. The key change which occurred at Merv was the city's depopulation, and it is this, rather than Mongol demolition which has resulted in the dramatic ruins of the city which are visible today. However, the Mongols are far from blameless, and were largely responsible for this trend. They can be seen as 'herders of human beings' (Allsen, 2014, p. 143), moving sedentary populations for their political and economic needs. In the mudbrick cities of Persia and Central Asia, descriptions of Mongol destruction and massacre might therefore be seen as a metaphor rather than a physical event. By the time Juvaini completed the most detailed description of Merv's sack in around 1260, extensive depopulation would have occurred, leaving the under-maintained city in ruins, with rapidly deteriorating mudbrick structures and a lack of reusable building material. Any Mongol destruction would have paled into insignificance compared to the deterioration, following large-scale abandonment of a 550 hectare city and its suburbs. 'Herding' of people would also have led to many deaths from war, disease and malnutrition, and perhaps these actions, rather than systematic massacre might be seen as the main cause of urban depopulation.

Archaeological detectable changes in these cities also show that Mongol rule had a considerable and often positive effect, something which has often been overlooked because of imprecise dating and assumptions of urban decline in the 13th century, thanks to the strength of the 'destruction' narrative. Otrar for example, appears to have been largely abandoned in the 12th and early 13th century, with a revival only occurring during Mongol rule in the late 13th and 14th century. The revival was quick and extensive, with densely packed residential quarters constructed across Otrar's shahristan by the 14th century. Barda meanwhile, continued something of a late 12th century revival, becoming an important centre in the seasonal movement of Ilkhanid rulers, who probably constructed the two tomb towers on the eastern edge of the ancient city. The city certainly benefitted from its position on the plains of Azerbaijan, and would have briefly become a landmark of Ilkhanid rule in the region in the early 14th century. At Merv also, Mongol rule can be seen, with its important status in the 12th and early 13th century likely leading to the construction of the only early-Mongol building found at any of these sites, the Chinese-style Buddhist shrine. Attempts by the Mongols to revive the city appear to have been only partially successful with continued

depopulation through the 13th and 14th century and the eventual move to Abdullah Khan Kala in the early 15th. Direct evidence of Mongol governance can be seen in the changing urban layouts of all three of the cities, illustrating important characteristics of Turco-Mongol rule, such as the shift of administrative centres and rulers' residences away from city centres, and the importance of pastureland, which can be detected before the Mongol Conquest and are accelerated by their rule.

8. Conclusions

The cities of Otrar, Barda and Merv demonstrate different models for urban change in the centuries after the Mongol Conquest. Going beyond military histories and exaggerated tales of destruction, the archaeological evidence provides a more immediate and localised account of what happened in these cities during the Mongol Conquest and charts the changes which occurred in its aftermath. The differing trajectories observed in each city can be explained in part by changing political configurations as Mongol khanates formed from the 1220s, the environmental setting and agricultural sustainability of each city and, to some extent, each city's fortunes in the later 12th century. The region's new rulers also played an active part in these changes. Preferences of Turco-Mongol rulers for suburban or non-urban residences and the emergence of 'pastoral cities' and suburban 'noble landscapes' (Haneda, 1997; Paul, 2018, p. 18) decreased the importance of the old urban cores as physical centres of rule and administration. The dataset and conclusions presented here aim to show the value of an archaeological approach to these urban sites, the importance of careful dating and excavation and the potential of careful consideration of this extensive resource to provide an accessible and convincing narrative for urban histories of medieval Central Asia.

With the exception of Merv, little impact of the conquest is detectable archaeologically. Changes in Merv are however characterised by abandonment, in some cases dramatic and immediate desertion (Lunina, 1962, p. 370, 1969, pp. 122–29) rather than the destruction described in historical sources (Juvaini (trans. J. Boyle), 1997, pp. 161–63). Unlike in other cases (Buzhilova and Goncharova, 2009; A. V. Engovatova *et al.*, 2012; Laszlovszky, 2012), no victims or direct destruction attributable to the Mongols have been found at Merv. Although this does not mean there was no massacre or destruction at the city, it certainly calls into question its extent, and indicates that desertion and subsequent cessation in maintenance of this mudbrick city was a more potent destructive force than the Mongols. Additionally, Merv's decline began in the second half of the 12th century, signified by evidence of industrial production moving inside the city walls, while kilns in the pottery quarter fell into disuse. Evidence for abandonment of high-status buildings in the north of the city (Lunina, 1969, pp. 117–129) and possibly also in the palatial residence excavated in the Shahriyar Ark corroborate this trend. Charting the ongoing movement of the physical centre of power is also important to understand urban change at Merv from the 12th-14th century. A shift in the location of the city's administrative complex from the centre of Sultan Kala to the Shahriyar Ark in the 11th century (Williams, 2018b, p. 422) and again in the Mongol period, probably to the area outside of the southern suburb, demonstrates de-urbanisation of the nomadic elite in this period. It appears also that it was in the 13th century, under Mongol rule that activity, and the physical centre of power

moved to the southern suburb, leading to the eventual shift to Abdullah Khan Kala and effective abandonment of Sultan Kala as an urban centre by the 15th century.

At Otrar and Barda, the archaeological evidence indicates that both cities benefitted from Mongol rule, with significant investment apparent from the late 13th or early 14th century and urban revival at both sites. In both cases, archaeological evidence provides a narrative which diverges from the written sources, and while Barda appears to have prospered in the latter half of the 12th century, the shahristan at Otrar may have been largely abandoned. As at Merv, no destruction or massacre is visible archaeologically at either Barda or Otrar, with no distinct changes at either city attributable to the early part of the 13th century. Both were probably aided by their positions within the Ilkhanate and Chagatai Khanate respectively. Azerbaijan was chosen by the new Ilkhanid rulers of Persia as their centre of power, and Barda subsequently benefitted by finding itself integrated into the seasonal movement of these mobile imperial rulers. While Merv found itself at the extreme eastern periphery of the Ilkhanate, far from the new rulers' centre of power, Otrar was well within the Chagatai khanate, strategically placed with links to Semirechye, the piedmont of the Tien Shan and Pamirs, and access to the increasingly important cities of Samarkand and Bukhara to the south.

Perhaps most importantly, the archaeological narrative from Otrar has shown the dangers of dating archaeological events from the historical sources. While abandonment at the site had been attributed to the Mongol Conquest (Akishev, Baipakov and Erzakovich, 1987, pp. 15–19), the radiocarbon dates presented in chapter 4 indicate that this area was in fact abandoned by at least 1150, predating the Mongol armies by almost a century. Further work is required to understand the pattern of occupation across the site, but the lack of coins minted in the 12th and early 13th century found across Otrar's shahristan (Akishev, Baipakov and Erzakovich, 1981, pp. 289–342, 1987, pp. 224–251) suggests it may have been abandoned through much of the 12th century, with urban occupation not returning to the investigated district until the 14th century. More broadly, coin evidence and excavations at other parts of the shahristan show that activity was beginning to return in the later 13th century, and was widespread by the 14th. The archaeological evidence from Otrar may indicate changes in urban occupation or administration in the 12th century and call into question the historical accounts of the conquest of Otrar (Juvaini (trans. J. Boyle), 1997, pp. 78–84) or at least the urban nature of some cities conquered by the Mongols.

Excavations at Barda have shown that in spite of historical accounts of decline in the city in the 12th century (Bosworth, 1988), the city appears to have experienced a relative revival in this period, and economic stability through the 13th century. No adverse impact of the chaotic decades which followed the first arrival of the Mongols in the Caucasus in 1220 could be detected, with the small

excavation areas allowing a localised but very detailed picture of life from the 12th to 14th century. A flurry of monumental construction in the early 14th century is out of character with the evidence for domestic, small-scale craft and trading activity uncovered in the excavated trenches, but contextualisation with Ilkhanid construction in present day north-western Iran demonstrates that Barda fits into models of the physical manifestation of Mongol rule across this region. Similar to Sultaniya and Ghazaniya, Barda is situated within rich pastureland, and Arran is a well-attested location for seasonal Mongol movement (Masuya, 2002, pp. 75–81; Mustafayev, 2018, p. 152). Like the Ilkhanid seasonal capitals, it also has prominent monumental tombs of the early 14th century, although their relative size demonstrates a lesser role for Barda and Arran. The spatial distribution of mausolea across the region presented in chapter 5 demonstrates that those at Barda were almost certainly connected with rulers rather than religious figures. Their position to the south-east of the earlier city shows perhaps a new role for Barda as a symbolic rather than an economic centre, with the standing tomb's enclosure entrance to the east, facing the pasture rather than the ancient city. This suggests that Barda may have functioned as a 'pastoral' or 'mausoleum city' (Haneda, 1997) during the Mongol period, a form of urbanism that allowed the rulers to control rich pastureland and symbolise their power through monumental construction. It is probable that further structures of this period were built in Barda, but as the regional was a seasonal residence for Ilkhanid rulers, the city may have functioned more as a symbolic centre of power in the plains of Arran, rather than a city of economic importance.

Extensive urban change is visible at all three of the cities, much of which can be situated within a longer-term pattern across the regions conquered and ruled by the Mongols. The differing trajectory of each city shows the importance of studying them individually, rather than attempting to apply models of destruction and decline following the somewhat monolithic historical sources. Such an approach is best served by archaeological work, or a combination of historical and archaeological research. The role and status of many cities in this period is shifting. Some of this is attributable to changing approaches to the performance of power by Turco-Mongol rulers (Durand-Guédy, 2013c), their preferences and priorities. Climate and environmental change may have a role in the sustainability of these cities, but this is at present, difficult to quantify. The peculiar features of mudbrick architecture also play a role, with Merv's 'destruction', depopulation and eventual movement which may have been exacerbated by this building material. While at Otrar, it is interesting to note that the 11th-early 12th century phase of occupation is completely buried before the residential district is rebuilt, perhaps not the revival of an old city but a conveniently defendable hillock in the flat grassland of southern Kazakhstan.

Through detailed archaeological investigation and contextualisation of these results, urban change can be tracked within individual cities, as well as the shifting importance of various urban centres and regions through the Mongol period. The impact of the Mongol Conquest can be seen not only in the 'destruction' of cities, although they certainly destroyed some and depopulated others, but in the preferences and decisions of Mongol rulers. Their inclination towards seasonal movement and residing in the pastures outside of the cities they conquered perhaps altered patterns of urbanism in Central Asia which had persisted for centuries. The northward shifts of capitals in this period, to north-western Iran for the Ilkhans and Almalik in northern Xinjiang for the Chagataids led to certain cities losing political and economic power, from which some, including Merv never fully recovered. Understanding the shifting fortunes of cities helps to identify economic and political trends across Eurasia, and charting the changes in urban layout help to illustrate how Turco-Mongol rulers of this period controlled and administrated their empires. Finally, it shows the complex relationship between urbanism and power in this period, and the collision of attitudes and ideals of urbanism from across Eurasia manifesting in the material remains of cities in this period. Mongol interaction with cities has often been seen as a destructive one, but Mongol governance through the later 13th and 14th centuries permanently changed both the layout and form of all three of these cities, as well as re-drawing the map of urban centres across Central Asia.

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