




## Project Gallery

# Cultural coherence of architecture in Greater Khorasan from Bactria to South Khorasan in Iran during the Late Iron Age/Achaemenid period

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Tappe Takhchar-Abad, near Birjand in south Khorasan, is a recently discovered and excavated almost circular adobe building with six towers, dating to the Achaemenid period. This article suggests that the architectural tradition of circular buildings and sites in the late Iron Age/Achaemenid period, in Greater Khorasan, apparently originated from Bactria in which most such sites have been reported.

Keywords: Iran, Greater Khorasan, Iranian Khorasan, Achaemenid, Late Iron Age

## Introduction

The Achaemenid period lasted about 200 years (550–330 BC). The territory of the Achaemenid Empire was the largest imperial region in the ancient world, encompassing land from the river Syr Darya (in central Asia) to Egypt. In terms of cultural materials, it is difficult to identify Achaemenid sites through surface material such as pottery because the cultural materials of the Achaemenid period are very similar to the period before it (Lecomte 2005: 465; Lyonnet & Fontugne 2021). However, sites located in the Achaemenid Empire's centre, in Fars and Khuzestan (in south-west Iran), are easily recognised (Ataei 2007). In contrast, archaeological excavations have rarely been conducted in Iranian Khorasan (in north-east Iran). This is particularly unfortunate because the north-eastern parts of the Achaemenid Empire, south of the river Amu Darya, later became the historic region Greater Khorasan and played a vital role in the political and social history of western Asia.

Some scholars (e.g. Vogelsang 1992) have argued in favour of the coherence of archaeological evidence found in Greater Khorasan. In the east of Iran, only two archaeological sites had previously been excavated: Dahane-i Gholaman (Scerrato 1996) in Sistan to the south of Khorasan and Tappe Rivi (Jafari *et al.* 2016) in the north of Khorasan (Figure 1). In 2009, an almost circular adobe building with six towers was discovered and excavated in

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Figure 1. Map of sites mentioned in this article (figure by authors).

south Khorasan at Tappe Takhchar-Abad. It is located near Birjand and on the edge of a barren plain; no contemporaneous and related sites have been identified. Since then, there have been four excavation seasons. The distinctive plan of this building arguably belongs to the architectural tradition recognised more frequently on the eastern borders of Greater Khorasan.

## Takhchar Abad building

Tappe Takhchar-Abad (Figure 2A) is near Takhchar Abad village (Figure 2B: 1) and 18km north-east of Birjand. This hill is semi-conical with a base diameter of 42m and height of 4m. Surrounding the hill is a ditch about 11m wide; its water was supplied by a waterway north-east of the ditch (Figures 2 & 3).

By the end of the four seasons of excavations, the remains of an almost circular adobe and *pisé* (Chineh/pakhsa) building with a diameter of 18m and six solid towers and a maximum of 3m-high walls were revealed. This building had been entirely covered with sand. Furthermore, two soundings indicated that this building was filled in two phases (Figure 3).

The first sounding revealed a 1m-thick peat layer deposited on the building's floor; the subsequent layer had been deliberately filled to a height of nearly 2m with alternating layers of broken or intact brick, sand and stones. The evidence suggests that after the building was filled, some structures were built on top during the Parthian period. The second sounding on the north side, external to the building, revealed a small, rectangular adobe structure at the foot of the external wall of the building, measuring 2m × 0.5m × 0.2m. There are also cracks at the top of the external wall that are similar in form to an arrow slit; however, because of the building's height, it is unlikely the building ever had a military use so they were probably not arrow slits but might have functioned as ventilation holes (Figure 4).



*Figure 2. A) aerial view of location of Tappe Takhchar-Abad near Birjand. B) close-up of Tappe Takhchar-Abad: 1) the village; 2) the Tappe and ditch around it; 3) diversion dam (map from Google Earth; figure by authors).*

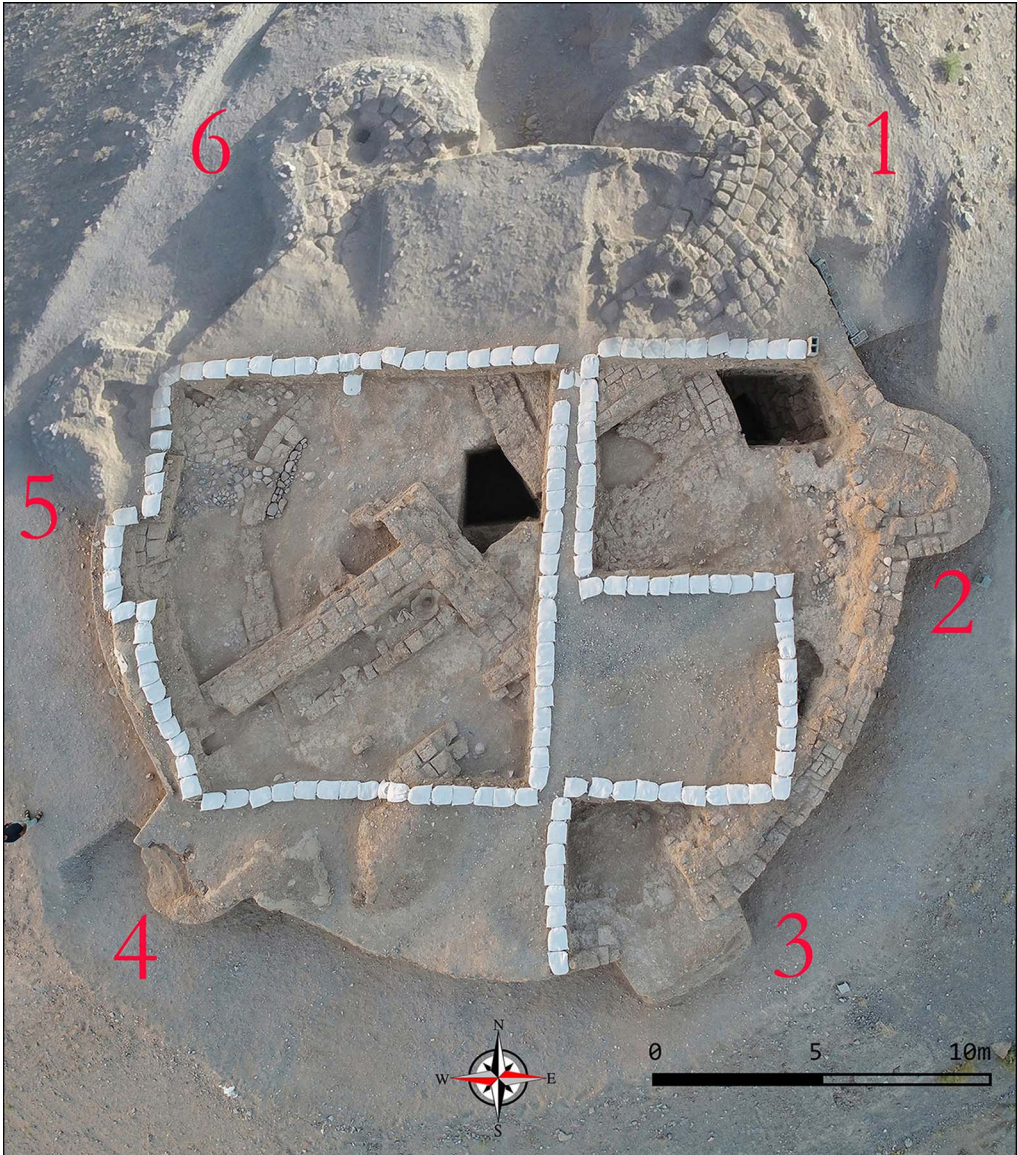


Figure 3. Aerial photograph of the end of the fourth season's excavations at Tappe Takhchar-Abad, Towers 1–6 (figure by authors).

## Cultural materials and dating

The pottery discovered at Takhchar Abad can be divided into two separate phases: the late Iron Age/Achaemenid period (seventh–sixth centuries BC) and the Parthian period (third–fourth centuries AD). The pottery from the first phase is of the same type as seen in most regions of the Achaemenid Empire. This observation leads the authors to believe that the pottery represents an uninterrupted sequence from the late Iron Age to the Achaemenid period.

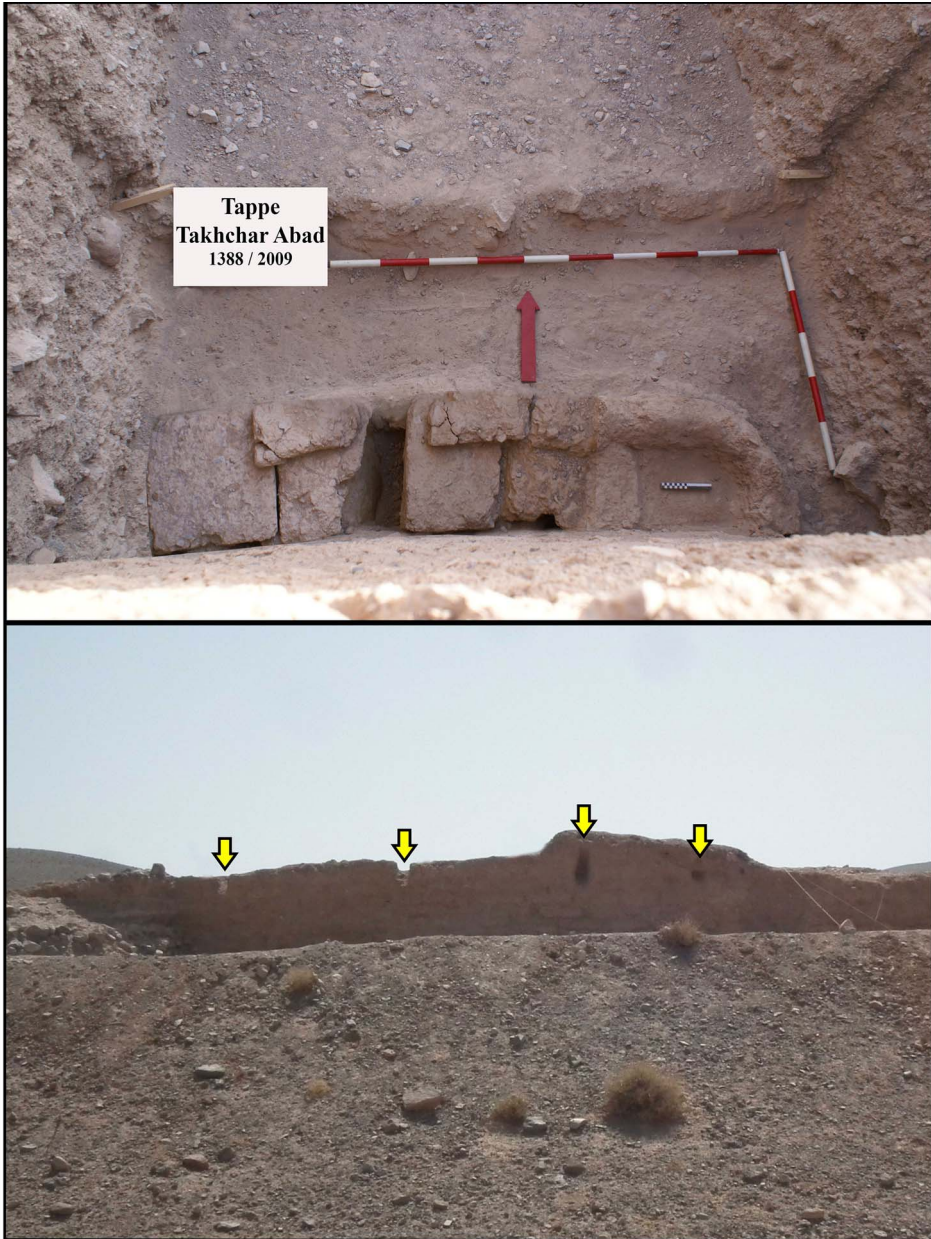


Figure 4. Top) small, rectangular adobe structure; below) building with slits (figure by authors).

Before Takhchar Abad was established, some architectural constructions were deliberately filled in the west of Iran—for example, Nush-i Jan (Stronach & Roaf 2007: 217), Ozbaki (Madjidzadeh 2010) and Zar Bolagh, which are generally dated to the Medes and Early Achaemenid periods (Malekzadeh *et al.* 2014) (seventh–sixth centuries BC).

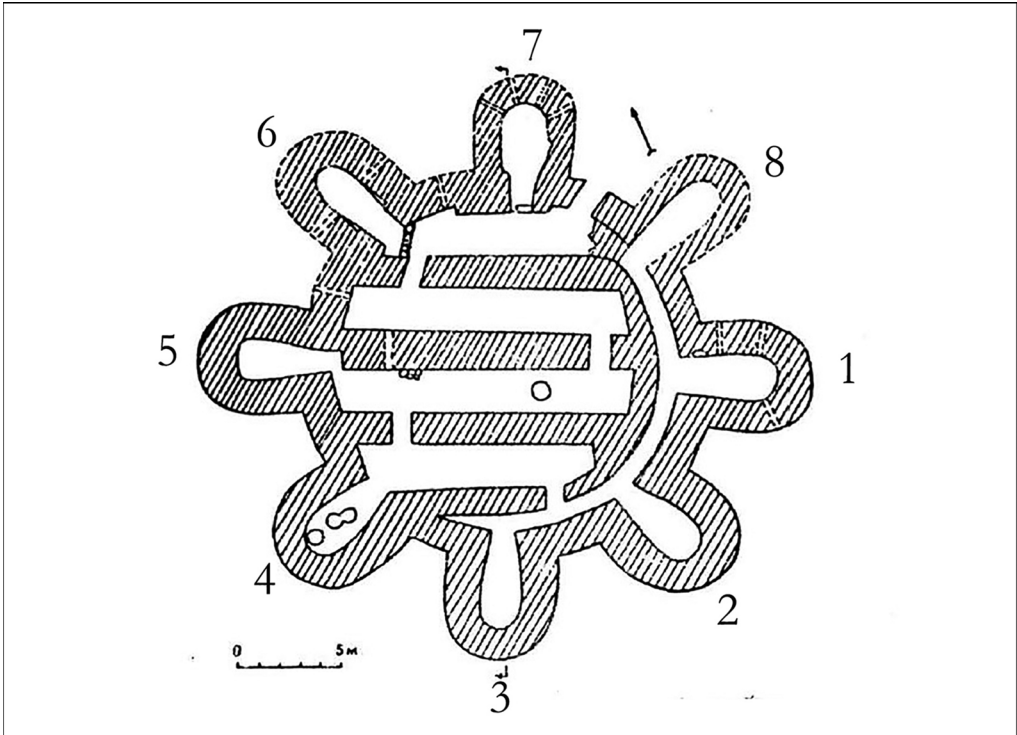


Figure 5. Sketch plan of Garry Kyariz I (figure by Pilipko 1984, fig. 1).

Traditionally, circular sites are attributed to the Parthian period (Ghirshman 1962: 34). Recent evidence suggests, however, that construction of these buildings began in Greater Khorasan during the Achaemenid period, initially in Bactria in the east of Greater Khorasan where about 10 such sites have been identified and excavated. Takhchar Abad is similar to Garry Kyariz I, located 67km north-west of Ashgabat in Turkmenistan. This building is circular with eight semi-oval towers (Figure 5), providing an occupation sequence from the Iron Age to the Achaemenid period (Pilipko 1984).

For the Takhchar Abad site, two types of absolute dating have been conducted. Some pottery samples from outside the building and under the rectangular adobe structure were subjected to

Table 1. Thermoluminescence dates on ceramic samples from Tappe Takhchar-Abad.

Sample	Date	Mean ( <a href="https://c14.arch.ox.ac.uk">https://c14.arch.ox.ac.uk</a> )	Relative chronology
TA-113	2420 ± 145BP	538 BC	Cyrus the Great
TA-114	2400 ± 164BP	510 BC	Darius the Great
TA-115	2470 ± 150BP	585 BC	Cyaxares
TA-116	2450 ± 155BP	564 BC	Astyages
TA-117	2450 ± 135BP	570 BC	Astyages
TA-119	2530 ± 160BP	644 BC	Phraortes
TA-120	2400 ± 135BP	521 BC	Darius the Great

Table 2. Radiocarbon date for Tappe Takhchar-Abad.

14C laboratory ID	Archaeological context	Sample material	Age		14C date	14C date	Mean (BC)	Cultural period
			(uncal BP)	Calibration curve	cal. BC (1sigma: 68.3% probability)	cal. BC (2sigma: 95.4% probability)		
Poz-135593	Takhchar Abad 2a, TT.I6-3012, Depth 270 cm	Animal bone (caprini radius)	2200 ± 30	OxCal v4.4.2	357–199	368–173	273	Seleucid

thermoluminescence dating in the Research Institute of Cultural Heritage and Tourism in Tehran (Table 1). The results demonstrate that the building was constructed in the sixth century BC.

One bone sample from the floor of the building was also subjected to AMS radiocarbon dating at the Poznan laboratory (Table 2). The result indicates that the floor dates to the Seleucid period and that the abandonment of the main building of Takhchar-Abad took place in the third or second centuries BC.

## Conclusion

The evidence of pottery, building plan and absolute dating indicate that the Takhchar Abad building was constructed in the late Iron Age/Achaemenid period. This building was abandoned c. 500–400 BC, until the Parthian period (second and third centuries AD) when it was reoccupied; finally, it was filled and covered during the third–fourth centuries AD.

The construction of circular buildings and sites is an architectural tradition of the late Iron Age/Achaemenid period in Greater Khorasan, apparently originating from Bactria where the majority of such sites are found. Takhchar Abad in Greater Khorasan (east of Iran) and Garry Kyariz I in the north-west of Greater Khorasan (south of Turkmenistan) are the westernmost examples of this architectural tradition.

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