

**Zeitschrift:** Pamphlet  
**Herausgeber:** Professur für Landschaftsarchitektur, Christophe Girot, ETH Zürich  
**Band:** - (2020)  
**Heft:** 24: Lost in paradise : a journey through the Persian landscape

**Artikel:** Tepe Silak : a repository of the prehistoric cultures of the Iranian central plateau  
**Autor:** Hoseinzadeh, Javad  
**DOI:** <https://doi.org/10.5169/seals-984694>

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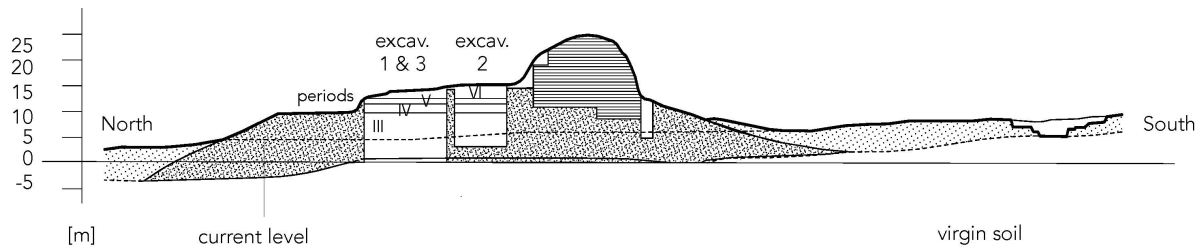
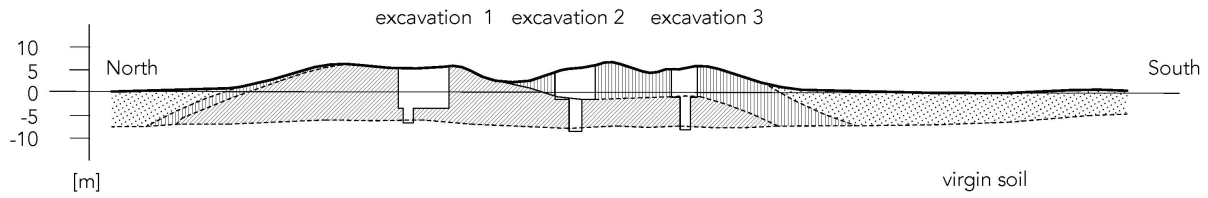
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


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-  Period 1
-  Period 2
-  Grande construction
-  Tepe Sialk
-  Alluvion

Sialk, north-south section of the hills

# TEPE SIALK: A REPOSITORY OF THE PREHISTORIC CULTURES OF THE IRANIAN CENTRAL PLATEAU

Javad Hoseinzadeh

## Environmental setting, history and chronology

Tepe Sialk is one of the oldest and longest-enduring settlements of the dry Iranian Central Plateau, today located in the suburb of the city of Kashan, about 200 kilometers to the south of Tehran. Situated between the northern edge of the tall Karkas mountain range and the expanse of the desert of the Central Plateau, the area enjoys temperate climates from early October to late May but suffers from high temperatures and dry climates from June to early September. This dual climate led to the formation of two separate occupational systems: one in the form of summer villages with gardens and small arable fields that enjoy surface water, springs and temperate climates, as in the cities Neyasar and Qamsar, and another in the shape of desert oases. Qanat irrigation systems provide sufficient water for the needs of the oasis settlements in the wet season, but nowadays they could not survive without water being delivered in tankers during the dry season.

Tepe Sialk is one of the long-lasting settlements in the Kashan plain that lies between the two different landscapes, although closer to the mountains. Sialk is composed of four components which include the North Mound (Small Sialk) and the South Mound (Bigger Sialk), which are 400 meters apart, as well as Cemeteries A and B, which are located in the southeastern and western side of the South Mound respectively.<sup>1</sup> In the fall of 1933, the archaeologist Roman Ghirshman was commissioned by the National Museum of France to conduct an investigation at the site with the permission of the Iranian government.<sup>2</sup> His team undertook three seasons of excavation in the years 1933, 1934 and 1937 and published their findings in two volumes in 1938 and 1939.<sup>3</sup> In 2001–6, after a long period of inactivity, Professor Sadegh Malek Shahmirzadi from the Iranian Center for Archaeological Research (ICAR) launched a new series of archaeological investigations as part of the “Sialk Reconsideration Project.” The most prominent achievement of the project was the carbon dating of the

1 Ghirshman, Roman: *Fouilles de Sialk*, vol. 1, Paris 1938.

2 *Ibid.*

3 Ghirshman, Roman: *Fouilles de Sialk*, vol. 2, Paris 1939.

different strata of the South Mound.<sup>4</sup> The last archaeological investigation at Sialk was conducted in 2007–8 by Professor Hassan Fazeli Nashli from the University of Tehran, which led to the carbon dating of the North Mound.<sup>5</sup>

Ghirshman originally divided the history of the North and South Mounds into six different cultural periods.<sup>6</sup> Period I (6000–5300 BC) and Period II (5300–4800 BC), which represent the oldest occupied phases, are identified with the North Mound. At the end of Period II, according to Ghirshman, Northern Sialk was abandoned for Southern Sialk:<sup>7</sup> due to the close similarities in the ceramics found in the upper layers of the North Mound and the lowest layers of the South Mound, Ghirshman believed that this transition was seamless, and involved the same people.<sup>8</sup> However, recent archaeological research indicates that at least five hundred years passed between the end of the settlement at the North Mound and the beginning habitation in the South Mound.<sup>9</sup> Whether this chronological gap is due to our limits of samplings for dating the sites or indicates a real abandonment of the site remains to be answered by further research. Ghirshman identified four cultural periods at the South Mound: Periods III–VI. Period III (4300–3400 BC) and IV (3400–2900 BC) represent how the site transformed from a simple village with a rural economy to a real urban center where socioeconomic relations extended over several hundred kilometers.<sup>10</sup> After Period IV, Sialk was abandoned totally and there were no inhabitants at Sialk from 3000 BC to 1600 BC. At this time new material culture appears in the upper layers of the South Mound and also in Cemetery A, which Ghirshman assigned to Period V (1400–1000 BC).<sup>11</sup> After this period, the occupation of the site continued with a significant new structure built

4 Shahmirzadi, Sadegh Malek: *Sialk: the Oldest Fortified Village of Iran. Sialk Reconsideration Project*, Tehran 2006 (in Persian).

5 Fazeli Nashli, Hassan: *Final Report of Two Seasons of Excavation at Sialk*, Tehran 2008 (in Persian).

6 Ghirshman (1938).

7 *Ibid.*, p. 38.

8 *Ibid.*, p. 79.

9 Nokandeh, Jebrael: *Neue Untersuchungen zur Sialk III-Periode im zentraliranischen Hochland: auf der Grundlage der Ergebnisse des "Sialk Reconsideration Project"*. Berlin 2010.

Pollard, Mark et al.: "A New Radiocarbon Chronology for the Late Neolithic to Iron Age in the Qazvin Plain, Iran". In: *International Journal of Humanities*, 19 (2012), pp. 1–41.

10 Helwing, Barbara: "Tracking the Proto-Elamite on the Central Iranian Plateau". In: Shahmirzadi, Sadegh Malek. *Potters of Sialk*, Tehran 2004, pp. 45–58.

11 Ghirshman (1939), pp. 20–22.

on the highest point of the South Mound. In addition to this construction, very fine buff-colored painted ceramics have been found in the top layers of the South Mound and also in Cemetery B, which Ghirshman assigned to Period VI (1000–800 BC).<sup>12</sup> After this period the site was abandoned forever, but human presence on the Kashan plain continued in other sites until modern times.

### The beginning of life at Tepe Sialk: The role of environment

The appearance of human populations as hunter-gatherer communities on the Iranian Central Plateau can be traced back to the middle Paleolithic.<sup>13</sup> The change from a dry and cold climate in the late Pleistocene to a warm and wet climate in the early Holocene has been considered as one of the main factors that drove mobile hunter-gatherers during the Upper Paleolithic in the Fertile Crescent to a more settled life. In turn, they became the first farmers in history.<sup>14</sup> While in some regions like central Zagros, the first human settlements appeared from 10,000–9,000 BC,<sup>15</sup> in the Central Iranian Plateau, the earliest human settlements are no older than 7,000 BC.<sup>16</sup> However, it is still unclear if the first settlers of Northern Sialk were indigenous hunter-gatherers who changed their way of life due to climatic changes, or if there were already farmers who settled the Central Plateau during the late seventh millennium BC. However, it is clear that the Kashan plain in that era enjoyed enough resources to support those newly settled societies with new possibilities for subsistence.<sup>17</sup> At this stage, according to paleo-climatic and paleo-geographic studies, the Kashan plain not only enjoyed a more humid climate than today, but

<sup>12</sup> Ibid., p. 73.

<sup>13</sup> Biglari, Freidon: "The preliminary Survey of Paleolithic Site in the Kashan region". In: Shahmirzadi, Sadegh Malek. *The Silversmiths of Sialk*, Tehran 2003, pp. 151–168 (in Persian).

<sup>14</sup> Darabi, Hojat: *An Introduction to the Neolithic Revolution of the Central Zagros, Iran*, BAR International Series 2746, Oxford 2015.

<sup>15</sup> Ibid.

Matthews, Roger et al.: *The Earliest Neolithic of Iran: 2008 Excavations at Tappeh Sheikh-e Abad and Tappeh Jani*, Central Zagros Archaeological

Project, Oxford 2013.

<sup>16</sup> Roustaei, Kouroush et al.: "Tappeh Sang-e Chakhmaq and the Beginning of the Neolithic Period in North-east Iran". In: *Antiquity*, 89 (2015), no. 345, pp. 573–595.

<sup>17</sup> Kourampas, Nikos: "Sediments, Soils and Livelihood in a Late Neolithic Village on the Iranian Plateau: Tepe Sialk". In: Matthews, Roger; Fazeli Nashali, Hassan. *The Neolithization of Iran: The Formation of New Societies*, Oxford and Oakville 2013, pp. 189–200.

was also endowed with many travertine springs. A few of them, like the Salamon spring which supplies the Fin Garden in Kashan and the Kaftar Khoun spring are still active today and attract many species of fauna and flora.<sup>18</sup> Hence it seems that the synergy of different environmental factors, including a more temperate climate, the presence of rich travertine springs and the flourishing of local plants as well as animal species in the early Holocene led human communities to settle more permanently than ever before.

Archaeo-zoological and archaeo-botanical analyses as well as recent geo-archaeological and geomorphological studies of the earliest layers of the North Mound show that the subsistence of the first inhabitants mostly relied on farming and herding, although their older traditions of hunting and gathering of wild animals and plants were still at work.<sup>19</sup> There is reliable evidence of the use of irrigating systems (i.e. shallow channels) for farming in Period II in other sites in the Central Plateau<sup>20</sup> and of the presence of ostracods, small fresh water crustaceans, in the early deposits in the periphery of the North Mound, which could be interpreted as indirect evidence of irrigation of the fields by rudimentary canal systems.<sup>21</sup>

After this initial stage of settlement at Sialk, the newly formed society followed a natural course of a village-based economy (i.e. “mixed farming”). But a gradually growing population forced the inhabitants of Northern Sialk to rearrange their surrounding landscape. At this stage, around 5000 BC, they intensified their use of the land in the immediate periphery of Sialk, building more sophisticated irrigation systems, using manure to fertilize their fields and plowing them deeper through the harnessing of animal power.<sup>22</sup> This new mixed farming seems to have worked well for the inhabitants of the now four-hectare-large village of Sialk in Period II. But by around 4700 BC, life at the North Mound eventually came to an end after nearly 1300

**18** Berberian, Manuel et al.: “Archeoseismicity and Environmental Crises at the Sialk Mounds, Central Iranian Plateau, since the Early Neolithic”. In: *Journal of Archaeological Sciences*, 39 (2012), pp. 2845–2858.

**19** Ibid.

Kourampas et al. (2013).

**20** Gillmore, Gavin K. et al.: “Irrigation of the Tehran Plain, Iran: Tepe Pardis – The site of a possible Neolithic Irrigation Feature?” In: *Catena*, 78 (2009), pp. 285–300.

**21** Kourampas et al. (2013).

**22** Ibid.

years of continuous occupation. After an estimated gap of three to five centuries, life continued once more at the newly formed settlement in South Sialk.

#### From north to south: The transformation of society

There is some evidence that correlates the abandonment of North Sialk and the beginning of settlement in South Sialk with different environmental factors like climatic deterioration<sup>23</sup> and the occurrence of earthquakes.<sup>24</sup> Whatever the causes for this translocation, people at the new settlement on the South Mound developed more advanced technology, such as the invention and use of molded mudbricks, buttresses for the consolidation of houses walls, the pottery wheel, stamp seals and the extraction and production of extensive amount of copper and silver throughout Period III (4300–3400 BC).<sup>25</sup>

Sialk's close proximity to one of the richest copper ore deposits on the Iranian Plateau played an important role for its development as an urban center in the Iranian highlands in the fourth millennium BC.<sup>26</sup> Unlike in southern Mesopotamia where large-scale farming through artificial irrigation systems eventually led to the formation of early urban centers,<sup>27</sup> the societies in the Iranian highlands took another path to urbanization. Here, the process of procurement, extraction and production of different materials enabled the formation of the first complex urban societies.<sup>28</sup> The presence of stamp seals and seal impressions, the long-distance trade of precious and semiprecious stones (like lapis lazuli, agate and turquoise) and evidence of the division of labor and craft specialization, especially in metallurgical activities, all imply that the inhabitants of Sialk took one of the most fundamental steps forward in human history in the first half of the

**23** Ibid.

**24** Berberian et al. (2012).

**25** Ghirshman (1938), p. 53.  
Berberian et al. (2012).

**26** Algaze, Guillermo: *The Uruk World System. The Dynamics of Expansion of Early Mesopotamian Civilization*, Chicago 2005.

Nezafati, Nima: "Evidence on the Ancient Mining and Metallurgy at Tappeh Sialk (Central Iran)".

In: Yalcin, Unal et al.: *Ancient Mining in Turkey and the Eastern Mediterranean*, Ankara 2008, pp. 329–349.

**27** Matthews, Roger; Fazeli Nashali, Hassan: "Copper and Complexity: Iran and Mesopotamia in the Fourth Millennium B.C." In: *Iran*, 42 (2004), pp. 61–75.

**28** Ibid.

fourth millennium BC, as early as other forerunners of civilization. The archaeological evidence attests to a gradual and indigenous socio-economical evolution of the Sialk society throughout Period III. Some recently discovered cultural material connects the Sialk area at the end of this period to the Susiana plain in southwestern Iran and to Mesopotamia.<sup>29</sup> Due to the appearance of this new archaeological material, which represents new stages of socio-cultural evolution, archaeologists assign it to a new cultural horizon called Sialk Period IV that lasted from 3400 to 2900 BC.

#### Crisis at the dawn of civilization

Period IV at Sialk is characterized by innovations like Proto-Elamite (numerical and numero-ideographic) tablets, cylindrical seals, new architectural layouts and ceramic vessels with new forms and styles that Ghirshman called Uruk-related materials.<sup>30</sup> He assigned these changes to newcomers who brutally defeated the locals and replaced them, but the reassessment of old excavations and new archaeological research at Sialk<sup>31</sup> indicates that there is clear evidence of continuity in the material culture from Periods III to IV. Hence it seems that relations between the highlands of Iran, the Susiana Plain and the Mesopotamian lowlands, which started in at least the early fourth millennium BC, had been reinforced over the following centuries through direct and indirect trade.<sup>32</sup>

Apart from the chronological gap between the inhabitation of the North and South Mounds, the process of socio-cultural evolution at Sialk began around 6000 BC and continued gradually but came to an end in the late fourth millennium BC. At this crucial moment of human history, life at Sialk and many other long-occupied sites of the Central Plateau in Iran came to a halt. The settlements in Kashan, Qom, Tehran and Qazvin were also abandoned, disputably due to either cultural or natural factors. The settlements in Kashan, Qom, Tehran and Qazvin were also abandoned, disputably due to either cultural or

<sup>29</sup> Ghirshman (1938), p. 58.

<sup>30</sup> *Ibid.*, pp. 82–84.

<sup>31</sup> Helwing (2004).

<sup>32</sup> *Ibid.*



natural factors.<sup>33</sup> It seems that the role of climate and landscape is undeniable: According to recent paleo-climatic studies around the Central Plateau of Iran, a clear shift from the wetter early Holocene to the drier mid-Holocene climate can be discerned. This process began in the mid- to late fourth millennium BC due to the southward shift of the Intertropical Convergence Zone and the weakening of the Indian monsoon.<sup>34</sup> It seems that the process is to some extent correlated with the socio-cultural instability of southwest Asian societies in the late fourth millennium BC. As a result of the combined natural and cultural factors in this crisis on the Iranian Central Plateau, the socioeconomic and cultural traditions of Sialk, which had lasted for more than three thousand years, had disappeared by the end of fourth millennium BC.

Almost fourteen centuries later, Sialk was reoccupied in the middle of the second millennium BC. However, archaeological evidence shows that these new people did not follow the long cultural tradition of Sialk's Periods I–IV, but belonged to a completely different cultural tradition.<sup>35</sup> The most prominent cultural material of this period was the introduction of grayware pottery, which according to some archaeologists, is rooted in northeastern Iran.<sup>36</sup> This group, which did not leave much in the way of architectural remains on the site itself, had one of the most unknown prehistoric cultures in the Central Plateau of Iran. The subsistence economy, social organization and political structure of this culture remain largely unknown, partly because most artifacts come from cemeteries, not from well-established settlements. At the end of Periods V and VI, around 1000–800 BC (the exact date of the building is still in dispute), a massive mud-brick building, 70 × 70 × 14 meters large, was erected in the center of the site. Despite recent research efforts, there is much we are yet to understand about the nature of the society that built this structure.

**33** Ibid.

Alden, John R.: "Trade and Politics in Proto-Elamite Iran". In: *Current Anthropology*, 23 (1982), no. 6, pp. 613–640.

Jones, Matthew et al.: "Mid-Holocene Environmental and Climatic Change in Iran". In: Petrie, Cameron: *Ancient Iran and Its Neighbor*, Oxford/Oakville 2013, pp. 26–35.

**34** Ibid.

**35** Ghirshman (1939).

**36** Young, Cuyler: "The Iranian migration into the Zagros". In: *Iran*, 5 (1967), pp. 11–34.

Mousavi, Ali: "Late Bronze Age in North-Eastern Iran: an Alternative Approach to Persisting Problems". In: *Iran*, 46 (2008), pp. 105–120.

### Sialk as a cultural repository

The long history of Sialk not only represents an invaluable repository for the prehistory of human societies in the Central Plateau of Iran, it also reminds us of the important role of the environment and landscape in shaping the socioeconomic nature of human societies. Here in Kashan, the presence of different natural resources, especially mines for ores, enabled late prehistoric societies to reach new peaks of human civilization. At the same time, Kashan's severe climate and seismic activity made it prone to natural catastrophes. Hence the story of Sialk tells us that the destiny of any given society over its history can never escape the influence of its natural setting.

