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Research Article

Excavations at the So-called Anahita Temple Complex in Kangavar (Phase I) (The Fifth Archaeological Mission)

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کاوش در مجموعه موسوم به معبد آناهیتا در کنگاور (فاز نخست) (پنجمین هیئت باستان‌شناسی)

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Abstract: Archaeological excavations of the 2024 season at the so-called Anahita Temple complex in Kangavar were initiated after a hiatus of more than two decades. The primary objectives included resuming field research, clarifying functional and chronological ambiguities of the structure, and establishing conservation management. This season employed an integrated approach, combining extensive excavations in two main trenches with geophysical imaging (Geomagnetometry). Key findings from this season underscore the complexity and multilayered occupational sequence of the site. In Trench 1, excavated based on geophysical anomalies, a complex of seven architectural spaces belonging to the contemporary period (likely Pahlavi) was unearthed. The presence of six clay ovens (tannurs), architectural evidence, and cultural finds indicate that this complex served as an industrial workshop—most likely for baking local bread or cookies—rather than a residential unit. In Trench 2, located at the summit of the site, a complex stratigraphy was revealed, comprising at least two distinct phases: an earlier phase consisting of a massive stone platform and stone walls (Parthian-Sassanian?), and a later phase characterized by residential mud-brick architecture with gypsum plaster (late Qajar to Pahlavi), featuring a central hearth built atop the ancient remains. These findings reveal at least three independent architectural phases in the upper section of the site. Overall, the 2024 excavations demonstrated that the so-called Anahita Temple complex was repurposed for residential and industrial functions during the Islamic and contemporary periods. Consequently, the site transitioned from an ancient monument (either a temple or a royal pavilion) into a domestic settlement and small-scale industrial workshops.

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1. Introduction

The structure known as the Anahita Temple in Kangavar is one of the most prominent archaeological sites in western Iran and among the largest stone structures recognized from Iran's historical periods. This massive complex, situated on a natural platform in the heart of the modern city of Kangavar, has consistently been a focal point for researchers, archaeologists, and travelers. Ancient historical descriptions, the interpretations of European scholars, and scientific excavations over the past decades have each revealed a portion of the historical narrative of this

site. Nevertheless, many aspects of its architecture, occupational layers, and functional nature remain shrouded in ambiguity.

After more than two decades since the last archaeological season at this site, a new phase of field research commenced on July 29, 2024, under the supervision of Mostafa Dehpahlavan. Broadly, the recent excavation was initiated with a multifaceted approach—incorporating a review of previous research, collection of archival documents, documentation, research, restoration, and site management—to clarify existing ambiguities and establish a framework for the preventive conservation of this precious heritage.

2. Geographical Location and Anatomy of the So-called Anahita Temple

The analysis of the physical characteristics of the structure known as the Anahita Temple in Kangavar, within a theoretical framework based on the mutual interaction between humans and the environment, transcends mere description and indicates a strategic and conscious choice by its builders (Thompson, 2014: 247). This site selection was not accidental and must be examined as a product of the interaction between culture and the regional geographical context (landscape) (Heilen, 2005: 30).

2.1. Geographical Location and Spatial Dominance

Geographically, the Kangavar monument is situated on the western side of the Kangavar plain and is strategically positioned on the northeastern slope of the Chel-Maran rocky heights. In addition to dominating the fertile plain, the site is located along a historical road that connected Hamadan to Kermanshah. The positioning and site selection at this elevated point indicate a conscious objective to exert control (both physical and symbolic) over vital communication routes and the surrounding agricultural plain

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2.2. Physical Structure and Principles of Platform (Suffah) Construction

The main structure is built upon a natural schist hill. The builders utilized this natural hill as the primary foundation for the massive platform (*suffah*). This action demonstrates the direct and conscious exploitation of natural phenomena for structural purposes, which is a core approach in geoarchaeology (Campbell et al., 2011). The platform measures approximately 230 x 220 meters, with its height reaching about 32 meters relative to the surrounding land. This significant elevation enhances the visual dominance of the structure over the surrounding landscape and highlights its aspect of power display. The platform walls are constructed from rubble stones with gypsum mortar, while the exterior facade is covered with carved stones, reinforced using dry-stone masonry techniques often strengthened with iron clamps. This scale and technique represent a technological choice to achieve both stability and grandeur (Pope, 1986: 58).

2.3. Architectural Structure and Internal Spatial Organization

Alongside the massive dimensions of the platform, detailed technical documentation of the colonnades provides key data for understanding the likely internal spatial organization. This spatial organization was itself a manifestation of the prevailing power or ritual system governing the structure. Architectural evidence shows that the builders employed sophisticated techniques to define the interior space and reinforce the corners of the building. This is evident through the placement of semi-columns opposite rows of free-standing columns at corners such as the northwest, southwest, and southeast. Specifically, at the southwest corner, two semi-columns are joined to a rectangular block, with their bases and capitals matching the full columns (Azarnoush, 1981: 80). The discovered columns are short, thick, and simple, placed at an axial distance of 475 cm from each other (Kambakhshfard, 1995: 56). Arthur Pope also believed that the only similarity of the building to Persian architecture lay in the massive dimensions of the platform and the stones used (Pope, 1986: 58). Within the framework of political ecology, this scaling served not only a

purely architectural function but was a symbolic expression to establish social and political hierarchies through space (Robbins, 2012: 14; Hauser, 2017: 201).

3. Research History and Archaeological Excavations at the Site

Unlike other studies focusing on environmental factors, research conducted on the Kangavar monument has predominantly concentrated on architectural aspects and the analysis of historical texts. This focus has led to a long-standing debate regarding the building's function, resulting in two distinct conclusions: the "Anahita Temple" (based on Hellenistic/Parthian styles) and the "Unfinished Sassanian Palace" (citing Ibn Khordadbeh and Sassanian architectural styles). The synthesis of these debates indicates that both groups analyzed the building as an isolated phenomenon, detached from its environmental context, and failed to address the fundamental question: Why was this massive structure established precisely atop a rocky ridge overlooking the plain, water resources, and the main road? Nevertheless, the research history of the Kangavar monument can be categorized into four main areas:

3.1. Textual and Historical Accounts

Investigation into the nature of the massive Kangavar structure began in the early centuries AD and has witnessed various narratives influenced by cultural and political changes over time. The first set of information comes from classical texts; Isidor of Charax, in the 1st century AD, mentions a "Temple of Artemis" in Concobar (Kangavar) or its vicinity (Isidor of Charax, 1914: 3). This account, the earliest written reference to the building, suggests a religious function from the outset, as Artemis was often equated with the Persian goddess Anahita in Hellenistic culture.

This initial context underwent transformation during the Islamic period, with the structure appearing under new names and different functions in the works of geographers and historians. For instance, in the 3rd century AH, Ibn Khordadbeh refers to it as "Qasr al-Lusus" (The Palace of Thieves), describing it merely as a prominent landmark on vital regional communication routes (Ibn Khordadbeh, 1991: 20). This shift from "Temple" to "Palace" likely stems from the building's massive, palace-like appearance to Islamic geographers or its potential change in function during later periods. Confirming this palatial nature, Ibn Rustah, in the same century, identifies it specifically as the "Palace and Iwan of Khosrow," describing it—contrary to the image of massive stone structures—as being built of gypsum and brick with internal chambers (Ibn Rustah, 1986: 196). Simultaneously, Ibn al-Faqih, while emphasizing the existence of monumental columns and doors, considers the building one of the wonders of the world (Ibn al-Faqih, 1970: 34), attesting to its unparalleled scale and grandeur. Tabari (303 AH) also mentions "Qasr al-Lusus" and recounts the theft of Muslim livestock to explain the origin of the name (Tabari, 1970).

In subsequent centuries, the identity of the building remained shrouded in ambiguity between royal and ritual use. Abu Dulaf (341 AH) describes the building as situated on a brick terrace, attributes it to Khosrow Parviz, and reports the presence of gardens, pavilions, and underground cellars (Abu Dulaf, 1963: 65-66). This account reinforces a recreational and residential function. Conversely, Muqaddasi (375 AH) explicitly mentions the marvelous stone architecture and its columns (Al-Muqaddasi, 1982:1:587), while Ibn Hawqal (377 AH) merely mentions a *minbar* (likely a mosque) at this famous location (Ibn Hawqal, 1987: 102).

This dual description reached its peak between the 6th and 8th centuries AH. Tusi (556 AH) acknowledges the grandeur of the monument, emphasizing its massive stone materials, magnificent pillars, and Turkestani carvings (Tusi, 1966: 259-297). These descriptions align with the account of Yaqut al-Hamawi (623 AH), who describes the building as made of large stones and serving as a shelter and resort for Parviz (Hamawi, 1965: 147). Finally, Zakariya ibn Muhammad ibn Mahmud al-Qazwini (674 AH) and Hamdallah Mustawfi al-Qazwini (740 AH) confirm its function as a palace and fortress, stressing its attribution to Khosrow Parviz and the use of hard stone and monumental columns. Notably, the name "Qasr al-Lusus" is absent from Zakariya al-Qazwini's account (Al-Qazwini, 1987: 216; Mustawfi al-Qazwini, 1983: 208).

The synthesis of these historical accounts reveals a fundamental contradiction regarding the nature of the building, stemming from three main factors:

1. **Contradiction in Function:** The classical narrative (Charax) emphasizes a religious function (Artemis/Anahita Temple), while the majority of Islamic texts (Ibn Rustah, Abu Dulaf, Hamawi, Qazwini) focus on a royal and residential function (Palace of Khosrow Parviz).
2. **Contradiction in Materials:** While Ibn Rustah mentions gypsum and brick as the primary materials, most subsequent historians (Muqaddasi, Tusi, Hamawi, Qazwini, Mustawfi) emphasize the use of hard stone and massive columns. This difference likely results from chronological changes or descriptions of different sections (e.g., brick core vs. stone decoration).
3. **Change of Name:** The transition from "Temple of Artemis" to "Qasr al-Lusus" in the Islamic period indicates a shift in perspective or function from a sacred site to a symbol of power and impressive architecture.

In summary, while early evidence points to a ritual function, the monument's reputation in the Islamic period is tied to its architectural grandeur, Sassanian attribution, and palace-like performance. This conflict in narratives provides the primary context for archaeological research to uncover the true identity of the Kangavar monument through material evidence.

3.2. Travelogues and Observations of Western Travelers

Parallel to the Islamic period and subsequently from the 17th to the 20th centuries, the primary sources for understanding the Kangavar monument shifted from Arabic texts to the travelogues and reports of European travelers. Although these observations were largely descriptive and lacked modern scientific analytical methodology, they provided the Western world with an objective depiction of the monument's physical state, the extent of its ruins, and initial architectural interpretations before the advent of systematic archaeological excavations. These reports acted as a bridge between historical narratives and modern research.

Many of these travelers, impressed by the grandeur of the stone platform and the remaining rows of monumental columns, perceived the building as akin to Greek temples and considered it a work aligned with the Classical style. These interpretations, likely rooted in classical accounts such as Isidore of Charax's report of a "Temple of Artemis," led many to propose a ritual function for the site. For instance, Eugene Flandin, in his report describing the city of Kangavar and his observations of the marble monument, identified it as the "Temple of Diana," citing Charax and analyzing the column dimensions (Fig. 1). He believed that the solid stone foundation of this ancient structure provided an ideal site for new constructions and the establishment of the small town of Kangavar (Flandin & Coste, 1851: 407-413).

This Classicist perspective was echoed in the observations of other travelers; Jackson decisively identified the site as the Temple of Anahita, asserting that its architectural style was entirely Hellenistic and associated it with the Achaemenid period (Jackson, 1973: 281). Such dating and attributions reflect the dominance of Classical viewpoints in Orientalist studies of that era. Supporting the religious function, Henry Binder also introduced Kangavar as the Temple of Diana, while simultaneously noting the role of human factors in the monument's destruction and the reuse of its materials in village buildings around the platform (*suffah*) (Binder, 1991: 427). This provides crucial information regarding the site's site formation processes and its later condition.

During the same period, some reports continued to focus on the attribution of the building to Persian kings and its non-religious function. For example, Naser al-Din Shah Qajar, in his travelogue, refers to the site as "Qasr al-Lusus," reporting it as a massive structure where stone and gypsum remains were still visible and local people were selling portions of its materials (Naser al-Din Shah, 1993: 37). However, even descriptions emphasizing a religious function varied in their dating; Hugo Grothe identified it as a temple, dating it to either the Achaemenid or Parthian periods, while highlighting features such as the columns, gates, and the sheer scale of the structure (Grothe, 1990: 149–150).

Although these travelers' reports are subjective, they hold significant importance in the research history for two reasons:

- **Late Physical State:** These descriptions provide a visual record of the ruined state of the monument prior to modern restorations and excavations, showing that destruction continued into the 19th century and that local inhabitants utilized its materials.
- **Consolidation of the "Temple Hypothesis":** Influenced by classical texts, these travelers solidified the hypothesis of a ritual and religious function (Temple of Anahita/Diana) in European Orientalist circles, effectively introducing the narrative duality (Temple vs. Palace) into the field of archaeological studies.

In summary, travelogues laid the groundwork for the first Orientalist studies on Kangavar and drew the attention of European scholars to the building's unique architecture, eventually leading to the commencement of scientific excavations in the 20th century.

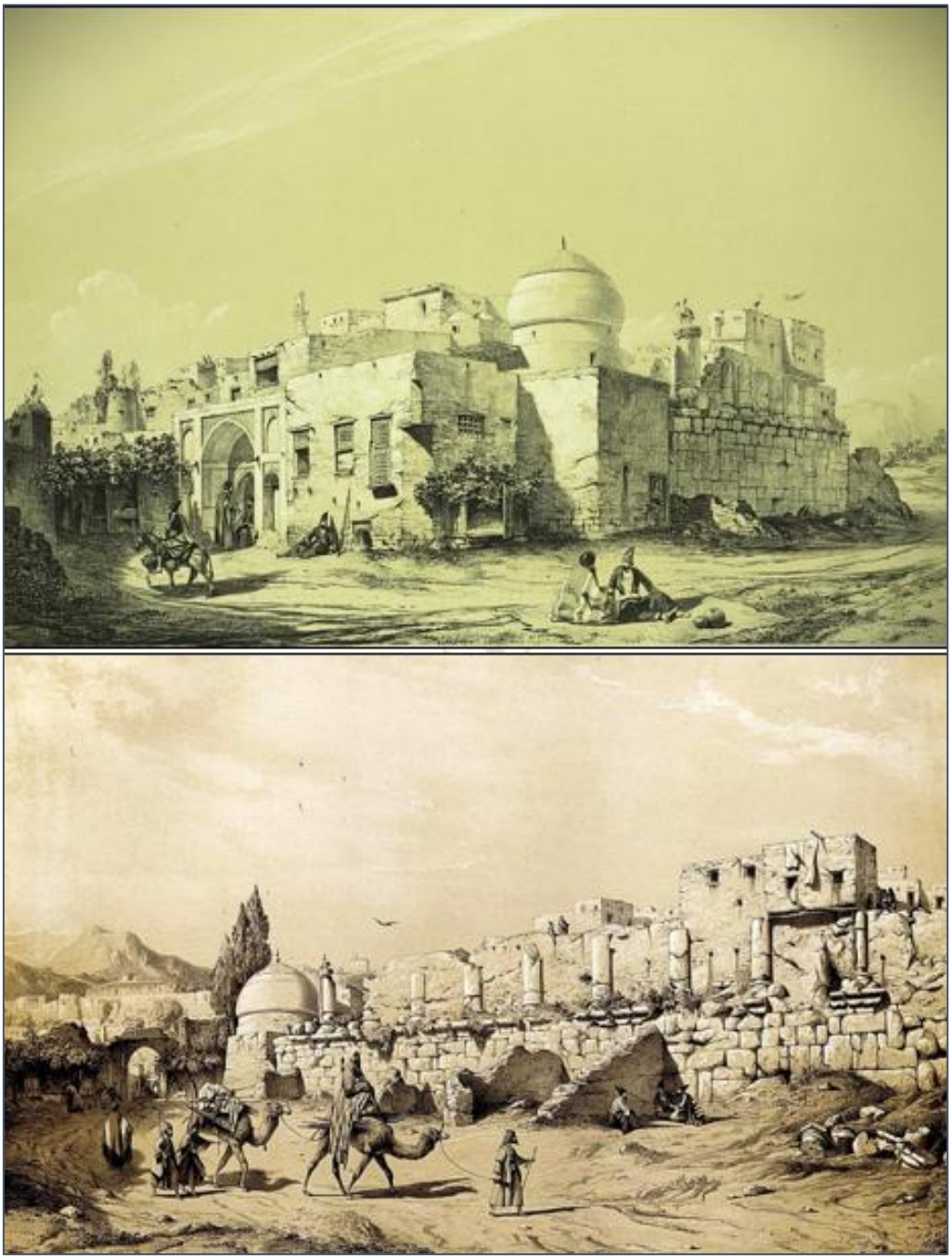


Figure 1. A drawing of the remains of the Anahita Temple, Imamzadeh Ibrahim, and the residential and governmental houses of Kangavar city during the Qajar period (Flandin & Coste, 1851: Pl. LXXII-LXXII).

3.3. Archaeologists, Orientalists, and Iranologists in the 20th Century

In the 20th century, as scientific studies expanded and moved beyond the mere observations of travelogue writers, deeper analyses regarding the function and dating of the Kangavar monument emerged. This period witnessed a significant intellectual duality among scholars, primarily centered on two axes: an emphasis on Hellenistic (Greek) influences versus an Iranian-Parthian/Sassanian origin for the structure.

A major group of researchers, relying on classical reports and architectural typology, decisively identified the building as the Anahita Temple, influenced by Greek art. Among them, Ernst Herzfeld, based on the accounts of Isidore of Charax and his own stylistic analyses, declared the building the Anahita Temple and evaluated its architecture as being heavily influenced by Greek art (Herzfeld, 1975: 94–95). Louis Vanden Berghe reinforced this view by analyzing architectural details; he described the column capitals as Doric with supports resembling "Corinthian cushions," viewing them as evidence of the Hellenistic origin of certain architectural elements (Vanden Berghe, 1966: 107). Arthur Upham Pope brought this Classicist perspective to its peak, identifying the building entirely as a Greek-style temple dedicated to Anahita, dating it to approximately 200 BC (Parthian period). He considered the massive dimensions of the platform (*suffah*) to be the only Iranian characteristic of the structure (Pope, 1986: 58). Furthermore, scholars such as Ghirshman (1976: 273–274), Colledge (1978: 110–111), and deMorgan (1952: 139) each referred to the monument's grandeur, its Western layout, and its architectural similarity to the Greco-Hellenistic style, assessing it as the Anahita Temple or a Western-style sanctuary belonging to the Parthian period.

In contrast to this trend, another group of Orientalists and Iranologists sought an Iranian-Parthian or Sassanian origin for the building. These researchers attempted to interpret the structure within the framework of indigenous Iranian architecture and non-ritual functions. Sarfraz, combining architectural evidence, pointed to the existence of a rectangular courtyard, high walls, and rows of columns, evaluating the building within the Parthian-Sassanian architectural framework (Sarfraz, 1994: 318). This view was supported by Pirnia, who emphasized the Iranian roots of the structure (Pirnia, 2004: 105). This perspective regarded the monument not as a purely Hellenistic temple but as an Iranian structure with limited Greek influence, which may have served royal, governmental, or multi-purpose functions. Meanwhile, some researchers like Porada, faced with this conflict, limited themselves to describing the massive building and its ashlar stone materials, refraining from definitive comments on its function (Porada, 1995: 257).

The synthesis of 20th-century viewpoints indicates that academic analyses generally formed two opposing intellectual poles: 1) interpreting the structure as the Anahita Temple with an emphasis on Hellenistic (Greco-Parthian) influences, and 2) explaining the building as an Iranian structure (Parthian-Sassanian) with non-religious or multi-purpose functions. This theoretical confrontation, rooted in the duality of historical narratives (Temple vs. Palace), doubled the importance of conducting serious scientific excavations; only material evidence from excavations could provide precise and reliable information regarding the chronological sequence of construction, internal architectural details, and ultimately, the final function of this massive complex (Fig. 2, Fig. 3, Fig. 4).

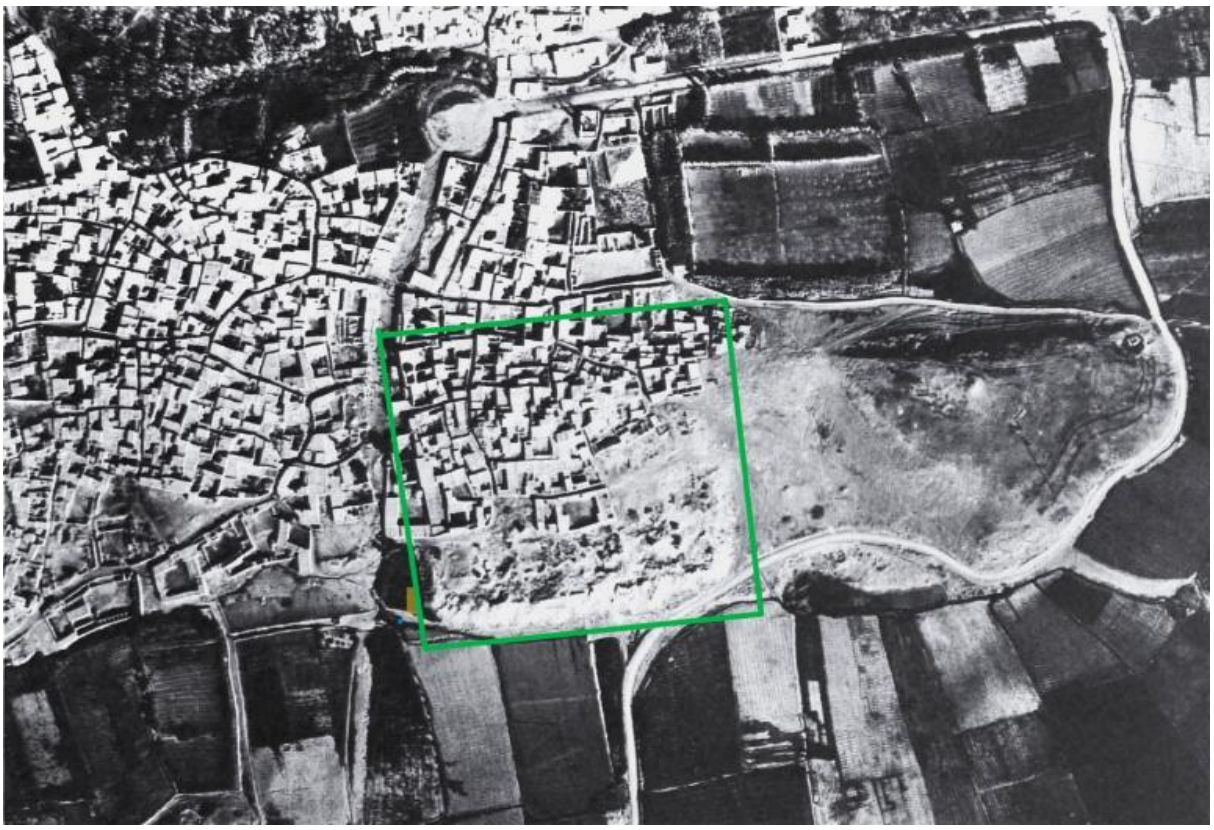


Figure 2. The Appearance of the Anahita Temple in the Mid-Twentieth Century (the 1330s SH) (Schmidt, 1940: Pl. 104.B).



Figure 3. Aerial photograph of the Anahita Temple in 1967, prior to archaeological excavations and showing the urban development of Kangavar compared to 1956 (the 1330s SH) (National Cartographic Center of Iran).



Figure 4. Aerial view of the complex known as the Anahita Temple of Kangavar, 1994, following the demolition of Qajar–Pahlavi houses and the excavation trenches established by Saifollah Kambakhshfard and Masoud Azarnoush.

3.4. Archaeological Excavations and Perspectives

With the onset of systematic archaeological excavations in the 20th century, researchers began to rely directly on material evidence from stratigraphy and architecture rather than textual accounts. However, the initial results did not resolve the existing contradictions; instead, they reinforced them at a scientific level, dividing archaeologists into two primary intellectual camps:

- **Proponents of Ritual Function: The Anahita Temple (Hellenistic/Parthian Period):** This group, relying on the building's presumed antiquity and stylistic similarities to classical architecture, favored its identification as the Anahita Temple. The most prominent advocate of this theory was Seifollah Kambakhsh Fard. Based on his excavations from 1968 to 1976, he attributed the first construction phase to the 5th century BC (Achaemenid period) and identified it as the Anahita Temple, which remained active until the end of the Sassanian period (Kambakhshfard, 1995). This view emphasizes a long-term occupational sequence and the religious role of the structure, aligning with the perspectives of classicist Orientalists.
- **Proponents of Non-Ritual Function: The Unfinished Palace (Sassanian Period)**: In contrast, another group of archaeologists interpreted the structure within the framework of Sassanian architecture and function based on new stratigraphic evidence. The most significant research in this area was conducted by Masoud Azarnoush (1977–1978). Rejecting the temple theory, he attributed the structure to the Sassanian period, specifically as an unfinished palace belonging to Khosrow II (Khosrow Parviz) (Azarnoush, 1981; 2009). This perspective, which resonates more closely with Islamic historical accounts of the "Palace of Khosrow," emphasized the structural inadequacy of the building for ritual use.

Furthermore, the findings of Ahmad Kabiri and Mohammad Mehryar (1988–2001)—specifically the discovery of a brick fragment beneath the stone platform (*suffah*)—provided a thermoluminescence dating of 1570 ± 40 years (roughly Sassanian period), further confirming the later date and Sassanian attribution (Mehryar & Kabiri, 2004: 115). Prior to this, Ali Akbar Sarfraz also referred to the site as the "Kangavar Palace." He described it as consisting of a rectangular courtyard with a high Greek-style wall, emphasizing that even if Greek stylistic elements were present, the primary structure and function remained within the framework of Iranian palatial architecture (Sarfaraz, 1994: 318). Analyses from the 20th century institutionalized the conflict between the Hellenistic/Parthian temple and the Sassanian palace. While proponents of the temple theory emphasized Greek influence and a more ancient origin (Achaemenid to Parthian), opponents—relying on stratigraphic evidence and thermoluminescence dating—attributed the monument to the Sassanian period with a non-ritual function (the unfinished palace of Khosrow Parviz). This discrepancy in dating (a gap of over 600 years) and function (religious vs. royal) indicates that the true nature of the Kangavar monument still requires more precise research using modern excavation and analytical methods to reach a definitive conclusion.

4. Ambiguities and the Necessity of Resuming Archaeological Excavations

The extensive body of historical narratives and archaeological analyses from the 20th century, along with the collective evidence presented, has failed to provide a definitive answer to the fundamental questions regarding the true nature of the Kangavar monument. The sharp contradiction between the "Hellenistic Anahita Temple" theory (Parthian dating) and the "Unfinished Palace of Khosrow Parviz" theory (Sassanian dating) was not only left unresolved but was further deepened as both groups cited evidence from different excavations. Consequently, the existing ambiguities in the function, nature, and dating of the structure—resulting from the lack of a definitive stratigraphic sequence and discrepancies in absolute dating—necessitated the resumption of archaeological excavations at this site after a hiatus of more than two decades. In addition to this scientific necessity, conservation and tourism considerations played a significant role in restarting the excavations. Severe environmental erosion of the dry-stone walls, stone blocks, and columns, particularly within the massive structure of the platform (*suffah*), made immediate conservation and restoration measures mandatory. Furthermore, satellite sites

associated with the complex, such as stone quarries and surrounding springs, have been affected by urban expansion and agricultural activities over the past decades, leading to encroachment and destruction. This made their study and documentation essential before complete loss. Accordingly, with the goal of providing scientific answers to long-standing ambiguities and conducting conservation and rescue operations, a new phase of field research commenced on July 29, 2024, under the official license of the Ministry of Cultural Heritage, Tourism, and Handicrafts.

5. Research Objectives

The resumption of archaeological excavations at the Kangavar site, following a long interruption, was undertaken with multilateral objectives, primarily focusing on clarifying long-standing ambiguities and providing conservation infrastructure. The primary goal of this season was the extensive "readability" (uncovering and clarification) of the structures on the upper platform and an attempt to scientifically identify and map the process of material procurement and construction. This was intended to facilitate a better understanding of the true nature of the architecture and its function across different historical periods.

To achieve these research goals, modern archaeogeophysical imaging techniques (such as geomagnetometry) and 3D scanning were employed to precisely investigate evidence buried beneath the rubble and deposits of the Islamic periods. These innovative methods were used to increase accuracy in identifying buried structures and to minimize destruction during excavation. Beyond clarifying scientific ambiguities, these efforts aimed to draw the attention of managers and the local community and to secure funding for systematic organization, restoration, conservation, and monitoring. The present preliminary report is prepared based on these objectives, providing the primary observations and findings of this excavation phase as a prelude to future research.

6. Excavation Methodology

The methodology employed in this excavation season followed a rigorous and standardized scientific framework to ensure that all cultural layers and architectural remains were systematically recorded and analyzed. The core approach used in this research was the context-based recording system.

A "context" is defined as a distinct and discrete unit of soil or cultural remains. Accordingly, during the removal of topsoil and the subsequent excavation, any observed changes in soil color, texture, or the presence of specific cultural elements—distinct from surrounding areas—led to the immediate definition, documentation, and recording of a new context. To ensure precision in describing each context, the following technical details were prioritized:

- **Anatomy and Structure:** Precise recording of the context's color, spatial location, dimensions, and orientation.
- **Density and Grain Size:** Determination of the context's density and soil grain size based on the Wentworth Scale, the global reference standard for describing soil texture and sediments.
- **Formation Process Identification:** Analysis of how the context separated from the matrix (e.g., cloddy or laminar separation) and its relationship with adjacent, superior, and inferior contexts to understand the chronological sequence and depositional history.

All cultural finds, including pottery, metallic objects, and architectural remains, were numbered and recorded according to the specific context from which they were recovered. A standardized numbering system was implemented to establish a clear link between the trench, context, and find:

- **Trench 1:** Contexts and finds were numbered starting from 1001.
- **Trench 2:** Contexts and finds were numbered starting from 2001.
- **Numerical Differentiation:** The thousands digit indicates the trench number (1 or 2), while the subsequent three digits differentiate individual contexts and artifacts.

Pottery shards recovered at all stages—except for exceptional cases requiring specialized conservation—were cleaned and categorized into two primary groups:

1. **Statistical Pottery:** After recording statistical data (part type, color, firing quality, etc.), these were re-deposited within the trench corners during backfilling at the end of the season.
2. **Diagnostic Pottery:** These specimens were labeled according to their contextual sequence, drawn, photographed, and preserved as reference documents for further study.

Special finds (such as coins or metallic objects) were tagged with identical labels containing vital information: trench number, context number, precise depth, and date of discovery to ensure comprehensive documentation.

Utilizing a context-based system rather than artificial spits (arbitrary levels) provides a significant advantage in archaeological excavations. In a site with a complex occupational sequence like the Anahita Temple—where late-phase architectural structures (such as contemporary features) are built directly upon older remains (likely Parthian-Sassanian)—this method allows for the accurate separation of natural and cultural boundaries of each period. This precision forms the basis for subsequent judgments regarding the date, function, and spatial relationships of finds in the two trenches: Trench 1 (focused on contemporary industrial features) and Trench 2 (focused on the sequence of various phases). Without meticulous context recording, there is a substantial risk of contamination (mixing) between contemporary evidence (such as modern ovens and hearths) and ancient layers, leading to errors in dating and functional interpretation.

7. Geomagnetometry Surveys

Geophysical research, particularly geomagnetometry as a vital non-destructive tool in archaeology, played a decisive role in this excavation season at Kangavar. This technique allows for the detection and investigation of buried structures and remains beneath the surface without the need for direct excavation. Magnetic surveying is based on the phenomenon of magnetic anomalies; essentially, buried objects or structures cause perturbations in the Earth's natural magnetic field. In an archaeological context, rocks, pottery, walls, and metals possess specific magnetic properties.

The magnetic response of a rock or soil unit is primarily controlled by the magnetic susceptibility of its constituent minerals. Minerals such as magnetite contribute significantly to the ferromagnetic properties of rocks. This is analytically crucial because objects or structures subjected to intense heat (such as kilns, ovens, or ash deposits) exhibit high thermoremanent magnetization. Consequently, the identification of strong, regular anomalies in the southern and upper sectors of the mound served as a definitive indicator of anthropogenic structures (such as pottery kilns or cooking ovens) beneath the surface.

The geomagnetometry surveys at Kangavar were conducted using a GSM-19T Proton Magnetometer with a precision of 0.01 nT. Several regular magnetic anomalies were identified across different sectors, particularly on the first platform and southern areas of the site. These results formed the basis for determining the location of Trench 1 (Fig. 5, Fig. 6). imultaneously, comprehensive aerial imaging was conducted using a DJI Phantom 4 RTK drone, resulting in high-precision photogrammetric maps and digital elevation models (DEMs) of the existing architectural surfaces and structures.

In the Northern Hemisphere, including the Kangavar region, the magnetic response of buried masses appears as a dipole (consisting of both a positive and a negative anomaly). This dipolar nature is due to the magnetic inclination angle, which in the Kermanshah region is approximately 45° to 50°. This angle causes the actual location of the buried target to be displaced from the observed surface anomaly. The "Reduction to the Pole" (RTP) technique corrects this displacement by mathematically transforming the data as if the magnetic field were vertical, thereby aligning the actual location of the buried object directly beneath the positive anomaly. Applying this correction is vital for archaeologists to ensure that excavation trenches are positioned precisely over the center of the buried structures.



Figure 5. Location of magnetic data acquisition lines across the four surveyed areas within the Anahita Temple complex.

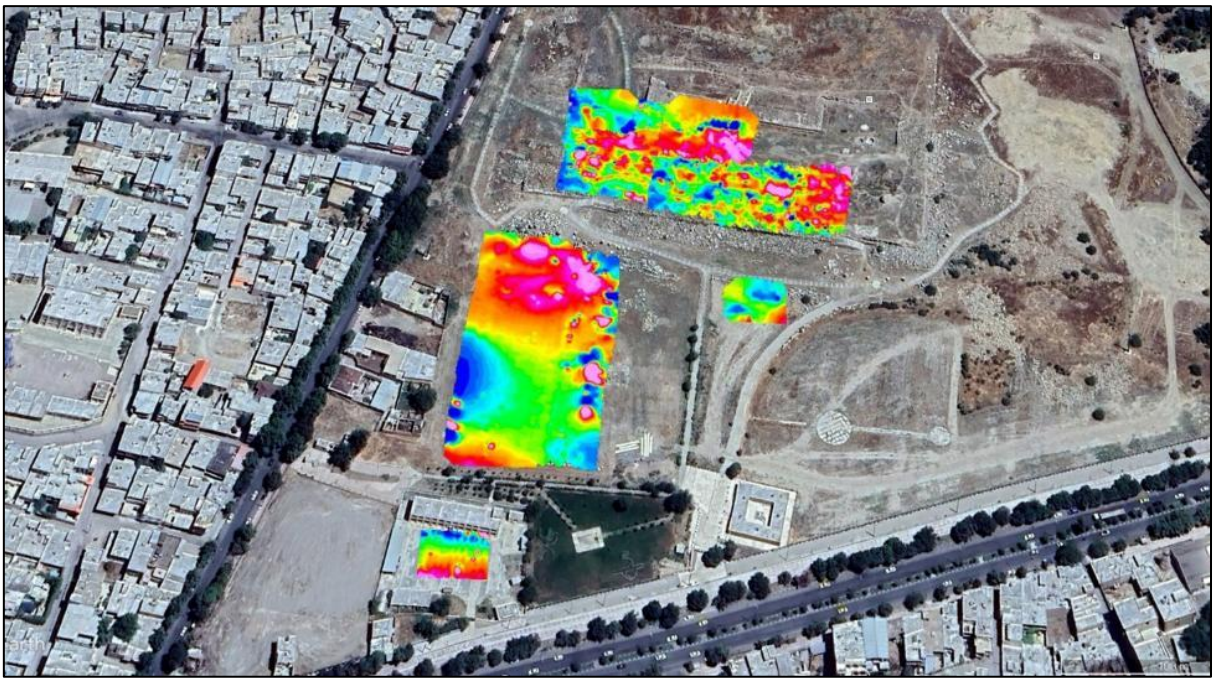


Figure 6. Magnetic gradient map of the four data acquisition areas within the Anahita Temple complex.

8. Description of Field Operations

The field operations for this season were initiated based on the results obtained from geomagnetometry surveys, focusing on the summit of the site and the previous trench excavated by Dr. Masoud Azarnoush. Accordingly, two key locations were investigated with distinct research objectives (Fig. 7).

8.1. Trench 1

Trench 1 was opened in the southwestern sector of the main platform. Since strong magnetic anomalies are typically the result of intense heat (such as kilns or ovens), a scientific hypothesis was established: thermal or industrial structures were likely buried in these areas. This strategy justified the decision to open Trench 1 in the southern sector and led directly to the discovery of a complex of contemporary ovens (*tannurs*), remarkably confirming the geophysical predictions.

Initially measuring 5×3 meters, the trench was expanded to 10×10 meters on the first day following the discovery of an east-west oriented wall (Fig. 8). To facilitate excavation and protect the contexts, a 50 cm wide balk (control baulk) was maintained along the east-west axis, dividing the trench into northern and southern sections.

8.2. Architecture

In this trench, a coherent complex consisting of seven distinct but interrelated architectural spaces was uncovered. The architectural evidence, spatial organization, presence of ovens, and identical plastering across these spaces indicate a homogenous and defined function within a specific chronological period. The walls of these spaces were constructed of stone, mudbrick (*khisht*), and occasionally fired brick, with preserved heights varying between 40 and 60 cm. The plastering of the walls and floors in some spaces consists of a mixture of mud and gypsum. Portions of the walls extended beyond the trench limits, indicating the continuation of the structure in various directions.

Detailed analysis of the structures reveals that the construction was carried out without precise engineering; for instance, the wall widths are inconsistent, some corner joints are not perfectly orthogonal, and curvatures or misalignments are visible in certain sections. Nonetheless, the layout pattern, the presence of clear circulation paths between spaces, and the positioning of ovens within the floors of each space suggest an organized functional use. In total, based on the evidence from Trench 1, seven interconnected architectural spaces were identified. For ease of identification and documentation, these spaces were designated with letters A through G (Fig. 9).

8.2.1. Description of Architectural Spaces

- **Space A:** Located in the northwestern corner of the trench, defined by walls 1002, 1003, and 1004. Both the floor and walls are plastered (Context 1031). A *tannur* (oven) with a ventilation flue (Context 1032) is installed here. The southern brick wall (Context 1004) appears to be an adjoined (added) structure.
- **Space B:** Situated in the northern part of the trench with plastered walls and floor (Context 1033). A *tannur* (Context 1034) and its northwestern flue are clearly visible. The entrance was likely from the north or northwest.
- **Space C:** Located in the northeastern corner, characterized by the absence of plaster and a floor level higher than the other spaces. It contains a *tannur* (Context 1034), but due to its architectural features, it appears to have been an unroofed (open-air) space.
- **Space D:** Situated in the east and southeast of the trench, likely an open area. The floor (Context 1036) contains a *tannur* (Context 1043) and serves as a circulation path connecting to Spaces E and G (via Contexts 1010 and 1016).
- **Space E:** Positioned in the center of the trench, featuring fully plastered walls. It contains a uniquely constructed *tannur* with its flue located in the northeastern section. Distinctive features include depressions in the southern wall and access routes to Spaces D and F.
- **Space F:** Located in the west and southwest of the trench, bounded by walls 1002, 1008, 1009, 1012, and 1015. The floor (Context 1041) is open-air and connects to Spaces D and E.
- **Space G:** Located in the southern part of the trench, featuring distinct mud-gypsum plaster on the floor and walls. Findings include a central *tannur*, a flue, a large stone slab in the southwestern corner, and a muller (pestle stone) nearby. A circular metal plate was also discovered on the floor, likely used for heat control or covering the flue when the oven was inactive.

8.2.2. Functional Analysis of Cultural Finds

In each architectural space, a complete or semi-complete *tannur* with a clear ventilation flue was identified. These ovens, often centrally or corner-positioned, feature ceramic or brick structures. The discovery of a circular metal plate in Space G is interpreted as being directly related to oven

operations (Fig. 10). Additionally, a muller stone found next to the stone slab suggests processing activities, such as grinding or preliminary milling.

The high density of ovens, the presence of grinding tools, and cultural finds such as a copper coin (likely late Qajar or early Pahlavi period), plastic fragments, and oxidized metal objects, combined with the low construction quality, indicate that Trench 1 functioned as a traditional bread or pastry workshop during the contemporary period (Fig. 11, Fig. 12). These results confirm the significance of the geophysical analysis; the strong magnetic anomalies identified in this area were indeed the thermal structures (*tannurs*) targeted for excavation.

All finds—based on manufacture, materials, positioning, and stratigraphy—belong to a single contemporary period. The systematic distribution of spaces, the interconnected circulation paths, and the absence of diverse domestic indicators (such as sleeping quarters, storage, or livestock pens) suggest a non-residential function. Interviews with elderly local residents of Kangavar confirmed the historical presence of traditional bread and *kulucheh* workshops in this specific area. This correlation between material evidence and local collective memory reinforces the excavation team's conclusion that this complex was a contemporary industrial/production workshop.

Ultimately, these findings clarify a specific phase of the site's history, presenting a picture of "industrial residues" atop a historical site. Here, a massive stone platform—likely built for monumental purposes in ancient times—was partially repurposed in the contemporary era into a small-scale workshop for daily food production.



Figure 7. Location of the two excavated trenches within the so-called Anahita Temple complex; the yellow trench (20×20 m) designated for clarification and excavation, and the red trench (20×20 m) located on the southern platform.



Figure 8. Trench 1 during the initial stages of excavation, viewed from the west.

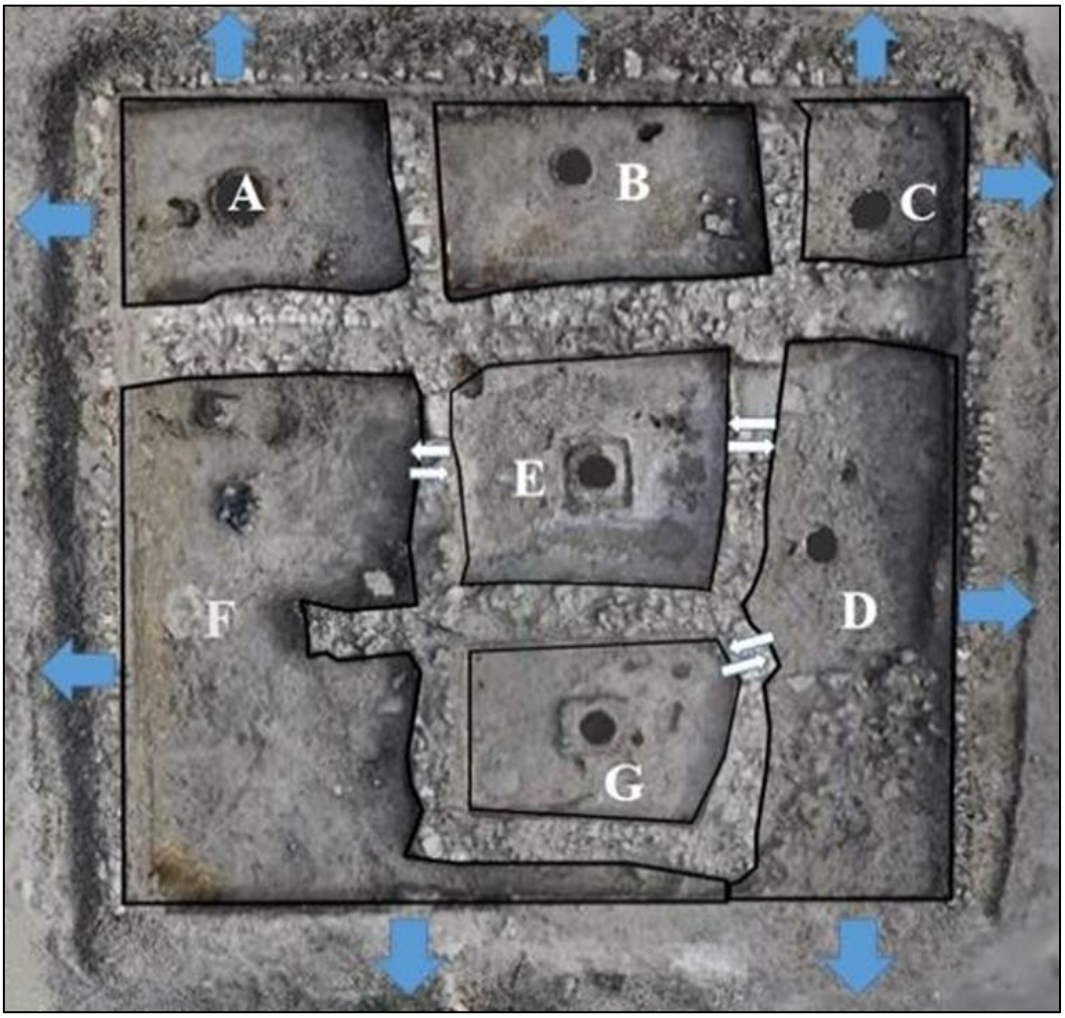


Figure 9. Architectural spaces identified in Trench 1.

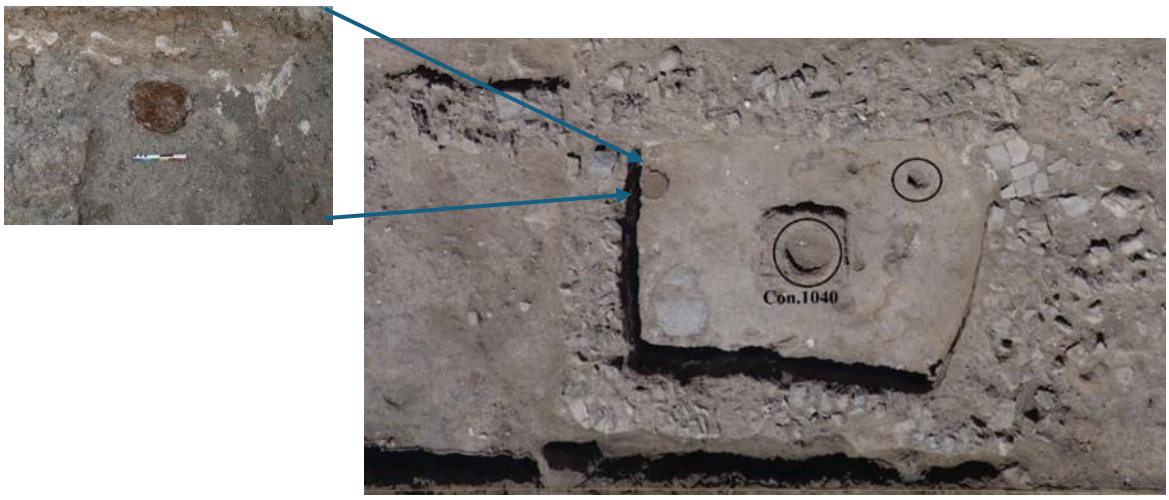


Figure 10. Location and details of the *tannur* (oven), ventilation flue, and associated metal plate discovered in Space G.



Figure 11. Plastic fragments recovered from Context 1018.

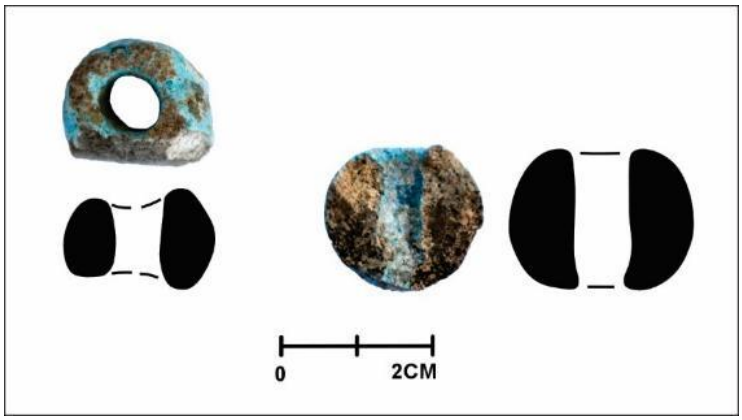


Figure 12. Frit (faience) bead, commonly known as an "Evil Eye" bead, recovered from Context 1025.

8.3. Trench 2

Trench 2 was established in the northern sector at the summit of the site with the objectives of organizing and clarifying the previous trench excavated by Dr. Masoud Azarnoush (1977–1978) (Fig.13), investigating the structural link between the central platform (*suffah*) and the site's summit, and understanding the occupational sequence of the upper levels. Initially opened as a 10×10 m square, the trench was expanded in three stages—first towards the south, east, and west, and finally towards the east and north—reaching a final dimension of 20×25m. Within this trench, a horizontal ridge measuring 15 m in length and 2.5 m in width, serving as both a geomorphological

and architectural feature, formed the primary axis of the excavation. Its western portion contained an east-west stone wall, while the eastern portion consisted of the remains of a contemporary architectural unit, both of which were revealed after the removal of debris layers. Field activities in Trench 2 primarily focused on this ridge, while other areas were mainly subjected to surface clarification (Fig. 14, Fig. 15).

All contexts in Trench 2 are situated either directly or indirectly upon a natural schist bedrock that slopes from north to south. A horizontal earthen ridge, 15 m long and 2.5 m wide, dominated the center of the trench; its western and eastern segments contained a stone wall (Context 2036) and contemporary architectural remains, respectively. These two primary structures, both buried under debris, formed a linear ridge that dominated the trench interior. The excavation effort was concentrated on this ridge and its peripheral structures. In other areas of the trench, clarification operations were conducted to document surfaces, walls, and architectural remains buried in the upper layers—potentially linked to the central Terrace or earlier historical periods—with minimal intervention. Overall, Trench 2 represents a complex integration of contemporary architectural remains and structures from earlier periods (Fig. 16, Fig. 17).



Figure 13. Views of the trench excavated by Masoud Azarnoush on the upper platform of the Anahita Temple, along with the brick pavement discovered beside the platform (Azarnoush, 1356/1977).

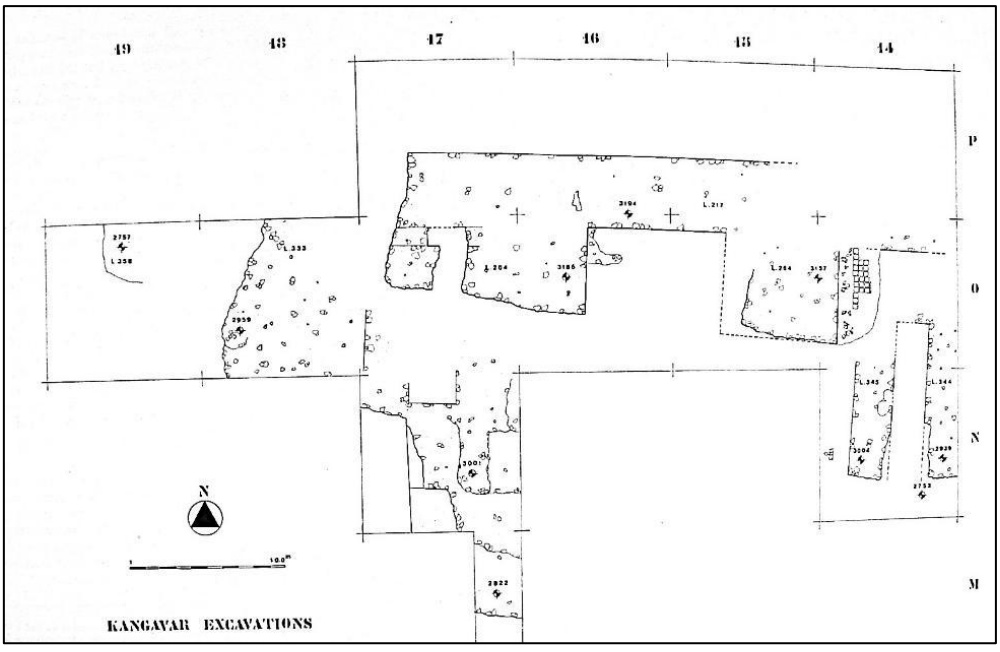


Figure 14. Plan of the structures present at the top of the upper platform of the Anahita Temple. (Azarnoush, 1981, Fig: 4).

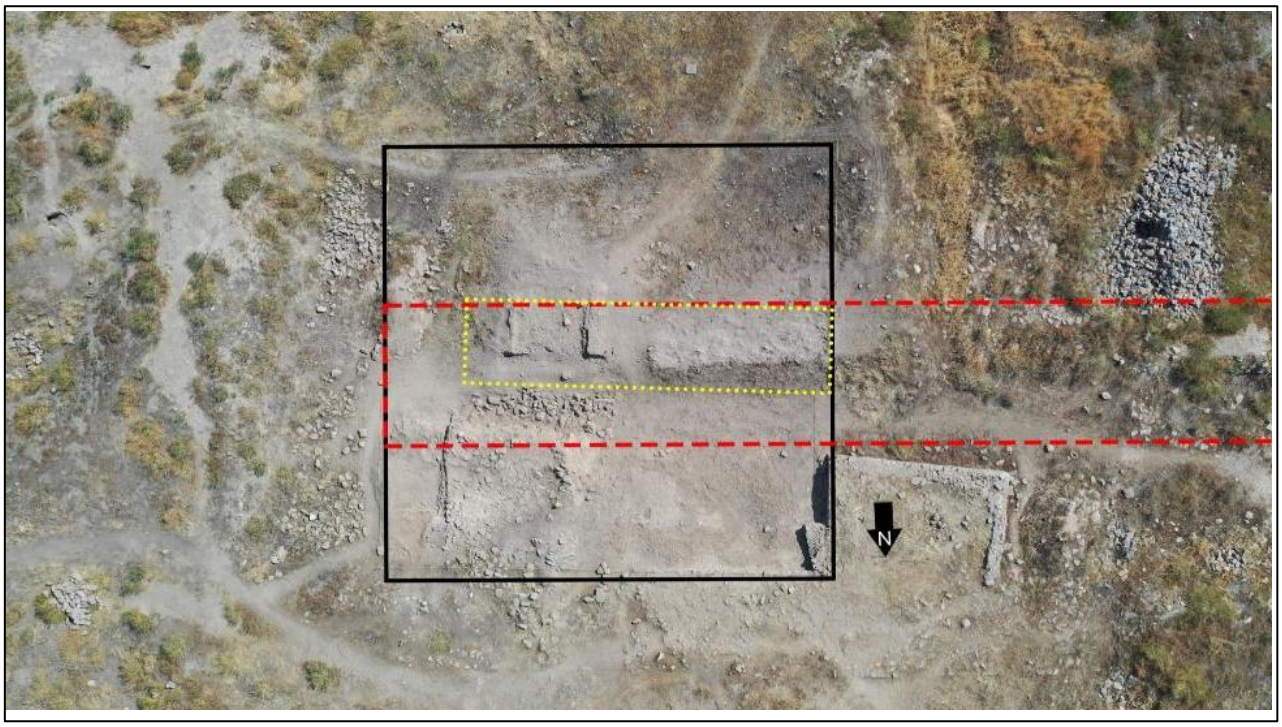


Figure 15. Location of the 20×20 m trench prior to expansion (black square), the extent of the previous east-west trench from 1977 (red rectangle), and the central ridge of the trench (yellow rectangle); 2024 aerial photograph of the Anahita Temple.



Figure 16. Extent of Trench 2, viewed from the southeastern corner, Aerial photograph of the Anahita Temple, 2024.



Figure 17. Spatial distribution of various contexts in Trench 2 at the conclusion of the excavation, Aerial photograph of the Anahita Temple, 2024.

8.3.1. Architecture in Trench 2

In Trench 2, located at the summit of the mound adjacent to Azarnoosh's previous trenches, numerous architectural structures were identified at varying depths and levels, indicating distinct occupational periods in this area. Based on spatial organization, material analysis, and field evidence, the trench is divided into three discernible architectural phases:

A) Earlier Structures (Phase I)

The earliest architectural elements in the trench include two stone terraces (one interior and one exterior) and the eastern (Con2046), western (Con2025), and northern stone walls (Con2045). The central terrace (Contexts 2003 and 2004), measuring approximately 700×600 cm with a maximum preserved height of 107 cm, was constructed using hewn stones with lime and mud mortar; its walls feature gypsum plastering (Fig.18). Photographic evidence and historical documentation indicate that this terrace was functionally linked to the exterior terrace situated to the northwest of the trench.

Multiple walls within the trench (Contexts 2049, 2045, 2046, and 2047) are aligned with these terraces in terms of material composition, orientation, and construction technique, suggesting they belong to a shared architectural system. These structural elements were likely employed in pre-contemporary periods for terracing or to manage the natural slope of the mound, although definitive dating evidence for them has not yet been recovered.



Figure 18. Top view of the terrace identified in the trench, potentially representing one of the structures associated with the initial construction phase of the site, Aerial photograph of the Anahita Temple, 2024.

B) Middle Phase: Reutilization of Structures

Based on contextual analysis and field observations, a portion of the stone structures located within the middle levels of the trench (Contexts 2009, 2040, 2041, and 2042) appears to have been reconstructed during later, pre-contemporary periods. Context 2009, which overlaps with the western face of the central terrace, likely represents the remains of a wall foundation from this phase that was subsequently destroyed or built over by later structures (Fig. 19).



Figure 19. Context 2009, mortar traces and the hypothetical continuation of a wall, likely associated with the second construction phase; viewed from the east.

C) Contemporary Architecture: Room, Hearth, and Ovens

In the central part of the trench, evidence of a contemporary architectural structure was discovered, extending toward the southern part of the trench (Fig. 20). Mudbrick walls with multi-layered gypsum plaster (Contexts 2012, 2013, 2021, 2027), a beaten earth floor (Context 2016), a central hearth (Context 2019), brick-paved entrances (Context 2018), blocked niches, and traces of renovated plaster all attest to human occupation or utilization of this space in recent decades.

The stone wall (Context 2036), which overlaps with the debris of Context 2026, is likely an instance of reclaiming older structures or temporary repairs made during the contemporary era. Artifacts such as a coin (likely from the Pahlavi period), plastic fragments, beads, metal nails, cartridge casings, glass, a spoon, and faunal remains (bone fragments) within this space definitively prove its contemporary dating (Fig. 21). Two entrances in the east and south of this room indicate a functional layout designed for daily access.

Adjacent to the room, in the lower-lying area, a mud platform measuring 538×312 cm (Context 2029) was identified alongside a thermal structure (Context 2030) and ash deposits (Context 2039). These findings reinforce the interpretation of this section as a peripheral space associated with cooking activities.



Figure 20. General view of the architectural elements found in Trench 2, representing different phases.



Figure 21. Selection of finds associated with the contemporary architectural phase of Trench 2.

D) Ovens and Evidence of Transient Occupation

A total of four *tannurs* (ovens; Contexts 2006, 2032, 2034, 2043) were identified across various points of the trench, specifically in the northeast, northwest, and southeast. All were located within or near the surface layers. These ovens were constructed with a brown to brick-red paste, vegetable temper, and thin walls, typically found filled with ash or heat-affected soil (Fig. 22). The positioning of these ovens at the periphery of the primary structures and their lack of direct connection to the room suggest they likely belong to phases of transient, seasonal, or industrial occupation (possibly for bread baking or other local activities).



Figure 22. Top view of one of the ovens identified in Trench 2.

8.3.2. Pottery

In contrast to Trench 1, pottery constitutes the most substantial and widespread category of archaeological finds recovered from Trench 2. Potsherds were observed in nearly all excavated layers, extending from the surface to the lowermost strata. These fragments belong to a diverse range of vessels, including storage jars (*khomreh*), jugs, bowls, plates, oven and kiln components, and even fragments of ceramic toys.

The pottery finds exhibit significant diversity in manufacturing and decorative techniques, including plain, incised, molded, and appliquéd wares, as well as combinations of these methods. Furthermore, specimens featuring stamped and seal-impressed motifs were identified. The decorative repertoire includes floral patterns, arabesque (*islimi*) designs, geometric shapes, and composite motifs. Based on style and fabrication, some fragments are potentially attributable to the Parthian and Sassanian periods; however, due to their presence in disturbed contexts mixed with later layers, a precise chronological assignment remains pending.

Glazed wares also show high variability in form, color, and technique. These primarily consist of bowls, jugs, plates, dishes, and pierced (latticed) specimens. The observed glazes include shades of green, brown, turquoise, and black. Some vessels feature incised decoration under the glaze (sgraffito), splashed glazes, or slip-painted wares with black geometric designs. Additionally, examples of turquoise-glazed pottery with black underglaze painting were recovered across

various layers (Fig. 23, Fig. 24, Table 1). This diversity in the ceramic assemblage reflects cultural dynamism and continuous human activity across different periods on this part of the upper terrace. Moreover, the association of these ceramics with late-phase architectural structures and subsistence-related finds (such as ovens and cooking vessels) supports the interpretation that this area likely served a residential function during later periods.

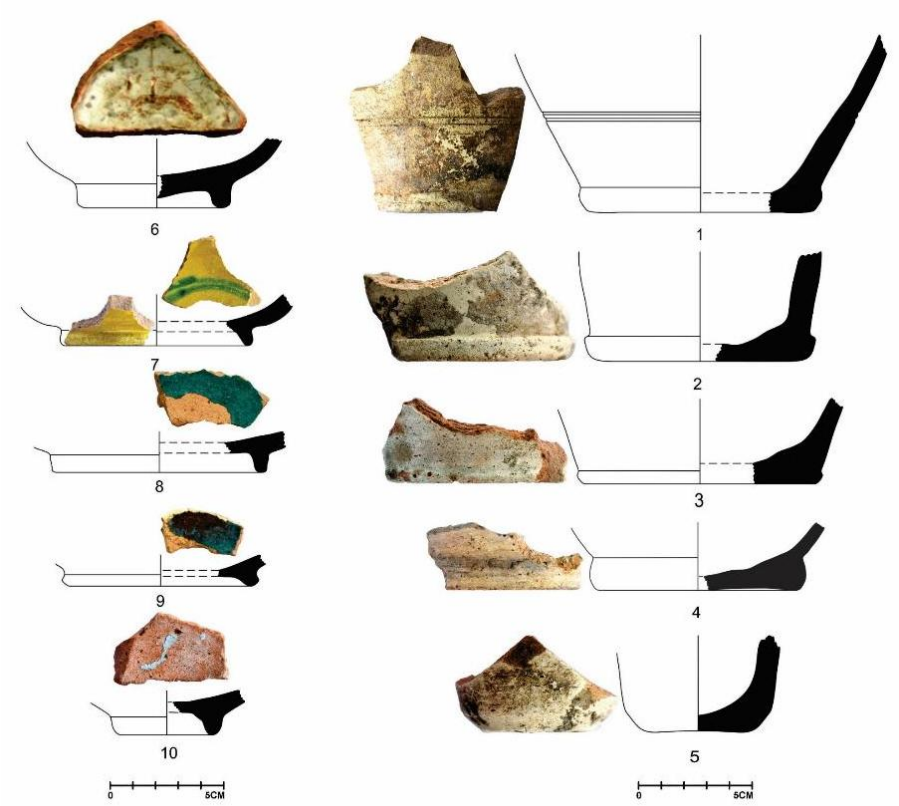


Figure 23. Photographs and drawings of selected glazed (left) and unglazed (right) pottery from Trench 2.

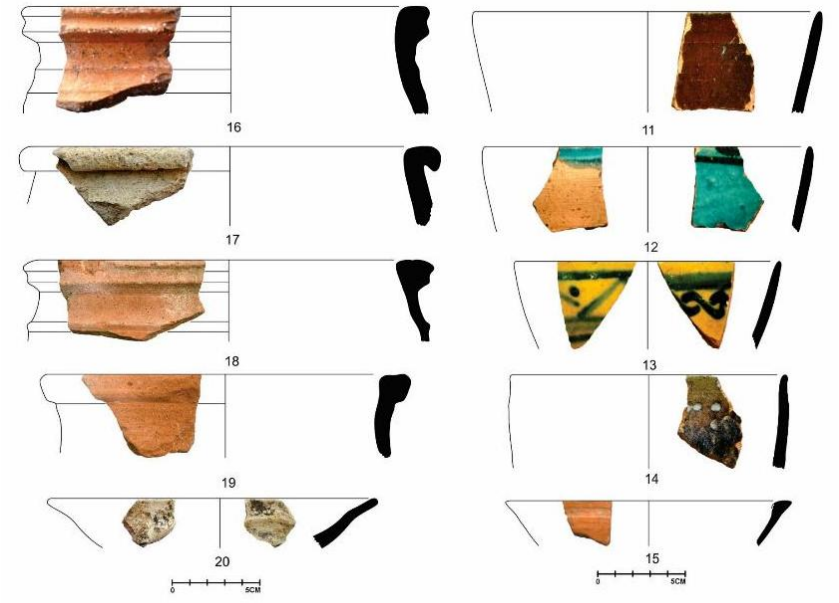


Figure 24. Photographs and drawings of selected glazed (right) and unglazed (left) pottery from Trench 2.

Table 1. Pottery Registration, TR. 2.

Remarks	Fabric Quality	Technique	Firing Quality	Slip Color		Decoration Placement	Motif	Decoration Type	Temper	Glaze	Vessel Part	Registry No	Context	Trench	Drawing No
				Outside	Inside										
Rim/Body	MED	WM	WELL	10YR 8/2	10YR 8/2	Body	Geom	Inc	MIN	Plain	Body	2000	2001	2	1
	MED	WM	WELL	2.5Y 8/2	2.5Y 8/2	-	-	-	MIN	No	Base	2038	2017	2	2
	MED	WM	WELL	10YR 7/2 &Rim band 2.5YR 5/6		-	-	-	MIN	No	Base	2038	2017	2	3
	MED	WM	WELL	10YR7/3	10YR 7/3	-	-	-	MIN	No	Base	2038	2017	2	4
	MED	WM	WELL	7.5YR 7/4	7.5YR 7/4	-	-	-	MIN	No	Base	2000	2001	2	5
	MED	WM	WELL	5GY 6/4	5GY 6/4	-	-	-	MIN	Yes	Base	2011	2011	2	6
	MED	WM	WELL	10G 4/6	2.5Y 8/8	-	-	-	MIN	Yes	Base	2038	2011	2	7
	MED	WM	WELL	5BG 4/6	7.5YR 7/4	-	-	-	MIN	Yes	Base	2016	2011	2	8
	LOW	WM	UNDER	10BG 4/4	2.5YR 3/4	-	-	-	ORG	Yes	Base	2016	2011	2	9
	LOW	WM	UNDER	2.5YR 5/6	2.5YR 5/6	-	-	-	ORG	Yes	Base	2043	2046	2	10
	MED	WM	WELL	2.5YR 3/4	2.5YR 3/4	-	-	-	MIN	Yes	Rim	2011	2011	2	11
	MED	WM	WELL	7.5YR7/4	5BG 5/6	Body	Geom	Paint	MIN	Yes	Rim	2011	2011	2	12
	FINE	WM	WELL	2.5Y 8/8	2.5Y 8/8	Body	Geom	Paint	MIN	Yes	Rim	2011	2011	2	13
	MED	WM	UNDER	10YR 2/2	10YR 2/2	Body	-	Inc	ORG	No	Rim	2016	2011	2	14
	MED	WM	WELL	5YR 5/6	5YR 5/6	Rim	-	Inc	MIN	No	Rim	2016	2011	2	15
	MED	WM	WELL	2.5YR 5/8	2.5YR 5/8	Rim	-	Inc	MIN	No	Rim	2016	2011	2	16
	LOW	WM	UNDER	10YR 8/3	10YR 8/3	-	-	-	MIN	No	Rim	2016	2011	2	17
	MED	WM	WELL	5YR 6/8	5YR 6/8	-	-	-	MIN	No	Rim	2006	2008	2	18
	FINE	WM	WELL	2.5Y 7/2	2.5Y 7/2	-	-	-	MIN	No	Rim	2006	2008	2	19
	LOW	WM	WELL	7.5YR 7/4	7.5YR 3/2	-	-	-	MIN	Yes	Rim	2016	2011	2	20

9. Conservation and Conservation–Restoration Measures

Conservation and restoration objectives during this excavation season were of particular importance due to the fragile nature of the architectural remains, especially the contemporary mud-brick and plaster structures, and the need to preserve them for future presentation as a site museum. The measures undertaken were divided into two main categories: chemical/traditional stabilization and restoration, and preventive conservation (Fig. 25, Fig. 26, Fig. 27).

Chemical Stabilization: To consolidate plaster coatings, iron objects, and friable surfaces, Paraloid B-72 solutions in various solvents, including acetone, alcohol, and toluene, were used.

To address environmental moisture and salt efflorescence, extensive plaster surfaces and the bodies of the *tanurs* were treated with a nanosilica solution (Z90) diluted in water. Following the removal of ash and debris, the interiors of the *tanurs* were treated with Z90 solution in several stages. After the restoration of the *tanurs* was completed, all surfaces and walls of the excavated rooms in Trench 1 were consolidated and strengthened in two stages using a nanosilica solution (Z90) diluted in water at a ratio of 1:10. The excavated iron objects, which had undergone severe oxidation and deterioration due to environmental exposure and moisture, required immediate

stabilization. For the initial consolidation and strengthening of the iron objects, Paraloid solutions in alcohol or acetone at concentrations of 5–10% were used.

Traditional Restoration: In Trench 1, following complete documentation, most of the *tanurs* that were exposed to environmental damage were restored by the conservation team using appropriate mortar. Surface cracks and fractures in the *tanurs* were filled with a compatible, matching-colored mortar, and temporary protective coverings were applied to more vulnerable areas to prevent moisture penetration. The prepared mud was kneaded for three days at specified times to achieve the desired consistency and ensure that its components were thoroughly mixed and uniform.

Preventive Conservation: After the completion of excavation and restoration, the following measures were undertaken to protect the trenches against environmental factors:

1. Earthen embankments and drainage channels were constructed around both trenches to divert surface water resulting from rainfall.
2. To preserve the overall integrity and security of Trench 1, a lightweight, removable structure was installed as a protective roof over the trench. In addition to protecting the excavated spaces from rainfall, solar radiation, and wind erosion, this covering also allowed controlled public access to the area.

In Trench 2, given the identification of several *tanurs* in the upper layers and their fragile condition, initial restoration work was undertaken to prevent the collapse of the structures. Parts of the *tanurs* that had suffered erosion were stabilized through reinforcement measures; however, further restoration was postponed to future excavation seasons. Furthermore, because the excavation may be extended during subsequent phases, conservation intervention in certain areas was kept to a minimum so as not to impede future research.



Figure 25. Views of the restoration measures carried out on one of the tanurs in Trench 1.



Figure 26. Trench 1. Views of the conservation and restoration measures carried out on the doorway (top), the room wall (bottom right), and its niche-like recess (bottom left).



Figure 27. Trench 1. Views of preventive conservation measures, including the construction of an earthen embankment and drainage channel around the trench and the installation of a protective cover over it.

9.1. Analysis and Conclusions

The archaeological excavations conducted in 2024 at the site known as the Anahita Temple of Kangavar, focusing on two main trenches (Trench 1 and Trench 2), provided a valuable opportunity to reassess the architectural, cultural, and stratigraphic evidence of this prominent site. The structures belonging to earlier periods, including platforms and initial stone walls, were either reused during subsequent phases or covered by the construction of newer spaces. In Trench 1, the remains of a contemporary complex consisting of seven separate spaces and numerous tanurs were identified. The complex probably had an industrial function, such as a traditional bakery or confectionery workshop. The uniformity of the architecture, the presence of tanurs in each space, and the industrial nature of the complex support its attribution to the later phases of use. The construction of a complete building unit with a hearth and multiple entrances, together with

scattered tanurs, indicates the presence of a new community with purposes entirely different from the original function of the structure.

Trench 2, with its structural complexity, layered architectural spaces, and juxtaposition of ancient and new elements, is one of the most challenging trenches excavated at the site attributed to the Anahita Temple of Kangavar. Preliminary analysis of the architectural evidence indicates that this trench cannot be understood as representing a simple sequence of occupation. The results of the excavation in this trench show that the building known as the Anahita Temple was not a fixed structure throughout its history, but rather an adaptable architectural phenomenon in which the grandeur and strength of the initial stone structures (the ancient phase) were fully incorporated into later residential and productive needs (the contemporary phase). The diversity of building materials, construction techniques, and cultural materials indicates a long and complex sequence of occupation in the upper part of the mound.

The cultural and functional evidence recovered from the excavation revealed a complex, multilayered history for the Anahita Temple site. These findings clearly confirm the functional transformation of this monumental structure from an ancient monument to an ordinary settlement and subsequently to a small industrial workshop. Overall, the findings from this excavation season indicate the presence of at least three distinct architectural phases in the upper part of the Anahita Temple complex:

1. **First phase (Parthian–Sasanian?):** Platforms and stone walls constructed with gypsum–lime mortar.
2. **Middle phase (reuse or restoration):** Nomadic/settlement occupation characterized by mud-brick structures.
3. **Contemporary phase:** Domestic and light industrial uses.

These remains indicate the continued use, functional transformation, and successive reinterpretation of the spaces of the Anahita Temple during different historical periods. The fact that numerous construction activities took place at the site over successive periods may also explain the contradictions reported in the textual sources, particularly regarding building materials, which constitute a key discrepancy in the accounts of Islamic historians. While Ibn Rustah identifies gypsum and brick as the principal building materials, most later historians, including al-Muqaddasi, al-Tusi, al-Hamawi, al-Qazwini, and Mostowfi, emphasize the use of rough-hewn stone and massive stone columns. This difference in descriptions may be attributable to changes made to the structure over time, or to different historians describing different parts of the monument, such as a brick core versus a stone façade. This, in turn, supports the multilayered identity of the structure at Kangavar.

In general, Trench 2 represents a combination of contemporary architectural remains and unclear or possibly earlier structures, and its findings require detailed analysis that takes into account the complexities of stratigraphy and chronological overlap. Since excavation in this trench has not yet been completed, an important part of the definitive analysis remains dependent on the results of subsequent excavation seasons. Nevertheless, the architectural pattern documented in this trench indicates a rich cultural stratification, a discernible sequence of periods, and diversity in the type and scale of spaces, thereby further emphasizing the archaeological significance of this part of the Anahita Temple complex.

In his excavation of the summit trench of the Kangavar platform, Masoud Azarnoush argued that there are considerable uncertainties concerning the relationship between the upper platform and the central platform, and that the upper and central platforms may in fact constitute a single integrated platform rather than two separate platforms or terraces in the complex (see Masoud Azarnoush, 1356/1977). Saifollah Kambakhshfard (Kambakhshfard, 1386/2007: 332, 387) and the fourth excavation team (Mehryar and Kabiri, 1383/2004: 56) likewise, in their more recent publications and probably under the influence of the results of Masoud Azarnoush's excavation of the summit trench, consider the complex to have two platforms in their plans. These differences of opinion, areas of agreement, and remaining uncertainties among the four groups of archaeologists

who have excavated at this complex point to numerous unresolved issues and unanswered questions concerning various aspects of this historical complex, for which clearer answers must be sought through future research (Fig. 28, Fig. 29).

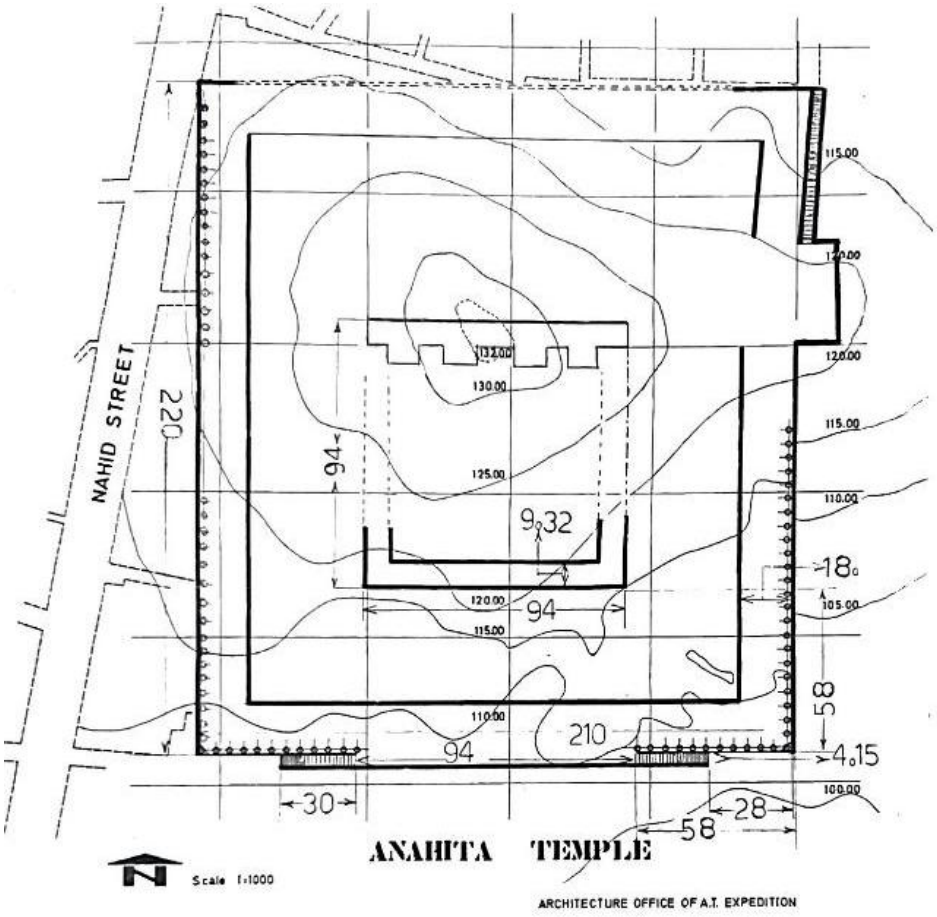


Figure 28. Reconstruction plan of the complex known as the Anahita Temple (Kambakhshfard, 1386/2007: 332).

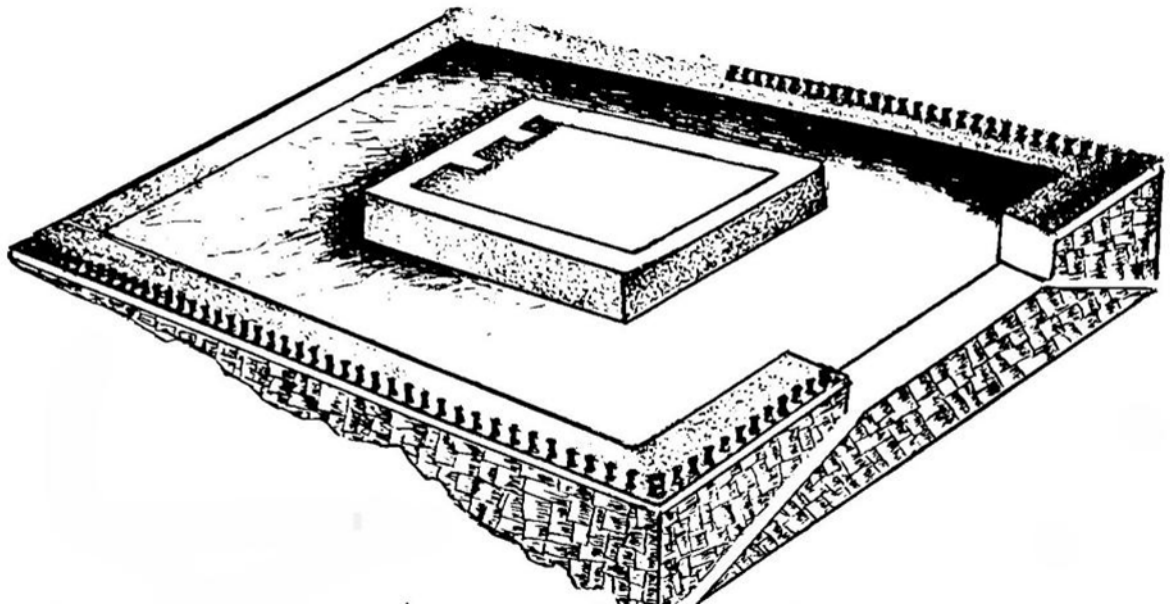


Figure 29. Three-quarter view of the reconstruction of the Anahita Temple (Kambakhshfard, 1386/2007: 387).

Conflict of Interest

The authors declare that they have no conflicts of interest, whether financial, institutional, professional, or personal, that could have influenced the research, its findings, or the preparation of this manuscript.

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Authors' Contributions

Mostafa Dehpahlavan, as the excavation director and principal investigator, was responsible for the conceptualization, scientific supervision, and overall direction of the archaeological mission. Morteza Garavand, Hashem Kazemi, Aboulfazl Alipour, Saman Babazadeh, Bita Hosseini, Faezeh Firouzinejad Shirazi, Seyed Amirali Hosseini Harandi, Seyed Amirhassan Abediyeh, and Zahra Najafi participated as members of the excavation team and trainees, contributing to the archaeological fieldwork and related documentation activities. Ramin Mohammadi Sefidkhani and Majid Mirshekar contributed their expertise in the conservation and restoration of archaeological materials. All authors contributed to the implementation of the project, reviewed the manuscript, and approved its final version.

Data Availability Statement

The data presented in this study are available upon reasonable request from the corresponding author.

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