



## Tureng Tepe and its High Terrace: a reassessment

Julie Bessenay-Prolonge, Regis Vallet

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# THE IRANIAN PLATEAU DURING THE BRONZE AGE DEVELOPMENT OF URBANISATION, PRODUCTION AND TRADE

*edited by Jan-Waalke Meyer, Emmanuelle Vila, Marjan Mashkour,  
Michèle Casanova and Régis Vallet*



# THE IRANIAN PLATEAU DURING THE BRONZE AGE. DEVELOPMENT OF URBANISATION, PRODUCTION AND TRADE

ARCHÉOLOGIE(S) // 1

The book compiles a portion of the contributions presented during the symposium "Urbanisation, commerce, subsistence and production during the third millennium BC on the Iranian Plateau", which took place at the Maison de l'Orient et de la Méditerranée in Lyon, the 29-30 of April, 2014. The twenty papers assembled provide an overview of the recent archaeological research on this region of the Middle East during the Bronze Age. The socio-economic transformation from rural villages to towns and nations has prompted many questions into this evolution of urbanisation. What was the impact of interactions between cultures in the Iranian Plateau and the surrounding regions (Mesopotamia, the South Caucasus, Central Asia, Indus Valley)? What was the overall context during the Bronze Age on the Iranian Plateau? What was the extent and means of the expansion of the Kuro-Araxe culture? How did the Elamite Kingdom become established? What new knowledge has been contributed by the recent excavations and studies undertaken in the east of Iran? What was the influence of the Indus Valley culture, known as an epicentre of urbanisation in South Asia? What are the unique characteristics of the ancient cultures in Iran?

While the urbanisation of early Mesopotamia has been the subject of much debate for several decades, this topic has only recently been raised in respect to the Iranian Plateau. This volume is the product of an international community from Iranian, European, and American institutions, consisting of recognised specialists in the archaeology of the Iranian Bronze Age. It provides an overview of the latest research, including abundant results from current on-going excavations. The current state of archaeological research in Iran, comprising many dynamic questions and perspectives, is presented here in the form of original contributions on the first emergence of towns in the Near and Middle East.

*L'ouvrage rassemble une partie des contributions présentées lors du colloque « Urbanisation, commerce, subsistance et production au III<sup>e</sup> millénaire avant J.-C. sur le Plateau iranien » qui s'est tenu à la Maison de l'Orient et de la Méditerranée à Lyon les 29 et 30 avril 2014. Les vingt articles réunis livrent un état récent de la recherche archéologique dans cette région du Moyen-Orient pour l'âge du Bronze. Le développement socio-économique entre le mode de vie rural et la formation des villes et des états soulève de nombreuses interrogations sur le processus de l'urbanisation. Quel est l'impact des relations culturelles entre le Plateau iranien et les régions adjacentes (Mésopotamie, Sud-Caucase, Asie centrale, vallée de l'Indus) ? Quel est le contexte global de l'âge du Bronze sur le Plateau Iranien ? Comment s'opère l'expansion de la culture Kuro-Araxe à partir du Caucase ? Comment le royaume élamite se met en place ? Quel est l'apport des fouilles et travaux récents dans l'Est iranien ? Quelle est l'influence de la vallée de l'Indus, un centre d'urbanisation important en Asie ? Comment se manifestent les singularités du monde iranien ?*

*Alors que la thématique de l'urbanisation en Mésopotamie a été très débattue ces dernières décennies, cette question est abordée depuis peu pour le Plateau iranien. Le présent volume émane d'une communauté internationale d'archéologues d'institutions iraniennes, européennes et américaines, spécialistes reconnus de l'archéologie iranienne de l'âge du Bronze. Il dresse un panorama de l'état des recherches qui se nourrit amplement des travaux de terrain en cours. L'ouvrage rend compte de la dynamique actuelle de la recherche archéologique en Iran, riche de nouveaux questionnements et de nouvelles perspectives, et constitue un apport original à la réflexion sur l'émergence des villes au Moyen-Orient.*

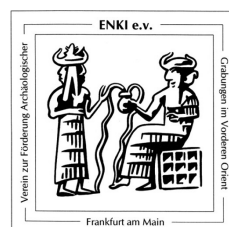


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# THE IRANIAN PLATEAU DURING THE BRONZE AGE

## DEVELOPMENT OF URBANISATION, PRODUCTION AND TRADE

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## Tureng Tepe and its high terrace, a reassessment

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Tureng Tepe (northeast of Iran) was excavated from 1960 to 1979 by a French team directed by Professor Jean Deshayes (University of Paris 1). This work revealed a complex stratigraphical sequence reflecting nearly five millennia of human occupation. This was the most important archaeological project ever conducted in this region of Iran. Unfortunately, only the most recent levels of the site, attributed to the Sassanid and Islamic periods, were the subject of a full publication. The publication project was revived in 2012 by means of the constitution of a new team in charge of the protohistoric levels (Chalcolithic, Bronze Age and Iron Age).

The French excavations have especially revealed an important urban centre dated from the 3rd millennium BC, and dominated by a high mud brick terrace. The artefacts recovered show close parallels with the site of Tepe Hissar. The aim of this paper is to present the preliminary results of the architectural study of the high terrace, to give a novel description of its internal structure, the building techniques implemented, the foundation system, and to propose a reconstruction of this unusual building.

*Les travaux réalisés à Tureng Tépé (nord-est de l'Iran), par la Mission archéologique française dirigée par Jean Deshayes, de 1960 à 1979, ont permis la découverte d'une séquence stratigraphique de près de cinq millénaires. Malheureusement, seuls les niveaux les plus récents du site, c'est à dire les occupations sassanides et islamiques, ont fait l'objet d'une synthèse exhaustive. En 2012, la constitution d'une nouvelle équipe en charge des occupations protohistoriques (Chalcolithique, âge du Bronze et âge du Fer) a permis de relancer le programme de publication de ce site archéologique majeur.*

*Les fouilles de Jean Deshayes à Tureng Tépé ont notamment révélé l'existence d'un centre urbain daté du III<sup>e</sup> millénaire, dominé par une haute terrasse de briques crues. Le mobilier archéologique, associé à ces niveaux, présente de fortes similarités avec celui mis au jour lors des fouilles de Tépé Hissar. Les résultats préliminaires de l'étude architecturale réalisée sur la haute terrasse nous permettent de donner ici une nouvelle description de la structure interne, des techniques de construction et du système de fondations, mais également de proposer une restitution d'ensemble de ce bâtiment insolite.*

محوطه ترنگ تپه بین سال های 1960 تا 1979 توسط یک گروه فرانسوی به سرپرستی ژان دهه استاد دانشگاه پاریس 1 – سوربن کاوش شد. نتایج کاوش در این محوطه، نمایان شدن پنج هزار سال توالی سکونت انسان بود. این کاوش مهمترین مطالعه باستان شناختی انجام شده در ناحیه شمال ایران در زمان خود بود. متأسفانه، تنها دوره های جدیدتر استقرار این محوطه که متعلق به ساسانی و اسلامی است به طور کامل منتشر شده اند. به همین منظور، در سال 2012 یک تیم جدید تخصصی با گرایش دوره های آغاز نگارش (مس و سنگ، مفرغ و آهن) جهت مطالعه و انتشار کامل دیگر یافته های بدست آمده از این کاوش شکل گرفت. در کاوش هیئت فرانسوی در این مکان، یک مرکز مهم شهری مربوط به هزاره سوم ق.م نمایان شده بود که دربرگیرنده یک تراس خشتی بلند بود. مواد فرهنگی بدست آمده از این بخش، شباهت زیادی به یافته های باستانشناسی تپه حصار دارد. هدف نوشتار حاضر، ارائه نتیجه مقدماتی از مطالعه بقایای معماری تراس بلند خشتی، توصیفی جدید از ساختار دورنی، روش های ساخت به کار گرفته شده در آن به ویژه پی سازی و بازسازی پیشنهادی از این بنای خاص است.



## Location and topography of the site

Tureng Tepe (or “Hill of the Pheasants” in Persian) is an archaeological site located, in the Gorgan plain, northeast of Iran, close to the Turkmenistan border. It is more precisely located 18 km northeast of the modern city of Gorgan and 15 km south of the river Gorgan Rud. Tureng Tepe is one of the largest archaeological sites in this region, and the only one that provides a long, continuous occupation sequence from the Neolithic to the Islamic period.

The site covers an area of nearly 35 hectares (*fig. 1*). It consists of a group of artificial mounds about 12 to 17 m high, dominated by the thirty meters high Main Mound. The topography is quite particular since a central depression (which turns into a winter seasonal pond) splits the site in two distinct sets. In the north, stands the Main Mound (or “Mound A”), the modern village, which covers the entire eastern part of the site, at its foot. North Tepe (or “Mound B”), further north, corresponds to the current cemetery. Tepe South, as its name suggests, is located in the southern part of the site. The

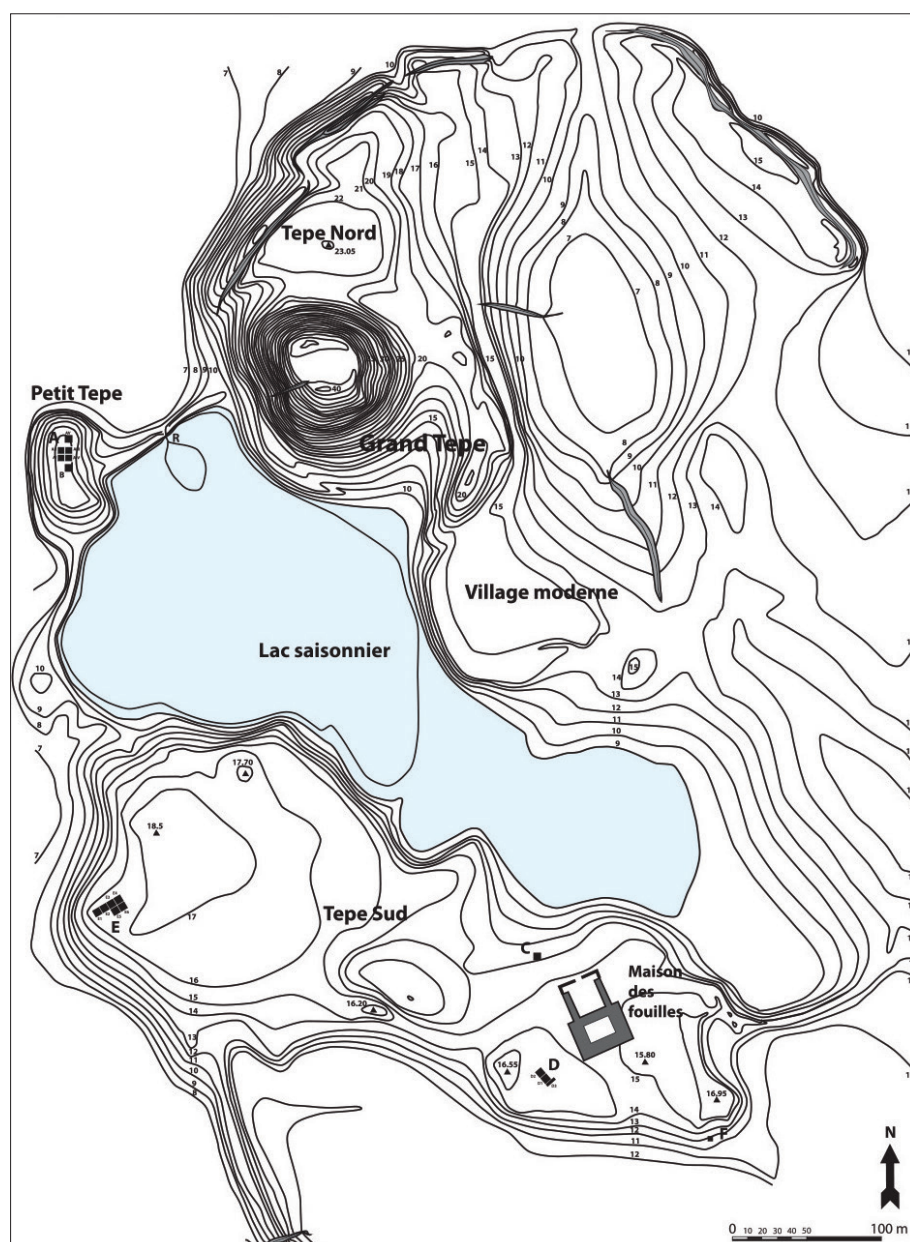


Fig. 1 – General plan of Tureng Tepe (J. Bessenay-Prolonge, after the archives of the Mission archéologique française de Tureng Tepe).

excavations house of the French Archaeological Mission was built in 1961 in the eastern part. To the west is the Small Mound (or “Mound C” or “Naghar Tepe”). It is now part of an artificial dam.

The Main Mound takes the form of a flattened cone, which measures nearly 110 m in diameter at its base, and 40 m in diameter at its top (*fig. 2*). It rises about 35 m above the level of the plain and the slopes are particularly steep. The western face is heavily eroded by the prevailing winds. The ruins of a former summer residence, dating from the 19th century, take place at the top of the tepe.



Fig. 2 – Tureng Tepe, Main Mound, southern slope, 1975 (photo: Mission archéologique française de Tureng Tépé).

## History of the excavations and publication project

Tureng Tepe was first mentioned in 1844, in an article relating the fortuitous discovery of the “Asterabad treasure”, which consisted of some bronze decorated dishes and weapons, and some stone figurines and vessels<sup>1</sup>.

The first true excavations took place in 1931, when the American Frederick Wulsin, curator at the University of Pennsylvania Museum in Philadelphia, began a series of surveys on Tureng Tepe<sup>2</sup>. The first campaign takes place during the month of June 1931; a second one is organized in October of the same year. This work has enabled the discovery of many Bronze Age artefacts, some of which are currently exhibited in the University of Pennsylvania Museum of Archaeology and Anthropology. A deep pit of 17 m is carried out at the top of Main Mound, in order to provide information on the massive brick structure revealed by the erosion of the western face of the mound. It allows the discovery of a set of settlement levels on the top of a vast mud bricks platform. Two tunnels were also dug in the northern

1. De Bode 1844, p. 248-255.

2. Wulsin 1932.

and eastern slopes. Some excavations squares have been carried out in the Northern Mound and in the Small Mound, where the excavators discovered about 75 burials linked with architectural remains.

The site of Tureng Tepe was later excavated from 1960 to 1979 by a French team directed by Jean Deshayes (professor at University of Paris 1). The first campaign took place in January and February 1960, with a very small team. Two pits (A and B) are carried out in the northern part of the Small Mound. The primary purpose of J. Deshayes was to obtain a good idea of the stratigraphy of the site. He chose to postpone the excavation of the Main Mound considered to be “the most promising” for a later campaign. Three pits (C, D, E) are carried out on the Southern Mound from 1962. The 1964 campaign is devoted to the study of archaeological artefacts. Research on the High Mound started out in 1967, and continued until 1977. A total of 126 excavations squares have been carried out on the High Mound; it corresponds to an area of nearly 3150 m<sup>2</sup>.

After Jean Deshayes’ death in 1979, the publication of the excavations was entrusted to others archaeologists who have worked on the site. R. Boucharlat and O. Lecomte were in charge of the volume dedicated to the Sassanid and Islamic remains, which was published in 1987<sup>3</sup>. Because of the Islamic Revolution in 1979, S. Cleuziou (responsible for Iron Age levels) undertook new research works focused on Oman. J.-D. Forest (responsible for Chalcolithic and Bronze Age remains) turned for his part to Iraq. The untimely deaths of both researchers in 2009 and 2011 puts an end to the research works of the first team. The only publications about the high terrace are two brief articles by Jean Deshayes published in 1975 and 1977<sup>4</sup>. The publication project was revived by R. Vallet in 2012 by means of the constitution of a new team in charge of the publication of the protohistoric levels (Chalcolithic, Bronze Age and Iron Age)<sup>5</sup>.

## Tureng Tepe and the Gorgan area during the Bronze Age

During the second half of the 4th millennium BC, the Gorgan plain and its close surrounding areas are characterized by the appearance of a polished grey or black ceramic. S. Cleuziou, one of the Tureng Tepe excavators, talked about the “Burnished Grey Ware culture”<sup>6</sup>. Tureng Tepe is one of the two main urban settlements of the cultural sphere of the Grey Burnished Ware, the site of Tepe Hissar constituting an outpost to the inside of the Iranian Plateau. This type of ceramics has been also found at Shah Tepe<sup>7</sup> and at Yarim Tepe<sup>8</sup>, two others sites located in the Gorgan plain. The Burnished Grey Ware ceramics are generally high quality production; the pots are made without the potter’s wheel, and fired at high temperature (around 900° C) in a reducing atmosphere<sup>9</sup>. At Tepe Hissar, the excavators have discovered many rich burials whose funeral artefacts include valuable materials from distant locations (alabaster, carnelian, lapis-lazuli...). The

3. Deshayes, Boucharlat and Lecomte 1987.

4. Deshayes 1975; Deshayes 1977.

5. The team directed by R. Vallet (CNRS) includes several researchers: J. Bendezu-Sarmiento (CNRS, director of the DAFA, Kaboul) and O. Munoz (post-doctoral researcher, UMR 7041 ArScAn-VEPMO): funerary practices; J. Bessenay-Prolonge (doctoral student, University of Paris 1): stratigraphy and architecture; M. Casanova (professor, University of Lyon 2): prestige goods; G. Gernez (assistant professor, University of Paris 1): metal artefacts; J. Lhuillier (post-doctoral researcher, UMR 8546 AOROC): Iron Age ceramics; C. Pariselle (independent researcher): Bronze Age ceramics; L. Sève (professor, University of Lille 3): post-Achaemenid remains. All the archives of the site have been gathered and are kept at the “Service des Archives” of the “Maison de l’Archéologie et de l’Ethnologie” (MAE, Nanterre). We are very grateful to the *Shelby White and Leon Levy Program for Archaeological Publications* for the funding of our publication program.

6. Cleuziou 1986, p. 222; Cleuziou 1991.

7. Arne 1945.

8. Crawford 1963.

9. Cleuziou 1991, p. 297.

artefacts found in the “Burned Building” and the existence of a lapis-lazuli workshop also illustrate both prosperity and social complexity of this Bronze Age settlement<sup>10</sup>. At Tureng Tepe as at Tepe Hissar, several objects also demonstrate the existence of long-distance trade with regions of Central Asia and with those of the south-east of the Iranian Plateau. This “Burnished Grey Ware culture” seems to disappear around 1800-1700 BC with the abandonment of Tureng Tepe, Tepe Hissar and the others sites of the Gorgan plain.

At Tureng Tepe, the excavations have revealed an important urban center dated from the Bronze Age, and dominated by a high mud brick terrace. The French archaeologists have excavated about 150 burials and several remains of houses in the excavations squares carried out on the Small Mound and on the Southern Mound. In much of these tombs, the body was buried with some artefacts: pottery, beads, and jewellery. Moreover, few pottery kilns have been discovered in the Southern Mound, which may correspond to a craft area.

At the end of the 1975 campaign, J. Deshayes established a chronology of the site. This periodization of the stratigraphy is largely based on that of Tepe Hissar. Jean Deshayes defines nine main periods of occupation from the Neolithic (period I) to the modern age (period IX). Tureng III, which corresponds to the Bronze Age period, is subdivided into IIIA, IIIB, and IIIC, imitating the periodization of Tepe Hissar (Hissar IIIA, IIIB, IIIC). The period Tureng/Hissar IIIB-IIIC is considered as the apogee of this “Burnished Grey Ware” culture and it is nearly dated from 2500 to 1750 BC.

## The high terrace of Tureng Tepe

The last four excavation campaigns focused on the Main Mound of the site. These excavations revealed a monumental building made of red brick. This terrace is the oldest remain that has been exposed on the Main Mound. If it is possible, indeed likely, that earliest levels exist, although they could not be reached by the excavators. The archaeologists have exposed only a small part of this high terrace, mainly on the southern slope of the mound, where the architectural remains were quite well preserved.

The first remains of the high terrace were uncovered during the 1971 campaign, on the southern slope of the Main Mound. Therefore, during the following three campaigns, the excavations extended in the south-eastern part of the Main Mound. These works exposed the southern side and the south-western corner of the high terrace. It should be noted that the western face of the Main Mound was heavily eroded by the prevailing winds; therefore the mud bricks appeared directly below the surface of the site. This area was still too damaged to be studied. However, a small preserved part of the high terrace was also exposed in 1975 on the top of the western slope. Finally, a new square was excavated in 1977 in order to find the south-eastern corner of the high terrace (*fig. 3*).

## Datation

The high terrace was first dated from the Iron Age, but in 1975, evidence pointing to a Bronze Age dating was discovered: in particular some small stone columns, which are typical Bronze Age artefacts. In addition, radiocarbon analyses conducted on wooden architectural elements, confirmed this dating (*tab. 1*). In particular, a radiocarbon dating have been done on a charred beam fallen down from the 2nd step of the high terrace<sup>11</sup>.

10. Schmidt 1937, p. 164

11. Gif-3339: 3880±110 BP; cal BC 1σ: 2550-2185.



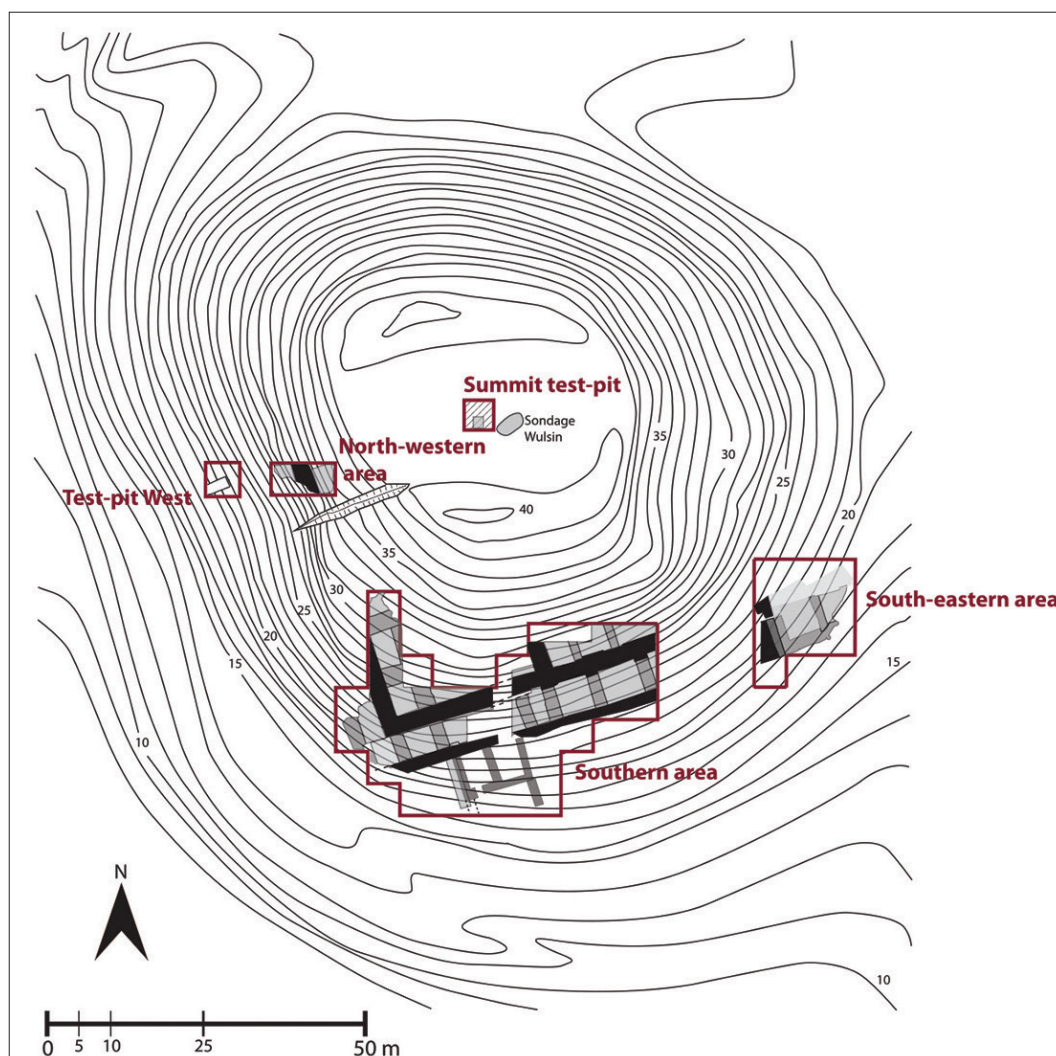


Fig. 3 – General plan of the remains of the high terrace of Tureng Tepe (J. Bessenay-Prolonge, after the archives of the Mission archéologique française de Tureng Tépe).

Laboratory Number	Stratigraphic context	Dating	Calibrated dating (1 $\sigma$ BC)
Ly-2301	High Mound, southeastern area, sample TT 77-1: charcoal or burnt reed, in a mortar layer between the bricks of the terrace.	3620 $\pm$ 130	2205-1765
Ly-2302	High Mound, square XX-14, destruction layer of the terrace sample TT 77-2: charcoal, red collapse layer of the terrace.	3690 $\pm$ 130	2335-1885
TUNC-42	High Mound, square XX-11 charcoal, layer with BGW ceramics in the foundation trench of the terrace.	3520 $\pm$ 70	1975-1750
Gif-3339	High Mound, square XVII-16, charred beam fallen down from the upper step to the intermediate.	3880 $\pm$ 110	2550-2185
Ly-1148	High Mound, square XX-11 charcoal inside a Bronze Age pot, foundations level of the terrace.	3920 $\pm$ 250	2675-2155

Tab. 1 – Radiocarbon dating for the high terrace of Tureng Tepe.



## Materials and building techniques

The high terrace is made of mud bricks and semi-baked bricks; there are four main modules of bricks so far: the most common size is represented by rectangular bricks 75 cm long, but thinner bricks and squared bricks (of 45 cm per side) are also used. It was also noted that thick layers of mortar (up to 10 cm thick), containing reeds aligned parallel, were regularly distributed within the masonry. Indeed, within these layers of mortar, the excavators have found several impressions of reeds (up to 5 cm in diameter) and wooden beams, but also the beams themselves. Those wooden beams were used without doubt to reinforce the solidity of the building.

The high terrace had sides of at least 80 m long and the whole building was expected to be more than 14 m high. The building was composed of two steps at least. The first step was about 5 m high above the surrounding ground.

The foundations of the building have been partially identified by the excavators, mainly in the western part of the southern side, at the foot of the hill (*fig. 4*). The foundation system about 2 m deep is quite complex. The foundations consist of a basement of semi-baked bricks, which take place in a trench filled with a layer of small stones and pebbles recovered by sandy mortar. Above these bricks, a layer of big stones taken in a red mud mortar was found. Finally, these stones were surmounted by a few layers of mud bricks alternating with layers of reeds.

These foundations with its big stones formed some kind of a belt, an outer coffer-work wall, which probably surrounded the whole building.

Forward this belt, and against the foundations, a huge mass of packed hard green clay took place extending over at least 3 m forward the facade, maybe up to 12 m. This structure formed some kind of a buttress according to excavators. It could also serve as to protect the foundations from the runoff waters.

The south-western part of the high terrace is heavily eroded, which has allowed studying the internal masonry of the building. The internal structure of each step consists of an outer coffer-work wall that surrounds a series of distinct blocks.

These blocks have different dimensions and there seems to be an alternation between short and long blocks. At a time, the large joint between the blocks of the first step and the outer coffer-work wall of the second step appears to have opened wide, which has tipped up a part of the first step forward.

The building above the ground consists of layers of semi-baked bricks alternating with layers of reeds. A red, regular clay plastering overlies the facade of the first step. The outer coffer-work wall is about 2 m wide and it is made up of two rows of bricks laid widthwise and one row laid lengthwise, the latter alternatively disposed on the sides or in the middle of the wall.

The south-central area was the best-preserved part since the excavators found the floor of the first step with its mud plaster. Curiously, in this section, the outer coffer-work wall of the second step was provided with a shear wall turning inward the building.



Fig. 4 – Foundations of the outer coffer-work wall of the high terrace, in the southwestern area, view from the SSW, 1971 (photo: Mission archéologique française de Tureng Tépe).

The facade of the second step was partly preserved (*fig. 5*). It was covered with several layers of mud plaster, with a total thickness of 20 cm at most. Those successive repairs indicate the long time span of the use of building. Nonetheless, its state of preservation is irregular. This facade was recessed with “pilasters” of one row of mud bricks. Three of them have been discovered so far.

The floors of the first step had been exposed on a length of 20 m, and were made of layers of packed clay. These layers were on average 30 cm thick on total, although they could reach 60 cm or 70 cm thick at the foot of the facade. It should be noted that the floor wasn't a horizontal and flat surface, but showed an inclined slope towards the east, with a drop of 3,50 m per 25 m long. It is therefore clear that we are dealing with a ramp giving access to the second step of the high terrace.



Fig. 5 – Facade of the second step and the floors of the first step of the high terrace, view from the WSW, 1975 (photo: Mission archéologique française de Tureng Tépe).

During the last campaign, a new square was opened in order to find the south-eastern corner of the high terrace. The remains of two facades (the upper one and the lower one) were found but the poor preservation of the remains, and the presence of unexpected repairs made the understanding of the whole more difficult than expected. The excavators have unearthed only a small part of the facade of the second step, in the north-western corner of the excavation square. It seems that the first floor of the high terrace is wider along the eastern facade than along the southern one. We may today interpret these repairs as indicating a lateral expansion of the second step in a later phase of construction.

The last two seasons have also revealed the existence of two successive buildings leaning against the southern facade and contemporary with the high terrace (*fig. 6*). The remains of the first building consisted of the foundation stones of three walls perpendicular to the facade of the terrace. These foundations were at the same height as those of the high terrace. The presence of jars set into the



Fig. 6 – Plan of the southern building at the foot of the high terrace of Tureng Tepe (J. Bessenay-Prolonge, after the archives of the Mission archéologique française de Tureng Tépe).

ground might point to a storage function. The second building was better preserved (but maybe there are two constructions rather than one). It is to be noted that its foundations were made of smaller stones, as it was the case of the second phase of the high terrace.

## Small stone columns

Few small stone columns have been found apparently on the floors of the second step of the high terrace (*fig. 7*), while two others fragments were found in the destruction layers at the foot of the southern facade.

These artefacts had a groove and they were made of sandstone or of limestone; they are from 25 cm to 30 cm high, and from 8 cm to 16 cm in diameter (*fig. 8*). This well-known category of artefacts, typical of the Bronze Age, has been found both in the Iranian Plateau (at Tepe Hissar<sup>12</sup>, Shahdad<sup>13</sup> ...) and in Central Asia (at Gonur Depe<sup>14</sup>, Ulug Depe<sup>15</sup>, Togolok Depe<sup>16</sup> ...).



Fig. 7 – Layer of the columns, square XI-8, view from the South, 1975 (photo: Mission archéologique française de Tureng Tépe).

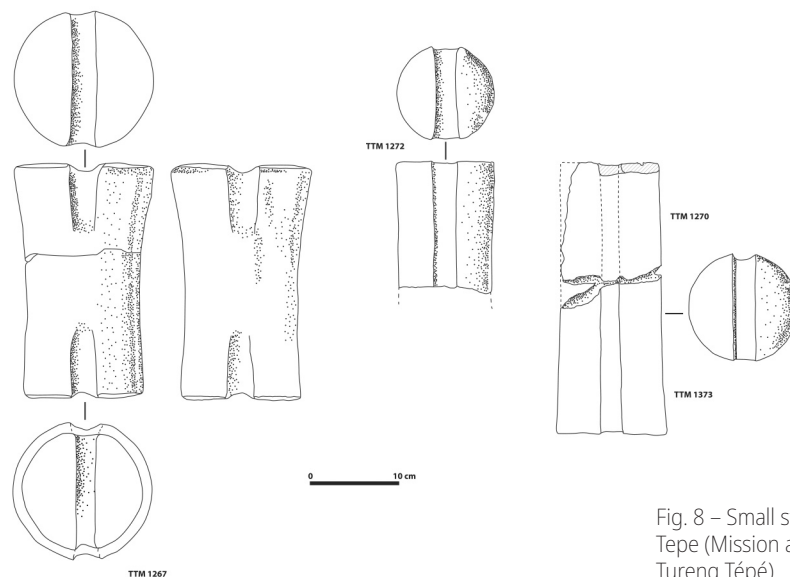


Fig. 8 – Small stone columns from Tureng Tepe (Mission archéologique française de Tureng Tépe).

12. Schmidt 1937, p. 216-219.

13. Hakemi 1997, p. 625.

14. Sarianidi 2007, p. 110.

15. Lecomte 2013, p. 181.

16. Sarianidi 1986, p. 15.

## Comparisons with others monuments from the Iranian Plateau and Central Asia

The high terrace of Tureng Tepe has already been compared to other monumental buildings uncovered on a few sites of the Iranian Plateau and Central Asia<sup>17</sup>. The three most convincing parallels are the high terraces of Altyn Depe (southern Turkmenistan)<sup>18</sup>, Nad-i Ali (Afghan Seistan) and the “Monument Massif” of Mundigak V<sup>19</sup> (southern Afghanistan). Unfortunately, those three cases are old excavations whose publications are far from being comprehensive.

### Altyn Depe

The terrace of Altyn Depe have been discovered in the excavation area no. 7, also called the “cult center” and located at the top of the slope of the Main Mound<sup>20</sup>. The area no. 7 takes place on an oval mound approximately 40 m by 50 m, located in eastern part of the Main Mound. Only the eastern facade has been released, and it seems that the terrace has been actually built on three sides; the fourth side was based on the natural relief.

The excavators, following the analysis of construction sequences of different buildings, have defined three main levels. Two successive phases of this terrace were differentiated. The first phase (level 3) is based directly on layers of the end of the period Namazga IV.

The first terrace consists of yellow bricks, it is oriented north to south, and its facade is 21 m long. The monument is preserved over 6 m high. Four successive steps were identified; the first, very well preserved, is 2 m high. The facade of the second step is decorated with pilasters. The third and fourth steps are poorly preserved and it is not possible to determine whether they were decorated<sup>21</sup>.

The second phase (level 2) is characterized by significant changes. The bricks are greyish. If the lower step seems to be reused without significant modifications, the other three steps increase in height and width. The facade is now 26 m long, and a huge masonry block is attached to the north side of the terrace. The second step is about 3, 5 or 4 m high. The whole building would reach almost 12 m high near 45 m long. A second building, the “House with parapet”, is built against the southern side of the terrace. This building, divided into small parts, has also a facade decorated with pilasters similar to those of the second degree of the terrace. This “House with parapet” takes place on a 3 m high platform. The level 2 is therefore characterized by a “monumentalization” of the “cult center”<sup>22</sup>. Note that, in the three levels, the terrace is integrated into a broader compound that includes a funerary complex. The two phases of the terrace are both dated from the Namazga V period (2500-1800 BC). Thus, the building presents some similarities with that of Tureng Tepe: several steps, massive foundations, and recessed facades. In addition, small stone columns were found at both sites. In Altyn Depe, one was discovered near a structure interpreted as an altar in a room (room 7) dated from the first phase of the terrace<sup>23</sup>. At Tureng Tepe, several similar columns were also found on the second step of the terrace.

17. Deshayes 1977; Tosi 1986, p. 166.

18. Masson 1988.

19. Casal 1961, p. 85-88.

20. The excavation of area no. 7 was carried out in 1967-1969, 1971 and 1973 and in 1976.

21. Masson 1988, p. 57.

22. Masson 1988, p. 59.

23. Masson 1988, p. 68.



## Mundigak V

As J. Deshayes had already noticed it<sup>24</sup>, we can establish some parallels between the “Monument Massif” of Mundigak V and the high terrace of Tureng Tepe.

The “Monument Massif” of Mundigak V is a monumental complex, erected on the Tepe A, above the ruins of the Mundigak IV “Palace” (Late Early Bronze Age). It should be noted that the dating of the Mundigak monument remains extremely uncertain. It is difficult to reconstruct the complete plan of the “Monument Massif” because of the erosion of the remains. In the northern part of Tepe A, a wall buttress reinforces the foundations of the old “colonnade” of Mundigak IV1. The northern area of the wall was demolished and filled in to provide support to a mud brick massif. The southern part of the ancient colonnade corresponds to the foundations of stepped terraces: series of caissons<sup>25</sup> as in the case of Tureng Tepe. Some fragments of white and red coated floors have been discovered in some places. Stone foundations are also attested in the south-western part of Tepe A. A network of walls maintaining backfill layers characterizes this building. The limits of this complex were not found because of the high erosion of the slope of the tepe. For J.-M. Casal, this building would therefore correspond to “une sorte de demi-pyramide tronquée au sud, dominée au nord par un massif couronné d’une ou deux cellules”<sup>26</sup>.

## Nad-i Ali

Nad-I Ali (Afghan Seistan) was first excavated by R. Ghirshman in 1936<sup>27</sup>, and then in 1968 by G. Dales<sup>28</sup>. In the Main Mound of the site, Ghirshman found the top of a massive mud brick platform, that he attributed to a Period II. G. Dales first considered this building as a median-Achaemenid construction<sup>29</sup>, but in a paper published in 1994, Besenval and Francfort dated the two oldest phases of the platform from the Bronze Age<sup>30</sup>. They also compared the building techniques implemented at Nad-i Ali and at Tureng Tepe. In both cases, mud bricks and baked bricks were used together. Moreover, we can also note the use of blocks of masonry surrounded by walls, and the possible presence of wooden beams within the structure of the terrace.

Nonetheless these three monuments were smaller than the high terrace of Tureng Tepe. At Altyn Tepe, the facade was 26 m long at its maximum expansion. At Mundigak and at Nad-I Ali, it is difficult to estimate the dimensions of those monuments, but they should not be greater than 50 m side.

## Conclusion

To conclude and propose a preliminary conception of the monument, we can reconstruct at Tureng Tepe a two-stepped high terrace with an area of nearly 5500 m<sup>2</sup> at the second step (*fig. 9*). A ramp, which takes place along the southern facade, gave access to this second step. Our theoretical reconstruction of the entire high terrace therefore corresponds to some kind of monumental base flanked by lateral

24. Deshayes 1977, p. 110-111.

25. Casal 1961, p. 86.

26. Casal 1961, p. 87.

27. Ghirshman 1959.

28. Dales 1977.

29. Dales 1977, p. 104.

30. Besenval and Francfort 1994.



access (*fig. 10*). The main facade of the building would therefore certainly be the eastern one, from which the access to the top of the monument started. Furthermore, the importance of the available surfaces at the top, as well as the late enlargement of the building, raises the question of the function of the monument. It seems that we are definitively not dealing with a ziggurat-like building, topped by a small single shrine, as some of the excavators had imagined, but that the high terrace probably supported a large architectural complex, one that may have perfectly housed the regional political power, whatever the precise nature of this power.

In any case, the continuation of our research program should give us new evidences and help us to get a better understanding of this impressive monument.

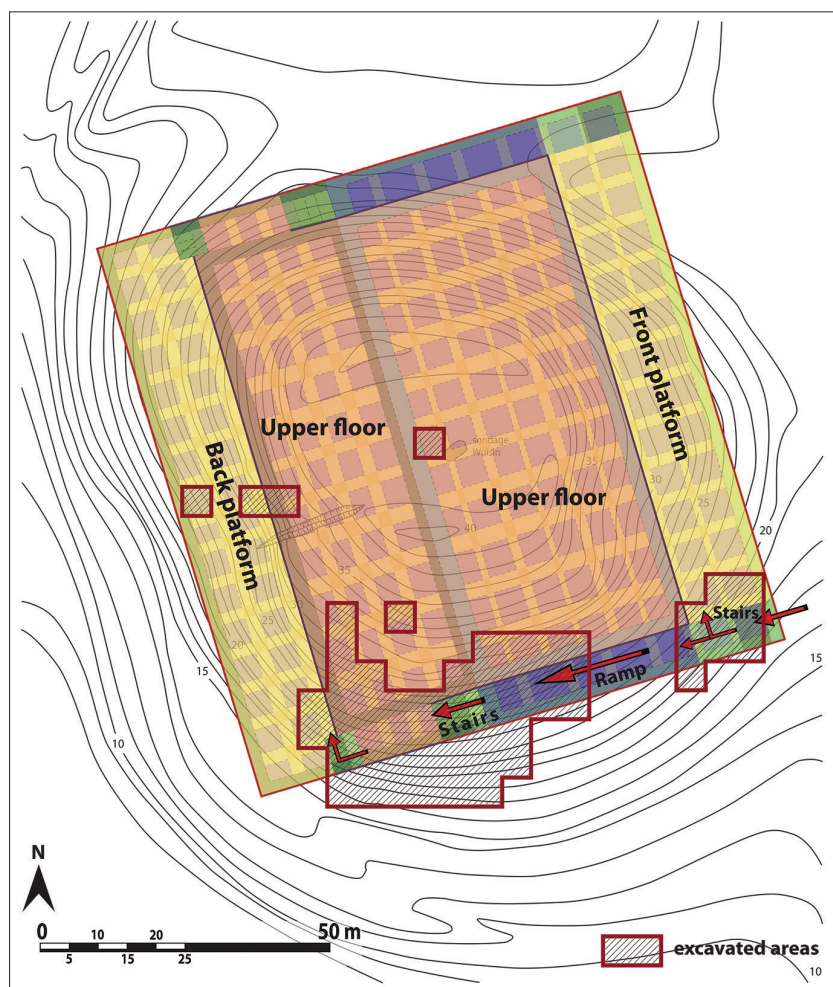


Fig. 9 – theoretical reconstruction of the high terrace (J. Bessenay-Prolonge).

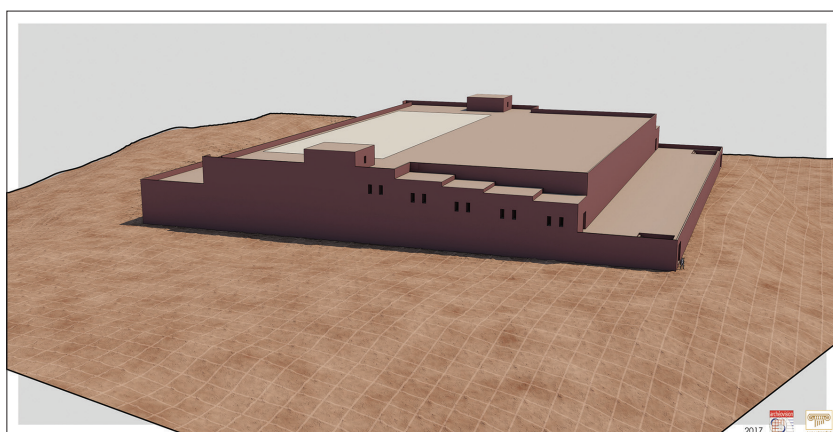


Fig. 10 – 3D reconstruction of the 1st phase of the high terrace (J. Bessenay-Prolonge and R. Vallet in collaboration with ArchéoTransfert/ ArchéoVision).

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