

The Birth and the Development of the Iranian Architecture in the Zagros during the 1st millennium BC

**Prof. Dr. Alexandre TOUROVETS
Catholic University of Louvain
Louvain-la-Neuve (Belgium) – PAI/IAP¹**

It's beyond the scope of my article to discuss about the beginning of the Architecture in Iran as a phenomenon connected to the emergence of the Medes. The main issue of this lecture is to propose another approach to the problem of the sudden development of the architecture in Iran during the Iron Age II.

The study of the architectural remains in Takht-e Djamshid - Persepolis and Pasargadae arises the question about the origins of this Imperial Architecture of the Achaemenian Era. How to explain its sudden rise in a area – the FARS - that curiously seems to be devoid of any traces of architectural monuments which can play the role of forerunners?

The answer to this question is extremely difficult or highly debatable. Fortunately, the solution may come from the excavated sites of the Western Zagros Area. Here archaeological excavations have unearthed major buildings dating back to the Iron Age II, at the sites of Nush-i Djan, Baba Djan (level I and II), Hasanlu (level IVB) and Godin Tepeh (Level II) (Fig.1). Here, we can observe large scale elaborated architecture belonging to these 9th-7th centuries buildings displaying some very well organized layouts². The analyse

¹ This research has been funded by the Interuniversity Attraction Poles Programme initiated by the Belgian Science Policy Office.

² Young (Young 1994) asserted that Hasanlu and Godin shared some basic important features that seemed to define the columned hall for example:

- 1) benches along the wall
- 2) a hearth
- 3) a « seat of honour »
- 4) an anteroom
- 5) a stairwell beside the anteroom (conjectural at Godin but well documented in Hasanlu)
- 6) bases with a flat stone set in the floor and smaller stones mud brick or mud plaster forming a surround around them.

We have to remark the absence of the first five features in the Nush-e Djan columned hall.

of their architectures show very strikingly that some architectural features and layouts, like for example, the columned halls, the columned porticoes, the layout formed by the entrance's group of rooms (antechamber, vestibule, portico, stairwell) and the buttressed facades of some large constructions, all these, seem to be very common in the architecture of the Zagros sites.

However, these comparisons should not be limited to their architectural plans but must also concern the organization of circulations and the arrangement of the rooms giving access to the different parts of the buildings.

We first have to speak about the functioning of the group formed by the portico and the antechamber bordered on its short sides by a stairwell and by a room. In short, we are puzzled to observe that this inner layout seems to have been reproduced from one site to another, as it would have been the case for a model. We can easily compare for example, the different layouts of the access to the buildings especially the arrangement of the entrance group of rooms in most of the Hasanlu 's *Burned Buildings* (Level IV) (Fig.2). The system of the bent axis created between the antechamber and the main hall can be observed in the *Central Temple* and the *Fort* of Nush-e Djan (Fig.3)³. The circulation leading from the outside of the entrance to the main part of the building (central hall) can be paralleled in the two groups of buildings with no difficulties.

The great difficulty of the researches is to bring an answer to the main question. Was the architecture of the Zagros a self-produced creation due to the improved local building methods or were they inspired by some external influences.

A careful comparative observation of this emerging Iranian architecture suggests the existence of some ties with the architecture of Urartu through structural similarities between the two architectures⁴. Taking account of the high technical development reached by the Urartean builders from the start of the 8th century BC (if not before) with their well developed stone constructions, it's not unreasonable to think that this long architectural tradition led the Iranians of the Zagros to adopt or to reproduce some features as models even they were of limited scale. When and how it happened is not

³ The badly preserved state of the entrance's group of rooms leading to the Great Columned Hall in Godin (level II) makes the comparison very hypothetical even there are some clues. (Cuyler Young and Levine 1974: 31. Cuyler Young 1969)

⁴ Johnson has presented in her conclusion an exhaustive list of the similarities between the two architectures. (Johnson 1975 : 34 f)

perceptible however the sudden development of the incipient Persian architecture seems to be very difficult to understand without keeping in mind a highly probable Urartean influence⁵.

The archaeological excavations have shown that the great development period of this incipient Iranian architecture is dated not before the end of the 8th century BC. In some Zagros sites, like Godin Tepe (Fig.4) and Tepe Nush-I Djan (Fig. 3) it's possible to compare the programmes of constructions with those undertaken in the Urartean sites⁶.

We are very puzzled to observe that some of the buildings in Nush-e Djan and Hasanlu (*Burned Buildings* I, V, VI, VII) have some of their external walls reinforced by buttresses like it's the case in many buildings in the Urartean sites. Also the so called *Manor* of Baba Djan (level II) (Fig.5) displays two projecting towers at the corners of its main facade and this layout can be paralleled to the corner buttresses of many Urartean forts and fortresses like those Hasanlu IIIB and Agrabtepe on the south shore of the Urumiyeh Lake⁷.

If the sudden development of the incipient Persian architecture seems to be very difficult to understand without keeping in mind a highly probable Urartian influence. The problem is to determine how taking account the geographical distance between Urartu and the Zagros, the architectural knowledge have been carried on and transmitted.

The monument is the Central temple of Nush-i Djan with its strange cross-shaped outline show similarities with those of the Urartean temples-towers even

⁵ According modern studies, the Medes are considered to have transmitted to the Persians their knowledges in architecture. Such assessment is based on the location of the main Zagros sites (which have produced an architecture of some importance) in a territory once inhabited by the Median tribes according the Assyrians written sources. By no means we have some asserted material documents that can prove the ethnic origin of the local populations. (Medvedskaya 1992. Sancisi-Weerdenburg 1988, 1994. Reade 1995 : 39. For a opposite opinion (Genito 1986 : 50. Genito 1995).

⁶ For example, the internal organization of the site of Armavir (Ter Martirossov 2001) can be compared with the one of Godin Tepe (Cuyler Young 1969. Cuyler Young and Levine 1974).

⁷ Hasanlu III or Agrabtepe are two sites which can be paralleled with the buttressed walls of Godin Tepe (Dyson 1989 : 5-7).

On the reliefs depicting the military campaigns of Sargon II, we can observe that the Iranian fortresses are surrounded by two lines of fortification walls strengtened by high towers or buttresses. These towers are higher than the line of the crenelated parapet of the walls and a set of narrow windows have been fited out at their summit just below the crenetated Platform. (Gunter 1982: 109).

See also for more explanations: Forbes 183: 16. Kleiss 1988: fig.1) and Sequindel (Kleiss 1968:42-44. Kleiss und Kroll 1980: fig.11. Oganessian 1958

they are obviously of a reduced scale (Fig.6)⁸. The form adopted for the corner-buttresses recalls the one masking the four corners at the tower-temples and the entrance layout recalls the one observed in many other monuments like the so called *Fort* in the same site and in the buildings of Hasanlu (and maybe in Godin Tepe) (Fig.7). Also the access to the inner space is given by a long corridor going through a projecting bastion-like façade. The slight ramp in front of the corridor's opening (not a true door) can be compared to the steps in the front way of the entrance's recess of the temples leading to the higher level of the inner room's floor. The posts of the inner doors are fitted by steps like in the urartian temple architecture.

We can also observe the open space in front of the entrance (see Fig.1) looks like the terrace structure observed beside or around the urartian tower temples, as open-air places surrounded by porticos⁹ or plain walls¹⁰. The six great once opened arches discovered some twelve meters southward of the entrance - and now situated on the slope's edge of the eroded teppeh - may represent a remaining section of the former enclosure almost completely destroyed by the later neighbouring constructions.

The archaeological excavations have also revealed the existence of columned halls on the four main sites of the Zagros. In Nush-e Djan, a building of 20m long and 16 m/15 m wide with 3 rows of 4 supports each regularly laid has been discovered. Probably the date this construction goes back the first quarter of the 7th century BC and according it may be considered as the first example built in Iran. Its slightly irregular plan and the position of each of the two entrances on its west and east sides seems to reveal the construction was built after the others in a available place left free between the *Old Western Building* and the *Central Temple*. The inner walls are decorated with deep stepped recessed niches, which are of the same type and the same dimensions as we can observe in the Urartean buildings. The architecture of the hall with its original entrance shows a layout very close to the one of the building in Altintepe (Fig. 8) most probably built at the beginning of the Achaemenid period¹¹.

Very curiously and unlike it's generally expected for such a construction the hall was only entered by a non-axially door through a little vestibule. In the columned hall of Nush-e Djan (Fig. 9), a similar room (room 38) seems to

⁸ Tourovets 2005

⁹ Özgüç 1966, fig.3: site of Altintepe

¹⁰ Kleiss 1974, abb. 4: site of Verachram

¹¹ Özgüç 1966 : 44-45. Most probably the monument dates back from the first half of the 6th c. BC. (Özgüç 1969 :76 . Summers 1993 : 93).

have played the same function. It gave access to the columned hall through an alcove pierced in the northwest corner of the west wall. Beyond this comparison of structures the existence of this passage seems demonstrate that the layout of the Hall with its access may be not accidental or fortuitous.

Recently Gopnick asserted that until proof of the contrary, the columned halls with regularly spaced supports are not known in the Urartean architecture¹². If we agree with her for that point it's not unreasonable to think that the architectural principle of supporting roofs or floors (sometime for extended surfaces) with regularly laid pillars has been brought from Urartu to Iran. At least Urartians could have influenced and improved the methods of building of the Iranian builders in the Zagros area.

In Çavushtepe (Eastern Anatolia) the excavations have revealed a very large building known as the *Pillar Building* or the *Palace* (Fig. 10). Here, a long central hall (81m long on 15 m wide) with two rows of piers, is bordered by rooms that are directly accessible by the side corridors. The piers are supposed to have supported the floor of a second level. Maybe a ceiling was supported by other pillars placed at the top of the former ones. It's not unlikely that heavy wooden galleries or balconies were placed around a probably roofed central space. In that case, the needs for airing and lighting must have required covering the hall with a roof placed on a higher level than for the surrounding rooms. In Kefkalesi near the city of Adilcevaz and also in Urartean Area a similar type of architecture has been unearthed revealing two different forms of halls (Fig.11). In the long one, the piers are supposed to have supported balconies topped by a roof. For the almost square hall the dimensions (26m long on 23 m wide) seem to be too big for a roof covering completely the space. In the central columned hall of Palace P in Pasargadae the analysis of the layout shows that pillars of roughly the same dimensions built in baked (?) bricks have once existed (Fig.12). Here they were lined in two rows placed along and at very short distances of the sides walls of the central hall. According their position in the hall and their form it's not unlike they supported also heavy balconies¹³.

If this hypothetical reconstitution of the inner space organisation can be regarded as probable it could affect our conception about some columned rooms like the central hall of the *Burned Buildings II* (Hasanlu) (Fig.13). Indeed, it has been noted that five columns were placed along each of the west and east walls of this hall, and two others against the north and south

¹² Gopnick 2010 :201.

¹³ Stronach 1978: 85-88. Huff 2010: 340-342. The comparison seems quite plausible according to the heavy form of the pillars and their use instead columns.

walls marking the ends of each of the two rows of self-standing columns¹⁴. These observations make the existence of balconies possible because the fitting out of these columns at their places can't be explained otherwise without any difficulties.

We have to suggest that both examples given by the Nush-e Djan's three rowed columned hall and the Godin's five rowed hall represents a completely new architectural principle. If there is no more possibilities to place balconies in such inner space arrangement the former division of the inner space between central and side aisles doesn't exist no more. Instead we have a impression of multi-axes layout that may emphasize the impact of the public ceremonies like in the congregational mosques of the Islamic world. In that and we will see later the columned halls of Nush-I Djan and Godin can be better linked to the Achaemenian examples¹⁵.

The so called temple of Haldi in Arin Berd (former Erebuni in Arménia) is particularly interesting for the development and the transformation of a columned space that formerly (i.e. in the first half of the 8th c. BC) played the role of a large vestibule with two rows of six columns each (first stage of the building) (Fig.14). The portico flanked on one of its short side by a stairwell appears to have given access from a court to a long room bordered by a little square chamber. The building displays an arrangement that curiously could be put side by side with those we have observed in the buildings in Hasanlu IV (*Burned Buildings*) and in Nush-I Djan (*Central Temple* and *Fort*). Indeed we can observe in the former constructions a long antechamber (which occupies the place of the former portico) flanked by the stairwell and the little room. The columned portico of the entrance has been moved forward to be placed in the front of the antechamber. On the same way, the portico has been flanked by one or two little guardrooms (*Burned Buildings* I, III, IV, and the first stage of V), or moved outside along the main facade of the building (*Burned Buildings* II).

¹⁴ Dyson 1980

¹⁵ Recently Gopnick (GOPNICK 2010: 197-199) has pointed out that the theory of a linear evolution (or continuous evolution) of forms and spatial organization from the columed halls of Hasanlu towards the Apadana is by no means easy to hold. We think that she is too much attached to the formal and structural comparisons. We prefer to speak about a challenge between a possible influence and a presumed inspiration or even a possible local self-expression architectural création. Indeed we sometimes attach on structures more values or more meanings than they can really bring to us. We must not forget that the partialy preserved structures on the ground are the sole available marks to reconstruct the architectural volumes (Margueron 1986).

In Arin Berd, the Achaemenian builders of the great columned hall didn't have the possibility to place the entrance in the former part of the building because the rear part abutted the fortification wall that was built on the edge of the slope. For that reason they pierced the entrance through a side of the hall that usually represented the back wall in the great columned halls of palaces in Pasargadae and the Apadana of Persepolis. We have to note the door has been pierced near the corner and not in the centre of a wall. We can observe the same arrangement in the great halls of Altintepe and Nush-I Djan.

Maybe this tradition to set the entrance in the back wall of a columned portico flanked by two rooms (guardroom, stairwell...) goes back this period of local developments in the emerging architecture of the Zagros. At least, it seems it was well defined and developed when this layout was chosen for the great constructions we can observe in Hasanlu.

At this stage we can observe the existence of a system of bent-axis that seems to be reserved to make the access to the great central hall indirect with a change of orientation through the antechamber. The same layout exists in the *Fort* and the *Central Temple* of Nush-i Djan.

At the end of the 7th century BC, a very large columned hall was built in the fortified palace of Godin Tepe (Fig.4) This hall (28m long x 24 m wide) displays five rows of six columns each and according to this layout this monument represents a daring architectural novelty. On the architectural point of view its arrangement is very close to the central hall of the Apadana of Persepolis and could have represented a forerunner model for the later constructions. We have to remind that the end of Godin level II occurred near the middle of the 6 century BC and the construction of the first phase of the Apadana is believed to have started at the very end of this same century.

Beyond the similarity of the architectural concepts, forms and structures, we have to point out the similarity of functions between the monument and its Achaemenian counterparts. There is no more a main axis formed like in Hasanlu by a larger aisle or a central row of columns like in Nush-e Djan. Even if the hall in Godin Tepe is structurally bound to other architectural features (for example: walls, towers..) it seems to have been built to be used as an independent unit. Unfortunately, we have only few information about the access. However, It's highly probable that the hall was entered through a portico or vestibule flanked by two little guardrooms like in Hasanlu or in the *Fort* at Nush-I Djan.

The form of the entrance system seems for us extremely significant to explain the origin of the plan we have observed in the Achaemenian palace buildings of Pasargadae. We have some reasons to believe that the group of rooms formed by the columned portico flanked by the two little guardrooms were

introduced from the Zagros architecture. If it's not as a pure reproduction at least it could illustrate the transmission of such a kind of architectural principle.

It's possible to note that the improvements in the organisation of the entrance is directly linked to the evolution of the columned hall. One of the most outstanding technical improvements is the capacity to extend the inner space with free-standing columns more and more distant from each others. The construction of four columned porticoes buildings like the Palace S contributed to make the main hall a protected space where it was possible to transfer inside all the activities, meeting activities and ceremonies, that were before performed outside.

It's not unreasonable to think that the Apadana represents a topmost technical improvement of the structural organisation. However, we have to note that its layout seems to have been known for about hundred fifty years before the beginning of its construction. We can observe in the first occupation level (II) of the *Manor* in Baba Djan four corner rooms projecting each from the angles of the construction. At that time, projecting "towers" were attached in the middle of the wall joining these rooms and one of them was pierced to set an access to the building). Theses structures disappeared in the second stage of the building during which they were replaced by long rooms along the flanking sides and a open (or columned ?) vestibule took the place of the former access. No room was added on what appears to be the rear side of the building. A stairwell and a little room took the places of the former corner rooms flanking the former tower-vestibule. This layout reminds us the organization principle we have already seen. The example seems to prove that the layouts observed in the palace of Pasargadae may have been adopted as a model if not totally reproduced from the Zagros area. However, we have no information about the existence at Pasargadae of a stair in the rooms flanking the porticos.

In conclusion, we must not forget that the preserved structures on the ground and forming the layout of a building are the sole available marks to reconstruct the disappeared upper structures of the architectural volumes. Indeed we can observe the gradual development of the architecture through what seems to be a search for a more regularity in the use of the space. The two main points are the circulation and the connexions between the different parts of the architectural structure.

Obviously in the Zagros area, those who have ordered and controlled the construction of these large-scale buildings sites have searched to display

their power. This extension of the power carried by large scale and prominent buildings is characteristic of the development of the elite. Maybe this latter has been in search of models coming from more developed policies where architecture is usually (and politically) considered as a mark of prestige. The taking up of many architectural structural elements from the Urartean architecture and the efforts to adapt the layout to a regular square form speak for the adoption of the urartian building as a model. However and to the contrary of some theories for which models may travel during the time from one area to another, we must underline here the importance of the local architectural adaptations, either the Iranians of the Zagros or by the builders of the Achaemenid period. Indeed, the analysis of the architectural organization of spaces shows that the builders have all adapted and then transformed for their own use different parts of significant structures belonging to former constructions. If we have pointed out architectural similarities between some constructions and structures, by no means we can speak about formal architectural copies.

Bibliography :

- Cuyler-Young, T., 1966. Thoughts on the Architecture of Hasanlu IV, *IRANICA ANTIQUA* VI, p. 48-71.
- Cuyler Young T. 1969: *Excavations at Godin Tepe. Second Progress Report*. Royal Ontario Museum Art and Archaeology. Occasional Paper n°17.
- Cuyler Young T. 1974: "Excavations at Godin Tappeh" in: Bagherzadeh (ed): *11th Annual Symposium on Archaeological Researches in Iran* : 80-90.
- Cuyler Young T. 1994 : "Architectural Development in Iron Age Western Iran", *Bull. Canadian Society for Mesopotamian Studies* 27, 25-32.
- Cuyler Young T. and Levine L. 1974: *Excavations of the Godin Project: Second Progress Report*. Royal Ontario Museum Art and Archaeology. Occasional Paper n°26.
- Dyson R. 1980: "The question of Balconies at Hasanlu", in: De Vries K. : *From Athens to Gordion*. (Memorial R.S. Young). University Museum Papers - May 1975- Philadelphia :149-158.
- Dyson R. 1989: "The Iron Age Architecture at Hasanlu: an Essay", *Expedition* 31 n°2-3 : 107-127.
- Erzen A. 1988 : *Çavustepe. Urartian Architectural Monuments of the 7th and 6th centuries BC and the necropolis of the Middle Age*. Türk Tarih Kurumu Basimevi. Ankara.
- Forbes T. 1983: *Urartian Architecture*. BAR Int. Series 170. Oxford.
- Genito B. 1986 : "The Medes. A Reassessment of the archaeological Evidence", *East and West* 36 (1-3) : 11-82.
- Genito B. 1995 : « The Matériel Culture of the Medes : Limits and Perspectives in the Archaeological Research », in : *un Ricordo che non si spegne*. Scritti

- dell'Istituto Universitario Orientale di Napoli in memoria di Alessandro Bausani. Istituto Universitario Orientale. Dipartimento di Studi asiatici . Series Minor L. : 103-118.
- Goff C. 1969 : « Excavations at Baba Djan 1967 », *IRAN* VII :115-130.
- Gopnick H. 2010 : « Why Columned Halls ? » in : Cutis J. and Simpson St.John (eds.) *The World of Achaemenid Persia. History, Art and Society in Iran and the Ancient Near East* : 195-206.
- Gunter A. 1982: "Representations of Urartian and western iranian Fortress Architecture in the Assyrian Reliefs", *Iran* XX : 103-112.
- Johnson (E) 1975: "Urartian Influence upon Iranian Architecture in the Early First Millenium BC", *MARSYAS* XVII (1974 -1975) : 21-38.
- Kleiss W. 1968: "Urartäische Plätze in Iranisch-Azerbaidjan", *Istanbul Mitteilungen* 18 :1- 44.
- Kleiss W. 1972: "Bericht über Erkundungsfahrten in Iran im Jahre 1971", *AMI* 5 : 135-242.
- Kleiss W. 1980: "Zur Entwicklung der Achaemenidischen Palastarchitektur", *Iranica Antiqua* XV, pp.199-211.
- Kleiss W. 1988 : "Aspekte Urartäischer Architektur", *Iranica Antiqua* XXIII : 181-215.
- Kleiss W. und Kroll S. 1980: "Die Burgen on Libliuni (Seqindel)", *AMI* 13 : 21-61.
- Margueron J. 1986 : « Quelques principes méthodologiques pour une approche analytique de l'architecture du Proche Orient », *Contributi e Materiali di Archeologia orientale* I : pp.261-285.
- Medvedskaya I. 1992: "The Question of the Identification of the 8th-7th century Median Sites and the Formation of the Iranian Architectural Tradition", *AMI* 25 : 73-79.
- Naumann R. 1971 : *Architektur Kleinasien*. Tübingen.
- Oganesian K. 1958 : « Die urartäische Siedlung im Dorf Aragac », *IANA*, 4 : 77-92.
- Özgüç T. 1966: *Altintepe I. Architectural Monuments and wall Paintings*. Türk Tarih Kurumu Basimevi. N°24. Ankara.
- Özgüç T. 1969 : *Altintepe II* . Türk Tarih Kurumu Basimevi N°27. Ankara.
- Reade J.1995 : « Iran in the Neo-Assyrian Period » in Liverani M. (ed.) *Neo Assyrian Geography* , Università di Roma « La Sapienza ». Roma .
- Roaf M. 1995: "Media and Mesopotamia: History and Architecture", in Curtis J.(ed.) : *Later Mesopotamia and Iran: Tribes and Empires 1600-539 BC* : 54-66.
- Roaf M. 2010: «The rôle of the Medes in the Architecture of the Achaemenids in Cutis J. and Simpson St.John (eds.) : *The World of Achaemenid Persia. History, Art and Society in Iran and the Ancient Near East*, 247-254.
- Sami A. 1971 : *Pasargadae. The Oldest Imperial Capital of Iran*. Shiraz.
- Sancisi-Weerdenburg H. 1988 : « Was there ever a Median Empire » in : Sancisi-Weerdenburg (H) ed : *Achaemenid History III* : 197-212.
- Sancisi-Weerdenburg H. 1994 : « The Orality of Herodotus' Medikos Logos or : The Median Empire revisited » in : Sancisi-Weerdenburg H. (ed) : *Achaemenid*

- History VIII*, pp.39-55.
- Stronach D. 1967: "Urartian and Achaemenian Tower Temples", *JNES* 26 : 278-288.
- Stronach D. 1969: "Excavations at Tepe Nush-i Jan", *IRAN* VII, pp.1-20.
- Stronach D. 1978 : *Pasagrade. A Report of the Excavations conducted by the British Institute of Persian Studies from 1961 to 1963*. Oxford.
- Stronach D. 1981: "Notes on Median and Early Achaemenian Religious Monuments", in: Biran (A): *Temples and high Places in Biblical Times* (Coll. Jerusalem), pp.123-130.
- Stronach D. and Roaf M. 2007 : *The Major Buildings of the Median Settlement*. British Institute of Persian Studies. London. Leuven.
- Summers G. 1993 : Archaeological Evidence for the Achaemenid Period in Eastern Turkey, *Anatolian Studies* XLII : 85-108.
- Ter Martirossov F. 2001 : « The typology of the columnar structures of Armenia in the Achaemenid period », in Nielsen I. (ed.) : *The Royal Palace. Institution of the First Millenium BC. Regional Development and Cultural Interchange between East and West*. Danish Institute of Athens . Monography n°4, Athens/Aarhus : 155-164.
- Tourovets A. 2005 : « Some reflexions about the relations between the architectures of North Western Iran and of Urartu. The layout of the Central Temple of Nush-i Djan », in Proceedings of the International Congress of Ghent (Belgium) , *Iranica Antiqua* vol.XI, pp.359-369.
- Tourovets A. 2014: « The Palace Architecture of the Achaemenids under scrutiny: an Approach to the Problem of its Origin » in DARYEE (T), MOUSAVI (A), REZAKHANI (Kh) (eds.) : *Excavating an Empire. Achaemenid Persia in Longue Durée*, pp. 145-168. Mazda Publishers. Mesa Verde. California .
- Tourovets A. 2015 : « The search for a better organisation of the space and its use: a possible cause to explain the outbreak of the Achaemenian Architecture” *Archäologische Mitteilungen aus Iran and Turan* 46 (forthcoming).

List of Figures

Figure 1: Map of the north western part of the Zagros (with sites cited)

Figure 2: General plan of the Burned Buildings group at Hasanlu (level IV – 8th c. BC)

Figure 3: The site of Nush-I Djan (7th c.BC) (Stronach and Roaf 1978: fig.1)

Figure 4: General plan of the site of Godin Tepe (level II) (Cuyler Young and Levine 1974, fig.37)

Figure 5: Plan of the Manor of Baba Djan (level 2 : former stage – level 1 = second stage) (GOFF 1969 fig. 3)

Figure 6 : The Central temple of Nush-i Djan (Tourovets 2005, fig.2)

Figure 7: Nush-e Djan – Plan of the Fort (Stronach 1969, fig.3)

Figure 8: The Achaemenian Columned Hall of Altintepe (Summers 1993: fig.4)

Figure 9: Nush-e Djan. The Columned Hall (Cuyler Young 1994: fig.4)

Figure 10: The Hall with Pillars (“Palace”) of Çavushtepe (Kleiss 1988: fig.13)

Figure 11: Plan of the Palace of Adilcevaz/Kefkalesi (Kleiss 1988:fig.14)

Figure 12: Plan of the Palace P at Pasargadae (Stronach 1978: fig.40)

Figure 13: Plan of the Burned Building II at Hasanlu (Cuyler Young 1994, 27)

Figure 14: First stage of the Temple of Haldi at Arin Berd (Armenia) (Forbes 1983: fig.39)