

Some aspects of the relations between the Architectures of North Western Iran and Urartu during the first millennium BC.

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Maybe some people will ask what has to do such a title in a conference about Persepolis. The main issue of this paper is to propose an approach to the yet so far unsolved problem of the origins of the Achaemenian Architecture. In other words, our hope is to add some more reflexions to the questions in debate.

In fact, it's difficult to imagine the construction of the buildings on the Great Terrace of Persepolis and especially the Apadana as the immediate outcome of a pure theoretical architectural concept created by some royal research department. By no means this possibility can be considered likely. Of course the great difficulty of the researches is to bring some answer to the main question. Are the buildings of Persepolis and Pasargadae the ultimate examples of a continuous line of improved building methods in which the architectural development is linked only to the evolution of forms, layouts or techniques ?

Curiously the Fars area seems to be devoid of any traces of architectural monuments dating before the Achaemenid period. Moreover, of the ten sites related to this era in this area there is no one which can show any architectural layout equivalent or comparable to the Achaemenian buildings of Persepolis, Pasargadae, Susa or Dasht-e Gowhar. These constructions seem to have no forerunners. This situation looks like a real puzzle for the researchers according to the methods and the skill used by the builders in the existent buildings.

Unlike the Fars, the historical and archaeological situations in the Western Zagros Area are quite different. Here archaeological excavations have unearthed some major buildings dating mainly back to the 8th and the 7th centuries BC, at the sites of Nush-i Djan, Baba Djan (level I and II), Hasanlu (level IV) and Godin Tepeh (Level II) (Fig.1). Here, we couldn't really speak about a sudden appearance of the architecture even we can observe large scale architecture

displaying some very well organized layouts. The great difference with the Fars may be underlined in view of the existence of regional building traditions, which date before the 1st millennium BC and have produced some very original constructions (eg. Godin V, Hasanlu V, Giyan III-II, Haftavan VI-V, Kordlar).

Very strikingly some of the architectural features and layouts belonging to these 8th-7th centuries buildings, 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 buildings, all these seem to be very common in the architecture of the Zagros sites¹. However, these comparisons shouldn't be limited to the architectural forms. They also concern the proportions and the arrangement of the rooms giving access to the inner parts of the buildings. We 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 some parts of the inner layout of these buildings 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)². 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.

¹ 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.

² 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)

However, we don't need to be limited to analyse these regional similarities between building organizations. A careful comparative observation of this emerging Iranian architecture brings to light the existence of architectural similarities – but also discrepancies, with many buildings belonging to the former architecture of the Urartu in Eastern Anatolia (Johnson 1975) ³.

However, both architectures show obviously two different methods of buildings. The significant difference is shown by the Urartean architecture where thick stone foundations and regularly hewn blocs – some of them of great dimensions – have been used for the wall basements in contrast with the buildings of the Zagros built with mud bricks structures and exceptionally with stone foundations (Baba Djan and Godin). Obviously, the high quality of the Urartean techniques seems to prove a long period of maturation and improvements.

According to the chronological difference between the two groups of buildings and the neighbouring geographical situations of their own areas, it's most probable that these architectural analogies should be related at least to a contact with Urartu or an influence coming from Urartean building techniques. 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 it happened is not perceptible. The archaeological excavations have only shown that the great development period of this incipient Iranian architecture is dated not before the second half of the 7th century BC. Godin Tepe (Fig.4) and Tepe Nush-I Djan are sites where it's possible to compare the programmes of constructions with those undertaken in the Urartean sites. Of course, we have to bear in mind that above all an architectural construction reflects the technical capacities and abilities of the builders, even if they try to find the maximal efficiency whatever the form and the purpose of the structure they build.

The influence of the Urartean architecture in the Zagros could be first observed through the choice shared by the Urartians and the Iranians for setting their sites on the summit of a hill which overlook the environs. As we can observe there are also strong similarities between some layouts and internal organizations of the

³ Johnson has dressed in her conclusion an exhaustive list of the similarities between the two architectures. (JOHNSON 1975 : 34 f)

fortresses⁴. Moreover, the builders have chosen to surround their sites with strong fortifications walls strengthened by buttresses and projecting towers⁵.

We are also very puzzled to observe that some of the buildings in Nush-e Djan and Hasanlu (*Burned Buildings* I, V,VI, VII and the *Upper Gate*) 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 some Urartean forts like those of Aragatch Kale (Forbes 183: 16. Kleiss 1988: fig.1) and Sequindel (Kleiss 1968:42-44. Kleiss und Kroll 1980: fig.11. Oganessian 1958)

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 that separate Urartu and the Persian homeland (the Fars), the architectural knowledges have been carried on and transmitted⁶. Indeed, how could be explained the appearance of the wide and regular geometric layouts in the buildings of Pasargadae?

Two monuments recall a possible heritage coming directly from Urartu⁷. The first monument is situated in Pasargadae in the so called Zendan and the second can

⁴ 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).

⁵ Like in Hasanlu III or Agrabtepe these two sites 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 butresses. 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).

⁶ 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. At least, a Median aristocracy is supposed to have controled some large areas of the Zagros from the end of the 8th century (Medvedskaya 1992. Sancisi-Weerdenburg1988, 1994. Reade 1995 : .39 . For a opposite opinion (Genito 1986 : 50. Genito 1995).

⁷ A third monument located in the vicinity of Nurabad (Southeastern part of the Fars) has been joined by Ghirshman to the two others despite the architecture of this building obviously strong discrepancies with the former ones mainly in the existence of a stairwell inside the building and

be observed in Naqsh-e Rostam the so called Qa'ba-e Zardusht⁸. These monuments are both square-like bastions with corner buttresses. They have sidewalls decorated with blind windows and narrow blind niches like arrow-slots. At the summit, we can observe dentils jutting from the facade just below the cornice⁹.

The structure of the basement of both Persian monuments show striking similarities with those of the Urartean temples-towers even they are obviously of a reduced scale (Fig.6). We observe the same square section with corner buttresses. Unlike the Urartean models, the peculiarity of the Achaemenian buildings is to have their entrance located at some height in the monument at the top of a stair. The existence of a stairway marks the main difference – but unfortunately unexplained – between the two types of monuments.

Beyond the existence of these relations between the Urartians and the Achaemenids, the main question is to know about the origins of the great columned halls and their architectural connexion with the columned porticoes of the entrance. Obviously, both structures can be considered as the obvious features of the Achaemenian architecture.

The archaeological excavations have 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 (Fig. 7). 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* (Fig.3). 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 period (Özgüç 1966 : 44-45)¹⁰. Very curiously and unlike it's generally expected for such a construction the

built to reach a crenelated platform at its summit . (Ghirshman 1944/45, p.175). Kleiss 1972 : 200-204.

⁸ For these two monuments in Pasargadae, see Stronach (Stronach 1978 : 130-137).

⁹ Recently, Roaf has focused on the similarities of this motif with those we can observe on the facade and in the niches managed in the walls of the Central Temple at Nush-e Djan (Roaf 2010).

¹⁰ Most probably the monument dates from back the first half of the 6th c. BC. (Özgüç 1969 :76 .

hall was only entered by a non-axially door through a little vestibule. In the building of Nush-e Djan, a similar room (room 38) seems to have played the same function. It gave access to the columned hall through an alcove pierced in the north western 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 nor 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 architecture (Gopnick 2010: 201). The examples unearthed in the territory of Urartu (Arin Berd, Altintepe, Armavir...) have all been built during the Achaemenid period and not before (Ter Martirossov 2001 and Summers 1993). 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. The great technical skill developed by the Urartean builders through the 8th and 7th centuries BC, could not be reasonably considered otherwise than the outcome of a long experimentation's period.

In Çavushtepe (Eastern Anatolia) the excavations have revealed a very large building known as the *Pillar Building* or the *Palace* (Fig. 9). Here a long central hall (81m long on 15 m wide) with two rows of piers is bordered by rooms which are directly accessible by the side corridors. The access is located at the eastern end of the south corridor and a flight of steps is observed at the west end of the same corridor. The piers are supposed to have supported the floor of a second level and maybe, a ceiling was supported by other pillars placed at the top of the former ones. This suggestion is proposed taking account of the existence of cisterns in the floor of the basement and the dimensions of the pillars. Consequently, it's not impossible that heavy wooden galleries or balconies were placed around a probably roofed central space (Dyson 1980)¹¹. 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

Summers 1993 : 93).

¹¹ Dyson proposed to reconstruct the inner space of the Megaron 3 of Gordion (Yassi Höyük) with balconies placed at some height around a central space. Of course, here the wooden galleries are supported by beams and not by stone pillars (Dyson 1980 :fig. 2).

been unearthed revealing two different forms of halls (Fig.10). 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 columned hall of Palace R in Pasargadae the analysis of the layout shows that pillars of roughly the same dimensions built in baked (?) bricks have once existed (Fig.11). Here they were lined in two rows placed along and at very short distances of the sides walls of the central hall. According to their position in the hall and their form it's not unlike they supported also heavy balconies (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. The possibility that once there were two or three-storeyed private apartments in the empty areas flanking both sides of the hall (between the two long columned porticoes) is now admitted by all since the works of Sami (Sami 1970) and Stronach (Stronach 1978) in these areas. Huff established an architectural comparison with the inner space organisation of some well known historical palaces in contemporary Iran (Huff 2010: 339. Huff 2005: 376-377)¹². Indeed balconies were the only way to allow some people coming from the private apartments to attend to the ceremonies performed in the hall.

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.12). Indeed, Dyson remarked that five columns were placed along each of the west and east walls of this hall, and two others against the north and south walls marking the ends of each of the two rows of self-standing columns. 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 (Dyson 1980). If a similar organization once existed in others two rowed columned halls (for example in Hasanlu)

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

¹² Recently Huff gathered together all the theories about the existence of private apartments in the two areas flanking the main hall (Huff 2010: 338-341). Even if these areas are devoid of any surviving architectural structure the suggestion could be now considered likely.

and side aisles doesn't exist no more. Instead we have a impression of multi-axiality 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 examples¹³.

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.13). 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. During the Achaemenid Empire the building was extended and the former portico was included in a great square hall with five rows of six columns each (Second stage of the building – Fig.14). This last example can obviously support a comparison with the architectural layout of the Achaemenian palaces even and very surprisingly, this hall was entered by a non-axial door. This entrance connected the great hall to a portico-like space joining directly the rear part of the fortress' gate.

At the beginning, the building displays an arrangement that curiously could be put side by side with those we have observed in the buildings in Hasanlu (the *Burned Buildings* of level IV) (Fig.2) and in Nush-I Djan (*Central Temple* and *Fort*) (Fig.3 and fig.15). Indeed we can observe in all of those constructions the long antechamber (which occupies the place of the former portico) is flanked by the stairwell and the little room. The columned portico of the entrance, nonexistent in the buildings of Nush-e Djan 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

¹³ 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).

stage of V¹⁴), or moved outside along the main facade of the building (Burned Buildings II) (Fig.12).

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 (Fig.14). 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 situation 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 (Fig.2). Here a group of large buildings of very similar layout have been built during the 8th century BC (level IV). The largest among them, the so called the *Burned Building II* shows a main central hall (24m long on 19m wide) with two rows of six columns each and 2 rows of 5 columns each placed along the two long walls (Fig.12). As we have seen before the building is entered through an outer columned portico that gives access to an antechamber flanked by a room and a stairwell.

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 (Fig.3 and fig.15). We also have to note the two entrances in the northern portico (main gates) of the hall of the Apadana are not aligned with the main central axis of the throne (Fig.16).

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 and could have represented a forerunner model for the later constructions of Pasargadae and Persepolis. 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.

¹⁴ For the discussion about the Burned Building V, see : DYSON 1980: 150 f.

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 informations 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-e 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 and Dasht-e Gowhar (Fig.17). 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 in direct line from the construction of Dasht-e Gowhar to the ones of Palace R and Palace S in Pasargadae¹⁵. 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 outside¹⁶. As we have already supposed for the construction of the Palace R, the raising of the roof for the central hall answered to the needs about airing and lighting. If we compare the plans of the Palace S and the Apadana we could observe that the long portico of the former gave in the place to the little rooms at the rear of the back wall of the later.

It's not unreasonable to think that the Apadana represents a topmost technical improvement of the structural organisation and in the regularity of the layout by comparison with Palace S. However, we have to note that its layout seems to have been known for about hundred fifty years before the beginning of its

¹⁵ For the chronological sequence of the Achaemenian Palace Architecture before the construction of the Apadana see : Tourovets 2012 (article in press).

¹⁶ The existence of a throne in the long south-eastern portico of the Palace R seems to allow us to make this suggestion.

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). These structures disappeared in the second stage of the building during which they were replaced by long rooms along the flanking sides and a open (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 seen above. The example seems to prove that the layouts observed in Pasargadae may have been adopted as a model if not totally reproduced from areas outside the Achaemenian homeland. 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 in the evolution line of buildings a recurrent architectural concept of space-organization formed by a central columned hall bordered by columned portico and for some of them, flanked by little rooms. If we have pointed out architectural similarities between some constructions and structures, by no means we can speak about formal architectural copies.

The particularly well developed layout was probably adopted during the Achaemenian Period. Those who have built the palaces of Pasargadae and the Apadana have preferred obviously to open their constructions towards the exterior. 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 Achaemenian builders. 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.

The monuments of Persepolis and especially the Apadana could be seen as a technical improvement of the architecture of Pasargadae. The construction of these monuments testify the highly degree of skilfulness and knowledge of the builders who created a new programme of constructions according to the development of their own but long-term technical experiences in architecture.

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