

## The Neolithic Architecture of Ulucak Höyük

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During the nine excavation seasons between 1995 and 2003, a total of 1100 m<sup>2</sup> of Ulucak Höyük has been excavated and in an area of 800 m<sup>2</sup>, the architectural remains of the Neolithic Period have been uncovered<sup>1</sup>.

The Neolithic remains of Ulucak Höyük have been determined as eleven different architectural levels: IVa-h and Va-c. In general, the architecture of Level V is rather different from Level IV. The features of Level V were found under the mudbrick constructions of phase IV. Level V is an earlier phase of the Neolithic and can be dated around 6230 cal BC (Çilingiroğlu et al. 2004a; 2004b) indicating that the Neolithic should go down to the mid of the 7<sup>th</sup> millennium BC.

### The General Characteristics of the Neolithic Architecture

#### Level V

Because none of the structures from level V have been excavated completely, neither the plan of the houses nor details of the interior layout could be clarified. Phase Vc is the best preserved one of Level V.

Walls of level V have been erected using the “Pisé” technique (mud slabs) (Fig. 1; 2). The “Pisé” walls show a thickness of 15-20 cm and were sometimes supported by wooden beams. Stone foundations have not been observed in this level. The interior corners of the rectangular buildings were rounded. The roofs were supported by wooden posts.

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<sup>1</sup> I am grateful to A. Çilingiroğlu, for granting me the Ulucak material.

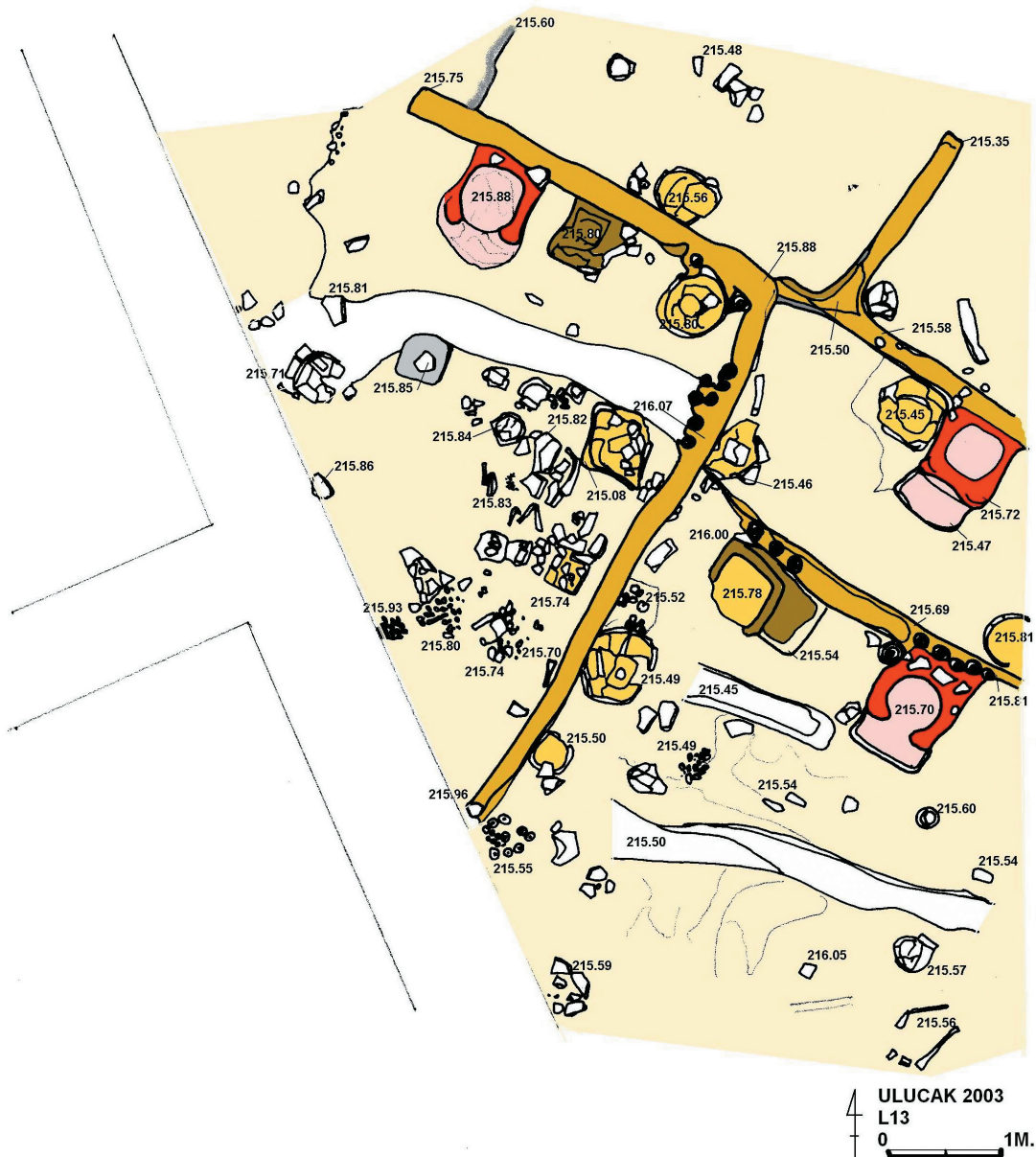


Fig. 1 Ulucak; architectural remains in L 13 (Level V)

There are ovens or hearths in every room, which are – as a rule – placed near the north wall (Fig. 1). They are built of clay, have flat roofs and are generally 60 cm high, with a square ground plan of 75 x 75 cm. The walls behind the ovens and hearths are often strengthened with wooden posts (Fig. 1). Next to the ovens there are boxes and storage jars. The small rectangular (?) (55 x 55 cm; 25 x 25 cm) mud boxes are completely undecorated and roughly formed. Large storage jars are found placed next to the hearths. A number of kitchen utensils were discovered on the floor, suggesting this was a storing and food producing area. Animal bones, obsidian and flint tools, spindle whorls, grinding stones, stone axes, figurines and sling stones are some of the finds and artefacts found in this area. The pottery assemblage slightly differs from level IV.

## Level IV

The buildings from this layer prove that there is an architectural continuity between the Level V and Level IV, which ended through a great fire. <sup>14</sup>C-data from Level IVb show, that the Late Neolithic period should be dated to 5990-5730 cal BC (Çilingiroğlu et al. 2004a, 146; 2004b; Derin et al. 243, Fig.12-13).

The buildings of Ulucak level IV were situated along streets (Fig. 3). Within the excavated area of the settlement two streets, one located in the north and the other in the south, have been detected. Level IV can be subdivided in eight different layers (IVa-h). A part of the settlement, consisting of 23 buildings, 3 courtyards and 2 streets in all, has been uncovered completely (Fig. 3). Level IVb provides the best information regarding the architecture of level IV. The buildings have generally been constructed in a rectangular plan. The length of the buildings, is approximately 6 m, the width differs from 3 to 6 m. In most cases, the buildings have courtyards in front of them. The walls of the buildings were erected either with or

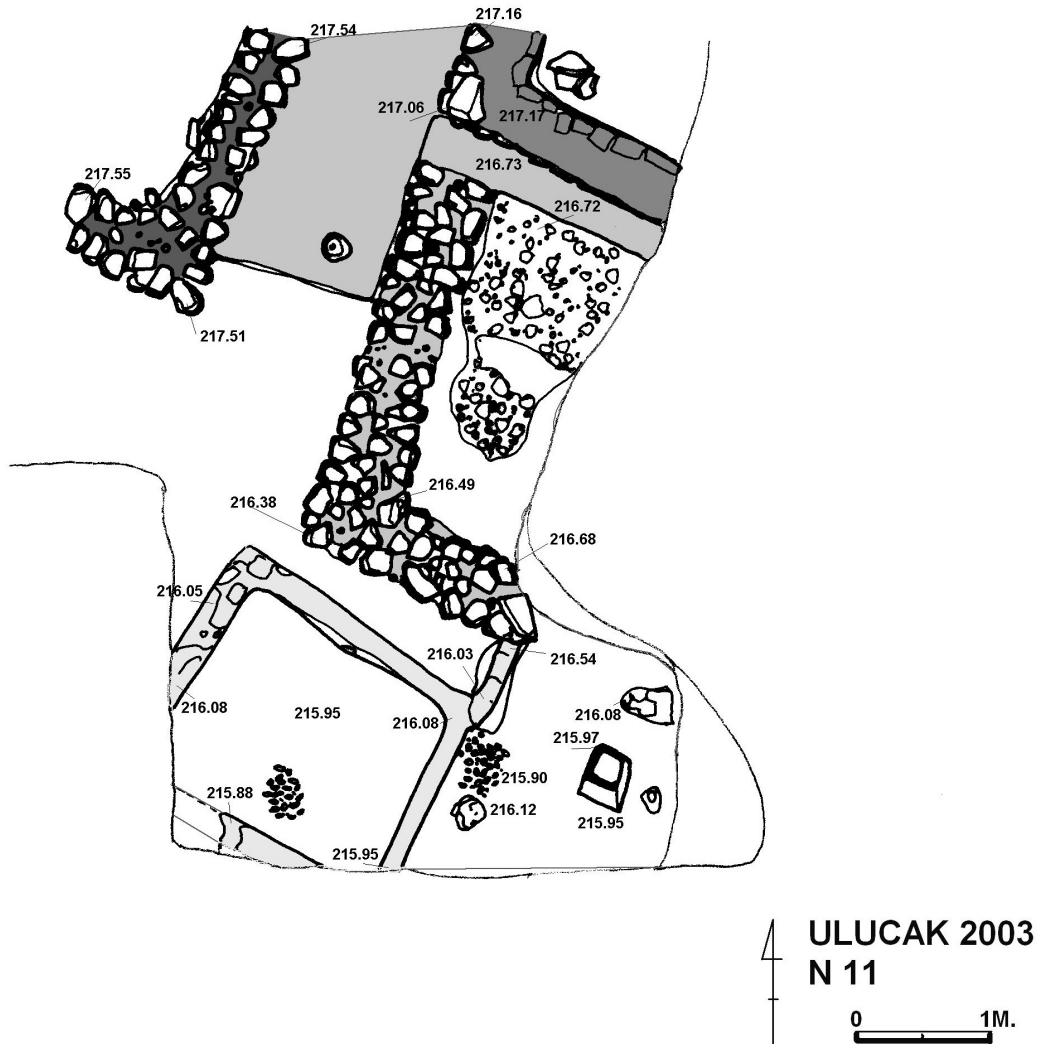


Fig. 2 Ulucak; architectural remains in N 11 (Level IV and V)

without stone foundations and the upper part was built of mudbricks or in rare cases “wattle and daub”. In contrast to Level V, where mudbricks were not used at all, wood has been used to a lesser extent. Both observations might reflect an architectural development within the Neolithic period.

Mudbricks above stone foundations were used in the construction of the buildings in level IVb2, which has a uniform and well-planned structure. Two sizes of straw loamed mudbricks can be distinguished: a bigger one (55 x 35 x 8 cm - 50/48 x 34 x 8 cm; called “*anaç*” in turkish) and a smaller one (50 x 18 x 8 cm; called “*kuzu*” in turkish).

The well-preserved building 13 (Fig. 3-4) was situated north of building 12 and has two rooms. The structure, oriented in north/northeast-south/southwest direction, is of a slightly trapezoidal shape. The inner area of the building measures about 6.5 x 6.3 m, so that the floor area is about 40 m<sup>2</sup>. An inner wall divides a smaller room of 6.3 x 2 m in the southern part. The outer walls were built of mud brick on a stone foundation measuring 55 cm in width and the thickness of the interior wall measures 30 cm. This house could have been entered through a door in the western long wall, and a platform was built across the entire narrow side of the house.

In general, entrances, measuring 0.8-0.9 m in width, were situated at the floor level, neither steps nor stairs were detected. In one case traces indicate that wood was applied to at least one of the thresholds, similar to features in Hacilar, Höyücek and Bademağacı. In some cases, a narrow rectangular courtyard was situated in front of the house. Since such courtyards, containing grill stones, hearths and ovens, were often used as a workshop, they might have been covered with a lean roof.

The floors of the houses consist of stamped clay. Fillings of stone or ceramic underneath the floors have not been observed.

The roofs seemed to be flat, as seen in the traditional Anatolian villages until recent times. It is evident that the structures have a heavy, flat roof covered with thick bulks of timber, branches and clay. Mud with straw loam was laid over the branches. Mud pieces with traces of wooden beams or thin branches (measuring 5-8 cm) have been discovered among the remains of buildings 10, 12, 13 and 14. Probably due to the collapsed roof, the negative traces on the mud were found upside down. The thickness of the clay layer is about 12 cm.

The roof of the building was supported with one wooden pillar – sometimes supported by a base of stones – located in the middle of the building. In addition, postholes with a diameter of 10-11 cm indicate props, which were placed next to grill stones.

We have information about the interior plan and decoration of the houses. Many remains belonging to platforms, hearths and ovens were uncovered. There are platforms inside the buildings, which meet the needs of everyday life to a great extent. The clayed mud platforms (Fig. 3), generally 10-15 cm in height, offered comfort to its inhabitants, as they might have been used for sitting and/or sleeping. The pots, which were found on the platforms (building 3, 4 and 6), show that these also might have been used as low tables.



Fig. 3 Ulucak; architectural remains in Level IV

The hearths and ovens found within the buildings or the covered courtyards were essential elements of the Neolithic way of life at Ulucak level IV. In building 13 for instance, the main room has an oven and hearth situated near the eastern wall opposite the entrance. The ovens generally have been built with a rectangular and flat roof (Fig. 5)<sup>2</sup>. Ash pans and open hearths in the form of pitted, rectangular platforms were found next to the ovens.

In conclusion, according to the features of the architectural remains; level IV can be defined as “mudbrick building level”, level V as “pisé building level”.

## Comparison

Settlements belonging to the Neolithic period in the İzmir Region such as Yeşilova, Nemrut, Yenmiş, Barbaros-Tepeüstü, Menemen-Araptepe, Küçük Yamanlar Tepesi, Dedecik-Heybelitepe, Höyücek II, Çaltıdere and Yeni Foça-Ege Gübre (Derin et al. 2004, 243-244; Şenyürek et al. 1950; Meriç 1989, 387; 1993, 145; Lichter 2002, 162, Fig. 1) are generally known by their surface and sondage finds. The Neolithic period at the Limantepe settlement was defined with a couple of ceramic pieces, due to the amount of ground water, it was not possible to reach the architectural levels (Erkanal/Günel 1996; Erkanal 1997; 1999). All these sites are not excavated or have been excavated only to a small extent, so that Ulucak Höyük is the only reference site for the Neolithic architecture of Western Anatolia.

The architectural features excavated in Ulucak show strong analogies to the building tradition known from a number of Neolithic settlements in the Lake District, especially around Hacılar. As archaeological finds reveal, the technique of building reed and mud walls has changed over time and mudbrick became the main material for construction at Kuruçay and Hacılar, as well as in Bademağacı and in the early levels of Höyücek (Duru 1996, 5). The utilisation of mudbricks has been observed from level VII at Ilıpınar in Northwest Anatolia, which belongs to the Early Chalcolithic period (Gérard 2001, 192).

The sequence at Ilıpınar provided us with the following architectural development: structures belonging to the oldest level X, were separate rectangular huts with roofs constructed in the wattle and daub technique. This construction technique continues, though rarely, in level VIII. The rectangular buildings starting from level VII, were located side by side and are closer to the buildings at Ulucak in plan and technique. However, the walls of the structures in level X in Ilıpınar, reflect an architecture different from Ulucak IV-V. The 25 cm thick walls of Ilıpınar X are thinner compared to the ones at Ulucak<sup>3</sup>. Furthermore, the structures at Ilıpınar have pantries, platforms and oval shaped hearths, which are located in the centre of the house. The hearth, built as a high platform and situated in the centre of the structure, is

<sup>2</sup> The oven in building 6 measures 1.26 x 0.5 x 0.55 m, and the ashpan in front of it covers a area of 1.2 x 0.5 m. The dimensions of the one in building 13 are 1.36 x 0.76 x 0.45 m with an ashpan measuring 1.42 x 0.35 m. The mouths of the ovens are 0.75-0.8 m in width and 0.35 m in height.

<sup>3</sup> In a house in square S9, which has tiny traces of wooden pillar, the wall is 25 cm thick (Roodenberg 1993, 253, Fig. 3). The walls get thicker from layer VII onwards.

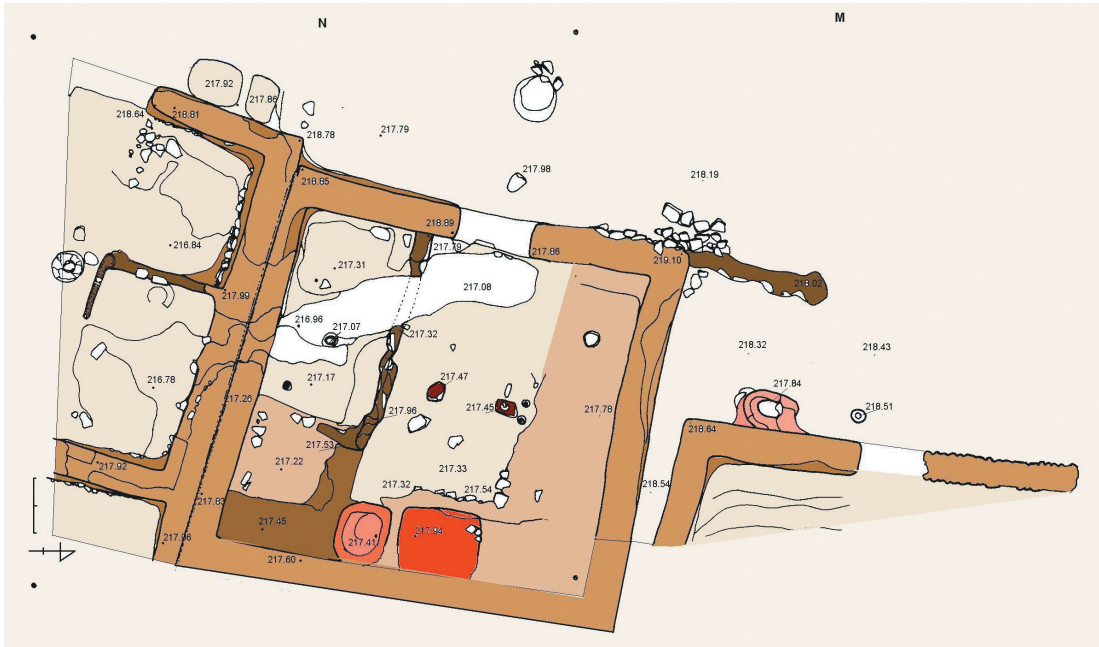


Fig. 4 Ulucak; building 13 (Level IV)



Fig. 5 Ulucak; oven in Building 8 (Level IV)

similar in shape to the hearths situated next to the ovens at Ulucak (Roodenberg 1993, 253 Fig. 4). It has been observed that these types of hearths, which have also been observed in level VI at Hacilar (Mellaart 1970, 64), are the essential elements of Neolithic structures and together with the ovens in the buildings at Ulucak, form a “hearth-oven” mechanism.

The characteristics of the houses at Pendik and Töptepe in the Marmara Region differ from the ones at Ulucak with their rectangular plans and “wattle and daub” techniques. Their gabled roofs, which were covered with rye stems or reed, reflect the agricultural, economic and climatic conditions of Northwest Anatolia and Thrace. This architectural tradition peculiar to Thrace has been used due to the great amount of rain in the region, whereas flat mud roofs are common in Central Anatolia where it seldom rains (Dağgölü/Dağgölü 1999, 97). İzmir and its neighbourhood partially resembles Thrace in terms of climate conditions; however, it is possible to say that the architecture of the neolithic settlement at Ulucak, which has flat roofed structures, might have been affected by the architectural tradition in Central Anatolia.

The neolithic houses in Thrace were built on the ground. In contrast to Ulucak, the walls were made of wooden posts, fixed in the ground, and interwoven with twigs and both sides of the construction were daubed with straw or reed. The houses were square, rectangular or slightly trapezoid in plan and consist of one, rarely two or extremely rare three rooms in Karanovo I-IV, Kapitan Dimitriev IV, Tell Azmak, Tell Okrazhna Bolniza, Rakitovo, Muldava, Tell Kazanlık (Nikolov 2003, 22-27, pl. 13) and Asağı Pınar (Karul et al. 2003, 48). The buildings of Asağı Pınar 5-4 (Karul et al. 2003, Abb. 89-90) are very similar to the ones from Ulucak V.

The walls are generally 0.3-0.8 m thick, a thickness that seems not to be strong enough to support an upper storey. Furthermore, small amounts of rubble and wood remains found inside the buildings show that these buildings consisted of a single storey. In contrast, the buildings in layer VII at Ilıpınar are similar in structure but built as two-storeys (Gérard 2001, 192, Fig. 8-9). The walls of the two-storey buildings in layer VI at Hacilar are 1 m thick. The walls of the buildings have been constructed on a stone foundation. A single course of middle sized stream stones, which have been carried from riverbeds nearby the settlement, have been used in the stone foundations.

The level IV architecture of Ulucak Höyük can be compared to the one in the Burdur region. The settlements Bademağacı (Duru 1998, 713 ff), Höyücek (Duru 1995, 451 ff) and Kuruçay (Duru 1994, 11 ff) generally consist of rectangular structures, with doors situated in the middle section of their long walls. Another characteristic feature of these structures is the existence of an oven located across from the door<sup>4</sup>. Although the interior designs differ in various settlement centres in the Burdur Region, this basic plan has generally been applied. Slight differences in finds discovered in the structures, such as; single or multiple pottery workshops plastered with mud found within the structures or courtyards, platforms used for

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<sup>4</sup> Umurtak named these types of structures as “ovened structures” (Umurtak 2000, 683ff).

sitting or sleeping, ovens, or various sized niches in the walls, have been discovered in every settlement. Although Ulucak Höyük level IV, with its streets and buildings with courtyards, differs from such structures, the interior designs share a few common characteristics.

Hacılar levels IX-VI are contemporary with the Late Neolithic layers at Ulucak. However only few architectural remains were uncovered in levels IX-VII (Mellaart 1970, 8). In contrast to the settlement plan at Ulucak, Hacılar VI (Mellaart 1970, 22) seems to have no streets and contains jointly constructed buildings. However, the settlement plan from Höyücek (Duru 1996, 6) shows houses constructed separately.

Among the settlements in Greece, Achilleion has been the one from which, the most useful information has been collected (Gimbutas et al. 1989). Here, a rectangular structure with walls built on a stone foundation, constructed in the *Pisé* technique in Ib phase, has been uncovered. In spite of the fact that the buildings constructed in the wattle and daub technique in the IIb phase show similar architectural techniques, the horse-shoe shaped hearths and domed ovens differ from the Ulucak architectural tradition.

To sum up, when looking the architectural traditions, İzmir Region had a Neolithic period which improved within itself substantively. The Northwest Anatolian and the Marmara Region type of architecture and layout of the settlement seems to be different from the settlement of Ulucak. Furthermore, the neolithic architecture recovered in level V at Ulucak shows differences from the one excavated in the Lake District although both are contemporary. One may find more similarities in architecture in both regions, although Ulucak is still different from the sites in the Lake District in the areas of settlement layout and some construction techniques.

The most significant change in the development of architecture has been observed in the transitional application of the mudbrick wall technique in level IV. This technique had gradually improved during this period, while the application of the “wattle and daub” technique was continued to some extent at Ulucak Höyük. In contrast to traditional beliefs, İzmir Region seems to have had its own architectural tradition, that was born and developed independently within the region. The most important evidence for this is the existence of 3-4 m unexcavated deposit underneath level V.

During the Neolithic period people of differing origins inhabited the large geographical area referred to as Western Anatolia. Distinct communities developed within this area in the north, south and İzmir regions. The core architectural tradition for the area seems to have developed regional characteristics. This is seen by the architectural evidence at Ulucak that is not exactly in line with that of sites in the Lake District or the Marmara Region. The neolithic architecture of the İzmir Region, developing under unique influences appears to have acquired regional characteristics.

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