

MEGALITHIC CONSTRUCTION TECHNIQUES IN CLASSICAL THRACIAN BUILDINGS

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I. INTRODUCTION: METHODOLOGICAL PROBLEMS AND DEFINITIONS

The historians of the megalithic architecture distinguish two types of ancient structures of the prehistoric epoch: microlithic (stone and brick masonry) and megalithic (assemblage of big stone slabs and pillars) monuments¹ - Table 1. Sometimes this differentiation is expressed even unconsciously².

Masonry is associated with the concept of relatively small elements arranged in successive horizontal layers so that the elements of the upper layer get in touch with the elements of bottom layer by their walls. Megalithic architecture (dolmens of various kinds) is associated with the concept of frontal assemblage of slabs which get in contact not at their walls but along their edges (periphery) only. The cromlechs are formed without contact at all, by simply grouping of coarse stone pillars (menhirs).

There is no universal definition for dolmens³. For this reason I propose here my own definitions that prove to be rather effective.

“Megaliths” are: (1) anthropogenic facilities, immovable cultural monuments, (2) built in the Chalcolithic, Bronze or Early Iron Age (VI – mid I mill.BC) (3) of rough poorly processed stone blocks, monoliths of various form – pillars, slabs, polyhedrons (4) using the minimum possible and sufficient quantity of building components (5) by grouping or by front assemblage, but without dry masonry and without rock carving (Table 1).

“Dolmens” are a special kind of megaliths: (A) A covered space unit – laterally open (cell) or laterally closed (chamber) – which consists of covering and support assembled over the ground surface; (B) The covering, the support and the number of units undergo certain evolution but remain always within the limits of the megalithic technology as defined above.

Along with the typical megalithic monuments, one finds specific sites which are constructed mainly in megalithic manner, but contain also some sections made by non-megalithic techniques: dry masonry or rock carving. Typically, such sites exist among the megaliths and in the same age. I will call them “quasi-megaliths” or “quasi-dolmens”, respectively.

If a monument (space unit) is constructed in megalithic manner and dates back to the typical megalithic epoch (VI – mid I mill.BC), it is an “authentic megalith / dolmen”. If the monument possesses the characteristics of a dolmen but originates from the post-megalithic epoch (mid I mill.BC – mid I mill.AD), I will denote it as “anachronistic megalith / dolmen”. This term should be understood not in the popular figurative sense “primitive, backward, underdeveloped”, but in its direct temporal sense as “later than usually, than typically”.

¹ Fergusson 1872; Peet 1912

² Русева 1984

³ Марковин 1978; *Мегалитите в Тракия* 1976, 1982; *Мегалиты Урала* 2010; Русева 2000; Сафронов 1989; Трифонов 2001; Fergusson 1872; Peet 1912; Trifonov 2013.

II. EVOLUTION AND DIVERSITY OF DOLMEN CONSTRUCTIONS

The covering, the support and the plan of the dolmens undergo a historical development towards complication aiming enlargement of the covered space⁴ - Table 2.

In the simplest dolmens, the support consists of 3-4 menhirs which are covered by one slab. So we have a covered but laterally open space unit, “cell”. Later dolmens include side walls. So we have covered but laterally closed space unit, “chamber”.

The walls may be monolithic (one wall = one single vertical slab) or composite (one wall = several vertical or tilted slabs). A composite wall can be formed by several coplanar vertically fixed slabs touching each other along their vertical edges or by two or three slabs arranged horizontally on top of each other, contacting along their horizontal, longitudinal edges.

Covering in the simplest case consists of [1] one or several adjacent rough slabs fixed horizontally above the ground. Later, more complex coverings appear: [2] double-pitched, [3] trapezoidal and even [4] pyramidal ones. Sometimes the evolution of the walls is inseparable from the evolution of the covering.

The dolmen as a whole can be complicated by increasing the length of the camera, by increasing the number of cells or chambers or by adding a dromos and/or façade.

III. AUTHENTIC AND ANACHRONISTIC DOLMEN-TYPE MEGALITHIC CONSTRUCTIONS IN THE AREA BALKANS-CAUCASUS

The examples in this section are illustrated in Table 3.

III.1. DOLMENS WITH FLAT COVERING

CASE No.1: Authentic single-chamber dolmens in Caucasus and on the Balkans

Single-chamber dolmens with one-slab horizontal covering are the most widespread case in West Caucasus⁵. They are dated to III – II mill.BC⁶.

The simplest dolmens form the most numerous megalithic group on the Balkans also. One example is shown in Table 3-A.

CASE No.2: Anachronistic single-chamber dolmens on the Balkans

In Malkata mound near the town of Kazanlak G.Kitov revealed an object⁷ that has all the technical characteristics of a single-chamber dolmen without entrance opening, however it dates from the post-megalithic epoch of the Odrysian kingdom 5th – 4th c.BC (Table 3-B).

Another similar monument dating from the same post-megalithic epoch was discovered by G.Kitov in the Jangazova mound in the vicinity of the village Matenitsa⁸.

III.2. DOLMENS WITH DOUBLE-PITCHED COVERING

CASE No.3: Authentic dolmens with double-pitched covering in Caucasus

Throughout the entire European-Mediterranean region authentic dolmens with double-pitched coverage are found very rarely and only in Caucasus. They were discovered in the late

⁴ Tsonev et al. 2012

⁵ Марковин 1978

⁶ Марковин 1985

⁷ Китов 1994; 2008; Тонков 2013

⁸ Китов 2003; 2008

20th century in the “Klady” area, which falls into the most interesting Caucasian megalithic region⁹ – the village Novosvobodnaya (Tzarskaya) on the River Fars, which runs into the Kuban River – Table 3-C.

CASE No.4: Anachronistic quasi-megalithic monuments with double-pitched covering on the Balkans

In Caucasus, the double-pitched megalithic covering disappeared simultaneously with the decline of the megalithism. In Bulgaria, we do not find authentic double-pitched dolmens, but at least six anachronistic quasi-dolmens with double-pitched covering appear in the post-megalithic epoch.

In the Tomb with the Gryphons in the Kazanlak Valley (4th c.BC), the antechamber has masonry walls, but a double-pitched megalithic covering. The same construction technique was applied in the antechamber of the tomb in the Big Arsenalka mound (5th – 4th c.BC)¹⁰.

The Thracian tomb near the village of Dolno Lukovo in the Eastern Rhodopes (mid 3rd c.BC) has a double-pitched megalithic covering¹¹. The roof is made up of three pairs of counter-inclined slabs that contact along their upper horizontal edges forming the crest. The walls of the tomb are built in mixed technique: vertical slabs (megalithic technique) combined with dry masonry of quadrae (non-megalithic technique).

A similar tomb was discovered near Smyadovo (4th c.BC) and then transported to the museum in Shumen. Both chambers have double-pitched coverings and the walls are made in dry masonry of quadrae.

A very late anachronistic dolmen with double-pitched covering (2nd – 3rd c.AD) was discovered in 1981 in the "Old Vineyards" area near the village of Kardam, municipality of General Toshevo¹² – Table 3-D.

A typical anachronistic dolmen (3rd c.AD) is present in the Propada necropolis near the town of Malko Tarnovo. The roof is double-pitched and the walls are built in pure megalithic technology.

III.3. DOLMENS WITH TRAPEZOIDAL COVERING

CASE No.5: Authentic dolmens with trapezoidal covering on the Balkans

The trapezoidal covering results from the combined evolution of the walls and the covering aiming to envelope as much area as possible. There are no dolmens with trapezoidal covering in Caucasus. In Bulgaria there are several impressive specimens, which are located on the northern slopes of Sakar Mountain - Table 3-E.

CASE No.6: Anachronistic quasi-dolmens with trapezoidal covering on the Balkans

Trapezoidal megalithic covering has been put into practice in at least three Thracian tombs (5th – 3rd c.BC); their walls are realized by dry masonry of quadrae.

Commenting the tomb near the village of Chernichino, East Rhodopes (Table 3-F), the discoverers point out¹³: “The specific tripartite beveling of the walls has no analogues among

⁹ Трифонов 2015

¹⁰ Стоянов, Стоянова 2011

¹¹ Нехризов 2006

¹² Василчин 1981

¹³ Нехризов, Цветкова 2008; 2015

the masonry tombs so far studied. Construction of a cantilevered vault of horizontally laid long blocks closed by a horizontal slab significantly below the zenith represents a rarely encountered technology; the covering so obtained has a trapezoidal cross-section”.

Two similar Thracian tombs with trapezoidal covering are located in the area Okopa / Menekenskite kamani about 4 km from the village of Chernichino, East Rhodopes¹⁴.

III.4. DOLMENS WITH PYRAMIDAL COVERING

CASE No.7: Authentic dolmen with pyramidal covering in Caucasus

Dolmens with a prismatic chamber exist in many places, for example, in the Iberian Peninsula, but they are covered by a horizontal plate only¹⁵. However, the Caucasian dolmen with prismatic camera and pyramidal covering is unique Table 3-G. It was discovered by colonel Kamenev in 1869-1870 at the village of Novosvobodnaya (Tzarskaya)¹⁶. The monument was destroyed at the beginning of the 20th century. It was not well documented, but a credible painting made by researcher Felitsin and published by him in 1904, gives a clear idea of the construction¹⁷. The prismatic chamber had 11 walls (rectangular vertical slabs) and the covering was constructed as an 8-sided pyramid, assembled from triangular slabs without a keystone.

CASE No.8: Anachronistic quasi-dolmens with a pyramidal covering on the Balkans

Pyramidal megalithic covering appeared surprisingly late (2nd – 3rd c.BC) in two tombs in the Strandzha Mountain near Malko Tarnovo¹⁸. The support is made in dry masonry of quadrae in both cases.

One tomb is located in the Propada necropolis – Table 3-H. The covering is assembled from 7 trapezoidal slabs. Each of them is flat and rough from the outside, but concave and precisely processed from the inside. When assembled, the outer shape of the covering is a truncated pyramid, but its inner shape is a truncated cone.

The second similar tomb is situated in Mishkova niva area. Its covering has been assembled from 10 triangular slabs, flat on both sides, so that it had a pyramidal shape both inside and outside.

No more ancient monuments with megalithic pyramidal coverage can be found all over the world.

III.5. MONUMENTS COMBINING MEGALITHIC ELEMENTS WITH DRY MASONRY

CASE No.9: Authentic dolmen with flat megalithic dromos covering in Caucasus

In Caucasus a special monument has been recently discovered that reminds Irish corridor tombs¹⁹. It is called “Psynako – I”. The grave chamber is a classic dolmen. Unique in the Caucasian region (but not in Western Europe) is the long corridor-dromos. Both the walls and the covering of the dromos are realized in megalithic manner – using big slabs contacting along their peripheral edges only.

¹⁴ Вълева 2009; Нехризов, Цветкова 2008

¹⁵ Вуено-Ramirez et al. 2016

¹⁶ Цонев 2015

¹⁷ Марковин 1978

¹⁸ Цонев 2015

¹⁹ Марковин 2011

CASE No.10: Authentic quasi-megalith including a corridor-dromos with flat megalithic covering on the Balkans

This description refers to the unique subterranean well-temple near the village of Garlo, Breznik region, Bulgaria²⁰. The tholos and the walls of the dromos are made in dry masonry, but the dromos is covered with huge slabs laid horizontally next to each other. This authentic quasi-megalith (12th c.BC) appeared on the Balkans at the very beginning of the local megalithic epoch.

CASE No.11: Anachronistic quasi-megaliths with flat covering on the Balkans

On the Balkans, we can list at least six examples of facilities from the classical Thracian era which have megalithic flat covering of the chamber and/or of the corridor.

The first example is the tomb in Nanina mound near the town of Maglizh²¹ (6th c.BC). The chamber represents a simple dolmen. The walls of the corridor-dromos are composed of vertically fixed coarse slabs touching each other along their lateral vertical edges in combination with dry masonry sections. The covering of the corridor was made of rough slabs, arranged horizontally side by side in megalithic manner.

Similar covering is supposed to exist in the corridor-dromos of the Thracian tomb in Golyama Kosmatka mound near the town of Kazanlak.

The tomb at the village of Vrani kon near the town of Omurtag²² (5th – 4th c.BC) copies the plan of the two-chamber dolmens with dromos. Both chambers have a flat megalithic coating and the walls are made in a mixed, quasi-megalithic technique - large orthostats plus dry masonry.

Flat megalithic covering of the chamber is found in the tomb near the village of Banovo, Varna region²³ (3rd c.BC). The dromos is built in dry masonry of rough stones, but its covering is flat and megalithic.

Megalithic covering has the single-chamber tomb near the village of Ruzhitsa, Elhovo region²⁴ (6th – 5th c.BC).

The recently excavated tomb at the village Buzovgrad, Kazanlak region²⁵ (4th c.BC) consists of a domed chamber, a parallelepiped antechamber and an uncovered dromos. The walls and the dome of the main chamber as well as the walls of the antechamber are realized in dry masonry of quadrae, but the antechamber has a megalithic covering of three horizontal slabs contacting along their periphery only.

CASE No.12: Anachronistic megalithic construction elements in an Early Christian tomb in Bulgaria

Typical megalithic approach we find in an Early Christian tomb in Durostorum / Silistra, North-East Bulgaria²⁶ (4th c.AD). The point here is the front wall of the tomb. Large marble pillars in the center constitute a trilith. In the opening of the trilith a monolithic vertical slab has been inserted which has a square aperture. The rest of the wall has been complemented with mortar masonry of coarse stone blocks and roasted bricks.

²⁰ Митова-Джонова 1984а; 1984б; Mitova-Džonova 1984; 1992; Цонев 2012а; 2012б; 2013; 2014

²¹ Китов 2005

²² Гинев 1999

²³ Лазаренко, Мирчева, Стоянова 2008

²⁴ Агре 2005

²⁵ Нехризов 2013

²⁶ Атанасов 2008

III.6. MONUMENTS COMBINING MEGALITHIC ELEMENTS WITH ROCK CARVING

CASE No.13: Authentic quasi-dolmens including rock-cut sections on the Balkans and in Caucasus.

The authentic rock-cut quasi-dolmens in Caucasus are more numerous and more accurately dated (25th – 15th c.BC) than in Bulgaria. Both their internal shape and external appearance are quite various, but all Russian scientists refer them to as “trough-shaped dolmens” or “monolithic dolmens”²⁷. The chamber is partially or entirely cut into the rock and the monument is often complemented by a separate covering slab and by a front (façade) slab possessing one circular entrance opening. The main reason for designating these sites as dolmens seems to be the shape of the camera, which repeats the form of the usual dolmens, as well as the presence of separate covering and façade slabs.

In Bulgaria, there is only one officially recognized authentic quasi-dolmen with rock carving – in Sakar Mountain near the village of Hlyabovo²⁸. The shape of the camera is rounded, i.e. untypical for the Balkan dolmens, but a separate façade plate with an entrance opening was still preserved, albeit broken, by the very end of the 19th century. Perhaps the front plate has given the reason to qualify this rock-cut chamber as a dolmen.

CASE No.14: Anachronistic quasi-dolmens with rock-cut elements on the Balkans

In the vicinity of the town of Kazanlak at least two sub-mound constructions are created (4th – 3rd c.BC), which include besides the ordinary chambers built in dry quadrae masonry also chambers completely carved in monolithic granite blocks and covered with lids. Rock carving is an extremely ancient technology, practiced both in the pre-megalithic and in the typical megalithic epoch. For this reason, the creation of complete chambers from single monolithic stone blocks represents an anachronistic phenomenon during the Thracian epoch. One monolithic carved chamber is situated in the Ostrusha mound and the second one in the Big Kosmatka mound²⁹.

Another anachronistic variant of rock carving we find in two tombs in Strandzha Mountain, in the Propada necropolis near the town of Malko Tarnovo (2nd – 3rd c.BC). They both include corridor / dromos with cylindrical covering. However, instead of using the well-known technology of the false vault, the covering was accomplished through a megalithic combination of several large stone blocks of semi-circular shape. One of these tombs (cylindrical chamber and pyramidal megalithic covering) was already mentioned above³⁰. The second tomb is smaller, it has a rectangular plan, the camera is practically destroyed long ago, but one still can perceive the remains of the corridor-dromos carved in the mother rock and parts of its megalithic covering by cylindrically formed stone blocks.

To the latest anachronistic rock-carved quasi-megaliths on the Balkans we can add the underground two- and three-partite tombs in Yailata reserve near the village Kamen Bryag in Nord-East Bulgaria³¹ (4th – 5th c.AD). They were carved into a horizontal rock plateau and the ceilings have been finally closed with large stone slab lids. In the rocky massifs in the East

²⁷ Марковин 1978

²⁸ *Мегалитите в Тракия* 1976, 1982

²⁹ Манетта et al. 2016

³⁰ Русева 2000

³¹ Делев 1985; Порожанов 2007, 2008; Салкин, Топтанов 1988; Христов 2009

Rhodope Mountains and near to the town of Provadia, North-East Bulgaria, there are numerous artificial chambers which are not recognized as rock-dolmens due to the lack of standard sizes and shapes. The rock chambers in Yailata reserve strongly differ from them by the fact that they copy consciously (the reasons remaining unclear so far) the usual single- and two-chamber dolmens in Thrace. In spite of this unique specificity they are not qualified as rock-dolmens in Bulgarian specialized literature. This situation requires correction in virtue of the following arguments: (i) Yailata rock-chambers copy exactly Thracian and not Caucasian or Crimean dolmens; (ii) the authentic dolmens are copied completely - by size, by general planning and even by the slope of the longitudinal walls, creating the trapezoidal cross section of the chamber space. The great time interval separating the authentic dolmens in Thrace (12th – 6th c.BC) from their exact rock-carved anachronistic copies in Yailata (4th - 5th c.AD) is surprising but it correlates well with the extremely persistent local rock-oriented megalithic tradition in the area Balkans – Caucasus.

IV. CONCLUSIONS

Numerous megalithic and quasi-megalithic monuments in the area Balkans – Caucasus demonstrate noticeable technological similarities and give us the reason to assume some interaction processes there.

On the one hand, the existence of direct contacts and technology exchange is not strictly proved by the simple fact of prolonged practicing of megalithic building in the mentioned regions since these regions – although neighboring in space – are megalithically active in very distant epochs. On the other hand, the exchange of technological ideas cannot be rejected in full, because the indicated technological correspondences are too remarkable in content, strength and number, without comparable phenomena anywhere in the world.

The anachronistic application of megalithic techniques in the post-megalithic epoch on the Balkans cannot be considered as a backwardness and primitiveness of the local culture, because the actual masonry techniques have been well known and widely applied in this epoch and in this region. The incorporation of megalithic techniques in the construction of stone facilities is caused neither by ignorance of masonry, nor by the lack of building skills, but obviously by other motives, probably of spiritual nature.

This phenomenon demonstrates an extremely strong and deeply rooted local tradition, practiced by the local population with varying intensity, but without interruption for several millennia, even after the end of the typical megalithic epoch in Eurasia. It has survived all ethnic migrations from the Bronze Age till to the Roman times. For these reasons, we can suppose certain ethnic community and continuity in the area Balkans - Caucasus.

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TABLE CAPTIONS:

Table 1: Megalithic construction technique and various kinds of megaliths. L.Tsonev 2017.

Table 2: Construction development of dolmens (Цонев 2010), (Dinchev 2016).

Table 3:

A: Authentic simple dolmen from Izvorovo village, Sakar Mountain, Haskovo museum. Photo L.Tsonev 2004.

B: Anachronistic simple dolmen from Malkata mound, Kazanlak region (Тонков 2013)

C: Authentic double-pitched dolmen in Caucasus, locality Klady (Трифонов 2015)

D: Anachronistic double-pitched dolmen, General Toshevo museum (Василчин 1981)

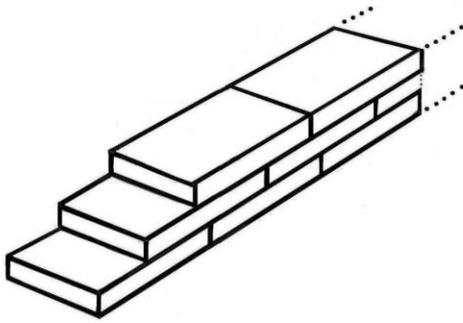
E: Authentic dolmen with trapezoidal covering, Sakar Mnt., locality Mangara. Photo Maya Nikolova 2017

F: Anachronistic tomb with trapezoidal covering in Cherhichino (Нехризов, Цветкова 2008)

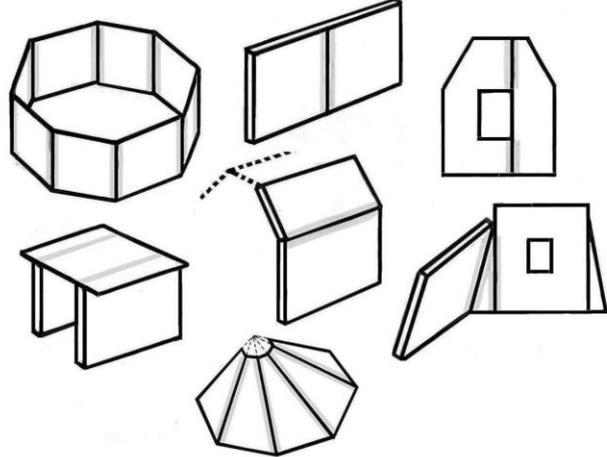
G: Authentic dolmen with pyramidal covering in Caucasus (Марковин 1978).

H: Anachronistic tomb with pyramidal covering near to the town of Malko Tarnovo. Photo D.Kolev 2006.

STANDARD NON-MEGALITHIC CONSTRUCTION
TECHNIQUE: DRY WALLING, DRY MASONRY -
CONTACT, PRESSURE
ON FLAT SURFACES ONLY
COMBINED WITH LAYERING OF ELEMENTS



MEGALITHIC CONSTRUCTION TECHNIQUE:
CONTACT, ASSEMBLAGE, PRESSURE
ALONG THE PERIPHERAL EDGES ONLY

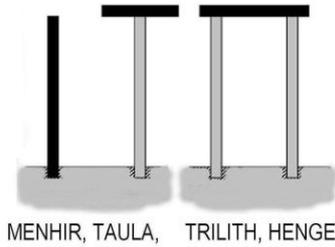


BASIC MONUMENT TYPES OF MEGALITHIC CULTURE

ROCK-ORIENTED CULTURE

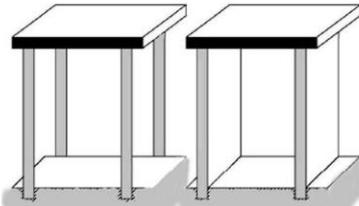
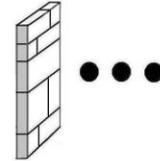


ROCK CUT SHRINES

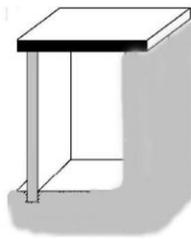


MENHIR, TAULA, TRILITH, HENGE

TRADITIONAL CULTURE
- DRY MASONRY, WALLING

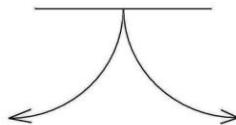


DOLMEN - TABLE DOLMEN - CHAMBER

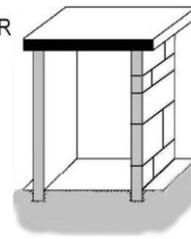


QUASI-DOLMEN WITH
ROCK CUT ELEMENTS

MEGALITHS



QUASI-MEGALITHS



QUASI-DOLMEN WITH
DRY MASONRY ELEMENTS

PRE-MEGALITHIC EPOCH



MEGALITHIC EPOCH

AUTHENTIC MEGALITHS

In Thrace 12-6 c.BC
In Caucasus 25-15 c.BC
In West Europe 40-15 c.BC



POST-MEGALITHIC EPOCH

ANACHRONISTIC MEGALITHS

In Thrace 5 c.BC - 5 c.AD



Table 1.

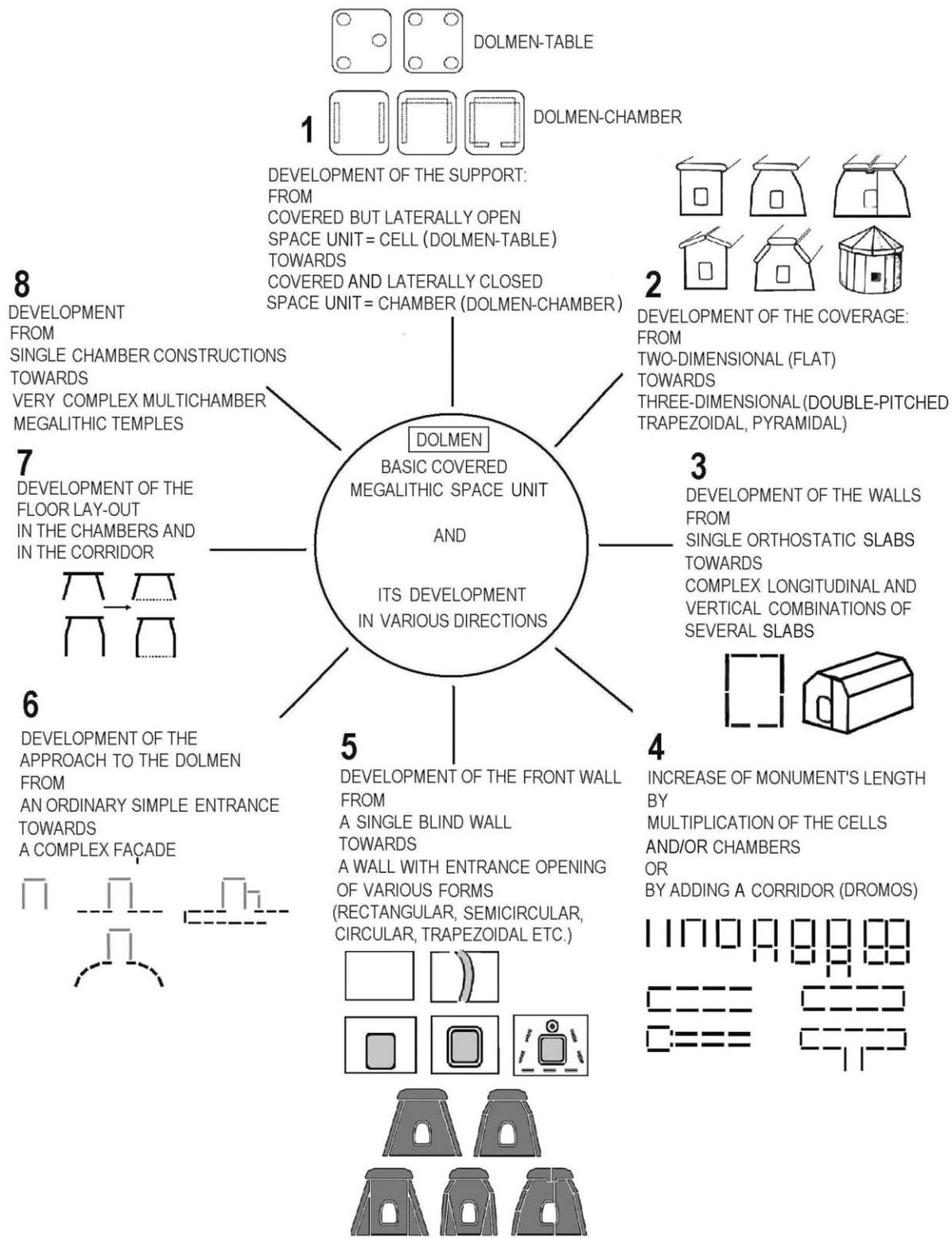


Table 2.

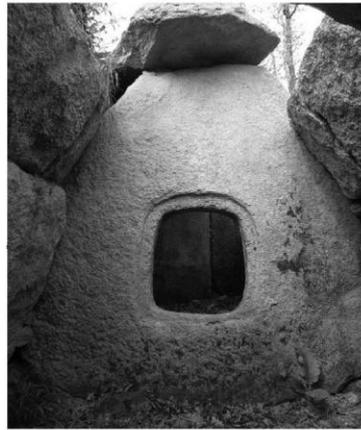
AUTHENTIC
DOLMENS



A



C



E

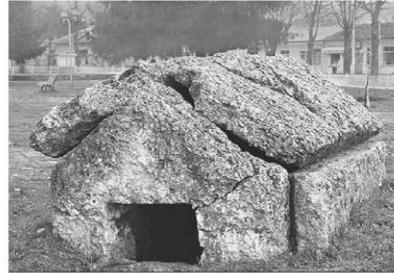


G

ANACHRONISTIC
DOLMENS OR
QUASI-DOLMENS (MEGALITH + DRY MASONRY)



B



D



F



H

Table 3.

Note

This material was presented at the Thracology Congress in Kazanlak 2017, but it was not included in the Proceedings of the Congress.

10 March 2020