

OBSERVATIONS UPON THE CONSTRUCTIONAL CONNECTIONS OF THE DOLMENS IN BULGARIA

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ABSTRACT. The present study pays attention to some observations over the building techniques used for the construction of dolmens. The existing so far typologies of the dolmens are based on formal criteria, i.e. on the plans of the constructions. An attempt to classify the structures based on the technology used for fittings of the dolmen slabs is made. The aim is to reach a relative chronology of constructions, where a technological criterion can be used as a correlative element. It is noted that the change of technology is a consequence of the alteration in the plan of the constructions. In any case, during the observations on the fittings between the dolmen slabs, if it is not possible to trace the development of the constructional connections, then at least their typology can be defined.

Most of the dolmen researchers have discussed the architectural solutions applied at such megalithic constructions, but the question about the constructional connections and others fittings are not well described. Generally it has been accepted that the building techniques of the stone-master, are unified, of one type, and probably that is the reason why this problem has not been discussed in the scientific literature (Venedikov, Aladjov, 1976). The aim of this research is to compare chronologically the building techniques on the base of the study of the cut surfaces of the stone slabs.

Functionally the stone grooves are designed to strengthen the dolmen construction. Attention is paid in this work on an identical type of connection of the stone slabs (chamber – fore-chamber) which was technologically cut in two different manners (in order of solving the problem for connection of the fore-chamber to the main chamber of the dolmens).

The first type construction is by grooves in the stone slabs, which are arbitrary called "P"-type (Fig. 2-2). Two opposite one to other straight grooves were cut in the front inside part of the longitudinal slabs of the construction – they fit together with the front "entrance" slab. In this variant the connection chamber – fore-chamber was realized by making additional "P"-type grooves on the face on the front slab (they fit to the back parts of the slabs of the fore-chamber) (Fig. 1; dolmen 7). Examples of such type of connection can be found among the dolmens in the Sakar Mountain and Eastern Rhodopes area – at the villages of Ostar Kamak and Hlyabovo (Peyov Kladenets) (Aladjov, 1997; Nekhrizov, Iliev, 2006; Iliev, 2007).

The second type of connection, which functionally is identical with the first one (chamber – fore-chamber), is linked to

another technology with the help of fitting of "G"-type shaped grooves in the slabs (Fig. 2-3). In this case, part of the inner edges of the longitudinal slabs of the chamber is cut in such a way, that they fit the front slab. In a similar way are cut the back inner edges of the corresponding slab of the fore-chamber – they fit also the front slab of the chamber (Fig. 1; dolmen 6). Examples of such type of connection are a larger in number dolmens – at the villages of Hlyabovo (Nuchevi Chairi), Bulgarska Polyana (Byalata Treva) and Vaskovo (Bayamluka) (Panayotov, 1976; Delev, 1982; Nekhrizov, Petrov, 2005).

It has to be mentioned that the observed connections are not local constructional variants as they are evenly distributed in the dolmen areas. Most logical is the interpretation of the observed differences as appearing in a chronological succession. Probably, the first type (variant), as a more unstable and labour-consuming, has been substituted by the more perfect from a technical point of view second type (variant). Several arguments can be given in this respect. They are related to the stability of the construction, the degree of complexity in cutting the elements, as well as the properties of the material for the slabs. The first type constructional connection is accepted as not so stable compared to the second one (example with the dolmen in the Peyov Kladenets area). The stability of this construction does not seem to be affected by the depth of the grooves or channels in the slabs compared to the second type. The cutting of the first type connection of dolmen slabs is more labour intensive – the channels have to be cut to fit well to the edges of the corresponding slabs. In the second case – such precise fitting is not required as the slabs come into contact from the outside of the transversal slab (Fig. 1; dolmen 6).

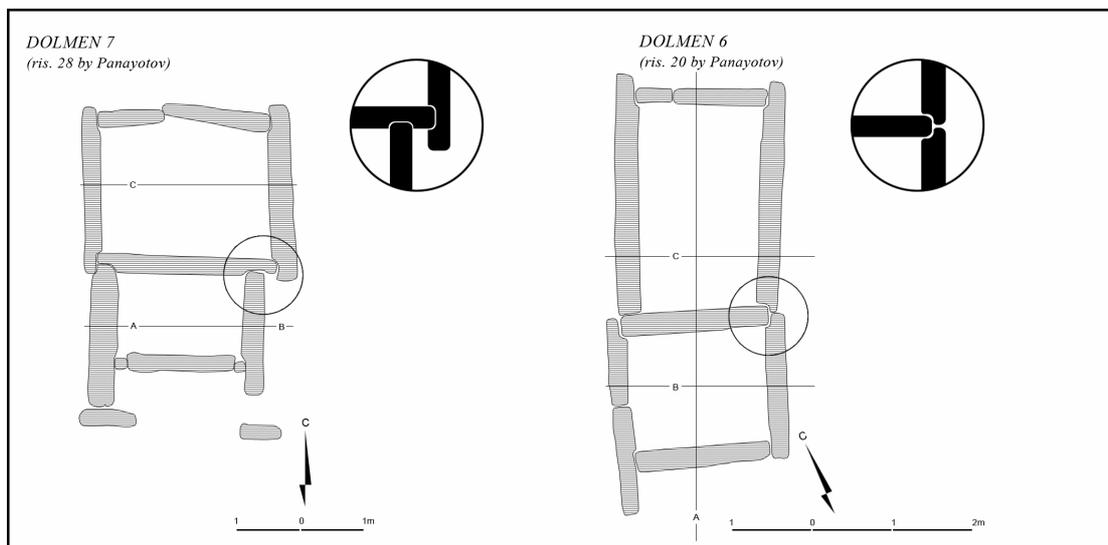


Fig. 1. Functional identical fitting, made with two different technologies

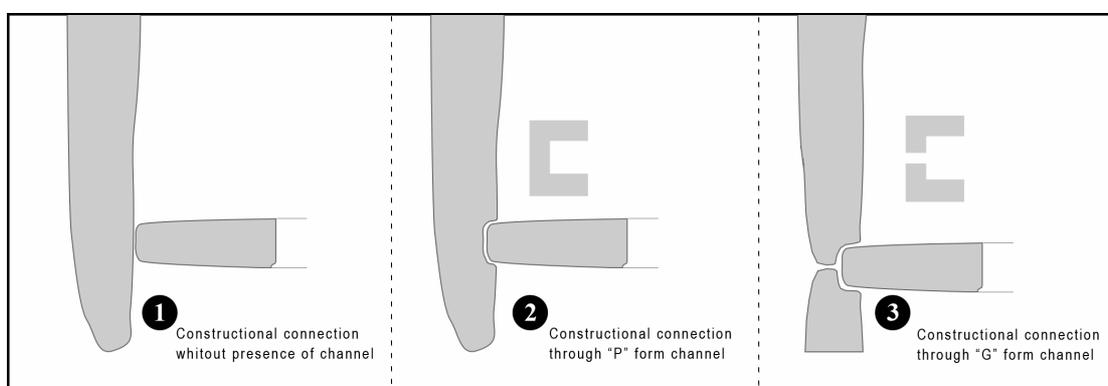


Fig. 2. Different constructional decision of connection between longitudinal and transversal dolmen slabs

When discussing the properties of the material, the rock's cleavage has to be considered. In the first type of construction the transversal slabs of the fore-chamber press the rock material (granite-gneiss schists), where the channels are cut along its cleavage. In the second case the pressure is directed to the profiled edges of the back parts of the longitudinal slabs.

Despite of the less thickness of the slab walls because of the cut into them channels, there is no danger of destruction of the construction, because the direction of pressure is perpendicular to the cleavage of the slab.

Pointing out to the second variant of connection in the constructions of dolmens one can find a qualitatively new type of connection with the participation of three stone slabs – the longitudinal chamber slabs, the longitudinal fore-chamber slabs and the front slab of the chamber. All of them are in a connection, which is considered more secure, but also easier to cut and construct, which gives the opportunity this type of connection to be defined as a more developed type.

Regarding the changes in the plan of the dolmens and especially in the plan of the fore-chambers, a tendency toward increasing of the dimensions (volume) of the structures is recorded.

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