

# Triangles in the walls of the Great Pyramid in Giza

Franc Zalewski

ul. Podgórci 18, 30-616 Krakow, Poland; e-mail: franc.zalewski@gmail.com

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The Great Pyramid in Giza is the most researched and most recognisable object from the ancient world (Arnold 1991, Raynaud et al. 2008). Observations of its walls showed difference in colour of some limestone blocks used for building its core. Different colour of blocks results from the amount of fossil shells contained in the limestone. The large number of fossils not only gives the limestone its colour but is also responsible for its hardness. (Badawy 2005). Blocks made of this type of limestone form a triangle in all four walls of the pyramid. Precision of masonry and their fitting is better than that of blocks made of other kind of limestone. The triangles in the pyramid walls were made from a special type of limestone.

The Giza plateau consists mainly of middle Eocene nummulite limestone which belongs to the Mokkatam formation. The limestone is partly overlain by late Eocene limestone of the Maadzi formation (Lehner 2004). The main purpose of this paper is to determine the mineralogical and petrographic composition of the blocks, which were used to build the Great Pyramid. Due to the insufficient amount of the veneer blocks, the study focuses on the stones which were used to build the core of the pyramid (Folk & Campbell 1992).

According to the author, the better preserved blocks forming the triangles occupy the central parts of the pyramid walls. The best preserved blocks are observed in the first layer. They lay in the distance of 40 m from the corners of the pyramid and they were put in the central part of the pyramid's foundation. In each subsequent layer their number is decreasing from the both sides. And thus, occurrence of this type of limestone ends up with the single block in the 19th layer, in the central part of each wall. These blocks are lighter and

precisely fitted. They are arranged in a characteristic way and create a triangle-shaped feature. The same elements are visible in the next three walls of the Great Pyramid at Giza. The discovery of triangles in four walls of the Great Pyramid broadens our knowledge about its construction. The triangles have been unnoticed through the ages. After presenting the paper by the author, each person will be able to see the triangles without a problem, even on old photographs (Zalewski 2004, 2006).

Concluding, the four triangles located at the base of the Great Pyramid at Giza are visible in the four walls of the pyramid. The best visible of them is the triangle located in the western wall, topped with a single stone. It is in the 19th layer of the stones, 16 m 65 cm high. According to the author's calculations, the angle of all the above-mentioned triangles in its top amounts 155°. The length of its base is about 150 meters.

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