

An Example of Fit-for Purpose Use of Materials in Roman Architecture: Side P Temple, Antalya/Turkey

G. Kaymak Heinz*

* Faculty of Engineering and Architecture, Architecture Department, Beykent University
Ayazağa Mahallesi, Hadım Koruyolu Cd. No:19, Sarıyer 34485 / İstanbul, Turkey
e-mail: gamzekaymak@beykent.edu.tr, web page: <https://www.beykent.edu.tr/>

ABSTRACT

Having been discovered by Lanckoroński and his team and named after "P" in 1890 [1], and unearthed by Mansel and his team [2] in 1947 through archaeological excavations, the remaining of the high-podium Roman Period temple, with a semi-circular plan scheme, was started to be re-examined as from 2013. The aim of the still ongoing work is to seek answers to such issues that haven't been clarified yet, as the plan scheme, to whom it is dedicated, and the date of construction.

In this context, the construction structure of the Temple P was investigated during the present study based on *in-situ* and precise documentation: At least five different types of stones were classified by purpose, including conglomerate, travertine, sandstone, marble and rubble stone mixed with mortar as infilling material. It was seen that fit-to purpose use of the material was considered more important than the ideal and repeated dimensions of the building blocks the building, where local material was used except for the outsourced marble.

In addition to the large-sized clamps and dowels in the load-bearing core blocks of the walls, the spaces between the coatings and the load-bearing core were filled with mortar. In this construction technique, *opus revinctum* and *opus caementitium* were used together. The partition walls separating the three rooms of the lower floor and the vault cover made with mortar and formwork system belong to the construction period of the temple. However, there are indications that the outer walls, about 2.5 m thick, originated from the foundations of a precursor structure.

Four construction stages of the pillar profiles of the orthostat coating blocks of the podium, each having different lengths, can be traced from the upper surface workmanship, without scalping.

The podium, which is approximately 2.20 m high, is reached by one main and two side stairs. Numerous, high quality marble blocks in front of the cella on the podium indicate the presence of a monumental entrance structure made in *opus revinctum* technique. Unlike the profiled *orthostat* blocks of the podium which were processed *in situ* after assembly, the cassette and cornice blocks of the entrance structure were produced before and in 'on the ground'. The restitution of the marble cassette ceiling of the monumental entrance structure has been developed by combining the 1/10 scale precision surveys of the blocks via a computer aided method. The efforts for a modular planning and production are witnessed in the construction of cassette ceilings.

REFERENCES

- [1] K. G. Lanckoroński, *Städte Pamphylens und Pisidiens I* (1890).
- [2] A. M. Mansel, E. Bosch ve J. İnan, 1947 Senesi Side Kazılarına Dair Önrapor - Vorläufiger Bericht über die Ausgrabungen in Side im Jahre 1947, TTK. (1951).