



TOWER OF HERCULES

Chamber

The inner core of the Roman lighthouse of Tower of Hercules still survives. It has the peculiarity of being arranged in three floors with four chambers per floor. This characteristic arrangement does not seem to be exclusive of the Tower of Hercules as other similar cases such as the no longer existing of Leptis Magna (Lybia-Africa), apparently had a similar arrangement of inner spaces.

The Tower is arranged in three levels or floors of varying height: 9.20 m, 9.60 m and 14.35 m, respectively. Each floor presents a similar arrangement with four independent, rectangular chambers 2.70 m long, which form the floor. All these spaces had barrel vaults. Three of the, however, were removed when the interior staircase was built. Partition walls are 1.5 m thick, which is the same width of the original perimeter walls of the Roman building core. Nowadays, these walls are thicker as the original construction was covered with a shell of impeccable masonry between 1788 and 1790 and the Roman structure was covered and united to this shell by means of perfectly fitted headers. The final result was 1.5 m width walls have now a thickness ranging between 2.10 or 2.15.m.

Communication between the chambers of each of the three floors was originally made following a transverse east-west communication and always following a two-to-two pattern so as to prevent the four rooms in the same floor to be communicated. This was done to prevent the spreading of a potential fire as well as to favour resistance in the event of an attack. Access from the outside to each of these chambers was gained through the gates at the ascending ramp, which went around the core of the Tower and gave access its upper part. It is believed that firewood was taken up this ramp to fuel the fire that was lit to guide ships. The resort to an outside ramp has also been reported for lighthouse of *Forum Julii* or Frejus.

With the passing of time, this outer structure deteriorated and collapsed until it almost disappeared in medieval times. However, and as we have already noted, we can nowadays confirm its existence thanks to the archaeological excavations that were made at the foot of the Tower in 1992 and 1994, when these foundations were exposed.

Nowadays, almost all spans of Roman times have survived (ventilation windows and doors) as they were maintained during the refurbishment led by Eustaquio Giannini. Some of them, however, have lost its purpose or have been walled while others have suffered modifications so as to standardize its appearance. But all of them have survived and been incorporated to the new building. This military engineer, using a modern criterion of restoration, added several small slabs of schist in the sections of the wall on which we made reparations so that it could be possible to interpret these faces in the future and tell the retouched sections from those that have suffered no alteration. These silent “witnesses” are essential to make a chronological reading of the Tower as well as a detailed analysis of the evolution of the monument itself.

The characteristic stonework used by the Romans in their buildings has also reached us. At the Tower, wide walls of great resistance were used consisting of two parallel stretches of wall made of rubble masonry in horizontal courses of *opus vittatum*. Inside them there is an inner filling made of *opus caementicium*. This, in turn, consists of a mixture of granitic pebbles and lime and sand mortar. This *opus caementicium* was also used in the construction of the barrel vaults of each of the chambers separating the three surviving levels of the original construction.

Roman builders resorted to *opus quadratum* at the jambs and the flat arch of the doors and windows that still survive of the pristine building. It is a high quality masonry, perfectly squared with very careful stereotomy which demonstrates the skill of the stonecutters of the time and their proficiency in an enviable technique. This same material was used in the foundation works and at the base of the outer wall beyond the ramp, as evidenced in the excavation at the foot of the monument. Besides, we know that *opus quadratum* was used for all four corner posts of the core section of the Tower from the evidence provided by plans and drawings dating back to before the 18th century refurbishment.

The reading of the inner faces of the Tower allows us to make a diachronic reconstruction of the Roman stonework and identify where interventions were made at the time of the duke of Uceda, of Eustaquio Giannini or at the refurbishments made in the 19th and 20th centuries.