ASMOSIA X INTERNATIONAL CONFERENCE
Association for the Study of Marble & Other Stones In Antiquity

THE STONE ARCHITECTURE OF PALMYRA (SYRIA): FROM THE QUARRY TO THE BUILDING.

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The ancient town of Palmyra, in the Syrian desert, was a chief station on the road linking the Mediterranean sea to the Euphrates and beyond. The excavations carried out by professor M.T. Grassi (Dipartimento Antichità – University of Milan) allowed to study the stones of the Roman Palmyrene architecture. Two lithotypes were generally employed: a nodular limestone (cut-stone with tooled surface for both architectural and decorative elements); a massive dolomite (squared-stone for the tower tombs and for the town walls). The two stones come from the mountain range (Upper Cretaceous) flanking Palmyra from the North side: it's a part of the "Palmyrides fold belt", a series of anticlines and synclines running in NE/SW direction.

The nodular **limestone** features biomicrite nodules (about 5 cm in size) separated by clay seams with some cavities at the nodule boundaries, the microscopic texture includes syntaxial overgrowth cement on Foraminifera grains with calcite spar occluding porosity. This stone was quarried some kilometres N-E of the town: some column shafts are still present together with stone cuts marked by regular tool markings. The rock shows compact beds (thickness about 1 m) alternating with porous beds (thickness about 0.4 m) unsuitable for working.

The massive **dolomite** features compact levels and alternated levels including fossil imprints and fragments, with fine calcite veins running across; the microscopic texture is xenotopic with very fine grained crystals and euhedral crystals grown around the porosity. This stone outcrops in the mountain range showing alternate massive beds with fossil imprints (thickness 1.5 - 2.5 m) or with vertical cracks (thickness 1.5 - 2.0 m); laminated beds (thickness 0.5 - 0.8 m) and hard fractured beds (thickness 1.3 m) separated each from another by well marked bedding planes. The quarry sites were widespread on the rocky hills in neighbourhood of the town.

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