

This PhD thesis, included in the field of the Construction's History, expects to contribute to highlight the traditional gypsum providing with unpublished technical data about some of the construction late medieval procedure, in the Spanish East part, of rib vaults, galleries and stairs built by blocks of stone and gypsum prefabricated keystones with loadbearing role.

The main aim of the research lies in proving that these structures were developed by the Christian builders and, for its setting up, the rules of masonry were essentially respected. The brickwork techniques were set aside to very specific functions, without modifying the project and carrying out strategies of masonry tradition. In this way, such proposals are technically different from other solutions, previous or at the same time, usual in both the Castilian and Aragonese territories. Although in both of the cases the materials were identical: gypsum and bricks, the second ones keep clear links with the Muslim Spaniard technological tradition, which goes beyond the handling of the material.

The study is divided in two parts were it is faced by first time, with a concise vision, the analysis of these techniques. In the first one the previous solutions to the Modern Age, which could represent any possible precedent, are detailed. This short tour is not only kept within the use of gypsum prefabricated. Other proposals are included as well and, in the development of the research, have been shown supplementary to the aim of the study. In the case of the brick vaulted ceilings (with special attention to the formation of the skin and the nature and function of its nerves) or the procedures made by poured and sculpted gypsum combined with lateritious or wooden structures to carry out stairs, pulpits, openings, galleries and other pieces of furniture.

The second part is focused on the technical analysis of these solutions with a specific attention to the largest and most different version: the rib vaults made up by blocks of stone of sculpted or modelled gypsum. After the convenient historical and descriptive new of each one of the solutions its conventional and constructive study contrasting the gathered data in the field works with the tra-

ditional project and carrying out strategies and the modern ones about masonry. The study, besides confirming many of the previous hypothesis, is used to enrich the current situation of the art respect to the strategies of project, increasing or matching some information (sketch of the stellar vaulted nerves, standardization, etc.) coming from the manuscripts and treaties of the age.