



Construction materials, monuments and environment

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Construction materials (natural stone, aggregates, bricks, cement, lime, mortar, etc.) form a wide and heterogeneous group both from the genetic and technological point of view. These materials deserve attention from the scientific community due to their long-term use, importance for society and sensitivity to the environment. Most geomaterials have also been used in important monuments designated as a part of the World Cultural Heritage and/or make part of national monuments. Despite of the wide-ranges of studies and our rapidly increasing understanding of material behaviour, our knowledge is still rather limited in many aspects. This concerns the characterisation of traditional raw materials, the knowledge of their processing and use, and/or durability and compatibility assessment. The exploitation and sustainable use of these materials are also new and emerging challenges in the modern society. The use of local materials for monuments can be considered as a part of our cultural and technological heritage, which has, however, significantly deteriorated during the past several decades. This paper summarizes the general topics related to a modern analysis of traditional construction materials derived from the Earth, and on the characteristic aspects of the behaviour of these materials on selected monuments.