



## **Conservation of stone built cultural heritage and preservation of memories**

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Certainly, the main justification for the conservation of cultural heritage built, lies in the meanings that these buildings have, either to the history of nations, either as part of the cultural heritage of humanity. On the other hand, and taking into account the use of stone, it can be said that in addition to cultural and aesthetic values usually associated with these monuments or architectural ensembles that make up this heritage, the presence of stone materials gives another dimension to those constructions, which is the geo-memory. This means that, due to the presence of this material, where each has its own history, it is also possible to identify geo-memories for each of these monuments or architectural ensembles that make up this heritage, either the genesis point of view, involving environments and processes, either regarding the formation ages of these materials. At the same time and due to the use of these materials can be said that each monument or group of monuments is a reflection of the geo-diversity of a determined region or territory. In Brazil, due to its large territory, this geo-diversity includes a wide range of geological environments, phenomena and processes, giving rise to diverse stone materials, which can be observed in the monuments that are part of your built heritage. Thus in old buildings of historic sites located in particular in the southern and southeastern regions of Brazil, this geo-diversity is present because many types of rocks were used, igneous, metamorphic or sedimentary compositions and of very different ages. Of these types stands out, for example, granites and gneisses, which were used in the states of Rio de Janeiro and Minas Gerais, where they are very common. In such cases, the rocks were formed, or end of the Paleoproterozoic, or at the end of the Neoproterozoic and have different textures, sometimes with predominance of biotite, among mica, sometimes amphibole, as hornblende, or with garnet. They were often used in the production of structural elements, such as pillars and columns, or for the coating of floors and walls, as well as in the production of various elements such as the doorposts and lintels of doors and windows, cornices and steps. In the case of floors and walls usually have some sort of processing (polishing). With some frequency were also used for the production of ornamental pieces or embellishment, such as statues and finishes that adorn both façades of churches, as civilian buildings. Finally and considering that historical contents usually are already referenced in these buildings, it is concluded that other registers, such as those related to the geological history of the stone material used should be collected and reported by those who care conservation of this heritage. In this way, if these geo-memories are raised, it will be important for the conservation of monuments, but also for the diffusion of knowledge in the field of Earth Sciences.