



The value of Geoheritage and implications for the assessment

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Geological, geomorphological, hydrological and pedological features form with biological elements the natural heritage, which, in addition to cultural material features (historical monuments, archaeological vestiges) or intangible elements of the culture (e.g. traditions) constitute the heritage of an area, a country or even the World. Heritage recognition is the result of a complex process including the awareness of the heritage value by specialists (e.g. scientists), by militants (e.g. environmental associations) and then by large circles of the society. The emergence of this awareness often happens in times of crisis (Di Méo, 2008) (e.g. when species are close to disappear) and is not concomitant for all parts of nature or culture.

Until recently geological and geomorphological features have not been fully recognized as heritage by the society. The current context of environmental crisis (climate change, overexploitation of natural resources) seems to be one of the drivers of a process of geoheritage recognition in several parts of the World. In this process, the first stage is often the selection of objects worth to be conserved and transmitted to the future generations. This selection, carried out by geoscientists, is funded on a set of values attributed to the potential heritage objects. The definition of these values is underway in the scientific community since the 1990s. Two main lines of research have emerged.

(1) The first one reflects an anthropo-centred conception of Nature. These authors (e.g. Reynard, 2005) consider that the core value of geosites is their scientific importance for the knowledge of the Earth, climate and life history on the planet Earth; this central value (scientific) may be completed by several so-called additional values (e.g. ecological, cultural, aesthetic); they form together the intrinsic value of geosites. In this context, "intrinsic" is understood as inherent in the nature of the object as defined by the Earth sciences. In addition, several works (e.g. Giusti and Calvet, 2010) have demonstrated that this intrinsic value can be completed by a second group of interests forming the social value of geosites, often defined based on their interest for education or tourism.

(2) A second view exists, based on an eco-centred conception of Nature (Sharples, 2002). These works assign importance to geological and geomorphological objects without any reference to human interests. The assessment of the geodiversity can also be considered as an eco-centred tentative of defining the value of the "geonature" per se.

A detailed comparison of various geosite assessment methods relating to the first conception shows that: (1) the main values considered are very similar even if the criteria used for the assessment and their weighting can vary from one method to the other; (2) more than the criteria to be used, it is the transparency of the procedure that is important for understanding how the sites have been selected; (3) new research is needed to evaluate what are the differences between the selection funded by the anthropo- and eco-centred assessment methods.