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Geodiversity, Geoheritage, Geoconservation: a semantic challenge

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The concept of geoheritage took more and more relevance since the International Conference of Protection of Geological Heritage in 1991 (Martini, 1994).

During these 30 years, many authors have been proposing their definitions of geoheritage. The analysis of these definitions highlights how the geoheritage concept is deeply connected with geodiversity and geoconservation. All the definitions tend to select geoheritage among the geodiversity elements that are worthy of inclusion into the geoconservation programs because of their value for humanity. The “relevance for humanity”, however, seems to diverge in the several definitions, in what are the values and the qualities that a geological feature should possess to be considered part of geological heritage. For example, the list of values proposed by Shaples (2002), including tourism and sense of place, differs from the list proposed by Brilha (2016), including values as economic and functional, and they both differ from the geosystem services approach by Gray (2013), where relevant values are also provisioning and regulation. Lately, Brilha (2018) stated that only the scientific value is a condition to include a geologic feature in the geologic heritage category. However, the definition of what this “scientific value” represents is not clear, as for the other values of the different lists provided by the various authors.

The result of this variety of definitions and qualities raises a high level of ambiguity, with the result that some geological features may be considered geoheritage by one author and not by another author.

The aim of this presentation is to analyze the definitions of geodiversity geoheritage and geoconservation and address the differences and similarities with a semantic approach. This is the first step of a wider research: we will address the state of the art to pursue a semantic characterization of definitions and their encoding into an ontological, machine-readable approach, with the aim to reduce the level of ambiguity of the above cited concepts. This research can lead to improve the knowledge about geodiversity and geoheritage and increase the transparency in the decision process for what concerns programs of geoconservation and institution of geosites or geoparks.

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