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Val d'Ossola: Big History thresholds and Local Big History as a new approach to geoheritage with unprecedented didactic perspectives and geotourism opportunities

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Big History represents a novel approach towards an integrated comprehension of history of Cosmos, Earth, Life and Humanity. In its own narrative, nine complexity thresholds have been identified. They are the Big Bang origin of our universe (1st); the first stars begin to glow (2nd); new elements are forged in dying large stars (3rd); our Sun and our solar system form (4th); first forms of life on Earth (5th); first evidence of Homo sapiens (6th); end of the last ice age and beginning of the Holocene (7th); the fossil fuel revolution begins (8th) and a future sustainable new world order is in place (9th).

Many academic institutions [1, 2] all over the world have adopted Big History as an interdisciplinary and transdisciplinary scientific methodology. It uses best available empirical body of evidence together with peer-reviewed scholarly procedures in order to map the real formation context of local natural and cultural heritage, taking the name of Local Big History

We review measurable results obtained [3] in Italian middle/high schools through an ever-expanding network of researchers and schoolteachers, to proactively anticipate innovation at school and improve students' global citizenship and environmental awareness. Within this novel educational framework, the exploration of a specific territory with a unified vision is crucial. For example, Val d'Ossola, a small valley at the border between Italy and Switzerland, effectively represents the new concept of geoheritage, union of geology as a science with recognition and importance of geology to human society.

Val d'Ossola is the primary source of Marmo di Candoglia for Duomo di Milano, among other historical buildings. Going deeper into Alps formation process and complex plate tectonics of the Italian region, dating back to 700 million years ago down to the present, it is possible to understand why such a special marble formed there. Then it is possible to analyse ice age impact on the geometry of the valley and the strategic position it took between Northern Italy and Switzerland, since the Roman Republic time. Going through the above-mentioned complexity thresholds we can enable students on confronting themselves with larger than usual issues underpinning novel connections and relationships. Integral part of class agenda, an App named BHV (Big History Val d'Ossola) has been coded by students for immediate georeferencing of any natural and cultural resources this territory offers, giving them the opportunity to hand over a final by-product and an immediate way for improving local tourism in this area.

Applying the new concept of geotourism, Romanesque churches of Val d'Ossola, made up of roughly arranged quarry remnants, ruined by rough remaking, can now tell us about a complex, dynamic history which we are an active part of. Further improvement of activities like this can be easily extended to other Italian regions.

References

[1] Christian D., Dall'Origine, Mondadori, 2019

[2] Spier F., Big History and the Future of Humanity, Wiley Blackwell, 2015

[3] Codetta A., Porta M., Grieco G., Cambini R.; Towards a Big History Model for Italian School; Journal of Big History, Vol. 3 n.1, 2019