



The Road to Canossa revised: using geoarchaeological tools to unveil the interaction between cultural and natural landscapes in Medieval times

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Human exploitation and modification of natural landscapes do not rely exclusively on the management of raw material sources. The strategic controls of the territory and/or spiritual beliefs have always played a strong role in the development of settlements in past and present societies. In recent years, the application of Geoarchaeology to Medieval contexts has reshaped our understanding of these communities, stressing the connection between places and their associated territories. During the Middle Ages, scattered communities located in mountain territories relied heavily on the surrounding landscape, and this reflects on many aspects of their urban and rural development. In particular, strategic decisions in the construction of functional buildings not dedicated to productions, such as castles, fortress, abbeys or sanctuaries, took strongly into consideration the immaterial services provided by the landscape. For example, elevated areas and vantage points can offer many tactical benefits: a larger visual on the territory, controlled accessibility, isolation, networking and easy communication with a dispersed community. In this contribution, we investigate an area of Northern Italy encompassed between the southern margin of the Po Plain up to the main watershed of the Apennine range, with a method combining historical and archaeological data with geological and geomorphological tools, in order to give a clearer understanding on the use of territory of mountain communities in the Middle Ages. We produced a systematic mapping of the most relevant non-productive landmarks belonging to a period between the X and XII Century – the age of Matilda of Canossa –, including details on their building. The combination of these data with the surrounding geological and geomorphological setting and the application of GIS tools (e.g., viewshed analysis, cost of moving) uncovered relationships between human activity and the diversity of the mountain landscape. The presence of these landmarks is associated with elevated structural terraces (mesas, cuestas), slope deformations and relict surfaces on harder lithologies shaped by differential erosion. Our finds highlight how landforms influences human adaptation in less tangible ways.