



The Harz Mountains and the St. Andreasberg Mining District (Germany) as a key region for an interdisciplinary Anthropocene discourse

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The proposal to introduce a new geological epoch, the Anthropocene, has led to an increasingly intensive discourse on the concrete evidence of anthropogenic interventions in nature, their extent and exact beginning in Geosciences and neighboring disciplines, as well as on questions of a fundamental change in man-environmental relations especially in the humanities. The concept of the Anthropocene thus has become a socio-political relevance with regard to global environmental changes and their management.

The paper uses a conceptual model to illustrate the various proposals for formalizing the Anthropocene from the geoscientific perspective on the one hand and the complex interlinking of human-nature relationships on the other hand on the base of the Harz Region (Lower Saxony, Germany) and selected type localities for the Anthropocene. The Harz and its foreland possess numerous key localities in geological, geomorphological, vegetation and cultural-historical research as well as important geoarchaeological and settlement-historical sites. At a comparatively small spatial segment of the earth surface, the transitions from a natural to a human-dominated world can be demonstrated on different spatio-temporal scales from the Paleo-Anthropocene to the current modern Anthropocene based on a broad spectrum of Quaternary paleo-archives and cultural evidences. In the northern Harz foreland, there are significant geoarchaeological sites from the Paleolithic and in the southern Harz foreland from the Middle Paleolithic, including caves and settlement relics, with far-reaching implications for early human intervention in nature. Since the Bronze Age, the Harz Region was used for mining mineral resources. Since the Middle Ages and Modern Age at the latest, the Harz Mountains have been systematically developed for mining, and not least because of the rich silver ore deposits, they have been converted into an industrial landscape. Mining landscapes with special landform assemblages emerged at the local level, which not only changed the geological underground and geomorphological relief surface partly irreversibly, but also the vegetation and the hydrological system was profoundly changed with consequences for the future ecological system. The environmental impact, but above all the indirect consequences of mining activities in the context of the import and export of goods, the migrations of workers and exchange of knowledge extended far beyond the region to the global level.

In this regard the St. Andreasberg Mining District with the UNESCO World Heritage site of the

Samson Pit, one of the centers of silver mining in the Harz Mountains, was selected as a key site for demonstrating the human impact since the times of the Columbian Exchange. It shows in a paradigmatic way the anthropogenic transformation of the natural landscape in the context of regional and global environmental changes in their complex human-nature interplay. At the same time, the recent change from a mining to a tourism landscape as well as approaches of sustainable development strategies in form of modern wilderness-concepts and the use of regenerative energies based on a century old water management system provide the base for future-oriented man-environment concepts.