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The Anthropocene - A Unit of the Geological Timescale?

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The term "Anthropocene" characterizes the time interval since when mankind significantly influences the Earth and its geological processes, and it became a widely used term to symbolize anthropogenic global change and the role of mankind in changing the face of the Earth system.

A more practical aspect of the Anthropocene is the definition of its beginning. Since several years an International Stratigraphic Commission Working Group on the Anthropocene of the Subcommission on Quaternary Stratigraphy is discussing the stratigraphic aspects of the Anthropocene. Originally, the beginning of the Anthropocene was set in the 18th century, i.e. using the invention year of the steam engine 1784 as the starting point of the industrial revolution that subsequently affected greenhouse gas emissions and thus concentrations.

Several other time boundaries have been suggested since then, e.g. based on inferred early anthropogenic influence on greenhouse gas concentrations or anthropogenic influenced soils dating back some 8000 BP (Early Anthropocene Hypothesis). A recent paper by the Working Group favors the Great Acceleration after World War 2 (1945-1950) as the most prominent global boundary marker of an Anthropocene series.

A pragmatic geological view may include already mapped anthropogenic lithostratigraphic units such as waste dumps, agriculturally modified areas and mining dumps. On the territory of Austria the oldest of such significant units are waste products by mining activities of the Bronze Age, from around 1400 BC (Middle Bronze Age) mining for copper (e.g. Mitterberg area) and salt (e.g. Hallstatt area). For pragmatic reasons at least the greater part of these already mapped units should be included into a formally defined Anthropocene as they convey major rules for stratigraphic time unit – having (1) a distinctive and significant geological signal to be mappable, and (2) being already useful as an informal term to the scientific community in distinguishing anthropogenic from older units.