

The Anthropocene Hypothesis: Birth and Epistemology

The research investigates the birth and epistemology of the Anthropocene Hypothesis – a recent proposal advocating for ratification of a new geochronological/chronostratigraphic unit in the Geological Time Scale. The investigation reconstructs the birth of the hypothesis by examining the literature implementing the term ‘Anthropocene’ between the years 2000 and 2009, and by studying the research organization conducted by the Anthropocene Working Group (AWG). The research also delineates an epistemological profile of the Anthropocene Hypothesis by applying theories in history and philosophy of science, particularly in philosophy of geology, and by exploring the empirical core of the hypothesis in relation to its epistemic background (geochronology and stratigraphy).

Recent multidisciplinary scholarly work has been assigning different and often conflicting meanings and definitions to the ‘Anthropocene’ – a term introduced by Nobel prize winner Paul Crutzen in 2000. Each definition reflects a specific, disciplinary-based approach to the term, from history to environmental humanities and natural sciences. Among the vast landscape of multidisciplinary uses of the term, a geological research group (the AWG) was established in 2009 to find out whether there was sufficient evidence to warrant ratification. Since its formation, the group has been advocating for the formal recognition by the international geological community of the ‘Anthropocene’ as a distinct time unit in the Geological Time Scale. The proposal of recognition – the Anthropocene Hypothesis – challenges standards procedure in geological research, asking for revisions of the canons to establish geological units. It also stresses the broader social, political, and ethical importance of ascribing the most recent epoch the name of ‘Anthropocene’ to underline its causal agent – human beings. Because the term has been pioneered by environmental agendas both in activism and academia, it is paramount to dissect the hypothesis in order to shed lights on its claims, evidence, and context.

Parallel to the philosophical analysis, the research conducts an historical reconstruction of the hypothesis by implementing tools from conceptual history and text-mining. First, this is achieved by surveying literature implementing the term ‘Anthropocene’ between the years 2000 and 2009. Different search engines are used to retrieve published material (for a total corpus of 646 written records) which is organized through clusters based on language, field of knowledge, discipline, format, year of publication, and relative frequency of the term ‘Anthropocene’ (case-insensitive). The relative frequency is retrieved by using a text-mining software (Voyant Tools), and is used to divide the corpus between a central and a peripheral literature – which are approached, respectively, from a qualitative and quantitative viewpoint. Second, the history of the Anthropocene Hypothesis is reconstructed by following the publication timeline, organization, structure, and research agenda of the AWG. This step builds on empirical work based on correspondence with AWG members, but also follows an analysis of the group by using models in history and philosophy of science. Extant historical research has too briefly condensed the 2000-2009 decade, and likewise the evolution and composition of the AWG. It is considered necessary to follow these two historical trajectories to understand the scientific as well as social and political value of the Anthropocene Hypothesis.

The research responds to the necessity of clarifying the early history of the ‘Anthropocene’ idea, which is essential to understand the birth and epistemology of the Anthropocene Hypothesis. It also introduces philosophy of science, and particularly philosophy of geology into a topic of discussion previously unknown to these disciplines. It is considered essential to discuss the knowledge claims and broader political and social relevance of naming an epoch in the Geological Time Scale after the most recent and globally distributed anthropogenic disruption of the Earth.