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<AT>Envisioning the Future by Predicting the Past: Proxies, Praxis and Prognosis in Paleoclimatology

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<PA>**Corresponding Author:** Martin Skrydstrup, SAXO Institute, University of Copenhagen, Denmark. Highlights The past is not alone in shaping our present; our collective contemporary actions depend upon how we envision the future, in this case our collective anthropogenic horizons. The epistemological commitments of Danish Glaciology gravitate towards a deep skepticism towards probabilistic virtual climate modelling. The deep ice coring project known as NEEM is a search for a specific époque (*the Eemian*), which might evoke alternative futures, not by way of prediction, but by way of analogy to the Eemian. The quest for *the Eemian* evoke alternative futures not by way of prediction, but by way of a certain mode of time-binding between the past, the present and the future, where a past climate is figured as an analog to the future. □ <ABS-HEAD>Abstract.

<ABS-P>This article contrasts two different modes of foretelling the future within paleoclimatology. The first is represented by Danish paleoclimatology and their project of deep-ice core drilling in Greenland, which seeks to profile a specific climatic period called "the Eemian". Dating approximately from 125,000 to 115,000 years BP, the Eemian was the last warm interglacial period before the advent of the Holocene some 12000 years BP, and thus serves as an analogue to contemporary global warming. I contrast this mode of prognostication with the temperature curve by Michael Mann et al. (1998), which demonstrate that global mean temperatures have risen in conjunction with the consumption of fossil fuels visualized in a graph that became known as the "Hockey Stick". I argue that in the first case we have a form of analogue reasoning, which predicts the past in order to envision the future. In the second case we have a thoroughly modern technology of anticipation, predicated on Enlightenment ideas about the visual economy of chronological timelines. From the vantage point of this contrast, I discuss the political nature of proxies, where I argue that the STS-field could be more attentive to the imaginations and aspirations of the paleoclimatologists themselves.

<KWD>Keywords: Prediction; Paleoclimatology; Proxies; Ice cores; Hockey Stick; Greenland.

Introduction

"The future of Greenland will have a significant influence on sea level rise. Current IPCC predictions of up to about a meter of sea level rise by 2100 are likely underestimates; many cryosphere experts think we could have even more than this sea level rise" (Abraham 2015, July 14th in the "Guardian"). The production of this mode of future environmental scenarios based on predictive science has proliferated in the past two decades, raising fundamental questions about what the relationship might be between distinct modes of knowledge production and technologies of anticipation. Here, I shall concern myself more specifically with a particular branch of climate science which extracts, reconstructs and (re-)interprets the Earth's climate history along chronological time scales of up to millions of years on the empirical terrain of sea sediments, ice and trees called *paleoclimatology*. To date, paleoclimatology has not been the subject of much

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