

The Climatic effect on the distribution of Neanderthal and Modern Humans

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The Neanderthals became extinct around 30 ka in the cooling setting, although our ancestor (modern humans) who evolved in Africa survived and adapted to cooler environment. To understand the reasons for their difference in reaction to the environmental changes, we combine different kinds of evidences from anthropology, archaeology, palaeoclimate, and palaeoenvironment. Here, we will report the progress of our joint research conducted by the Grant-in-Aid for Scientific Research on Innovative Areas "The replacement of Neanderthal by Modern Humans: Testing Evolutionary Models of Learning" to share the information with potential coworkers from geoscience fields. Now, we are developing a database of radiometric dates of archaeological sites and human fossils, which will be shown on the palaeoclimate map produced by global circulation models. Furthermore, fluctuation of environments in the stage of their evolution, Europe for Neanderthal and Africa for modern humans, is also estimated by some geochemical proxies. By combining these information together, the difference between Neanderthal and modern human could be discussed in light of adaptation, hunting strategies, ecological niches and some aspects of their cognition.

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