

Out of SW Ethiopia? The Spread of Homo sapiens Across and Out of Africa During the Late Pleistocene

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Sometime between 60,000 to 50,000 years ago, one of the most significant events in human evolution occurred, according to recent fossil, archaeological, and genetic data. This happened when anatomically and behaviorally modern hunter-gatherers migrated out of Africa into Arabia to successfully colonize western Asia. Thus began a process that would lead over the next 20,000 years to the extinction of all non-modern humans, including the Neanderthals, and the spread of Homo sapiens and “modern” cultural behavior across Asia, Australia, and Europe into the Americas.

One of the major gaps in our understanding of this Great Diaspora, as it is sometimes referred to, is an understanding of its African roots: Where in Africa did these colonizing hunter-gatherer populations come from? Why and where did they leave Africa and what were their routes? How were they able to adapt so successfully to the new worlds they encountered?

In 2006, Dr. Elisabeth A. Hildebrand of Stony Brook University and I received a grant from the National Science Foundation to begin archaeological research in Ethiopia aimed at answering these questions. We wanted to test the hypothesis that the tropical highlands of southwestern Ethiopia (where annual rainfall today can be more than 110 inches), served as an environmental refugium for hunter-gatherer populations from what are now Ethiopia, Kenya, Sudan, and Somalia, as they learned to cope with the extremely arid climatic conditions that characterized much

of Africa between approximately 70,000 to 60,000 years ago. We further hypothesized that those hunter-gatherer groups that learned the technological, economic and social skills necessary to survive this period of major environmental stress, would also have been the founder populations that adapted rapidly to the new environments they encountered as they migrated out of the refugium and out of Africa during the period of climatic amelioration that followed soon after approximately 60,000 years ago.

In order to test this hypothesis, my colleagues and students from Ethiopia, France, Belgium, and the United States conducted excavations over the last three years at Moche Borago, a large cave situated on the slopes of a dormant volcano in SW Ethiopia. Our goal was to find evidence for human occupation and abandonment correlating with periods of major environmental change during the critical period of 70,000 to 50,000 years ago, and to recover



archaeological evidence for how populations adapted culturally to these changes.

While we were successful in recovering some of the information we were searching for, we also quickly realized that considerably more data from many more sites, and from many different SW Ethiopian environments over many more years of research, would be needed to truly test our hypothesis! Therefore, we decided to join forces with archaeologists from the University of Cologne and other German universities on a proposal to the German Science Foundation to establish a Center for Research Cooperation (CRC), based in Cologne, that would allow for long term research on how, why, where and when Homo sapiens, originating of course in Africa, got to Europe by about 40,000 years ago.

The proposal was successful and along with support from UF's Department of Anthropology, Center for African Studies, and the International Center, the grant will provide partial to full funding for 3 graduate and 3 undergraduate students from UF to collaborate with fellow Ethiopian and German students in field research in Ethiopia.

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