

Podium Presentation: Session 8, Sa (10:30)

The Middle to Upper Paleolithic transition: A multidisciplinary approach to the chronostratigraphy of climate change and human occupation at Trou Al'Wesse (Belgium)

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The cave site of Trou Al'Wesse is currently the only one known in Belgium that still contains intact deposits for the Middle to Upper Paleolithic transition (units 17-15), complementing data from recent and old excavations at other sites in the region that also cover this period. Modern excavations have been conducted on the terrace since 1988, directed by R. Miller since 2003. Test excavations inside the cave have reached the Pleistocene levels. Trou Al'Wesse is a cave oriented southwest with a large terrace sloping to the alluvial plain of the Hoyoux River, a tributary south of the Meuse. The site provides the opportunity to address climate change and patterns of human occupation from the Late Mousterian to the Aurignacian. Of key interest is correlating the presence of humans, whether Neandertal or anatomically modern, and cold- and warm-adapted fauna to the chronology of rapid climate fluctuations (Dansgaard-Oeschger events) during MIS 3. A multidisciplinary approach incorporates geology, archaeology, zooarchaeology, ancient DNA, luminescence and AMS dating and near infrared spectroscopy. The overall objective is to reconstruct the chronostratigraphy of climate change and human occupation from ca. 50,000 to 30,000 BP. More field-specific objectives include 1) stratigraphic interpretation, taphonomic processes, site formation processes and deposit geometry, site function and spatial organization, 2) lithic and bone technology, lithic procurement strategies, territorial exploitation and mobility, 3) environmental reconstruction, 4) subsistence strategies, carcass processing, 5) paleobiogeography and chronology of selected species and 6) evaluation of collagen preservation in bone using NIRS. Among this range of analyses, this paper focuses on the Late Mousterian occupations on the terrace in unit 17, excavated in 2015 and 2016, discussing the stratigraphic context and initial results of lithic analyses conducted. It also presents a preliminary interpretation of the chronostratigraphy of units 17 to 15 and implications for the presence or absence of hominins.

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