Loess and archaeological cultures in Moravia

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Moravia is geomorphologically diverse with the eastern part of Bohemian Massif in the west and Western Carpathians to the east. In between, the Carpathian Foredeep connects the Danube Valley with the North European Plains through a network of river valleys connected by gates (narrow conduits through geographical barriers) across the Danube – Oder watershed.

Preferences for site location show distinct differences over time. The study of settlement preferences of different cultures allowed us to define three basic settlement strategies during the Upper Paleolithic: 1) elevated positions were preferred during the Initial and Early Upper Paleolithic, 2) mid-slope locations above major rivers were preferred during the mid-Upper Paleolithic, and low terraces (ca. 10-15m above the river) were utilized during the Late Upper Paleolithic. The preservation of archaeological remains at open-air sites is strongly contingent on loess cover. In general, loess cover is often absent on elevated positions, some loess is present on mid-slopes but it is affected by slope processes, and little loess cover is present at Late Upper Paleolithic sites (the very end of loess sedimentation). For this reason, Moravia is well known for its well-preserved Gravettian sites, while earlier occupation is less common and only known from several sites (most of the known sites are surface sites with no intact deposits remaining). In addition, artifacts produced from less durable materials (i.e. bones) are rare. Late Upper Paleolithic sites are known only from caves.

Recently, we have developed a technique for systematic landscape surveys using the settlement strategy approach (i.e. a predictive modeling method combining a current site database with computer modeling) that has resulted in the discovery of new Initial and Early Upper Paleolithic sites at the expected (predicted) positions in the landscape. We are now also applying this technique to Late Upper Paleolithic sites. We conclude that in continuing to apply this survey technique, we are able to find new well-preserved sites (i.e. covered by loess in intact positions) – a basic necessity for progress in cultural chronology and environmental studies.