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The Upper Palaeolithic of Great Britain

Although the British Upper Palaeolithic is impoverished relative to its nearest continental neighbours, Late Upper Palaeolithic assemblages from relatively recent excavations are robust enough to facilitate use of modern analytical techniques. In light of this I will present results from three recent projects pertinent to the British Final & Terminal Upper Palaeolithic. First, I report on results of an excavation exterior to Mother Grundy's Parlour, Creswell Crags (Derbyshire) and the question of a possible Creswellian-Federmessergruppen –Mesolithic stratigraphy at the locale. Secondly, I present results of a new analysis of the Allerød period male elk skeleton from High Furlong, Poulton-le-Ffyld (Lancashire: 'the Poulton Elk') which modifies our understanding of the elk's death and contemporary human hunting techniques. Thirdly, I discuss new and unpublished LA-ICP MS trace element characterisations of Final Pleistocene lithic artefacts from the 'Long Blade' assemblage of Seamer Site C (North Yorkshire). The relevance of both studies to the mobility strategies of (presumed) Federmessergruppen in the first case and Long Blade groups/Epi-Ahrensburgian is presented.

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Investigating dietary habits through tooth microwear and stable isotope analyses ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) in bone collagen of cave bear (*Ursus spelaeus*) in southern latitudes of Europe during the Late Pleistocene: the case of Toll Cave (MIS3; Spain)

Dietary habits of the extinct *Ursus spelaeus* have been always a controversial topic in paleontological studies. Understanding feeding habits of cave bears is essential as it might give insight into those factors contributing to their extinction. In this work, we investigate carbon and nitrogen values in bone collagen and dental microwear of *Ursus spelaeus* specimens recovered in Level 4 (dated to 57.9 and 69.8 ka BP) from the Toll Cave (Moià, Catalonia, NE Iberian Peninsula). On one hand, a first sampling of 12 cave bear specimens were selected for isotopes analysis. In addition, several bones of contemporaneous carnivores and ungulates from the same level were sampled. All specimens were individualized considering taxonomical identification by osteological criteria and bilateral symmetry. The totality of studied remains represent only adult specimens. Previous data carbon ($\delta^{13}\text{C}$) and nitrogen ($\delta^{15}\text{N}$) values of cave bear bone collagen during MIS3 show lower positions in the trophic chain (Bocherens et al., 1997), similar or lower to those of values measured in pure herbivores (Krajcarz et al., 2016). This suggests an unusual physiology conditions related to hibernation or a pure non-protein herbivorous diet. However, other samples suggest high positions in the food chain, suggesting the existence of factors influencing dietary habits not well understood (Richards et al., 2008; Robu et al., 2013). Our preliminary results show lower values ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) in cave bear than in pure herbivores (i.e. *Cervus elaphus*), all recovered from same levels at Toll Cave. On the other hand, 12 first lower molars (m1) with an occlusal surface wear indicative of prime adults (Stiner, 1998) were selected and moulded for the

stereomicrowear analysis (Zeiss Stemi 2000C stereomicroscope at x35 magnification). The results have been compared with reference data on extant bears from Münzel et al. (2014): *U. arctos* (brown bear), *U. maritimus* (polar bear), *U. americanus* (black bear) and *Ailuropoda melanoleuca* (Giant panda). The cave bears from Toll Cave show a microwear pattern similar to extant bears with herbivore diet. These data are discussed in the framework of all available data in Europe and provide new information about dietary habits and extinction processes of this species in southern latitudes of Europe during the Late Pleistocene.

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Felix Riede

Environmental factors in the development of Late Paleolithic societies in Denmark

New environmental analyses derived from different kinds of archives, supplemented with modeling, and in tandem with archaeological discoveries in the field and the archives have provided substantial new knowledge of changes in both Late Glacial climate and environment in northern Europe. With a geographic focus on present-day Denmark, I will review how these climatic and environmental changes interacted with and acted on the pioneering forager groups that entered the region. In the first part of this presentation, emphasis will be placed on the notion of ecological disequilibrium and the non-analogue nature of Late Glacial environs. By comparing existing climatic and environmental proxies from the Late Glacial with corresponding data from the ethnographic record, I will argue that population densities were exceedingly low until at least late in the Allerød. These low population densities in turn have implications for our understanding of demographic and cultural continuity vis-à-vis, in particular, the transition from Hamburgian culture to Federmessergruppen. In the presentation's second part, I will present new work on the cultural taxonomy of the Federmessergruppen and Brommean lithic material. I argue that the latter may be better defined as a facies rather than a fully-fledged culture and that its emergence may be related to the abandonment or near-abandonment of more southerly areas following