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# The function of Manuports in late Lower Pleistocene sites: a case study from Unit US2 of the Bois-de-Riquet site (Lézignan-la-Cèbe, France).

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## Résumé

In archeological record for the late Lower Pleistocene, *manuports* often represent a high proportion of the stone tool assemblages. Examples from well-known sites in Eurasia, such as; Olduvai Gorge Beds I and II, Dmanisi or Hummal, underline the significance of these items. Yet these materials are usually only summarily mentioned and their analysis is generally occulted by the, more thoroughly studies knapped materials.

Archeostratigraphic Unit 2 (US2) of the Bois-de-Riquet site provides a good opportunity to evaluate the importance of imported materials for understanding hominin activities and interactions with carnivores. A few basalt cores and flakes were uncovered from the excavation, along with some rounded basalt nodules imported to the site.

The relative abundance of *manuports* in the BDR-US2 assemblage raises issues pertaining to their significance: where do they originate from? Which characteristics were involved in their selection? What were they used for? Were the nodules used in relation with carcass consumption, with stone knapping, or with both of these activities? Finally, how might we

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integrate the Bois-de-Riquet US2 site into the European late Lower Pleistocene record?

In order to address these issues, different kinds of analyses were carried out. Dimensional and morphological analyses were performed in order to identify the selective process and compare it with natural, historical and other Oldowan contexts.

Also, techno-functional analyses were carried out to identify percussion marks and breakage in order to better understand how these nodules could have been used. Accordingly, the spherical nodules and blocks used for flake production were compared and show a clear distinction from the selection process.

The imported nodules in Bois-de-Riquet are then part of the technical toolkit, along with the basalt flakes used for obtaining meat from bones in which some cutmarks were identified. They could have been used as percussive tools for bone breaking as well as throwing objects used to put the carnivores out.

The assemblage from Bois-de-Riquet US2 provides valuable information for understanding stone knapping stigma on basalt nodules, as well as a methodological reflection on the analysis of *manuports*. It is also an exceptional early example of hominin-carnivore interaction in a Mediterranean late Lower Pleistocene environment.

**Mots-Clés:** Techno, functional analysis, Manuport, Basalt industry, Lower Pleistocene, Oldowan, Mode 1