

Strategies of Neanderthal occupations from the MIS 5 to 3 at the Abri du Maras (South-West France).

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The Abri du Maras yields recurrent occupations from the end of MIS 5 to MIS 3 under a large shelter collapsing over time. The technological study and the micro-wear and residues analyses, coupled to the study of the origin of the flint, refits and spatial distribution of the material, allow investigating short-term occupations with a fragmentation of the management of the tool kit. There is evidence of introduction of large pieces coming from a 30 km perimeter. An *in situ* debitage took place to complete the basic needs. The function of the tools indicates domestic and diversified activities and some artefacts, often irregularly shaped, were projectiles. Core technologies and ratio and types of flake-tools differ a bit between the MIS 5 and 3.

The faunal assemblages indicate over time recurrent human accumulations of ungulate carcasses, transported whole or by pieces. In the level 4.1 (MIS 3), multidisciplinary studies provide evidence of seasonal short-term occupations devoted to the major hunting of reindeer. In the levels 4.2 (MIS 3) and 5-5 upper (end of MIS 5), the faunal spectra are more various, with the predominance of reindeer, red deer, horse and bison. In these two levels, the phases of human occupations seem to be longer, up to a whole season in the level 5. In the three levels, there are *in situ* evidence of fire use, processing of meat and marrow and the use of some bone elements as retouchers.

Different scenarios are considered to explain variations in subsistence strategies over time: ecological and climatic impacts, duration and function of the occupations, various traditions. Neanderthals mainly occupied the rock shelter as a residential site.