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Silicious rock extraction and prehistoric lithic economies

(Organisers: Jacek Lech, Alan Saville, Xavier Terradas, Andreas Zimmermann)
The UISPP Commission on Flint Mining in Pre-and-Protohistoric Times

Tuesday 2nd (9:00 to 13:30  15:00 to 19:30)
C15-C16 Meeting Room
Introduction by Jacek Lech and Xavier Terradas
9. FIRES IN THE MEGACEROS GALLERY (CHAUVE - PONT-D'ARC, ARDÈCHE): CHRONOLOGY AND LINK WITH THE ROCK ART

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Researches on the taphonomy of the rock art walls of the Chauvet cave led to detailed study of fire marks: pink and grey color of the rock, flakes due to the heat, and soot deposits. This thermal wall state was observed in the first rooms, where the main red paintings are located, as well as the deep rooms where most of the wood coal paintings were found.

The Megaceros Gallery, located in the deep area, comprises the most widespread marks of this wall state. They are divided in five zones and are associated with artefacts and prints on the ground (fire places, charcoals, pieces of wood prints, thermoclasts).

The study lies on:

- the description and the cartography of the thermal wall state and of the artefacts on the ground;
- fire experiments in an underground quarry (LaScArBx IThEM program).

The chronological data (C14 datings of the charcoals and relative chronology with the rock art) links the fire to the Aurignacian. Two major periods are distinguished, according to the results of the study of the Panneau du Mégacéros, where several realisation phases can be observed. Considering the narrowness of the gallery and the number of identified hearths, the contemporaneity of the fires is non conceivable.

The cartography, the fire experiment results and the modelling of the combustion gases flow, show the great size of the fires and their location on the axis of the gallery. The smokes were evacuated at the ceiling, which allowed the palaeolithic man to maintain the fire and to breathe in the lower part. This results has been confirmed by 3D numerical simulations of the burning of a fire in a simplified geometry of the Megacros Gallery.

The functions of the fires keeps unknown: lighting, getting the torch going again, protection from the bears who were present in the cave at the same period.

In the Megaceros Gallery, other hypothesis can be considered:

- colourant production, given the great quantity of charcoals uncollected on the ground and, in one case, gathered under one of the paintings;
- markings, for two small rubefied areas, located above a rock step, in the medial part of the gallery;
- or, in a more hypothetical way: smoke, heat or light production, without reason other than symbolic; modification of th wall state, in particular its colour and maybe its consistence.

10. ELEMENTS OF THE PREHISTORIC ILLUMINATION SYSTEM IN ARDALES CAVE

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The Ardales Cave is located in a mountain area near the village of Ardales about 50 km North of Malaga. It was Henri Breuil who recognized first its rock art in 1918. Ardales cave is outstanding in Southern Spain for its numerous examples of paintings and engravings from the Upper Palaeolithic. To date 1010 pictorial artefacts from 252 panels have been described. They probably represent three chronological phases from the Gravettian, the Solutrean and the Magdalenian. Apart from the rock art an important number of non-pictorial artefacts have been conserved. These are stone and bone tools placed near the panels, paste of red and yellow pigment, stone containers used as pigment palettes and stone lamps used for artificial lightning. The talk will present latest results of the spatial distribution of the non-pictorial artefacts and their possible relation to human movement in the cave and to the position of the rock art panels.