directed by
Jean CLOTTES

PLEISTOCENE ART OF THE WORLD

Short articles
THROWING MORE LIGHT. STATIC LIGHTING IN PALAEOLITHIC “SANCTUARIES”:

the Example of Cueva de Nerja (Málaga, Spain)

Maria Ángeles MEDINA, Araceli CRISTO
Antonio ROMERO, José Luis SANCHIDRIÁN

Here we present initial findings from a hypothetical approach to fixed lighting in Palaeolithic “sanctuaries” that was carried out in one of the chambers of Cueva de Nerja.

The difficulty of accessing the Upper Galleries from the Show Galleries in prehistoric times is a problem that has kept many of the cave’s researchers on tenterhooks. The only access point into the Upper Galleries is a tiny opening near the ceiling at the back of the Sala del Cataclismo at about 25 m above floor level. Reaching the opening is complicated as one must climb up a steep slope and cross several escarpments and ledges, continually struggling to keep one’s balance along the way. This is rendered all the more difficult when the limestone is wet.

As with the Show Galleries, the fact that large numbers of images are found in the Upper Galleries gives rise to many questions: how did people reach the opening? What lighting did they use? What technical resources did they have? How many individuals were there? How long did they remain?

Caves are, by definition, in total darkness, otherwise they would be classified as rock shelters or cave entries in which sunlight only enters during daylight hours. Therefore, in order for people to occupy the cave by night or to penetrate into its deepest chambers, they would first have required a source of light.

Numerous researchers have studied lighting in the underground areas of caves. The latest study on this subject was by S. A. de Beaune, who in several different articles defined three different types of cave lighting: stone lamps, torches, and hearths.

We focused our work on fixed light sources, as there is no evidence of mobile methods having been used in the cave, with the exception of a few Pecten maximus valves. For this reason, we looked for the existence of fires that may have been used to fuel other light sources and/or that may have been the basis of lighting in the cave. We also looked for other fixed light sources used along the way, containing the initial one from which the rest of the cave was lit. We then marked and recorded the route that was used, for as Beaune has stated, “… lamps must be accompanied by another source of fire, whether hearth, torch, or another lamp, so that they can be rapidly relit”.

At the same time, we identified a total of 58 objects that met the characteristics defined in the previous section. We nonetheless considered it appropriate to carry out a formal classification of each of them in order to gain better precision and draw conclusions. In this way, according
to their morphology, a first category corresponds to concavities at the top of stalagmites, some of which had clearly been artificially made using pecking and other techniques, while others may have developed naturally through corrosive processes that had taken place in parts of the cave (analysis in process). We then used a second category to designate natural and artificial concavities found in places other than at the top of stalagmites, whether on the floor, flowstones, boulders, etc. Finally, a third category designates truncated stalagmites that can be directly associated with Pleistocene rock art.

In summary, a large number of the identified concavities were found in a close radius to the images, and the scattered charcoal remains found in the cave were also close both to the possible fixed light sources and/or to the art motifs. At the same time, the concavities that did not correspond to these conditions were almost exclusively found in the passages that had to be taken to reach the Palaeolithic paintings and were in such locations as to be visible from other rooms, making them easier to see along the route through the cave. Furthermore, they were found in areas that signalled difficult or dangerous points along the route to the galleries where the images were found. This is similar to situations in which portable lamps are no longer used for their original purpose but are fixed in a particular place along the route. There are therefore two possibilities: a) a relationship between rock art, fires, and fixed light sources in a close radius, b) "streetlighting". To conclude, we have now obtained the first absolute dates from charcoal found within the concavities (nos. 15 and 22) or in areas very close to them, as was the case in the Los Órganos chamber, in which a fixed concavity with a spillway in a flowstone allowed it to pour towards the ground, which was where all of the charcoal remains were found, and in the Cabra-Bitriangulares chamber where there is a goat protome and several red lines:

<table>
<thead>
<tr>
<th>Location</th>
<th>Sample Number</th>
<th>Age (BP ± Error)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Órganos (panels 111-156)</td>
<td>Beta-277744</td>
<td>24 130 ± 140 BP</td>
</tr>
<tr>
<td>Cabra-Bitriangulares (panel 220)</td>
<td>Beta-271212</td>
<td>20 980 ± 100 BP</td>
</tr>
<tr>
<td>Concavity number 15</td>
<td>Beta-271211</td>
<td>23 800 ± 140 BP</td>
</tr>
<tr>
<td>Concavity number 22</td>
<td>Beta-277745</td>
<td>35 320 ± 360 BP</td>
</tr>
</tbody>
</table>

Photographic reconstruction of the Pleistocene route through the Cueva de Nerja (Málaga, Spain). The fixed light sources helped people to make their way through this very steep area and may have been used together with systems of moveable lighting (photo: A. Sanchidrián).