

# Humans were already recycling 13,000 years ago, research finds

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This shows Moll's Salt site in Tarragon (Cataluña, Spain). Credit: M. Vaquero et al.

A study at the Universitat Rovira i Virgili and the Catalan Institute of Human Paleoecology and Social Evolution (IPHES) reveals that humans from the Upper Palaeolithic Age recycled their stone artefacts to be put to other uses. The study is based on burnt artefacts found in the Molí del Salt site in Tarragona, Spain.

The recycling of [stone tools](#) during [Prehistoric times](#) has hardly been dealt with due to the difficulties in verifying such practices in archaeological records. Nonetheless, it is possible to find some evidence, as demonstrated in a study published in the [Journal of Archaeological Science](#).

"In order to identify the recycling, it is necessary to differentiate the two stages of the manipulation sequence of an object: the moment before it is altered and the moment after. The two are separated by an interval in which the [artefact](#) has undergone some form of alteration. This is the first time a systematic study of this type has been performed," as explained to SINC by Manuel Vaquero, researcher at the Universitat Rovira i Virgili.

The [archaeologists](#) found a high percentage of

burnt remains in the Molí del Salt site (Tarragona), which date back to the end of the Upper Palaeolithic Age some 13,000 years ago. The expert ensures that "we chose these burnt artefacts because they can tell us in a very simple way whether they have been modified after being exposed to fire."

The results indicate that the recycling of tools was normal during the Upper Palaeolithic Age. However, this practice is not documented in the same way as other types of artefacts. The use of recycled tools was more common for domestic activities and seems to be associated with immediate needs.

## Recycling domestic tools

Recycling is linked to expedited behaviour, which means simply shaped and quickly available tools as and when the need arises. Tools used for hunting, like projectile points for instance, were almost never made from recycled artefacts. In contrast, double artefacts (those that combine two tools within the same item) were recycled more often.

"This indicates that a large part of these tools were not conceived from the outset as double artefacts but a single [tool](#) was made first and a second was added later when the artefact was recycled," outlines the researcher. The history of the artefacts and the sequence of changes that they have undergone over time are fundamental in understanding their final morphology.

According to Vaquero, "in terms of the objects, this is mostly important from a cultural value point of view, especially in periods like the Upper Palaeolithic Age, in which it is thought that the sharper the object the sharper the mind."

## Sustainable practices with natural resources

[Recycling](#) could have been determinant in hunter-

gatherer populations during the Palaeolithic Age if we consider the behaviour of current indigenous populations nowadays.

"It bears economic importance too, since it would have increased the availability of lithic resources, especially during times of scarcity. In addition, it is a relevant factor for interpreting sites because they become not just places to live but also places of resource provision," states the researcher.

Reusing resources meant that these humans did not have to move around to find raw materials to make their tools, a task that could have taken them far away from camp. "They would simply take an artefact abandoned by those groups who previously inhabited the site."

Vaquero and the team believe that this practice needs to be borne in mind when analysing the site. "Those populating these areas could have moved objects from where they were originally located. They even could have dug up or removed sediments in search of tools," highlights the researcher.

**More information:** Manuel Vaquero, Susana Alonso, Sergio García-Catalán, Angélica García-Hernández, Bruno Gómez de Soler, David Rettig, María Soto. "Temporal nature and recycling of Upper Paleolithic artifacts: the burned tools from the Molí del Salt site (Vimbodí i Poblet, northeastern Spain)" *Journal of Archaeological Science*, 39: 2785 – 2796, 2012.

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