

## Evolution & Behaviour

# Have the ancestors become too much to bear? Emergence of cremation 9000 years ago in the Near East

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*Recently discovered remains of cremation in an Early Neolithic village of the Jordan Valley date the emergence of this practice to 9000 years ago. A perfectly preserved pyre with burnt human bones allowed us to better understand this complex technical practice and to propose keys for interpreting this shift in the management of the dead.*



*Image credits: Beisamoun Project*

Caring for the dead is a significant issue in all societies. While burials were known since at least 120,000 years ago, it was an unusual practice in the Near East throughout the Paleolithic period. It only became common practice when people adopted a sedentary lifestyle, about 15,000 years ago. From then on, the deceased occupied a central place in the culture. Burial customs became more complex with the first agricultural societies (11000-8000 years ago), with ceremonies often performed over several occasions after the death occurred. This shows that, during this period of plant and animal domestication process, profound economic and dietary changes were accompanied by the rise of a very dynamic ancestor worship.

However, this prevalent social role that the living granted their deceased seems to have been called into question shortly before the invention of ceramics about 8000 years ago in this region: the dead were no longer buried close to the living and skull retrieval disappeared. Cremation may have been an early indication of this societal change.

Prehistoric burials in the Near East are regularly found near hearths, although the exact nature of their use in relation to the funeral ritual is not clear. The discovery of burnt human bones remains relatively rare and this action is likely unintentional. Thus, we were very surprised to uncover several

clusters of burnt human remains and a perfectly preserved cremation pyre, at an Early Neolithic village in Beisamoun (Jordan Valley, Galilee, Israel). This discovery dates the practice of cremation in the region to around 9000 years ago- a millennium earlier than previously thought.

The pyre is located in a residential area of the Neolithic village, next to a ruined house. It is a U-shaped pit that is 80 cm in diameter and 60 cm deep, coated with the same clay used for the mud-bricks of the houses in this village. We excavated this pyre-pit with great precision. Due to high temperature necessary for burning corpses, cremation pyre does not leave many traces. The elements that are eventually found by archaeologists are in a great state of fragmentation and fragility. We have therefore dug gradually, layer after layer, recording the exact place of each item within the pyre and sampling soil and ashes at different levels.

Analysis carried out by specialists in human remains, soil samples, faunal and botanical vestiges, showed that the combustion temperature had risen to 700°C - 900°C, thanks to a fuel derived mainly from tree wood. The fragments of animal bones found are similar to those found outside the pit and are therefore likely unrelated to the cremation ritual. On the other hand, abundant remains of grass and reeds suggest that the corpse may have rested on a bed or in a funerary wrapping, as is known in other contemporaneous burials. Finally, the abundance of the remains of flowering grasses - used as ornamentation or fragrant - attests to cremation in early spring.

We paid particular attention to the human bones found in the pyre. Only one corpse was burnt in this

pyre: a young adult of undetermined sex. In its left shoulder was an arrowhead still embedded deep in the bone, but the wound was perfectly healed. This person had survived this attack, at least for several weeks and probably died from another cause. Within the pyre, the human remains were not totally dismantled and even surprisingly show some anatomical coherence. It proves that the corpse was most probably fresh at the time it was burnt. It could have been deposited in a sitting position in or above the pyre before it gradually collapsed together with the ashes during the cremation process. Contrary to cremation sites from Antique (8th century BC - 6th century AD) or modern times, this pyre was untouched and left to burn as it would. As a result, the bones underwent little fragmentation, and were left in the pyre, abandoned as it was. Over time the pyre's walls collapsed, protecting the ashes and the bones inside the pit. This is how this exceptionally well-preserved piece of past event survived 9 millenniums.

Cremation carries different meanings in different societies, with all gradients from a positive to a negative connotation (regeneration vs destruction). In the case of Beisamoun, cremains are located all over the village alongside regular burials and there is no real reason to think that this treatment is dishonorable. Nevertheless, the treatment of the corpse by cremation, although technically very complex, tends to speed up funerals and may even seem expeditious compared to the long, multi-stage funerals that prevailed before. It could be a testimony of a new social dynamic from which the deceased were gently put aside over time in favor of other emerging beliefs. Indeed, cremation practice is shortly followed by the cessation of burial activities within the village of Beisamoun.