Cut marks and breakage on the Krapina Neanderthal bones: stereomicroscopic analysis and interpretation

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The debate on Neanderthal culture and on its distinctive traits is included in a more ample debate on the interactions between Neanderthals and anatomically modern humans. As observed by some Authors (Marshack, 1988; D’Errico et al., 1998) this debate is based on the argument that biological differences (morphological and molecular) have to correspond to different intellectual capabilities. A “measure” of the intellectual capabilities of past populations may be done only on the basis of material evidence in the biological (fossil) and archaeological record. As regards the Neanderthals, lifestyles, technology, evidence of burials have been debated as related or not to a symbolic system. In particular the matter of Neanderthal burial has been discussed long in relation to the systematic vs. occasional events; many of them were clearly interred in pits whereas some others, represented only by disarticulated bones, could have been the object of other mortuary rituals (cannibalism or secondary burial).

Krapina (Croatia, 130,000 years) represents a quite unique Neanderthal site in Europe because of the very large number of hominin remains (adults of both sexes and subadults). The collection is characterized by fragmentation and dissociation of the remains. Nearly every anatomical part is represented even tough there are no complete skulls (no cranial vault fragments can be associated to its maxilla or mandible) or long bones. The fragmentation and bone modification had been firstly recorded and attributed to cannibalism in 1899 by Dragutin Gorianović-Kramberger probably considering the Neanderthals as “primitive” people with aberrant behaviour. From that time the debate for many archaeological records moved in another field interpreting occasional or specialized cannibalism or forms of ritual killing or ritual burial in a symbolic system. The evidence that we can observe are the bone modifications (cut marks and bone breakage), among which we have to distinguish the result of post depositional alterations, sediment pressure and other biological processes vs. ancient intentional human intervention.

Our purpose is to reanalyse some bone alterations of the Krapina hominids using the stereomicroscopy. The SEM analysis could not be carried out due to the shellac used to hardener and protect the Krapina bones. The results obtained will be interpreted in the light of our previous observations of the intentional bone alterations in the Taforalt Epipalaeolithic collection (Morocco, 12-11000 BP), that we put in relation with ritual killing, sacrifice and possibly cannibalism, and with the shortly-after-death signs observed on the bones of few Zulu individuals whose skeletons were obtained through autopsy and treatment for scientific purposes. We also take into account the features of the bone alterations (cut marks, breakage, etc.) experimentally produced on some dry human bones using lithic and osseous tools. Here we present some results and comments of the observations we carried out on the cut marks and breakage of some humeral bones and on the skull Krapina 3. The stereomicroscopic analysis showed that the cut marks of the humerus have different features probably in relation to accidental and intentional human intervention as well. The observations on the broken humeral bones seem to indicate both ancient and modern human interventions. As regards the skulls we agree by Frayer and Co-Authors (2006) that the cut marks were intentionally practiced by humans in the past but it is difficult in our opinion to attribute them to a result of peri mortem event.