Osseous manufacturing technology
Analyzing the archaeological bone raw materials and implements, different stages of manufacturing have been identified. In particular two main technological categories of bone tools have been recognized:
1) Implements which can be prepared by bone intentional breakage fragments. In this category the suitable fractures of a bone fragment can be modified to prepare needles by abrading or using retouched stone tools. (FIG. 3)
2) Implements which are planned according to osseous implement manufacturing. In this category the initial phases of the chaîne opératoire have been followed for the preparation of all the osseous tools, while different techniques have been utilized to finish the implement. In fact either abrading traces or retouched blade scraping have been applied to sharp the pointed tools. (FIG. 10)

The first phase is to prepare the bone surface, initially by smoothing the raw materials surface with different stone tools. This phase could be done before or after the cutting of the bone epiphysial ends in order to prepare the shaft for the further processing. The preparation phase is composed by a longitudinal intensive grooving on the raw osseous surface. Then the bone distal portion is separated commonly by cutting in order to produce pointed implements for perforation. (FIG. 2b)

Another preparation category is characterized by one or more longitudinal grooving. In this way the best exploitation of the raw material was obtained; therefore more than one implement could be produced from the same bone fragment. A spiral cutting on the raw materials shaft has been observed, which could be used to prepare the proximal portion of awl point (Fig. 4).

The disarticulation of the epiphyseal portions could be done with two methods: the first one, applying a perpendicular halting with a hammer stone (testified by the presence of irregular fractures on the surfaces); the second one producing a longitudinal fracture by using indirect percussion with a sharp blade. (FIG. 10 B)

References:

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