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Intentional extraction of a third molar in early Homo species *Telanthropus capensis*

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Paleopathological findings amongst Australopithecinae and early Homo species at the Pleio-Pleistocene boundary are rare and confined to alveolar bone loss in adult individuals and to a suggested case of a pre-pubertal periodontitis in a juvenile *Australopithecus africanus* specimen. Assessment of the fossilized mandibular fragment SK 45 of the early Homo species *Telanthropus capensis*, confined on evolutionary and faunal ground to 1.5 – 1.2 million-years before the present, showed bone formation within the socket of the third molar (M3) or wisdom tooth, indicating that the individual lived after the tooth loss. As there is no evidence of maxillofacial trauma, and given the non-deciduous nature of M3, it is most likely that SK 45 was aided in the extraction by *Telanthropus* society members using a sharp osteodontokeratic tool. Post-mortem loss of M3 is ruled out by the evidence of bone formation within the socket of M3 supported by a density map of grey values, representative of atomic number of bone and breccia, reconstructed by μ CT system housed at NeCSA. Co-operation, shared responsibilities and prosocial acts that enhance the welfare of others are characteristics of human societies, and distinguish them from social structures in other species. Evolution of social behaviour in early Homo species is difficult to follow as it must be inferred from examination of archaeological evidence and paleobiological comparison. The most convincing, yet presumptive, diagnosis is the intentional extraction of the wisdom tooth. SK 45 thus provides paleopathological evidence for an early origin of prosocial behaviour to relieve pain in another and indicates a complex societal structure in early Homo at Swartkrans, South Africa.

Submit a paper for peer review (SA Journal of Science)? (Yes / No / Maybe)

yes

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