Mass Distribution of Spheroids and their Relation to Aesthetic Taste

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Résumé

The importance of throwing in early hominins is discussed and how a trained visual selection of suitable throwing material leads to a mass distribution of a Poisson type, as found in manuports, spheroids and is even reflected in modern packaging. A clear notion of form - or aesthetic taste as defined by Kant – can be seen by the Middle Pleistocene, as in the collection of colorful flint pebbles at Qesem Cave, Israel, the use of mathematical constants in the Boxgrove (UK) "hand axe" formats, a contemporary case from Fontana Ranuccio, and the much earlier spheroid designs of Ain Hanech. There is the possibility that spheroids were made as "perfected" throwing tools, given that the maximum mass for a linear dimension is the sphere, a characteristic certainly perceived by early hominins and the mass distributions of available examples are similar to that of the cache of natural spheroids at Cave of Hearths (South Africa). However, certain smaller spheroids are significantly lighter and more suitable for children to practice throwing. The importance of play-learning and how this would appear in any lithic record has been largely overlooked and is discussed in terms of expected mass distribution. Other play aspects of spheroids which may also have attracted hominin attention are mentioned and how evidence of this could be seen in the archaeology. Despite the huge time differences between spheroid deposits (for example; Ain Hanech and Barranco Leon), the case is made that the mass distribution of male selected rocks has been relatively constant for at least 2 Ma and given the size of the Laetoli hominins, possibly for much longer. Spheroid manufacture, if dominated by the desire to concentrate a specific mass in a pleasing form, may thus have a common and underlying mass distribution; hence, a data base of all spheroids could allow for a comparison between site locations and over time. The Cave of Hearth's natural spheroid assemblage, for example, suggests that the rocks were collected by large males (average 180 cm), which matches the known fossil record. As all and any spheroid or roughly shaped stone with amss of 400 to 600 g represents good throwing material it would be of great value if the scientific community would present all data on spheroids, manuports, cores, battered stones, etc. as full mass distributions (which could convey much information) and not just mean and standard deviation values (which tell us very little) and to put any spheroids in the context of the full lithic assemblage. If a spheroid can be seen as an improved throwing stone, its precursor would likely be a cache of selected manuports with a similar mass distribution – possibly even in a pre-artefact age. This would be the only possible lithic evidence of hominin behaviour from this period.

Mots-Clés: spheroids, manupoorts, data base, throwing, play, learning

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