Reconstructing early human symbolic evolution using transmission experiments

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Abstract

Engraved ochres and ostrich eggshells from the South African Blombos Cave and Diepkloof Rock Shelter are among the earliest expressions of human symbolic behavior. Furthermore, they appear to document a continuous practice of abstract mark-making across 40.000 years. During this time, the engraved patterns change from simpler unstructured patterns to complex, ordered and symmetric cross-hatchings. To inform discussions of the possible function of the engravings, we conducted a two-part experimental study. Based on the assumption that the pragmatic use of an artifact will motivate incremental adaptive refinements, we used transmission chain experiments to reconstruct the original trajectory of changes. We then conducted five experiments to assess the cognitive implications of changes to the patterns and compared these to the original engravings. Although we observe interesting similarities, our findings suggest the Blombos and Diepkloof engravings are not only a product of human cognitive biases and constraints on working memory.

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