Weaving the Fabric of Mathematics: Grounding Mathematical Knowledge in Fibre Technologies

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Abstract

Attempts to recover and reconstruct the origins of mathematics have traditionally focused on identifying evidence of early notational systems of quantification. We aim to show in this paper that archaeological material culture can offer an alternate, more tangible source of information about mathematical knowledge in the deep past, especially when it is paired with ethnographic and cross-cultural data. In addition, when linked to the cognitive science of mathematics, it can support inferences about how humans first began to grasp, learn, and apply mathematical ideas. We focus on fibre technologies and weaving crafts as prime examples of activities that contain and afford mathematical knowledge, in response to Lakoff & Núñez's call to explore the common practices that underlie mathematical ideas and to rethink mathematics as grounded in human experience.

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