

ANTHROPOLOGY

Ancient women's elbow grease

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The prehistoric transition from hunting and gathering to agriculture meant more sedentary lifestyles for ancient humans. Male skeletons from central Europe show gradually declining mobility and bone strength between the adoption of agriculture, ~5,300 years BC, and the late Iron Age, AD 850. However, until now it has been difficult to discern patterns of change in female skeletons, because of females' lower physiological response to manual loading and the lack of a modern comparison dataset.

A study by Alison Macintosh of the University of Cambridge and colleagues redresses this imbalance by comparing measurements from prehistoric female skeletons from across central Europe to the bones of modern female athletes and non-athletes. The authors look at cross-sectional rigidity and shape of the tibia and the humerus, as a proxy for the amount and intensity of activity done with the legs and arms, respectively. Tibial rigidity is not significantly different overall between prehistoric and modern women, suggesting

an early transition towards more sedentary female lifestyles since the adoption of agriculture in central Europe. However, humeral rigidity in the 5,500 years between the Neolithic and the Bronze Age was significantly greater than in the average modern woman and most comparable to athletic rowers. This suggests that hard physical labour using mostly the upper body, such as farm work and grinding cereal grains, was a large component of prehistoric, central European women's lifeways; unlike males, who do not show evidence of enhanced upper limb bone strength.

The research reveals more about the history of a gendered division of labour and demonstrates the need to increase female-specific reference data and investigations to tell the often-distinct story of female lives over human history.

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