

# Retraction Note: Complex societies precede moralizing gods throughout world history

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 Check for updates

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Thomas E. Currie, Kevin C. Feeney, Enrico Cioni, Rosalind Purcell,  
Robert M. Ross, Jennifer Larson, John Baines, Barend ter Haar,  
Alan Covey & Peter Turchin**

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Following the publication of this Letter, Beheim and colleagues submitted a Matters Arising in which they argued that our primary results were called into question by our treatment of missing data<sup>1</sup>. In our research, we attempted to test the ‘big gods’ hypothesis even-handedly using the best available evidence, and we made our data and code available during the review process and after publication, in line with best practice in open science. Nevertheless, we accept that we should have labelled moralizing gods as ‘absent’ or ‘inferred absent’ rather than ‘unknown’ in portions of our dataset before the dates of the first appearance, rather than converting ‘NAs’ to zeros during the phase of analysis. Since this Letter was published, we have thoroughly refined our data and analyses, and have found that our original conclusions are still strongly supported<sup>2,3</sup>. However, the differences between our revised analyses and the original Letter are substantial enough to warrant a Retraction of the original Letter. We have submitted the enhanced analyses for peer review and potential publication in another journal. We encourage the community to refer to these new papers in future instead of this now-retracted Letter. We apologize to the scientific community for the unintended confusion. The authors John Baines, Alan Covey and Kevin Feeney do not agree with this Retraction.

1. Beheim, B. et al. Treatment of missing data determined conclusions regarding moralizing gods. *Nature* <https://doi.org/10.1038/s41586-021-03655-4> (2021).
2. Whitehouse, H. et al. Big Gods did not drive the rise of big societies throughout world history. Preprint at <https://doi.org/10.31219/osf.io/mbnvg> (2021).
3. Turchin, P., et al. Explaining the rise of moralizing religions: A test of competing hypotheses using the Seshat Databank. Preprint at <https://doi.org/10.31235/osf.io/2v59j> (2019).

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