

## ***Interactive comment on “Endogenous change: on cooperation and water in ancient history” by S. Pande and M. Ertsen***

**V. Srinivasan (Editor)**

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These discussions are intended to be helpful.

I suggest we wait for the reviewers comments. Naturally, I am not a historian or a specialist on these sites and will defer to the Reviewers opinions in whether their concerns have been addressed.

Moreover, given the author's concerns about the Editorial comment, I am going to try to find a reviewer with better knowledge of the field sites - particularly the Hohokam.

Perhaps my earlier comment appeared to be overly critical. All reviewers said good things about the paper - but also raised concerns which I am summarizing again below.

C3265

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The issue of climate determinism and inappropriate ascription of causality between climate change and social organization:

Pieter van der Zaag points out "In that sense there is no full “symmetry” in dealing with social and biophysical aspects. The claim made in the paper, namely that “Human action ... [is often] not considered as conduits of feedback themselves” (p. 4831, lines 24-27), is therefore in my view not fully refuted by this paper."

Reviewer #4 points out to the absence of a linguistic record and the consequent difficulty in obtaining indicators of cooperation and says "I have strong reservations about the quantification of social structures based on the authors' assumptions about Hohokam and Harappan cultures borrowed from secondary literature."

Robert Varady writes "There are few if any mentions of actual institutions in either case. Were there formal institutions? Who organized them? How did they function? Were they effective? This is a particularly weak link in attempting to demonstrate a link between climatic variability, water-management practices, and cooperative practices."

M. Akhter comments "In the cases, periods of “cooperation” are identified based solely on unspecific references to the secondary literature. I suggest narrowing the definition of “cooperation” to something more specific – perhaps just “economic interconnectivity”, indicated by the spatial range of trade relations.

(Regarding the word "prove" the authors are right - I used the term loosely. As the reviewers point out the issue is whether the archaeological evidence supports the theory of endogenous change.)

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On Language:

Two of the reviewers have stated that the language is hard to understand and I agree.

C3266

The suggestion to revisit Greif and Leitin was merely because I felt some of the concepts were explained in simpler terms in that paper, not a requirement.

Simple language will make the paper accessible a broader audience - in particular the hydrologists who will be reading this journal.

Reviewer #4 says "The contribution of this paper would be much stronger, and indeed be much more exciting as a starting point for a variety of relevant disciplines, through making its strength in Engineering more accessible and written in very much clearer English (please)"

Robert Varady comments "I found the discussion unnecessarily dense and difficult to access, partly because of its reliance on disciplinary jargon. In fact, after reading this section, I wasn't sure where the authors stood in regard to the various constructs they discussed—that is, which notions did they agree with and which ones were merely presented as part of the contextual discussion? All this is particularly relevant to the readers of this journal, who will not likely be familiar with this mode of analysis and its associated forms of expression."

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