

## ***Interactive comment on “The millennium old hydrogeology textbook “The Extraction of Hidden Waters” by the Persian mathematician and engineer Abubakr Mohammad Karaji (c. 953–c. 1029)” by Behzad Ataie-Ashtiani and Craig T. Simmons***

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Received and published: 18 November 2019

Anonymous Referee #2

Interactive comment on “The millennium old hydrogeology textbook “The Extraction of Hidden Waters” by the Persian mathematician and engineer Abubakr Mohammad Karaji (c. 953–c. 1029)” by Behzad Ataie-Ashtiani and Craig T. Simmons

C1

Comment:

L21-22: the texts (ØġÙÈØÍØġØÙ ØġÙĎÙÈÛŃØġØā ØġÙĎØóÙÅÙŃÙĜãÃŌ) and (ØġØÍÙĽØÍÙŕØś ÛÈØ■ÙÈØŕ ØÍÙÈ ØġÙĎØ■ØşÙÈ ØġÙĎÙŕØśØŃÙŃãÃŌ) are Arabic and not Persian

Response:

The reviewer’s comment is correct and has been changed in the revised version of the manuscript. As Karaji was originally Persian (see Girogio Levi Della Vida, 1934) and that the Arabic and Persian alphabet are similar, we had used the term Persian in the early version. This has now been corrected.

Comment:

L54-55: the phrase "Instead of Europe" is redundant. I suggest to neglect this phrase.

Response:

Agreed and modified.

Comment:

L74: what is the reference for this sentence "Karaji returned to his homeland wrote the book". Please mention the evidence related to this allegation.

Response:

Karaji is considered to be born in Persia (e.g., Girogio Levi Della Vida, 1934; Xadiv Jam, 1966; Nadji and Voigt, 1972). His return to Persia when he wrote the book has been mentioned in Nadji and Voigt (1972) and Lewis (2001). To the best of our knowledge, this is correct. These references have been added to the modified version.

Comment:

L254: The authors are requested to develop the idea that claims "the book is the first book on engineering construction management". It needs more proofs and analysis

C2

Response:

As it was mentioned in the manuscript this is a speculation by authors as L112-116: "The titles of the book sections provide a fascinating insight into the wide range of topics that were covered in the book. It is amazing that the book not only covers the conceptual and technical aspects as well as construction guides, it also provides guidelines for maintenance and even advice on how to deliver and consign the project when the development and construction is over. It even touches on important social aspects such as religious regulations. The book is like a construction and maintenance manual for a modern engineering project!" and L251-254: "Beyond the specific topic of Karaji's book on the extraction of hidden waters, the comprehensive content, details and topics that he has covered in the book are very impressive for engineering construction project management. This important point has not been noted before, to the best of our knowledge."

We have relaxed our assertion about the book being "the first" of its kind. We have changed "the book is the first book on engineering construction management" to "the book is among the earliest known texts on engineering construction management".

Please also note the supplement to this comment:

<https://www.hydrol-earth-syst-sci-discuss.net/hess-2019-407/hess-2019-407-AC3-supplement.pdf>

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2019-407>, 2019.