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Interactive comment on "Flowing wells: history and role as a root of groundwater hydrology" *by* Xiao-Wei Jiang et al.

Anonymous Referee #1

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Review of "Flowing wells: history and role as a root of groundwater hydrology by Xiao-Wei Jiang, John Cherry, and Li Wan, MS No.: hess-2020-270 for Special Issue: History of hydrology (HESS/HGSS inter-journal SI)

1. Granted, this is supposed to be a "review article," but I found it to be hopelessly long, rambling, and repetitive. The text is more suited to a lengthy technical report or a first draft of a book.

2. I find that I am in disagreement with the main thesis of the article. That is, that the study of "flowing wells since the early 19th century led to the birth of many fundamental concepts and principles of groundwater hydrology." The reason is that the physical laws

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and geology that control groundwater flow are the same for flowing and non-flowing wells.

3. There are several pages devoted to a discussion of the definition of the term "artesian." While it is true that the literature on this is conflicting and worthy of review and discussion, it's an example of how this manuscript rambles everywhere in its discussion. It lacks focus.

4. The authors claim that it is a "misconception that flowing wells must be geologically-controlled" (line 749). Seems to me that all groundwater flow is affected by the geology and is therefore "geologically controlled." Perhaps what is needed here is a straightforward definition of what the authors mean by the term "geologically controlled."

Summary Recommendation: Accept with major revision. If the editors want to publish a lengthy paper, that decision is up to them. In any case, my opinion is that the paper needs focus and condensation.

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