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Editor comment on hess-2021-170

Jan Seibert (Editor)

Editor comment on "If a Rainfall-Runoff Model was a Hydrologist" by John Ewen and Greg Martin O'Donnell, Hydrol. Earth Syst. Sci. Discuss.,
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We have received three valuable reviews for this contribution. While the reviews vary in their criticism, all three highlight that the manuscript is difficult to read. The reviews also point out that important previous studies have not been considered. Both points make it difficult to assess the novelty of the approach as it is hard to see how the presented work extends previous work if this work is not mentioned.

After reading the manuscript and discussion several times I am still rather confused on why personification (modelled hydrologist) is needed. Basically, what is nicely shown in this study is how easy it is to reproduce discharge in these UK catchments with some hydrological common sense. By considering seasonality and antecedent precipitation, one can reproduce observed discharge quite well. But this should not come as too much of a surprise; isn't this the reason why our simple bucket-type models perform well? Still, I see value in this analysis of precipitation and discharge time series, providing insights into catchment functioning. However, I do not see why the personification framework is needed to present this analysis. Honestly, I agree with the reviewers that this makes the text rather confusing. Framing the study in this way also implies touching on important aspects of the philosophy of modelling. I don't think this is needed, but if framed in this way, this needs to be clearly motivated, and previous work in the field needs to be acknowledged.

Another issue is the applicability of the presented approach in more challenging situations. The KERR approach will be more challenging in regions where discharge is less directly related to precipitation than in the UK (e.g., snow, dry seasons, ...). An important question is also how the KERR approach could be used for predicting discharge for conditions outside observed conditions, which is one of the most important tasks of a model after all (especially also for those applications mentioned at the beginning of the manuscript).

I need to add an important note: One reviewer used inappropriate language in some of his comments. The authors did not complain about these comments and declined an offer to have them rewritten. Therefore, in the interest of the scientific debate, we decided to leave the comment-reply chain as it is. However, we want to make it very clear that reviews need to be written to avoid any offensive formulations. It is accepted, and even welcome, to express strong opinions, but the use of abusive language does more harm than good to communicate the content of the critic. While this applies to the formulation

of any reviews, in HESS, with its open review process, the use of appropriate language is especially crucial.

Best regards,
Jan Seibert