

# Ben Swallow's contribution to the Discussion of 'Martingale Posterior Distributions' by Fong, Holmes and Walker

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Fong et al. (2023) present an interesting and novel approach to conducting Bayesian posterior estimation utilising a joint predictive distribution over missing potential observations and justify how this approach of generating one-step-ahead predictive distributions naturally aligns with the Bayesian likelihood-prior paradigm.

The authors mention time series and hierarchical data as areas of potential future development. However, one of the major topics in Bayesian computational statistics is the problem of selecting a target model from a subset of candidate models or accounting for uncertainty across such models. In their paper, the authors present an approach based on a fixed model structures and conduct posterior inference within those model structures. Given the generality of the approach, I would be interested in hearing the authors' comments on how this approach could be extended to the model uncertainty or model misspecification domain and to what extent the missing data dimension would need to scale with model space size in order to enable feasibility of any such approach.

*Conflict of interest:* None declared.

## Reference

Fong E., Holmes C., & Walker S. G. (2023). Martingale posterior distributions. *The Royal Statistical Society: Series B (Statistical Methodology)*, 85(5), 1413–1416. <https://doi.org/10.1093/jrsssb/qkad135>.

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