

for submission of this comment has passed. Diaconis and Freedman have done us a service in exploring the consequences of apparently innocuous assumptions so carefully.

REFERENCES

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REJOINDER

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Introduction. We would like to thank the discussants for their careful work. For context, we summarize our position.

(a) As a team, our motives are mixed to an unusual degree, because we differ on many issues in foundations, including the interpretation of some of our results. However, we are unanimous that the mathematics in our paper should be of interest to Bayesians, ex-Bayesians, and never-Bayesians alike.

(b) Frequentists can use the Bayesian approach, like maximum likelihood or optimality, as a powerful heuristic engine for generating statistical procedures. No such engine is foolproof, so you should always look to see how well the procedure is going to do. Even the crustiest subjectivist ought to follow this advice, when the prior is only an approximation (and possibly quite a crude one, chosen for computational convenience) to the true subjective belief. Besides its practical importance, checking operating characteristics is good, clean mathematical fun.

(c) Pitfalls in the classical approach are well known; those in the Bayesian approach perhaps less so. We have given some examples where plausible applications of Bayesian technique lead to disaster. It is particularly easy to lose your way in high dimensional parameter space.

(d) We view consistency as a useful diagnostic test. If your procedure gives the wrong answer with unlimited data, probably you will not like it so well with a finite sample either.

(e) We show how putting conditions on the underlying model and modifying the prior can sometimes rescue Bayes procedures. As a general heuristic device