Review for Manuscript "Maximum Entropy and Probability Kinematics Constrained by Conditionals"

The author introduces a reformulation of Jeffrey conditioning which he uses - arguing in response to an example posed by Wagner- showing that the Max Ent solution to Wagner's problem does indeed agree with the solution based on Jeffrey's conditioning, and, to my understanding, so provide further support for Max Ent. The paper is well written, brief and to the point and the result interesting. There are, however, a few points that need more clarification and explanation in my opinion. So I recommend to give the author the chance to revise the paper.

First, although the main aim of he paper is to argue in response to Wagner's claim regarding the failure of Max Ent in the given problem, the author makes no effort in pointing to what is the problem with Wagner's analysis that results in the wrong answer. The author's formulation of Jeffrey's conditioning facilitate his attempt to show that the Max Ent solution does indeed provide the correct answer. But one expects the difference in this calculation of Max Ent and the Wagner's calculation not to stem from the reformulation but rather from considerations that are brought to surface with this formulation but are missing from the Wagner's analysis. I believe it is important to defend why this application of Max Ent is the correct one and that of the Wagner a wrong one.

Second, it needs to be better clarified how the analysis in the beginning of Section 4 generalizes the Jeffrey conditioning. Relating to this are a couple of minor technical points.

- First, since in Section 4, (1) does not necessarily holds, κ in Section 4 is different , although of the same spirit, from one in Section 2. This I believe should be explicitly pointed out. I believe in Section 4 one wants $\kappa_{ij} = 1$ iff $w_i \cap \theta_j \neq \emptyset$. This is of course a minor point and generalizes the construction in Section 2 since there we have $\kappa_{ij} = 1$ iff ($\theta_j \implies w_i$) and given the way that w_i's are constructed we have ($\theta_j \implies w_i$) iff $w_i \cap \theta_j \neq \emptyset$.
- Second, from the equation 6, it is not clear as to why one has to consider w_5. It seems that in general κ will have all 1's in the last row and so $\hat{\kappa}$ will in general have zero's in the last row. This last row, however, does not appear in the summation in equation (6). The fact that these values (m_{mj}) are 1, however becomes important in equation (8). I wonder whether considering

w_5 is what is missing from Wagner's analysis that gives an incorrect Max Ent solution. I am not sure that it is, but if so, I believe it is of crucial importance to point this out explicitly because it seems that this is a common trend among many of the examples that are posed in objection to Max Ent, namely, that the prior distributions are not considered on the set of *all* relevant outcomes.
Given that the paper is being considered for an special issue aimed at researchers particularly working on Max Ent, points regarding the better understanding of the problem in Wagner's analysis and how this formulation solves that problem, is of special interest.

- Finally the mathematics in the end of Section 4 (equations 10-16) is not very accessible and needs more clarification. The joint distribution matrix M seems to be defined as an $(m + 1) \times (n + 1)$ matrix in (3) with last row and last column having the values of β_j and α_i. But M and $\hat{M}$ in equations (10) and (11) seem to me $m \times n$. Also, in equation (10) it appears that r_i is defined in terms of ζ_i but these ζ_i do not seem to be defined anywhere. I have not been able to properly check this as the value of ζ_i is not clear but it also seems to me that s_j should be $e^{-1+\mu_j}$ and similarly $\hat{r}_i$ should be $e^{-1+\hat{\lambda}_i}$.