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Comment on Article by Albert et al.

John Paul Gosling *

Groups of experts are often commissioned by decision makers to help inform policy making in science, commercial and government settings. The typical aim of this is to elicit opinions from across the breadth of a scientific community to help inform decision making. Whether a mathematical, statistical or behavioural technique is used to arrive at some probability distribution that encapsulates an entire group's beliefs, we have to face up to the questions of fairness in the process and of defensibility of any methods employed.

The article by Albert et al. presents another solution to the expert problem (as defined in French 1985) where we have a single decision maker who wants to use multiple expert's opinions to update their own. The proposed method is based on a hierarchical model that allows the ultimate decision maker to group experts and to account for uncertainty in the quality of the experts' judgements. The examples presented by the authors show that the method seems to give viable consensus distributions when compared with other mathematical aggregation techniques. It has been widely accepted in Bayesian circles that this type of modelling approach should be considered the normative approach to pooling expert opinions by an individual decision maker (see Lindley 1985; West 1988; Wiper and Pettit 1996, amongst others). Other mathematical aggregation techniques, as reviewed in Genest and Zidek (1986), seem rather ad hoc in the face of the Bayesian foundations of the present approach.

Confidence in judgements

In the present article, the authors ask the experts to judge their confidence in their probability judgements, which effectively allows them to put uncertainty on their uncertainty judgement. Although probabilities cannot be measured to an arbitrary degree of accuracy, I believe that a probability judgement for an event should encode all of an individual's uncertainty and confidence in making a statement. An expert's specification of c does not just capture their confidence in making such judgement: it is confounded with a reluctance to be pinned to one number. If the aim is to capture the former, then I would argue that there are better ways of judging this (Cooke 1991), or, if the aim is to allow the expert to say they do not know what the outcome should be, they should be encouraged towards specifying a suitably flat probability profile.

On the topic of expert self-weighting, there are many cautionary tales in the elicitation literature about expert over- and under-confidence when self-rating and when experts rate their peers (for instance Cooke 1991; Harvey 1994; O'Hagan et al. 2006). Rather than having the experts do this themselves, I wonder if the decision maker should be making the call about how much credence to give each individual's judgements. Also, in the probability judgement case, it is certainly valid for a decision maker to decide

*School of Mathematics, University of Leeds, Leeds, UK, j.p.gosling@leeds.ac.uk

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