Consensus Pooling in the Presence of Radical Disagreement

Ignacio Ojea Quintana

This essay focuses on the issue of how to aggregate or pool probabilistic opinions when there is a fundamental disagreement about which is the relevant sample or event space. For example, consider different scientists performing a unique experiment but disagreeing about the set of possible outcomes of it. They could disagree because one of them considers a possibility the others do not, or because one of them has a more refined partition of the possibilities, or because of some combination of these two cases.

The issue at hand is how to pool or achieve some form of consensus between the opinions of these agents. The proposal in this paper draws from two sources. First, from a previous, co-authored work in which we provide an account of probabilistic pooling that makes use of imprecise probabilities. Second, from the well established dialectic in literature on peer disagreement between steadfast and conciliationists views. In a nutshell, I present two ways of aggregating probability functions each defined over different algebras using imprecise probability pooling; one of them more conciliatory and the other one less of it. The general strategy is the following. First, consider the meet of all the algebras over which all the relevant probability functions are defined. Second, extend each of the probability functions to that meet in a well justified way. Finally, aggregate the extended probability functions using imprecise probability pooling.