

# Two aggregation paradoxes in social decision making: the Ostrogorski paradox and the discursive dilemma

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## Abstract

The Ostrogorski paradox and the discursive dilemma are seemingly unrelated paradoxes of aggregation. The former is discussed in traditional social choice theory, while the latter is at the core of the new literature on judgment aggregation. Both paradoxes arise when, in a group, each individual consistently makes a judgment, or expresses a preference, (in the form of yes or no) over specific propositions, and the collective outcome is in some respect inconsistent. While the result is logically inconsistent in the case of the discursive paradox, it is not stable with respect to the level of aggregation in the case of the Ostrogorski paradox. In the following I argue that, despite these differences, the two problems have a similar structure. My conclusion will be twofold: on the one hand, the similarities between the paradoxes support the claim that these problems should be tackled using the same aggregation procedure; on the other hand, applying the same procedure to these paradoxes will help clarifying the strength and weakness of the aggregation method itself. More specifically, I will show that an operator defined in artificial intelligence to merge belief bases can deal with both paradoxes.

**Keywords:** Judgment aggregation - belief merging - belief fusion - Ostrogorski paradox - discursive dilemma - discursive paradox - paradoxes of aggregation

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