Improving deliberations by reducing misrepresentation effects

Field : Social epistemology - Formal epistemology - Political epistemology

Short Abstract

Deliberative and decisional groups play crucial roles in most aspects of social life. But it is not obvious how to organize these groups and various socio-cognitive mechanisms can spoil debates and decisions. In this paper we focus on one such important mechanism: the misrepresentation of views, i.e. when agents express views that are aligned with those already expressed, and which differ from their private opinions. We introduce a model to analyze the extent to which this behavioral pattern can warp deliberations and distort the decisions that are finally taken. We identify types of situations in which misrepresentation can have large effects and investigate how to reduce these effects by adopting appropriate deliberative procedures. We discuss the beneficial effects of (i) holding a sufficient number of rounds of speeches; (ii) choosing an appropriate order of speech, typically a random one; (iii) rendering the deliberation dissenter-friendly; (iv) having agents express fined-grained views. These applicable procedures help improving deliberations because they dampen conformist behavior, give epistemic minorities more opportunities to be heard, and reduce the number of cases in which an inadequate consensus or majority develops.

Long Abstract

People sometimes misrepresent their opinions because others have expressed opposite views and public disagreement comes with various costs. For instance, you may be reluctant to leave first a party in order not to displease your host. Kuran and Sunstein argue that this phenomenon can lead to snowball effects, or reputational cascades (Kuran, 1995, Kuran and Sunstein, 1999). This misrepresentation of private opinions may also affect experts in committees, who may align with others' already expressed opinions (see Sunstein, 2007 for the case of juries) beyond what is appropriate given their epistemic respect for other experts. This leads to the question of how such epistemic groups should deliberate in order to decrease detrimental reputational effects. This has direct democratic applications for the organization of major institutions, especially when, for transparency reasons, vote is not secret at the end of deliberations. For example, the 2007 reform of advisory panels for the Food and Drug Administration in the USA was, for a part, meant to epistemically improve how deliberations and votes were held in order to prevent sequential oral votes from leading to such cascades (Urfalino and Costa, 2015).

In this paper, we propose a simple model of a sequential deliberation in order to decrease the importance of these reputational effects. The model enables us to analyse the influence of various parameters and suggests different ways to reduce the effects of opinion misrepresentation.

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Our model aims at specifying Kuran's ideas, which are mainly qualitative or implicitly elaborated on non-discussed controversial assumptions. We do this by formalizing the idea of opinion misrepresentation in the context of a (simple) multi-agent simulations (in which parameters cannot be left implicit). Most models of opinion dynamics studied by formal epistemologists or computer scientists ignore the possibility of opinion misrepresentation (see for example, Hegselmann and

Krause, 2002, Weisbuch et al, 2005, Zollman, 2008, 2012). Further, since we want to analyze the effects of reputational cascades proper and distinguish them from those of informational cascades, we propose a new model *without private opinion dynamics* and show how reputational cascades can still be present (given that such cascades can in turn be amplified if a dynamics of opinion is reintroduced).

In a first version of the model, opinions are represented in [0, 1]: *n* agents speak publicly one after the one. Each agent *k* has a private opinion, which remains fixed at all times, and a public opinion which is given by:

alpha[private opinion] + (1 – alpha)*[mean of expressed opinions during the last table round] with alpha in [0, 1]*.

Thus, an agent's expressed opinion is somewhere between her own private opinion and what has been publicly expressed before her. Agents do not fully express what they believe, because of external social pressure. With a parameter alpha close to 1, the agent takes little into account her fellows' expressed opinions, and thus does not misrepresent her private opinion much. With a parameter alpha close to 0, the agent mainly follows the general trend and hardly expresses her own opinion.
This first version of the model remains too simple for the present investigation. In practice, opinions are generally not expressed (if not understood) with an infinite precision. Further, groups usually need to settle on a binary answer (yes/no) or choose between different alternates and take side. So we finally consider a discrete version of the model: the results of the above equations are projected on a finite number of possible options, say 0.25 or 0.75. In this framework, we compare the result of the oral (transparent) vote with the result that would have obtained if a secrete (opaque) vote had been organized.

We investigate this model with computer simulations. Clearly, major reputational effects are present. For example, the order in which the agents are arranged around the table and speak is crucial: there are cases in which for one order, *all* the agents end up expressing 0.25 (say: no), while in the reverse order, *all* the agents end up expressing 0.75 (say: yes). In this framework, we analyze how large (on average) the misrepresentation of opinions is across the space of parameters of the model and when different deliberative procedures are adopted. (10000 replicates are computed for each point of the space of parameters).

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Our major findings to decrease reputational cascades are the following: (i) the number of table rounds should at least be 3, for standard parameters; (ii) experts should be given ways to expres fine-grained opinions; (iii) a random order of speech reduces reputational effects; (iv) it is possible to find applicable procedures, which give a better defense of each position and that are even more efficient than the random procedure at decreasing opinion misrepresentation; (v) making the deliberation less abrasive in order to decrease slightly the importance of external pressure can improve the epistemic performances of the deliberative group. Importantly, applying these suggestions may help one decrease the effects of reputational concerns, *even with sequential and non-secret deliberating and voting procedures*. We conclude by suggesting that these simple results, obtained through a theoretical investigation, should be submitted to empirical tests.

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