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Enforcing consensus — •JAN LORENZ¹ and DIEMO URBIG² —

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We explore possibilities of enforcing consensus in continuous opinion dynamics due to modification of communication rules. We regard the model of Deffuant et al. [1], where n agents adjust their continuous opinions as result of random pairwise encounters whenever their opinions differ not more than a given bound of confidence ϵ . High ϵ leads to consensus, while low ϵ leads to polarization into several opinion clusters.

We drop the random encounter assumption and ask: How low may ϵ be such that consensus is still possible? Mathematical analysis shows that consensus can be reached for drastically lower ϵ than in the random pair wise case. Apart of planning communication for the whole group, we simulate dynamics with simple agent-based strategies. We show that balancing agents that search opinions from different sides to compromise with can raise the chances for consensus as well as curious agents can, who explore opinions in the direction they had previously moved to. Thus, raising the chances for consensus is possible not only due to a great master plan but also to agent-based strategies.

[1] G. Deffuant, D. Neau, F. Amblard, & G. Weisbuch. Mixing beliefs among interacting agents. *Advances in Complex Systems*, 3:87–98, 2000.

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