

Keep your enemies closer and be loud about it

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Question

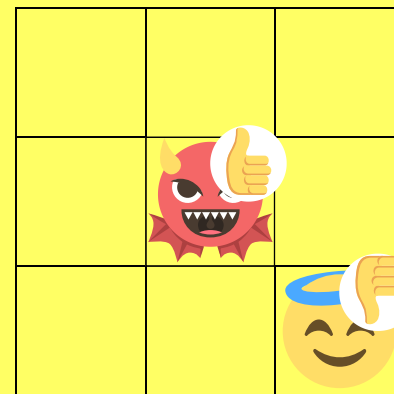
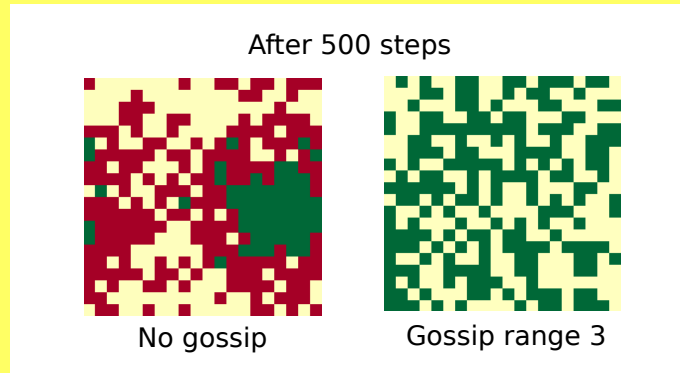
Does **local reputation** in *Spatial Prisoner's Dilemma* promote cooperation?

Intro

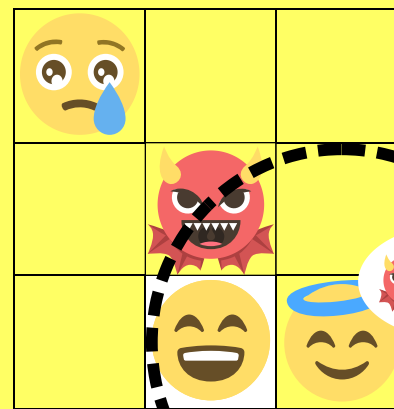
1. We can model **rational** behaviour using Iterated **Prisoner's Dilemma** game:
 $T > R > P > S, 2R > T+S$ [1]

		Opponent's move	
		Cooperate	Defect
Player's move	Cooperate	Player: R Opponent: R	Player: S Opponent: T
	Defect	Player: T Opponent: S	Player: P Opponent: P

2. **Global reputation systems** promote cooperation well [2, 3]
 (e.g. Ebay's seller rating)
3. What about **local reputation**?
 (no central system, only **communication**)



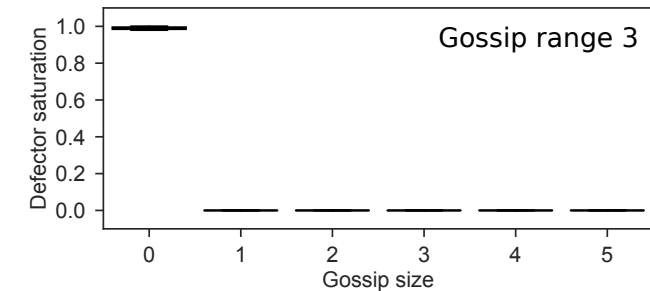
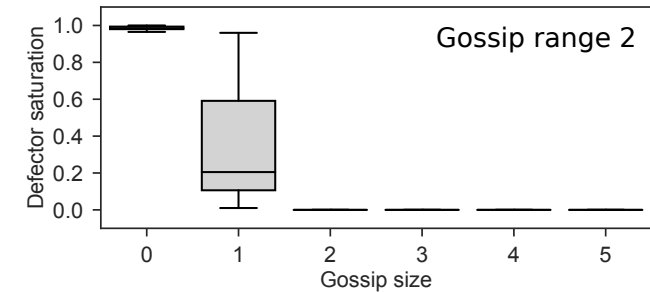
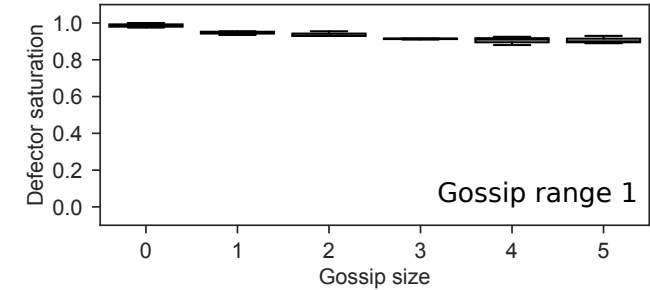
without reputation



with local reputation

Results

Defector saturations after 1000 steps



References

- [1] Axelrod, R. (1984). *The Evolution of Cooperation*. Basic, New York.
- [2] Camera, G. and Casari, M. (2009). Cooperation among strangers under the shadow of the future. *American Economic Review*, 99:979-1005.
- [3] Stahl, D. O. (2013). An experimental test of the efficacy of a simple reputation mechanism to solve social dilemmas. *Journal of Economic Behavior & Organization*, 94:116-124.