



platforms. The use of these technologies is therefore integral to the mobilization process, insofar as it serves to facilitate the collective processing of information by platform-users.

Sun et al. observe that the propagation of “fanning” behavior on the Facebook platform occurs per a contagion process [Sun et al 2009]. Users may express affinity for a particular celebrity, organization, etc. by electing to ‘fan’ (i.e., to become a ‘fan’ of) the associated Facebook Page. As users fan a particular Page, other users in their friend-network are notified, and are presented the option to do so as well. Centola [2018] observes that complex behavioral contagions require more than mere “awareness;” people do not necessarily engage in a complex behavior simply because they observe another person doing so, but must rather observe several others engaged in the behavior before they do so themselves. However, Sun et al. indicate that notification about one of one’s friends’ fanning of a Facebook Page is sufficient to motivate a notified user to do likewise, revealing that users’ behavior on social media platforms can propagate per a simple contagion process. Accordingly, we model the propagation of content-generating (or, ‘participatory’) behavior as a simple contagion: the inclination to participate in content-generating behavior is understood to propagate directly from one individual to the next, regardless of whether others in the network-neighborhood are behaving similarly (cf. Suler’s identification of the “online disinhibition effect” [Suler 2004]).

Borrowing the language of epidemiology, our participatory-behavioral propagation process may then be described as a simple ‘ ’ contagion: individuals transition from behaviorally ‘susceptible’ (state ) to behaviorally ‘infected’ (state ) per their exposure to the behavioral contagion, and then back again (‘recovery’). In a homogeneous population (i.e., one in which the network of individuals may be represented as a geometric random graph), such contagion processes are well-described by a (canonical) system of two time-dependent ordinary differential equations, with the time-rate of transitions between states governed by two scalar parameters: a contagion spreading-rate parameter and a recovery parameter . (



