

Do social choices reflect the real will of the individuals ?

The dynamics of minority opinion spreading is investigated using a two state model of sociophysics. The counter intuitive role of collective belief is enlightened. The case of heterogeneous beliefs is also considered. The model applies to a large spectrum of issues including national votes like the recent French vote, behavior changes like smoking versus non-smoking, support or opposition to a military action like the war in Iraq, rumors like the French hoax about September eleven, and reform proposals. It articulated around successive local opinion updates combining majority rule rationality and the existence of doubt. In case of a local doubt, collective beliefs are activated to make a choice. The emergence of a stable collective opinion is found to obey a threshold dynamic. It is the degree of heterogeneity in the distribution of common beliefs which determines the current value of the threshold which may well vary from ten percents to ninety percents. Accordingly the expected democratic character of a free public debate may turn onto a dictatorial machine to propagate the opinion of a tiny minority against the initial opinion of the overwhelming majority. The 2005 french referendum which rejected the European constitution proposal is discussed. An extension to financial markets is sketched.

S. Galam, « Minority Opinion Spreading in Random Geometry », Eur. Phys. J. B25, Rapid Note, 403-406 (2002)

S. Galam, « Modeling Rumors: The No Plane Pentagon French Hoax Case », Physica A320, 571-580 (2003)

S. Galam, « Heterogeneous beliefs, segregation, and extremism in the making of public opinion », Phys. Rev. E 71, 046123(1-5) (2005)

P. Le Hir, « Les mathématiques s'invitent dans le débat européen », Le Monde/Samedi 26 Fevrier 2005/ p 23