Big Data, autonomous action, and the dynamics of opinion formation

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Abstract: "The medium is the message", said McLuhan in 1964, to emphasize that the medium shapes and controls human action by altering the scope and form of communication. In the 21st century, the development of statistical tools for the analysis and modelling of massive amounts of data has changed the medium, brought about by information and communication technologies (ICTs), with ethical challenges. In this presentation, we discuss positive and negative impacts of ICTs driven by Big Data on the dynamics of opinion formation. The central question that guides this work is: What are the possible ethical implications of the extensive use of ICTs for the dynamics of opinion formation? Our hypothesis is that ICTs driven by Big Data analytics might impact autonomous opinion formation by the growing process of mediating human daily activities through the automated generation, storage, and integration of personal data. To address our question, we investigate the potential differences between *thin mediation*, in which the aim of the medium is to convey a message from the source to the receiver, but it does not automatically retain the content of the communication, and *thick mediation*, where the purpose of the medium is not solely to convey a message, but to store it in integrated massive databases, with the potential of reusing and recombining the data (Alvarado & Humphreys, 2017). The potential role of thick mediation in the dynamics of opinion formation is subsequently investigated by considering that opinions maintain co-dependent relationships, forming networks with some degree of cohesion. Opinion networks emerge from social interactions that involve meaningful information, sufficiently recognizable by the agent to create strong dispositions to act in a certain way, under given circumstances. We consider a process of autonomous opinion formation, where the establishment of a given opinion network occurs in a self-organized way when individuals possess some degree of autonomy. Autonomy is provisionally characterized as the individual and collective ability to perform actions without coercion: a person P will have a degree of autonomy if P possesses reliable, anticipatory, meaningful information that allows the selection of opportunities for actions, and P has the capacity to choose, regardless of coercive external pressure. At the collective level, autonomy expresses the capacity for ordinary people to act according to their own self-organizing habits that maximize common interests. Practical sociological knowledge produced by people in their daily activities has been recognized as an important factor in the dynamics of public opinions since Garfinkel's 1967 publication on Ethnomethodology. He argues that the construction of the social world through practical knowledge is guided by rational considerations, enabling the common citizen to act with a reflexive ability to interpret and even resist certain social norms. With the advent of ICTs and social networks, there is the increase of powerful virtual groups composed of social actors who were once dispersed and geographically distant, and whose ideas did not have much influence on the exchanges between pressure groups. The ICTs resources have enabled the formation of virtual think tanks composed of ordinary citizens articulated by practical sociological knowledge, capable of greatly affecting the dynamics of public opinion, allowing small groups of voters, for example, to exert influence on society. This practical result reverberates as a positive feedback on the small structures of virtual think tanks, strengthening the connectivity between their elements and the network topology. An evolutionary network is presented to illustrate how, in the context of social phenomena, the medium might be the main message. To conclude, we indicate ethical challenges concerning the potential of thick mediation to shape and control the dynamics of opinion formation.

Keywords: Opinion formation, human autonomy, thick mediation, Big Data.

References: Alvarado, R. & Humphreys, P. Big Data, Thick Mediation, and Representational Opacity. In: New Literary History, 2017, vol. 48: 729-749.
Garfinkel, H. Studies of Ethnomethodology. Malden, MA, USA: Blackwell Publishers Inc., 1967.
McLuhan, M. Understanding Media: The Extensions of Man. New York: McGraw-Hill, 1964.