

The Divided States of America: How social media reveals social fragmentation

October 10 2019

Far from being an egalitarian melting pot of diverse opinions and worldviews, the Internet has grown to mirror the same social divisions that exist offline. The U.S. is fragmented into physically segregated communities with polarized ideological differences. That is the conclusion of a new paper by the New England Complex Systems Institute (NECSI) published in the *Journal of the Royal Society Interface*. This paper quantifies the oft-repeated complaint that social media has become an echo chamber.

To understand the connections and divisions within our society, NECSI researchers parsed millions of geo-located tweets to construct networks of where people travel and with whom they chat. Whenever someone tweets from more than one location, their movement is revealed. This [network](#) of travel clearly maps major U.S. roadways (hopefully people aren't tweeting while they're driving). And whenever someone in one location directs a tweet to a user in another location, a connection is added to the [communication network](#).

The structure of the two networks reveals distinct communities of people who largely travel and communicate within clearly defined geographical regions. Some communities comprise single states, while others contain two or more neighboring states.

While there are some differences—for example, New Englanders and New Yorkers don't intermingle much, but they do talk a lot online—the [travel](#) and communication networks are remarkably similar. In other

words, people mostly talk online with the same people who live and work near them in the [real world](#).

This fragmentation arises naturally from the structure of the system. People self-organize their social networks around their family and friends, building upward to their local city center and their particular region of the country.

NECSI researchers also looked at what exactly these communities were talking about, using hashtags to identify topics of conversation. Not only are these Twitter communities physically self-contained, they are discussing distinct topics, reflecting regional cultures.

It is still true that, at the largest scale, the whole of the U.S. appears as a single community, but zooming in reveals increasingly fragmented communities. At even smaller scales, sub-[communities](#) corresponding to individual metropolitan areas are revealed.

This research shows that there is more to the social divisions in America than just red states versus blue states, or urban versus rural. Social fragmentation exists at multiple scales. This realization should inform policy-makers wishing to foster a more cohesive or unified country.

More information: Leila Hedayatifar, Rachel A. Rigg, Yaneer Bar-Yam, and Alfredo J. Morales, U.S. social fragmentation at multiple scales, *Journal of the Royal Society Interface* (October 8, 2019).

[necsi.edu/us-social-fragmentat ... n-at-multiple-scales](https://necsi.edu/us-social-fragmentat...n-at-multiple-scales)

Provided by New England Complex Systems Institute

Citation: The Divided States of America: How social media reveals social fragmentation (2019,

October 10) retrieved 25 April 2024 from <https://phys.org/news/2019-10-states-america-social-media-reveals.html>

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