

'Culturomics 2.0' forecasts human behavior by supercomputing global news

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A paper published yesterday in the peer-reviewed journal First Monday combines advanced supercomputing with a quarter-century of worldwide news to forecast and visualize human behavior, from civil unrest to the movement of individuals.

The paper, titled "Culturomics 2.0: Forecasting Large-Scale [Human Behavior](#) Using Global [News Media](#) Tone in Time and Space," uses the tone and location of news coverage from across the world to forecast country stability (including retroactively predicting the recent Arab Spring), estimate Osama Bin Laden's final location as a 200-kilometer radius around Abbottabad, and uncover the six world civilizations of the [global news](#) media. The research also demonstrates that the news is indeed becoming more negative and even visualizes global human societal conflict and cooperation over the last quarter century.

Using the large shared-memory supercomputer Nautilus, Kalev Leetaru of the University of Illinois in Urbana-Champaign combined three massive news archives totaling more than 100 million articles worldwide to explore the global consciousness of the news media. The complete New York Times from 1945 to 2005, the unclassified edition of Summary of World Broadcasts from 1979 to 2010, and an archive of English-language [Google](#) News articles spanning 2006 to 2011 were used to capture a cross-section of the U.S. media spanning half a century and the global media over a quarter-century.

Advanced tonal, geographic, and network analysis methods were used to

produce a network 2.4 petabytes in size containing more than 10 billion people, places, things, and activities connected by over 100 trillion relationships, capturing a cross-section of Earth from the news media. A subset of findings from this analysis were then reproduced for this study using more traditional methods and smaller-scale workflows that offer a model for a new class of [digital humanities](#) research that explores how the world views itself.

More information: Read more about results from this research in the full paper at www.uic.edu/htbin/cgiwrap/bin/~ticle/view/3663/3040

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