Using Extreme-Scale Text Analytics to Understand the Nature and Causes of Civil Unrest around the World from 1945 to Yesterday

Presented by
Scott Althaus
Professor of Political Science and Communication, UIUC
on behalf of the
Cline Center for Democracy Research Team

www.clinecenter.illinois.edu
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Two Types of Conflict that Affect the Course of Nations
Global Sum of Militarized Conflicts

Global Sum of Militarized Conflicts

Global Sum of Conflict-Related Deaths

Global Sum of Conflict-Related Deaths

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NEWS

Latest news

President has laid out details of an economic plan

sit-in over money owed to them

Attracting Investors

Business
The Cline Center’s Global News Archive

- CCD Voyager Web Scraping System (>60M stories from 2006-yesterday)
- Foreign Broadcast Information Service (3M stories from 1993-2004)
- BBC’s Summary of World Broadcasts (4M stories from 1979-2012)
- Microfiche and microfilm historical records for FBIS and SWB (6M digitized images from 1945-1990s)
- New York Times (6M stories from 1945-2005)
- Wall Street Journal (2M stories from 1945-2005)
- American Newsreel and Worldwide Television News Summaries (130,000 stories from 1915-1985)
Machines versus Humans?
Relative Advantages!

Machines

Manifest Content

Humans

Latent Content
Humans get the joke.
Humans get the joke.

My dog has no nose.
Humans get the joke.

How does it smell?
Humans get the joke.

Awful.
Humans get the joke.
A Progressive, Supervised-Learning System

Circles = database repositories
Squares = machine processes
Triangles = human processes
Benefit #1: Ability to Measure the Intensity of Civil Unrest Events
Median Number of Participants in Small-Scale Expression Events

2

Median Number of Participants in Mass Expression Events

2,450
Benefit #2: Increased Precision for Identifying Civil Unrest

Machines

Humans
Monthly Civil Unrest Intensity (from SPEED)

Figure 3
Overlay of Selected PITF Episodes and SSP Monthly Aggregates

a. Djibouti

b. Indonesia

c. Egypt

d. Bolivia
Benefit #3: Increased Spatial and Temporal Resolution for Observing Civil Unrest
As Islamic State Nears Conquest of Syrian Town, U.S. Presses Turks

By MARK LANDLER and ERIC SCHMITT    OCT. 8, 2014

WASHINGTON — As fighters from the Islamic State were on the brink of a highly visible conquest of a Syrian town near the Turkish border, Obama administration officials on Wednesday said there were limits to what the United States was able or willing to do to defend it.

Officials from the White House, the State Department and the Pentagon warned that airstrikes alone would not be sufficient to protect the town, Kobani, from the black-clad fighters. Their comments came a month after President Obama expanded the military campaign against the Sunni militant group into Syria. Although the Kurdish town — with television cameras trained on it from across the border in Turkey — has become a vivid symbol of the Islamic State’s lethal advance, and the Kurds’ fierce resistance, administration officials sought to play down its strategic importance.
Benefit #4: New Understanding of the Reasons for Civil Unrest

Machines

Humans
Anti-Gov’t Sentiments

Desire for Retribution

Economic Concerns

Socio-Cultural Animosities

Desire to Retain Power

Political Desires
Figure 4
Origins of Mass Expressions and Non-state Political Violence

(a) Origins of Mass Expression Events

(b) Origins of Non-State Political Violence Events

Mass Expression Events

Political Violence Events

Anti-Government Sentiments

Socio-Cultural Animosities

Socio-Cultural Animosities

Anti-Government Sentiments

Legend:
- Anti-Government Sentiments
- Socio-Cultural Animosities
- Socio-economic Factors
- Political Desires and Beliefs
άγνωστα άγνωστα - αυτά που δεν γνωρίζουμε ότι δεν γνωρίζουμε
“the unknown unknowns -- the ones we don’t know we don’t know”
Distribution of Social Science Knowledge about Civil Unrest Processes

Known Knowns

Unknown Unknowns

Unknown Unknowns
Near-Term Progress Looks Like This

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