

# The Next Big [Social Science] Thing

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National Academy of Sciences, 3/4/2016

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... with examples from my research

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- Disruption will not stop. To upend the software-based tech industry requires only a few people, some creativity, and luck: Facebook, Unix, gmail, snapchat, Google, Twitter, etc.
- **Look for: unique opportunities from fast changing research partnerships with groups outside the university**

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  - Many other applications to different types of forecasts

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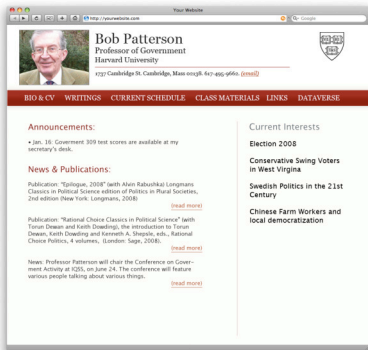
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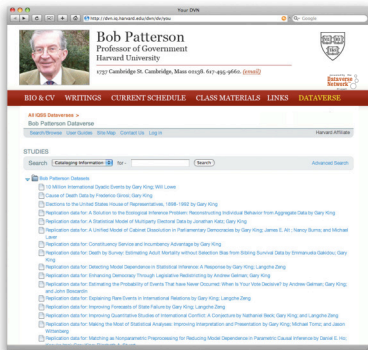
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# Author Dataverse



A screenshot of a personal website for Bob Patterson, Professor of Government at Harvard University. The page features a navigation bar with links for BIO & CV, WRITINGS, CURRENT SCHEDULE, CLASS MATERIALS, LINKS, and DATAVSER. The main content is divided into sections: Announcements (with a note about government test scores), News & Publications (listing two books), and Current Interests (listing three topics: Election 2008, Swedish Politics, and Chinese Farm Workers). A 'read more' link is visible at the bottom of the text.

Your web site



A screenshot of a Dataverse profile for Bob Patterson. The profile is branded with the Dataverse Network logo and includes a search bar and a list of studies. The studies list includes titles such as '10 Million International Opacity Events by Gary King, Will Lowe' and 'Cause of Death: Data by Francesco Gavetti, Gary King'. A 'read more' link is visible at the bottom of the text.

Your dataverse branded as your web site but served by the Dataverse Network, therefore requiring no local installation and providing an enormous array of services



# Journal Dataverse

The screenshot displays the web interface for the Annals of Applied Applications Dataverse. The page title is "Annals of Applied Applications" with the tagline "The Journal for those who truly apply themselves". The URL is <http://dx.doi.org/10.1002/aaa>. The page is for the dataset "REPUGATION DATA FOR CONSTITUENCY SERVICE AND INCUMBENCY ADVANTAGE" with the file name "DATA FILE: CONSTITUENCYSERVICE.TAB".

Navigation links include: Search/Download, User Guides, Site Map, Contact Us, Log in, and Harvard Affiliations. The page is divided into several sections:

- Download Subject:** A vertical list of download options.
- Select and Recode:** A section for modifying variables. It includes a "Selected Variables" list, a "To recode (subset) a variable into a different one, first select a variable from the selected variables list, click the arrow button below, and then the name and label of the variable you have chosen appear in the new variable name and label boxes to demonstrate. You must replace the old variable name with a unique variable name that's not used in the data file; the new variable label is optional and you can leave it blank." Below this are input fields for "New Variable Name" and "New Variable Label", and an "Apply Recodes" button.
- Advanced Statistical Analysis:** A section for statistical analysis.

A note at the bottom states: "Select variables from table below (selected variables will be displayed above). You do not have access to the searching and analysis functionality for this restricted data file. You can only view the variables and their summary statistics." Below this is a table of variables and a "Quick Summary" section.

Variable Type	Variable Name/Variable Label	Quick Summary
<input type="checkbox"/> Continuous	INCAD   incumbency advantage	100
<input type="checkbox"/> Continuous	BUD   budget figures	100
<input type="checkbox"/> Continuous	SAL   salary	100
<input type="checkbox"/> Discrete	CO   state level dummy variables	100



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- Discovering the underlying scientific cause sometimes doesn't solve the problem:
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E.g.: Humans are Horrible at Thinking of Keywords

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- $\rightsquigarrow$  Humans recognize keywords well, recall them poorly
- **Thresher:** New technology to discover the right keywords

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自由

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Example Substitution 1:

自由            “Freedom”

## E.g.: Following Conversations that Hide in Plain Sight

Example Substitution 1:

自由

“Freedom”

**CENSORED**

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自由

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## E.g.: Following Conversations that Hide in Plain Sight

Example Substitution 1:

自由  
目田

“Freedom”

“Eye field”

**CENSORED**

## E.g.: Following Conversations that Hide in Plain Sight

### Example Substitution 1:

自由  
目田

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“Eye field” (nonsensical)

## E.g.: Following Conversations that Hide in Plain Sight

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### Example Substitution 2:

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自由  
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和谐

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- Implications: Social Media is Actionable!
  - Chinese leaders:
    - measure criticism: to judge local officials
    - censor: to stop events with collective action potential
  - Thus, we can use criticism & censorship to predict:
    - Officials in trouble, likely to be replaced
    - Dissident arrests; new peace treaties; emerging scandals

## E.g. 2: Reverse Engineering Censorship in China

- Previous approach: watch a few posts; see what's removed
- Data: We get posts before the Chinese censor them
- $\approx 13\%$  censored overall
- ~~Everyone knows the Goal:~~  
~~Stop criticism and protest about the state,~~  
~~its leaders, and their policies~~ *Wrong*
- What Could be the Goal?
  1. ~~Stop criticism of the state~~ *Wrong*
  2. Stop collective action *Right*
- Implications: Social Media is Actionable!
  - Chinese leaders:
    - measure criticism: to judge local officials
    - censor: to stop events with collective action potential
  - Thus, we can use criticism & censorship to predict:
    - Officials in trouble, likely to be replaced
    - Dissident arrests; new peace treaties; emerging scandals
    - Disagreements between central and local leaders

For more information

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