Data Access, Research Transparency, and the Public Value of Science

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Outline

• Our challenge:
  – If science does not make an increased commitment to transparency, what is its social value?

• Our opportunity
  – Build needed incentives and infrastructure.
What is the public value of science?
Public and private sector decisions rely on evaluations of past actions.
An ivory tower perspective
The communicative space is increasingly competitive
Which evaluations should they believe?
Evaluation Criteria

• CREDIBLE
  – the quality of being believable or trustworthy

• LEGITIMATE
  – in accordance with recognized or accepted standards or principles
What is the public value of science?

It is a source for credible and legitimate evaluations.
“[Scientific integrity] corresponds to a kind of utter honesty—a kind of leaning over backwards....

• Richard Feynman (1974 – Caltech Commencement Address)
“...the idea is to give all of the information to help others judge the value of your contribution; not just the information that leads to judgment in one particular direction...”

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What is the public value of science?

It is a source for credible and legitimate evaluations.
What is the public value of science?

Science allows a greater degree of honesty in evaluation.
But...

- Limited introspection and documentation

- Threatens the credibility and legitimacy of scientific research
The problem

• Strong incentives to discover and publish

• **Weak** incentives to explain how the discoveries emerged.
Our Opportunity
Many organizations are pursuing greater transparency
DA-RT Components

- Data Access

- Research Transparency
  - Production Transparency
  - Analytic Transparency
A. Data Access

• To the extent that researchers’ evidence-based knowledge claims rely on data they themselves generated or collected, they should
  – provide access to those data
  – or explain why they cannot.
B. Production Transparency

• Researchers providing access to data should offer a full account of the procedures used to collect or generate the data.
C. Analytic Transparency

- Researchers making evidence-based knowledge claims should provide a full account of how they drew their analytic conclusions from the data
“First Use” Principle

• Researchers who collect or generate data have the right to use those data first.

• Scholars may postpone data access for
  – for one year after publication or
  – for a period that publishers/funders specify.

• Journals often require availability on publication.
Many organizations are working with journal editors
Working with Journal Editors

- Premise: Scholars are motivated to publish in prestigious journals.
- Goal: Numerous prestigious journals send a strong signal.
- Constraint: Editors are serial autocrats and overworked.
- Strategy: Success requires relationship building & community standards.
DA-RT Joint Statement

• 27 of Political Science’s leading journals have agreed to increase transparency requirements by January 2016.
Standards for author guidelines

8 standards

3 levels

>500 journals, >50 orgs (e.g., AAAS, APS, AGU, AHA, AMS, AAN)

Source: Brian Nosek and CoS
CoS Badges

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The $1M Preregistration Challenge

- Sponsored by the John and Laura Arnold Foundation.
- Administered by the Center for Open Science
- One thousand researchers will win $1000 each for publishing research whose study and analysis plans are preregistered on the Open Science Framework.
Conclusion

• To maintain legitimacy and credibility in competitive communicative environments, science must commit to greater transparency.

• Our continuing social value requires increasing incentives and improving infrastructure for openness.
Thank you!

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