

the proof of the proxy: altmetrics, impact, & use

ScholComm: Refresh!
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[the trouble with idioms]

The proof of the pudding is in the eating.



+ story of this phrase: <http://www.npr.org/2012/08/24/159975466/corrections-and-comments-to-stories>
+ image: raka, "bill cosby with the pudding," <http://www.flickr.com/photos/rakka/2349462820/>

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learning objectives

- + Understanding of history, development, and application of altmetrics (as well as other proxies of impact and usage)
- + Familiarity with different altmetrics tools and their comparative usefulness
- + Comfort interpreting and applying altmetrics

the challenge: what is it we're trying to measure?

What is the impact of the research?

Is it making a scholarly impact?

Is it contributing to the public good?

[And what does it mean to do so? Policy & practice?]

Who is reading it?

Who is interpreting and commenting on it?

What is the quality of the research?

Who thinks it's valuable and/or valid?

Who thinks it's hogwash?

Is it broadly valuable? Is it a game changer? Is it part of the canon?

How does the discipline affect the range/shape of impact?

bibliometrics: citation-based metrics

- + H-Index
- + i10-index
- + Citation impact
- + Eigenfactor
- + Impact factor

what's wrong with the impact factor?

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THE ROCKEFELLER
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QUALITY AND INTEGRITY

THE CHRONICLE OF HIGHER EDUCATION

May 17, 2013

“The impact factor data ... have a strong influence on the scientific community, affecting decisions on where to publish, whom to promote or hire, the success of grant applications, and even salary bonuses. Yet, members of the community seem to have little understanding of how impact factors are determined, and, to our knowledge, no one has independently audited the underlying data to validate their reliability.”

-Mike Rossner, Heather Van Epps, Emma Hill, “Show me the data,” (2007) [Research cited in altmetrics manifesto]

May 16, 2013

Researchers and Scientific Groups Make New Push Against Impact Factors

By Paul Basken

More than 150 researchers and 75 scientific groups issued a [declaration](#) on Thursday against the [widespread use of journal "impact factors,"](#) blaming the practice for dangerous distortions in financing and hiring in science.

impact factor, cont.



Recommendations for funding agencies, institutions, publishers, researchers, & institutions that provide metrics.

Includes recommendations that:

- + metrics be contextualized with variety of journal-level measures,
- + article-level metrics be made available
- + researchers “Use a range of article metrics and indicators on personal/supporting statements, as evidence of the impact of individual published articles and other research outputs”

The Answer to the Ultimate Question of Life, the Universe, and Everything

- + Monolithic
- + Mysterious
- + Misapplied



+ brian glanz, "monolith and mini," <http://www.flickr.com/photos/brianglanz/1095706242/>

altmetrics manifesto: critique & vision

+ We rely on filters to make sense of the scholarly literature, but the narrow, traditional filters are being swamped. However, the growth of new, online scholarly tools allows us to make new filters; these altmetrics reflect the broad, rapid impact of scholarship in this burgeoning ecosystem.

+ Three main traditional filters as: peer review; citation counts; JIF.

+ peer review = "slow, encourages conventionality, and fails to hold reviewers accountable. ... fails to limit the volume of research."

+ citation counting = "useful, but not sufficient ... slow ... narrow ... influential work may remain uncited ... neglect impact outside of the academy, and also ignore the context and reasons for citation."

+ JIF = "incorrectly used to assess the impact of individual articles ... trade secret ... significant gaming is relatively easy."

Core issues: metrics are:

- + slow
- + insufficiently granular
- + opaque
- + neutral "flavor" of citation
- + closed
- + neglectful of impact beyond the academy
- + tied to traditional publication products, not taking new diversity of output (dataset, website, blog) into account

+ In growing numbers, scholars are moving their everyday work to the web. Online reference managers Zotero and Mendeley each claim to store over 40 million articles (making them substantially larger than PubMed); as many as a third of scholars are on Twitter, and a growing number tend scholarly blogs.

These new forms reflect and transmit scholarly impact: that dog-eared (but uncited) article that used to live on a shelf now lives in Mendeley, CiteULike, or Zotero— where we can see and count it. That hallway conversation about a recent finding has moved to blogs and social networks— now, we can listen in. The local genomics dataset has moved to an online repository—now, we can track it. This diverse group of activities forms a composite trace of impact far richer than any available before. We call the elements of this trace altmetrics.

-altmetrics manifesto

altmetrics

- + altmetrics = alternative metrics
 - + based on the Social Web
 - + crowdsourced peer review
 - + sometimes seen as subset of webometrics
-
- + + usage, captures, mentions, social media, citations + +

analytics in the libraries

Statistics

Total Visits

	Views
Field Notes and Specimen Catalog, Numbers 1-54 (1933)	4593

Total Visits Per Month

	November 2012	December 2012	January 2013	February 2013	March 2013	April 2013
Field Notes and Specimen Catalog, Numbers 1-54 (1933)	1824	49	26	19	27	1957

File Visits

	Views
TCWC_006.pdf	3366

Top country views

	Views
United States of America	4190
China	32
United Kingdom	12
Russian Federation	9
France	6
Netherlands	6
Germany	3
Ukraine	3
Brazil	2
Canada	2

Top cities views

	Views
College Station	2191
Hearne	1807
Redwood City	41
Bryan	22
Washington	16
Beijing	11
Palo Alto	11
Beverly Hills	9
Houston	8
San Jose	8

Primo Altmetrics tab—
Coming Soon!

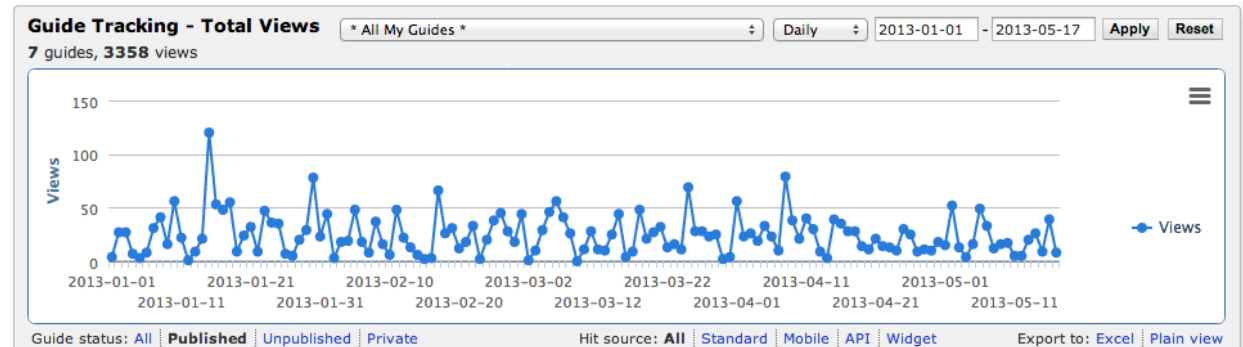
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Statistics

System-wide usage statistics and detailed statistics for all your guides.

Guides Links

[Click here to view statistics prior to 2012-07-01](#)



who's using altmetrics?

Collecting:

- + Altmetric
- + ImpactStory
- + Plum Analytics
- + ScienceCard
- + PLoS
- + Mendeley
- + SlideShare
- + Wikipedia
- + Figshare
- + CiteULike
- + Facebook

Publishing:

- + PLoS
- + BioMed Central
- + The Rockefeller University Press
- + Sage Open
- + mBio
- + [PeerJ](#)
- + Primo

impact “flavors”

Research that looks into clustering of altmetrics:

- + Read and cited
- + Read, saved, and shared
- + Popular hit
- + Expert pick
- + Not picked up by metrics

- Priem, Piwowar, and Hemminger, “Altmetrics in the Wild,” 2012.

tracking content in real time



This page mashes up alt-metrics data from [Altmetric](#) with articles from the [Public Library of Science \(PLOS\)](#). Check which articles are seeing the most buzz from social media sites, newspapers and in online reference managers.



Browse articles with mentions in the past:

[1d](#), [3d](#), [1w](#), [1m](#), [3m](#) or [all time](#)

In these journals (all by default):

- PLoS One
- Genetics
- Computational Biology
- Pathogens
- Medicine
- Biology
- Neglected Tropical Diseases

Viewing 5,800 PLoS articles mentioned sometime in the past 1m. Hover over a score for more information, click it for details.



An Introduction to Social Media for Scientists PLOS Biology

Awesome new paper on social media for scientists!! To convince scientists why they should use social media, give them the combined wisdom of An Introduction to Social Media for Scientists by @Dr_Bik abd @MiriamGoldste An actual paper on why scientists should use social media

Tweeted by 1279
On 55 Facebook Pages
Mentioned in 6 Google+ posts
Reddited by 2
Blogged by 6

Getting a Grip on Memory: Unilateral Hand Clenching Alters Episodic Recall PLOS ONE

...S doing utmost to undermine credibility of OA publishing: Clenching fists almost certainly won't help your memory Good that PLOSOne allows comments.
...author of fist clenching study Ruth Propper responds to 'fist clenchingly bad science' comment
For anyone who wasn't up at 4am, my long-winded, rhetorical and ego-steeped comment on the memory/fistclenching paper



Relaxation Response Induces Temporal Transcriptome Changes in Energy Metabolism, Insulin Secretion and Inflammatory Pathways PLOS ONE

Meditation genetically beneficial:Induces Temporal Transcriptome, Energy Metabolism, Insulin Secretion, Inflammation Yoga boosts energy metabolism, improves insulin function and reduces inflammation.
Really? Comments please! Meditation/prayer change gene expression, insulin response cc Meditation has been killing it lately



Malaria Infected Mosquitoes Express Enhanced Attraction to Human Odor PLOS ONE

Malaria mosquitoes like human smells especially those who drink beer Both papers in @PLOSONE Malaria-infected mosquitoes more attracted to human odor than non-infected
My new paper just out RT "@PLOSONE: Malaria-infected mosquitoes more attracted to human odor than non-infected Oh dear, double whammy! #Malaria-infected mosquitoes attracted to human body odour



Scientific Foundations for an IUCN Red List of Ecosystems PLOS ONE

Criteria for 'Red List' of Endangered Ecosystems Released Categories and criteria for Endangered ecosystems: is IUCN-style Red List for ecosystems part of conservation answer? Paper
#PLOSONE: Scientific Foundations for an IUCN Red List of Ecosystems has over 4000 views in a week

form into groups

+ experiment on relative merits/offerings of:

- + PlumX
- + ImpactStory
- + Altmetric
- + ScienceCard
- + PLoS article-level metrics

Each group: elect a lightning-talk representative to give a 3-5 minute spiel about what you turned up.

altmetrics v. >/< + bibliometrics



“So-called ‘alternative metrics’ or ‘altmetrics’ build on information from social media use, and could be employed side-by-side with citations—one tracking formal, acknowledged influence, and the [other] tracking the unintentional and informal ‘scientific street cred.’ Altmetrics could deliver information about impact on diverse audiences like clinicians, practitioners, and the general public, as well as help to track the use of diverse research products like datasets, software, and blog posts. The future, then, could see altmetrics and traditional bibliometrics presented together as complementary tools presenting a nuanced, multidimensional view of multiple research impacts as multiple time scales.”

-Jason Priem, Heather A. Piwowar, and Bradley M. Hemminger, “Altmetrics in the Wild: Using Social Media to Explore Scholarly Impact” (March 2012).

Image h/t: *altmetrics manifesto*

concerns about manipulability

+ “Baumbach and Gerwig were being pressed by the distributors of ‘Frances Ha’ to promote the trailer, but they both lacked Twitter accounts. Baumbach wrote to Stiller, with the subject line ‘Embarrassing email,’ and asked him if he would mind tweeting a link to the trailer to his nearly four million followers. Gerwig texted Lena Dunham, the creator of ‘Girls,’ who is a friend of theirs: nine hundred thousand followers. ‘She’s so good at it, so plugged in,’ Gerwig said. ‘She’s the Oprah of hipsters.’ Both friends coöperated.”

-Ian Parker, “Noah Baumbach’s New Wave,” *The New Yorker* (April 29, 2013).

+ “It is possible to game any metrics... by having a basket of metrics that measure many different things or many different sites in many different ways, it should be possible to create sort of anti-gaming algorithms that look at patterns.”

-Pete Binfield, Publisher of PLoS

dodgers, coasters, sherpas, pioneers, and stars; or: the trouble with metrics

“... there are few internal university measures to evaluate on an objective and systematic basis if the hundreds of millions of dollars of student- and taxpayer-financed faculty time each year that is spent on this research is leading to important discoveries that advance knowledge, improve society or human well-being, or improve teaching and learning. Some taxpayer-funded research, if it sees the light of day at all, will be published in largely obscure, thinly read academic journals, many of which are also funded by taxpayers, directly or indirectly.”

-Richard F. O'Donnell, “Higher Education's Faculty Productivity Gap: The Cost to Students, Parents, & Taxpayers” (2011).

obstacles

- + open (and shifting) availability of these metrics
- + shifting interpretation of these metrics (“in their infancy”)
- + disambiguation
- + lack of metrics for some items
- + distrust from the academic community [could be shifting]

possibilities

- + diverse output, audience
- + incentivizes research that benefits the public good
- + evaluating discrete scholarly “items”
- + distinction between +1 and -1
 - + citation classification
 - + "If we have an article and we see that a thousand people tweeted about it, do we know whether a thousand people are saying: this is the worst article I've ever read'?"
 - Matthew Gold
- + comparisons across particular, relevant groups
- + implicit connection to OA movement

altbrarian

Cave suggests:

- + Collect & track altmetrics
- + Tell publishers you want ALM for every published research article
- + Tell altmetrics sources that the data should be CC-0
- + Join altmetrics discussion groups and communities, follow the conversation

Galligan (and Priem/Piwowar) highlight:

- + role as communications partner with researchers: “Altmetrics could also clearly be used in the context of the librarian being able to offer insights to their research community, and give guidance on how to maximise the success of their own research efforts.”
- + value of OA and repository publications

Also:

- + collection development
- + information literacy, enabling discovery

form into groups

- + Twitter/ORCID/ScienceCard account integration
- + ORCID/ImpactStory integration
- + discussion: roles for librarians in developing/integrating/advocating for alternative metrics
- + exercise: uncovering altmetrics and bibliometrics for articles on your USB cards
- + exercise: adding altmetrics to your CV

Each group: elect a lightning-talk representative to give a 2-4 minute spiel about what you turned up

sources!

- Judit Bar-Ilan, Stefanie Haustein, Isabella Peters, Jason Priem, Hadas Shema, and Jens Terliesner, "Beyond citations: Scholars' visibility on the social web," (2012), arxiv.org/pdf/1205.5611
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- Greg Tananbaum, *Article-Level Metrics: A SPARC Primer* (April 2013), <http://www.sparc.org/bm-doc/sparc-alm-primer.pdf>
- Micah Vandegriff, "altmetrics," <http://www.slideshare.net/mobile/micahvandegriff/altmetrics-16162667>

Tools

- Altmetric (altmetric.org)
- Plum Analytics (<http://www.plumanalytics.com/>)
- ScienceCard (<http://sciencecard.org/>)
- ImpactStory (<http://impactstory.org/>)
- PLoS Article-Level Metrics (<http://article-level-metrics.plos.org/>) Actually a publisher, but one with integrated tools.

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