# Almetrics:
Background and Overview

October 22, 2013
UK Athletics Auditorium, William T. Young Library

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Bibliometrics: Purpose

- "to shed light on the processes of written communication and of the nature and course of development of a discipline (in so far as this is displayed through written communication" (Pritchard, 1969, p. 348)

E.g.: Research Article

**Eponymy and Obliteration by Incorporation: The case of the “Nash Equilibrium”**

Katherine W. McCain

Article first published online: 12 MAY 2011
DO: 10.1002/asi.21536
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Source: http://dx.doi.org/10.1002/asi.21536
Bibliometrics: Purpose

- "the assembling and interpretation of statistics related to books and periodicals … to demonstrate historical movements, to determine the national or universal research use of books and journals, and to ascertain in many local situations the general use of books and journals" (Pritchard, 1969, p. 348)

E.g.: Monthly Feature

A Historical Perspective of Pediatric Publications: A Bibliometric Analysis

Nuala Quinn, MRCPI, Owen Hensey, FRCPI, and Dermot Thomas McDowell, MRCS

- Author Affiliations

Department of Pediatrics, Children’s University Hospital, Temple Street, Dublin, Ireland

Key Words:

- Bibliometrics
- pediatrics
- citation analysis

Eugene Garfield describes the journal impact factor in 1972.

Research in author impact, using bibliometrics and citation analysis, begins and grows around the mid-1970s.

http://www.jstor.org/stable/1735096
Assumption

"science [is] conceived of as a system of communication"


Communism or the idea that "the substantive findings of science are a product of social collaboration and are assigned to the community"

Robert K. Merton, *The Normative Structure of Science*
Other Background Factors

The need to:

- Evaluate science: peer review

- Communicate and disseminate good science: publish, organize, filter, and retrieve

- Identify important work: impact
The Argument

Scholarly communication is broken because:
The Argument

It is a system that:

• Is largely based on a slow, issue-based, print publication model.

• Involves a peer review system that is prone to: bias, error, overload.

• Contains content that is insufficiently described and hinders reproducibility.

• Leaves out important supplementals, such as raw data and source code.

• Uses citations as a measure of impact. This is slow and narrow.
The Fix

The web has enabled:

- Greater interaction with text
- Not limited by page length
- Dissemination of raw data and code
- Faster dissemination
  - Faster impact
  - Broader impact
- Open peer review
small (<2 cm) filamentous algal turfs generally have noticeably higher DOC release rates than calcifying primary producers including hermatypic corals. These results are consistent over a wide range of reef systems, comprising the Red Sea (Haas et al., 2010a; Naumann et al., 2012), the Caribbean (Haas et al., 2010b), and the Central Pacific (Haas et al., 2011).

However, counter to expectations, Nelson et al. (2011) demonstrated that in a backreef system dominated by algae rather than corals, DOC
Interaction with text

What is the current thinking about DOC release by corals via mucus?

The question may not directly apply to this observation (i.e., that DOC can be lower in backreefs dominated by algae than in offshore water). But there was a flurry of work on coral DOC release that seems to have waned. Where are we on that? What is the consensus, e.g., DOC release in corals vs algae?

Also, has anyone compared DOC conc. in waters around coral and algal dominated substrate when other factors are held constant? I know such comparisons have been made (e.g., Dinsdale 2008) but along environmental gradients, so it wasn’t clear whether background conditions or benthic community structure was causing differences in DOC and bacterial communities.

1 Answer

To answer your first question succinctly, our work indicates that algae and corals release dissolved organic matter (DOM) of different quality and at different rates. Algae seem to generally have high release rates.
Dissemination of raw science

E.g., figshare.com:

Source: http://dx.doi.org/10.1371/journal.pone.0076586.s001
Faster dissemination

Through open access subject and institutional repositories.

Sources:
http://uknowledge.uky.edu/
http://arxiv.org/
http://opendoar.org/
Faster impact

Cancer (ACS Journal)

Source: https://twitter.com/JournalCancer
Broader impact

Dissemination

Source: https://twitter.com/JournalCancer
And impact that's measurable:

Do Altmetrics Work? Twitter and Ten Other Social Web Services
Mike Thelwall, Stefanie Haustein, Vincent Lariviére, Cassidy R. Sugimoto

Viewed 2

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*Although we update our data on a daily basis, there may be a 24-hour delay before the most recent numbers are available. Raw data is posted on a monthly basis and will be made available once received.

Source: http://dx.doi.org/10.1371/journal.pone.0064841
Review History for *A new species of long-necked turtle (Pleurodira: Chelidae: *Chelodina*) from the late Miocene Alcoota Local Fauna, Northern Territory, Australia*

Revision 2

**Andrew Farke** - *Sep 5, 2013* - Academic Editor

ACCEPT

Thank you for your quick attention and flexibility on the last round of comments!

Download Revision 2 (PDF)  Download author's rebuttal letter
Symbolic
The term statistical bibliography seems to have been first used by E. Wyndham Hulme in 1922 when he delivered two lectures as the Sandars Reader in Bibliography at the University of Cambridge. Subsequently the lectures were published as a book. Although the debt has never been explicitly recognized by means of citations, Hulme anticipated modern work on the history of science. He used the term to mean the illumination of the processes of science and technology by means of counting documents. Hulme both summarized the results of Cole and Eales and produced original work on the growth of UK patents (relating these to social processes in the UK) and on the changes displayed in the International Catalogue of Scientific Literature (relating changes in subject and country production of literature to international developments).
Altmetrics coined in a tweet

I like the term #articlelevelmetrics, but it fails to imply *diversity* of measures. Lately, I'm liking #altmetrics.