



DZHW

German Centre for Higher Education Research
and Science Studies ■

Altmetrics and its Intellectual Predecessors

Patterns of Argumentation and
Conceptual Development

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Introduction

- Altmetrics on the rise
- But after 20 years still no understanding of basic concepts
- Study the history of altmetrics to inform and support the debate about the future of scientometrics

Methods & Data

Two-stage approach

1. Bibliometric Analysis

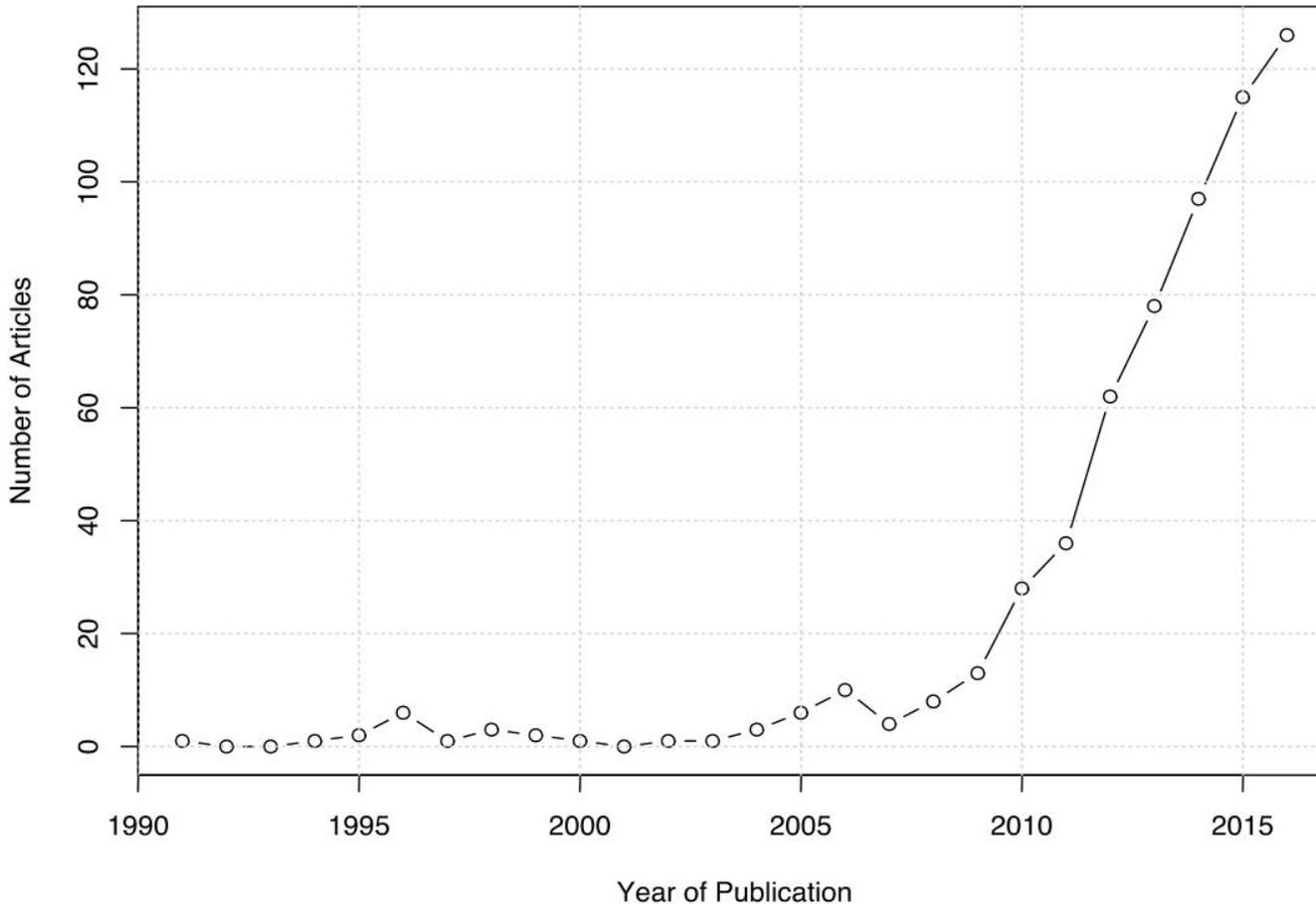
- Identify articles on altmetrics and its predecessors
- Iterative keyword search in Web of Science and Scopus
- Adding relevant papers from reference lists
- Twitter tracker

2. Content analysis

- Find similar patterns of argumentation
 - Novelty, scrutinization, and conceptualization

Results I

- 479 articles on altmetrics and its predecessors



*Publication
Years of peer-
reviewed
Articles related
to Altmetrics*

*Source: Scopus,
SCI-E, SSCI,
CPCI, AHCI,
OpenUp Twitter
Harvester.
Estimated
values for 2016*

1st wave: “Usage” as a relevant category of importance

- Emergence of the WWW
- Terminological turmoil
 - Internetometrics, Netometrics, Webometry, Webometrics, Cybermetrics
- Hypertext links = references in the web = Situations
- Closer to the laboratory by showing „Science in Action“ (Latour/Woolgar, Callon)
- New infrastructures and parallelization of concepts

"[W]e will have to decide what counts can be used as indicators ("of what?")"

Bossy, M. J. (1995) 'The Last of the Litter: 'Netometrics'', Solaris, 2.

2nd wave: Reflection and consolidation in webometrics and cybermetrics

- Methodological scrutinization
- Terminological consolidation towards Webometrics and Cybermetrics
- Correlation studies found moderate to low correlations
- User behavior and motivation studies

3rd wave: The establishment and development of the altmetrics movement



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Folgen



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

19:28 - 28. Sep. 2010

3rd wave: The establishment and development of the altmetrics movement

- New data sources (Twitter, Facebook, Mendeley, ...)
- New terminologies, but Altmetrics dominating
- New data providers followed by quantitative analysis
- Exploration of opportunities
- Cross validation studies (coverage and correlation)
- Societal impact

Summary

- 3 stages spiraling:
 - terminological exploration
 - methodological scrutiny
 - conceptual development
- Cybermetrics needed ≈ 15 years,
Altmetrics only ≈ 6 years

Conclusion

- Waiting for next artefact to study or start fundamental discussion about theoretical conceptualization?
- Take the criticism towards scientometrics seriously
- Aim for broader theory of scientific production

Thank you!

Questions and Comments