Academic Journals in Open Science: A Functional Approach

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“The long-standing discussion about an academic journal replacement” (Björn Brembs)

• “The broken and destructive academic journal system”

• “A trinity of failures: reliability, affordability, functionality”
  • “The focus of the ex-publishers on user data, of researchers on publications and of institutions on cash flow and rankings led to a functionality crisis in which some of the most basic digital functionalities remain out of reach for research objects”

• “We can now switch at any time”

• “It can work without slaughter”

Source: http://bjoern.brembs.net/2021/10/trinity-of-failures/ (October 8, 2021)
Reasons for criticism and scepticism

**Weakness**
- Lack of reliability
  - Selection, replication crisis
- Journal crisis (subscription)
  - Too expensive
  - Too slow
  - Limited dissemination
- Article crisis (APC)
  - Predatory publishing
  - Open divide

**Threat**
- Open repositories
- Preprint servers
- Mega-journals
- Data subseding journals (?)
Slaying the journals?

• Journals will disappear
• Journals should (must) disappear
• However, so far no mass extinction of academic journals

Source: STM Report – STM Global Brief 2021
https://www.stm-assoc.org/
A functional approach

• Useful for something (somebody)?
  • Historical functions
  • New functions?

• “An activity is functional, if it serves the perpetuation of the complex structured unity of a system” (Luhmann)

• Other reasons: flexibility, diversity, adaptability (technology, business model)

• “It is not the strongest of the species that survives, nor the most intelligent; it is the one most adaptable to change” (Darwin)
Oldenburg’s shadow: still there, but...

• Observations (but no systematic analysis so far):
  • Registration (but: science as a common good)
  • Certification (but: predatory publishing, open peer review)
  • Dissemination (but: creation of other channels)
  • Archiving (but: problems with OA journals)

• Will open science subvert academic journal publishing?
New functions

• Three new functions
  • Political (ranking)
  • Economical (revenues)
  • Technological (data)

• May explain the resilience* of academic journal publishing
  • *“the ability of a system to withstand changes in its environment and still function”
Political function

• Academic journals play a significant role within the functioning of evaluation and monitoring systems
• Shanghai ranking: 60%
• THE ranking: 36%
Economical function

• Academic journals play a significant role within the economic functioning of publishers, aggregators, agencies, etc.
• They represent 39% (2019) of the total global STM market value
  • $10.81 billion revenues from journals (2019)
  • 36% in 2020 (expected to regain pre-pandemic value by 2023)

Transformation, not disruption: “there is enough money already circulating in the global market” (Schimmer et al., 2015)
Technological (big data) function

• Academic journals play an increasing role within the functioning of data systems, in particular for the acquisition and exploitation of big data by the information industry.

• The big data environment transforms journals into a complex information generation device with high exploitation and valorization potential.

• Everything becomes data
  • Vertical integration (Posada & Chen, 2018)
  • Data capitalism (Herb, 2019)
  • An eco-system that is continually in flux, containing a wealth of new trends and possibilities (STM Trends 2025)
  • If it’s free, you are the product
Towards an Open Research Knowledge Graph

Towards an Open Research Knowledge Graph

https://www.slideshare.net/soeren1611/towards-an-open-research-knowledge-graph

Nov 22-23, 2021
First European Symposium of Social Science and Humanities Journals, Brussels
Endangered, vulnerable, and/or threatened?

• Are journals at risk of extinction?
• What species are at the highest risk?
  • Cf. risk assessment of the impact of Plan S
  • Cf. French monitoring committee
Merci

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