

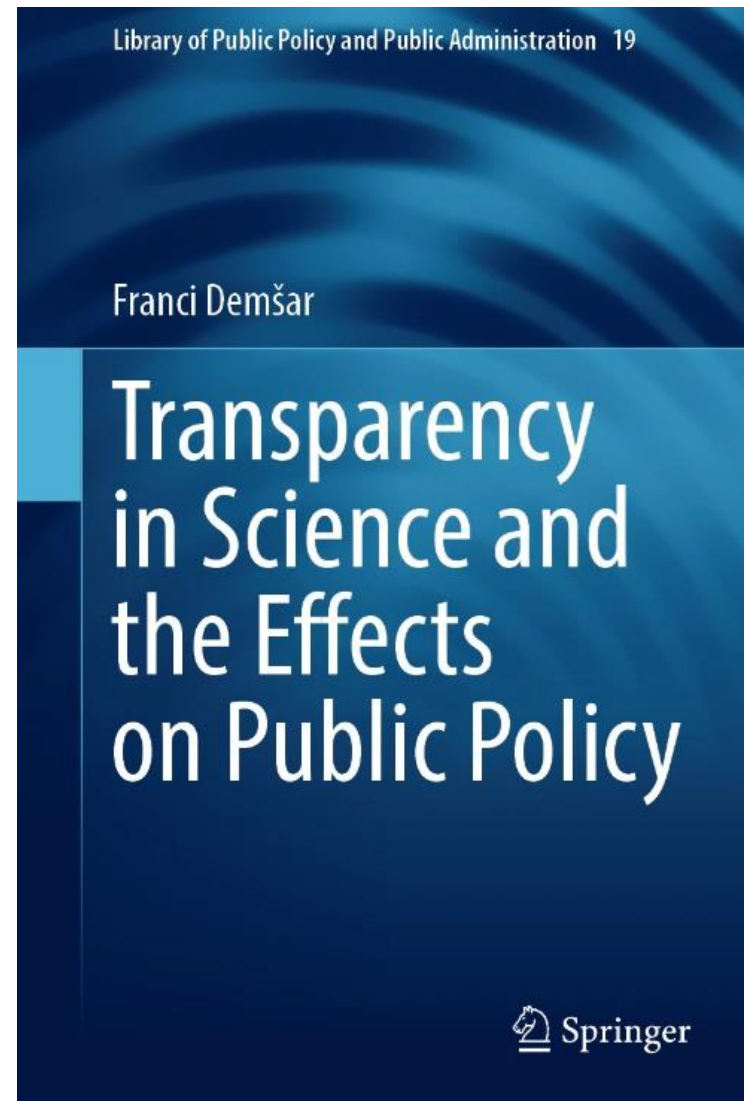
TRANSPARENCY AND QUALITY – OPPORTUNITIES AND CHALLENGES OF OPEN SCIENCE AND OPEN ACCESS

November,
2024



Efficiency

Ethics – non-corrupt



SOME HISTORY

Philosophical Transactions **Oldest scientific journal** **(1665).**

Scientific publications must contain data that allow reproducibility of experiments and tracking cited sources

Medical Essays and Observations (1731)

Each article must be read by independent experts (reviewers) before publication.

PHILOSOPHICAL
TRANSACTIONS:
GIVING SOME
ACCOMPT
OF THE PRESENT
Undertakings, Studies, and Labours
OF THE
INGENIOUS
IN MANY
CONSIDERABLE PARTS
OF THE
WORLD.

Vol I.

For Anno 1665, and 1666.

In the SAVOY,
Printed by T. N. for John Martyn at the Bell, a little with-
out Temple-Bar, and James Allestry in Duck-Lane,
Printers to the Royal Society.

Pillars of transparency

- 1. Transparency of results**
(scientific publishing,
50 million articles)
- 2. Transparency of procedures**
(IMRAD, projects, habilitations)
- 3. Financial transparency**
(also agencies for research)



SCIENTIFIC PUBLISHING WAS A PROCESS

92 % of parallel discoveries

72 % of parallel discoveries

59 % of parallel discoveries

33 % of parallel discoveries

17th century

18th century

19th century

½ of 20th century

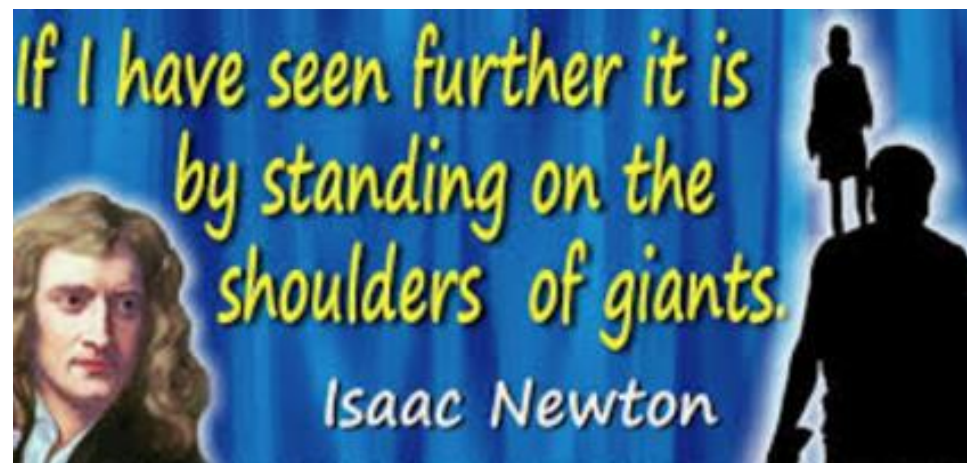
Access to publications

On the man's ability to fly like a bird: Monsieur Toyard, "An Account of the Sieur Bernier's Way of Flying," *Philos. Collections* N ° 1, 1679.

Freud

Merton, Robert K. 1938. "Science, Technology and Society in Seventeenth Century England."

Osiris 360–632.



- ❑ **Transparency and transfer of information**
- ❑ Living nature, paper, print, internet, science (principles of transparency)
- ❑ **Higher education, education**
- ❑ Patents, economy efficiency, human development
- ❑ **Efficiency, human development**
- ❑ **Meritocracy (ethics)**



- **REASONS FOR IMPLEMENTATION OF TRANSPARENCY IN SCIENCE**

- **Scientific publishing**

- **Autonomy of universities** (stability, habilitations) **and wider academic space** (agencies, institutes)

- **Legislation**



OPEN ACCESS to publications

up to cc.1970

Printed journals are owned by professional societies, journals are located in university libraries. Big publishing companies (Elsevier, Springer,..) started buying them

cc. 2000 – 2010

Journals became digital. Providers sell bibliographic databases with thousands of journals to university libraries (big profit)

Access:

World: varies, depending on university resources

Slovenia: all universities (professors and students), all research institutes. Paid by Slovenian Research Agency

Principle of open access: literature is digital, on line, free of charge for any reader, publications are copyright free, immediate rather delayed (*Peter Suber: Open Access Overview*).

New business model: journals need money for peer review and editing.

Rationale: general public is more educated, it is interested in reading science.

Sometimes citizens they are contributors (citizen science)

IZZIVI OBČANSKEGA RAZISKOVANJA

Izkušnje in pričakovanja iz Žirov in od drugod

Urednik in soavtor Zdravko Mlinar

TYPES OF OA PUBLISHING

A. Green OA self-archiving

Authors put their articles in institutional repositories after a delay/embargo, or before peer review.

B. Gold OA authors pay.

Can be completely open journals or hybrid.

C. Diamond OA free of charge for readers and authors. Marginal at the moment.

ENFORCEMENT OF OA

- a. Plan S: For research agencies, 11 of EU agencies, ERC not a part.
- a. EC: all articles have to be published in golden OA journals. EC has cc. 10% of EU countries money for science.
- a. NIH: all articles have to be in green or golden OA mode. Many other private organizations have the same policy.

QUALITY PROBLEMS IN GOLD OA JOURNALS

Predatory journals

OA: 18.000 (4.600Wos, 3.500 ESCI, **9.000 predatory**)

Predatory: 10.000 (OA. 9.000)

Unsufficient or no guidelines on predatory journal of
Research agencies that require OA to publications

(L. Shamseer et al , Top health research funders' guidance on selecting journals for funded research, PMC PubMed Central, April 21), 2021)

QUALITY PROBLEMS: IGNORING BIBLIOMETRICS

<u>Wos:</u>	21.000	(4.600 OA)
<u>ESCI:</u>	8.000	(3.500 OA)
<u>Scopus:</u>	25.000	(5.500 OA)

What does it mean to publish in higher impact journal. It means that article had a good peer review.

Lack of quality control in publishing was evident in crucial Covid times.

Decrease of trust in science.

- Predatory journals: charge high publication fees just to generate revenue
- Provide little or no legitimate peer review control or rigorous scientific scrutiny.
- They mislead authors by claiming to be reputable, sometimes by mimicking the names of well-known journals.

UNIVERSITY RANKINGS

STRONGLY RESEARCH WEIGHTED

SRC ARWU (Shanghai), Times Higher education, Quacquarelli-Simmonds rankings, Webometrics

ONLY RESEARCH WEIGHTED

Thomson Reuters institutional Profiles project, SCImago Rankings,

Taiwan University rankings, CWTS Leiden Ranking, U21 Rankings

University Rankings by Academic Performance,

Companies trust them. Publishing in non IF journals would decrease university graduates job hiring.

Case of Holland – decrease in Times rankings

NON PROFESSIONAL BIBLIOMETRICS

Brothers Cole, researching NSF decisions for financing, 1970s. Peer review has many weakness. We need improvement – citations.

DORA declaration (2012) Leiden manifest (2015)

Response of publishers and researchers from bibliometrics about bad practices (professional documents).

COARA, Controversial document of Science Europe: recommendations to science funders - peer review should be like in scientific journals, but other social elements/justice must be also regarded (political document)

IN CONCLUSION

1. Open access is in line with principles of transparency with a good success: 30.000 non OA journals, 18.000 OA journals
2. Main problem – quality of OA journals
 - a. Predatory journals (9.000/18.000)
 - b. Ignoring bibliometrics (Wos: 4.600/22.000)
3. Nonprofessional use of bibliometrics (Dora, Leiden)
4. Autonomy of universities. All documents are suggestions for universities, not rules for them.

Example: slovenian government, decree without being discussed. Inbreeding in habilitation procedures.

5. Coexistence of open access and traditional library access together with peer review and bibliometrics will gradually find good ways to improve timely public access to scientific findings, increase of good peer review and bibliometrics, help universities to make employable graduates

Thank you for your attention!

Franci Demšar

November, 2024

