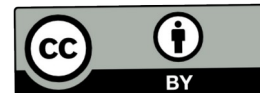


Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



The fundamental backdrop:

Shaping open science
amounts to ensuring the right conditions
to produce scientific or validated knowledge

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



Validated knowledge is produced through the workings of a “**Great and Open Conversation**”

The **Great Conversation** includes two interconnected phases:

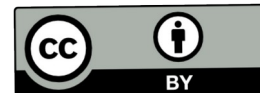
A **communication phase** (\approx context of discovery)

A **publication phase** (\approx context of justification)*

* The distinction between context of discovery and context of justification was introduced in the philosophy of science by H. Reichenbach.

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



Communicating and publishing
form a continuous whole!

Printing, alas, contributed to pulling them apart.

Digitizing can help to realign them together.

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



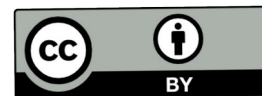
Validating **knowledge** is always a **work in progress**.

Neither canon or doctrine,
the never-ending process of validation
asks for an **(open) record of (open) versions**,
not a collection of **versions of record***

*Thanks to B. Kramer & J. Boesman for this important insight.

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



Most of us view open science as providing

- Universal open access to **authors and readers**;
- **Data and observations** systematically published;
- Publication licenses allow for **re-use, text-and-data mining**;
- **Data-manipulation software is open source**;

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



But moving toward Open Science
requires **more**
than a catalogue of “best practises”
and good principles.

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



It also requires talking about
power structures

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



The main **obstacle** on the road to Open Science, is
the **commercialization**
of scholarly and scientific publishing after WW II.

The consequences are complex.

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron

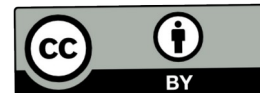


The **commercialization** of scholarly publishing was made possible by:

- The brutal **acceleration of publicly funded research** after WW II;
- The **Maxwell factor (Pergamon Press)**;
- The **Garfield effect**: aligning the scholarly communication system with the market of journals (**flawed inversion of Bradford's law**);
- **Reducing the market of journals to libraries** by starkly raising the prices of subscriptions;

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron

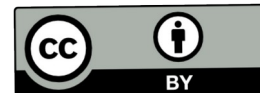


Commercial publishers benefit from new opportunities:

- Commercial publishers can “promote” senior researchers to editorial positions, and reward them with money;
- Dominant publishers and dominant research institutions each form an oligarchy.
- Alliances between the two oligarchies begin to ensue: generally tacit, often uneasy (via editorial boards).
- Most society publications surrender to commercial publishers, or imitate their practices.

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron

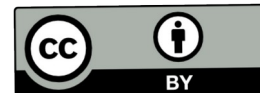


By 1990-95 a new power structure was emerging:

- Based on journal rankings and their use as tools for evaluation (the IF);
- It reaches all levels of research: individuals (H-index), institutions (university rankings), even whole countries;
- The new power structure manages research everywhere through a single tool: competition;
- Collaboration is devalued

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron

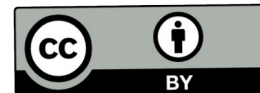


In the 1990s, the Internet began to disrupt both scholarly communication and publishing.

Various actors reacted differently.

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



For **researchers**, this meant

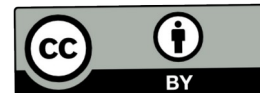
- Early awareness of computers and networks;
- Tapping into a long-established **tradition of sharing, exchanging**;
- **Early experimentation with electronic publishing** (e.g. S. Harnad, J. O'Donnell);
- Early understanding that **electronic publishing makes OA practically possible**;
-

BUT

- **Insufficient concern for financial dimensions of publishing (resilience);**
- **Early understanding about the potential for increased citation impact – a trap!**
- **Ambiguous objectives: control, efficiency, impact,...**

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron

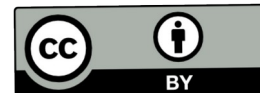


For libraries

- Main concern was – is – the pricing crisis of journals.
- Strategic response to high prices: consortia (little or no reference to OA)
- Libraries also support OA with institutional repositories
 - They see OA resonating with the professional culture of libraries
 - They misconstrue OA as a weapon against subscription prices

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron

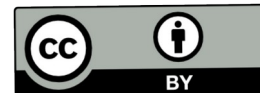


For publishers (1)

- **Electronic publishing** is their **concern, not OA**: transposing print-based business models is the objective (e.g. Elsevier's TULIP experiment in 1991);
- Transition from **sales** to **licensing** follows the model of **commercial software**;
- The portal model as **electronic “shelf”** in the 1990s (e.g. **Project Muse**)
- **Portals gradually evolve into Platforms**, i.e. the **algorithmic management** of a **complex, three-dimensional, sociology**: *humans-documents, document-documents, humans-humans.*

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



For publishers (2)

- After initial opposition, they seek to “adapt” OA to commercial objectives
- The main invention: APCs
- APCs are commercially appealing for a number of reasons:
 - New sources of revenue streams
 - No threat to the journal-based evaluation system
 - Simple flip of the access principle: tax the authors, not the readers!
 - Can be tweaked: (hybrid journals, transformative agreements, etc.)

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



For publishers (3)

Crucially, journals are strategically important.

All of their business models
depend on their continuing existence
in the form that has evolved since WW II.

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron

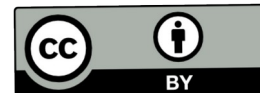


For research administrators

- Mainly concerned by reputation, visibility, authority, prestige;
- Electronic publishing, initially, raises legitimacy concerns;
- OA, at first, is largely irrelevant: they do not finance access!
- APCs perturb, as they may have to pay something, but they accept it in Lampedusa's style: "Everything must change for everything to remain the same"

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron

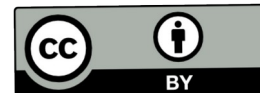


For Funding agencies

- Like research managers: Initially unconcerned by either electronic publishing and OA
- The yoke of evaluative metrics is more indirect, lighter;
- OA may increase the impact(s) and visibility of financed research: political advantage.
- Create incentives, recommendations, or mandates for OA?
- Getting involved with publishing?
- Direct subsidies to public publishing platforms (e.g. SciELO, Redalyc)?
- Convince publishers to embrace OA? (Plan S)?

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron

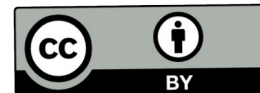


Other actors: university presses, societies

- On the side of angels, but fragile: hence conservatism, paralysis;
- Societies often respond better to national or local needs;
- Powerful societies (e.g. Am. Chem. Soc.) mimic commercial publishers;
 - Journal “surpluses” offer greater autonomy to society brass;
 - Surpluses support conferences, scholarships, prizes;
- Weak societies surrender to commercial publishers;
- University presses: cost recovery objectives become dominant.

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



How commercial publishers strategize to maximize their power position:

- 1) Ensure the separation of publishing from the rest of research;
- 2) Extend journal market competition to all levels of research;
 - As a way to divide the academic communities (again editorial boards)
 - As a way to introduce commercial values in academic settings
- 3) Control and extend the rules of competition to pursue point 2
- 4) Keep opaque the “firewall” between financial and editorial matters;
 - Journal editorial decisions can be aligned with commercial objectives (via rankings);

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron

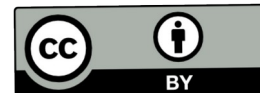


For the non-commercial side
of scholarly and scientific publishing:

An urgent need to come together,
and think strategically if Open Science is to be!

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron

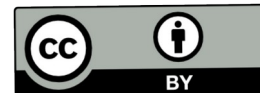


This means (1)

- Rethinking publishing: Do researchers need publishers or publishing functions?
- Rethinking journals:
 - realigning communication with publication
 - Removing journals from competition equation
- Rethinking evaluation: multi-dimensional, relevant to context, without rankings

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron

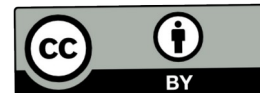


This means (2):

- The sources of money must strategize together: libraries, funding agencies, research managers must invent channels to talk together;
- Publishing functions (registration, certification, dissemination, preservation) must come under researcher control (libraries, university presses, researchers);
-
- Evaluation should reward cooperation;
-
- Competition has its place if carefully circumscribed

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



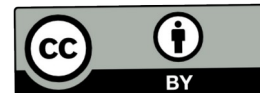
Conclusion:

The present, dominant, conception of journals is the main obstacle on the road to Open Science.

To succeed in shaping Open Science correctly, journals must return to their historical sources.

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



For research communities, journals used to be the amplifiers of their voices;

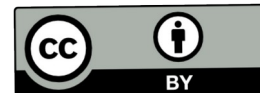
Journals allowed better communications between communities;

Journals enhanced dissemination
across languages and specialties;

Journal reputation was always qualitative, not quantitative,
and they were not ranked.

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



Once journals are recast in their original roles:

- More collaboration and less competition
- More concertation among research actors
- The research community regains control over itself
- Open Science becomes possible

Shaping Open Science: What objectives? Which actors? What roles?

Jean-Claude Guéron



Thank you

for

your attention.