Academic Publishing in the Digital Era: A Couple of Issues

Open Access—Well, Maybe

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The (R)Evolution of Academic Publication
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10 May 2016

Outline

1 The Cost of Writing a Paper

2 Validation vs. Evaluation

Availability & Diffusion

- The overall *amount* of scientific products validated by the scientific community is steadily increasing over the years
- Specialised search engines (Google Scholar, Semantic scholar) along with academic social networks (Academia.edu, ResearchGate) make *meta-information widespread*
- The push towards multi-, inter-, trans-disciplinary research makes *related literature* just explode

Costs

- ICT has made the *cost* of
  - production
  - diffusion
  - access

  of the scientific artefacts negligible, technically
- Nevertheless, the *cost of accessing* most of the literature is still high—way too high for most of the individuals and academic institutions in the world
  - e.g., "Coordination of Distributed Problem Solvers" (Kluver, 1988)
  - nearly 150 € overall
  - 9 chapters, nearly 25 € each
- Is this *manageable* in any way?
- Is this reasonable nowadays?

The Cost of Writing a Scientific Paper

- The amount of related work to be accounted for in any scientific activity is growing fast
- Ignorance not allowed
- You are supposed to know, read, understand, and frame a huge number of related articles, chapters, and books, before you can just *claim* you advanced somehow the state-of-the-art

- What if you are doing *multi-disciplinary* research?
- What if you are a *PhD student* with no funding of your own?
- What if you do *not* work in a *rich* country?

Solutions?

- Many just ask for free access to everything
- Some just *circumvent the limitations*
  - breaking the paywall—Sci-Hub, LibGen
  - exploiting traditional peer interaction
  - self-publishing
  - research social networking (Academia.edu, ResearchGate)
- No one has yet proposed a process that could be both
  - *scientifically* well-founded
  - *economically* sustainable
- Meanwhile, could some smart moves such as
  - micropayment
  - research-funding institutions directly funding open access
  - different price schemes for different countries

somehow ease the pain?

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1 The Cost of Writing a Paper

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The Scientific Process

- Our *huge ego* as scientists makes us perceive the scientific process mostly as the result of an individual (*heroic*) effort
  - we often behave like we actually think that our own invention and hard work is *scientific per se*
- Actually, the scientific enterprise is one of the most relevant and impressive *social achievements* of humankind
  - no work is scientific before validation from the *scientific community* [Pop02]

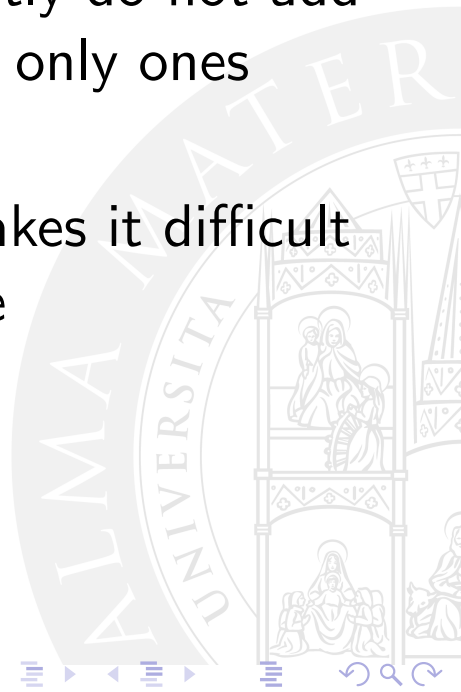
The Actors

- *Researchers* (mostly from public bodies) produce most of the work, at any level
- *Public bodies* mostly fund the research
- Scientific
  - *publishers*
  - *associations*

  control the *validation process* leading to academic publication

Issues

- Researchers think they are the good guys, as well as the smartest asses—and, in the end, that they are entitled to *control everything*
- Public bodies are also in charge of most of the *evaluation* processes
- Scientific publishers earn as *stakeholders*, and apparently do not add anything meaningful to the process—yet, they are the only ones *earning money* (potentially)
- The planetary scale of the organisational processes makes it difficult to affect in any way the substantial *monopoly* of huge players—publishers such as Elsevier, Springer



Self-Validation? I

- Validation is an *a priori* process w.r.t. scientific publication
- Self-publishing – e.g., through open repositories (such as arXiv) – jumps over validation, by postulating the existence of some sort of *a posteriori* validation process

Self-Validation? II

Issues

- It just seems to resort to our big egos, again: "I'm a scientist, a real one, whatever I do is scientific per se"
- No pressure towards quality, no interaction before publication, no selection before diffusion
  - hardly the premise to good scientific papers—let apart excellence, whatever it is supposed to be
  - not a scalable approach
- Validation is *not* evaluation
  - which hardly understood by researchers even within most of the review processes nowadays
- A posteriori evaluation *cannot* replace in any way a priori validation
  - no way to *trust* literature if not a real expert: the value of scientific literature is no longer confined to the academia
  - no way for the process to *scale* up: just think of the potential numbers

New Actors?

- New publishers
  - ok, predatory publishers, but this is not the end of the story
  - the case of PeerJ
- Expanding the role of scientific associations
- Big universities worldwide should step up
  - Many already do that
  - What about Bologna?

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