

The future role of prestigious print journals - a physicist's point of view

Bernard Schutz

Max Planck Institute for Gravitational Physics
(Albert Einstein Institute)

and

Living Reviews in Relativity



Components of current journal publishing model in the sciences

- Journals:
 - Evaluation (refereeing, peer-review)
 - Distribution (restricted by subscription, copyright)
- Libraries:
 - Archiving

Open-access electronic publishing

- Distribution: via internet, self-archiving and/or open-access journal distribution
- Archiving: can remain with libraries
- Evaluation: important main role of journals



Assessment has broad implications

- Begins as a simple binary yes/no decision to publish
- Main function is to guide scientists to what is reliable and interesting.
- Used by employers and research funding providers to judge effectiveness of scientists, programs
- Morphed from a binary continuous scale of values by factoring in prestige of journal: impact factor.
Very imperfect, very important.



How do we transition to open access?

- Current stake-holders, especially journals, must see a viable role in order to be induced to make transition.
- Scientists and research funders will demand continuity of the assessment function of journals because it is used in so many other ways.
- I advocate a *conservative* transition, attempting to preserve essential function of current assessment model. Don't try to solve all problems of system at once – could inhibit transition.

Styles of Assessment in future

- Community assessment
 - Commentaries
 - Review articles
 - Citation analyses (big possibilities in open-access)
- Organized analysis
 - Journal peer-review

Slower, more accurate in long-term

Immediate but cruder

Both systems may co-exist: address different needs

Prestigious journals become assessment houses – the no-frills scenario

- Author self-archives, sends URL to *Journal of Outstanding Research* (JOR)
- JOR assesses as today, requests changes, eventually accepts article (insisting on uniqueness)
- Author pays fee to JOR, moves revised version to an archive library site, attaches JOR seal-of-approval glyph/link to final article (glyph owned/protected by JOR)
- JOR publishes a list of approved articles on its website, links to author's article URL
- JOR's charge is a fair charge, allows a profit. Maybe negotiated with funding providers: NSF, MPG, Charge scale could also allow for a proportion of zero-charge articles.

Journals with frills

Journals could add value to this minimal model:

- Demand style/literacy/organization standards
- Demand presentation format (template, TeX style file, links from references to originals, ...)
- Maintain a website containing the articles, perhaps with added features: databases, commentaries, conversations, ...
- Print version!!

Journals can charge extra for this, even for access to websites with added value!

Advantages of decoupling assessment from distribution – I

- Commercial transaction is **transparent**
 - Fee to journal pays for *assessment*, not a subsidy to enable open-access publishing. Payer pays only for what he wants to pay for, not for all the other “irrelevant” articles. Politicians are not subsidizing *publishing* of “controversial” material.
- **Inclusive**
 - Conference publications can be refereed; many research fields excluded in practice from refereeing today.
- **Finer judgements**
 - Journals could give more than a pass/fail: could give points out of 10 or use a multi-dimensional scale (e.g. originality/importance/completeness)



Advantages - I I

- **Relieve pressure** on referee system
 - Journals complain referees are overstretched. Not all articles will need refereeing, and economic model might allow more payments to referees.
- **Flexibility**, response to new research areas
 - Journals today tend to fix their fields, new fields being covered by new journals. An assessment house could:
 - set up a new panel for a new field,
 - combine with another house to cover an interdisciplinary field
 - set up a special panel for a conference that had a wide scope
- **Scalability**, as the field grows
 - Economic model allows a journal to expand as its field expands; no big subscription charge to retard growth; no need to create new journals to earn more money from subscribers.



Advantages - I I I

- **Scalability**, as the internet changes
 - Internet will continue to evolve, hardware and software. On the horizon: Grid computing, Semantic Web.
 - What is published will/should change: not just text, diagrams, data:
 - *Broader content*: software, films – this is *urgent* today
 - *Active articles* with embedded programs
 - *Virtual articles*, built from components at different locations
 - *Large databases*, with methods for verifying integrity/quality
 - *Living articles*, updated periodically
 - Current model restricts material that can be refereed to what can be published on paper.
 - An online refereeing house can adapt as the internet changes.

Moving to open access

- Don't try to solve all problems at once: system too complex, final system will evolve.
- Current system is not stable and is in danger of collapse in near future: open access will save our system, not threaten it.
- Key components must be put into place, with the help of funding providers and governments: copyright, payment system, archive system, evaluation/assessment system.
- Be prepared to live with a mixed system, expect players to find new ways to make profits from the new system.



Advantages of separating refereeing from publishing

- Commercial transaction is **transparent**
- **Inclusive**
- **Finer judgements**
- **Relieve pressure** on referee system
- **Flexibility**, response to new research areas
- **Scalability**, as the field grows
- **Scalability**, as the internet changes

