Crowdsourcing Peer Review in the Digital Humanities?

Michael Soprano and Stefano Mizzaro

Department of Maths, Computer Science, and Physics
University of Udine
mizzaro@uniud.it

AIUCD 2019, Udine, Italy
25 Jan 2019
Outline

1. Intro: Scholarly publishing + Peer review
2. Readersourcing
3. Quality
4. Digital Humanities
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Scholarly publishing

- How do scientists work? We all know:
  - Idea, discovery, hard work, blablabla...
  - Write & submit (journal, conference, workshop,...)
  - Peer review
  - If accepted, publication
- Not only scientists → Scholars
Scholarly publishing

In his presentation, Timo candidly describes the business of Nature:

1. Basically, scientists give us their work for free...
2. ...then we have volunteer scientists review it for us for free...
3. ...then we bundle it all up and sell it back to them for a profit.

It sounds outrageous, but scientists will do it because they want to be published.

We can charge whatever we want. It's essentially a monopoly.
Alternative models

"Classic" Scholarly publishing + Peer review:
- It has not always been like that
- It is not the only way

Electronic scholarly publishing

Open access
- Free access to scientific literature

Liquidpub.org
- A more "liquid" (~ wiki-like) notion of paper
- Why rewriting similar "Related work" sections?
- More distributed peer review?
  - Collaborative reviews
  - Over time
Peer review

- Peer = as expert as the author
- "The experts judge the paper and decide on its publication"

Variants
- Anonymous (blind, double blind) vs. open, With rebuttal, meta-reviewer, ...

Various levels
- Journal, conference, workshop, acceptance rate, ...

A priori, Pre-publication quality filter
- Reasonably effective
- Stevan Harnad: "The invisible hand of peer review"

http://en.wikipedia.org/wiki/Peer_review
Peer review criticisms

- Time, slow
- "Wrong"
- Subjectivity
- Bias
  - Positive results (e.g., medicine)
  - Suppress dissent against "mainstream" theories
- Inadequate (HEP experiments, computer simulations, ...)

http://en.wikipedia.org/wiki/Peer_review#Criticisms
Peer review criticisms

- Author misconduct
  - Schön affair, Maharishi Caper, ...
  - Peer review assumes that the paper has been honestly written
  - It is not designed to detect fraud
- Reviewer misconduct
  - Conflict of interest
"The mistake, of course, is to have thought that peer review was any more than a **crude** means of discovering the **acceptability** — not the **validity** — of a new finding. Editors and scientists alike insist on the pivotal importance of peer review. We portray peer review to the public as a quasi-sacred process that helps to make science our most objective truth teller. But we know that **the system of peer review is biased, unjust, unaccountable, incomplete, easily fixed, often insulting, usually ignorant, occasionally foolish, and frequently wrong.**"

[Richard Horton, editor of The Lancet]

Some quotations...

"There seems to be no study too fragmented, no hypothesis too trivial, no literature too biased or too egotistical, no design too warped, no methodology too bungled, no presentation of results too inaccurate, too obscure, and too contradictory, no analysis too self-serving, no argument too circular, no conclusions too trifling or too unjustified, and no grammar and syntax too offensive for a paper to end up in print."

[Drummond Rennie, deputy editor of Journal of the American Medical Association]

http://en.wikipedia.org/wiki/Peer_review#Criticisms
More peer review criticisms

- Juan Miguel Campanario: rejecting Nobel prize papers
  - http://www.rejecta.org
  - "Rejecta Mathematica is a real open access online journal publishing only papers that have been rejected from peer-reviewed journals in the mathematical sciences"

- Google/PageRank submission to SIGIR...

- No accountability: No reward/punishment
  - Not public, systematic, objective, ...
A conjecture: There are not enough good referees today

(or at least we're going to run out of referees soon)
Quick look: Ten reasons

1. Technology
2. Publication opportunities
3. Shameless resubmission
4. Publish or perish
5. Paper & Pencil
6. No accountability
7. More cooperation
8. Specialized circles
9. Money
10. Open access

Publication force

Reviewing force
Summary of Part 1

- Scholarly publishing
  - Good, not perfect
- Peer review
  - Good, Not perfect
- Ongoing discussion
  - A lot of discussion
  - There are alternatives
    - Time for a change?
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The Idea

- Alternatives to scholarly publishing + peer review
- And, maybe, we don't have enough referees...
- ... but we have plenty of readers!
  - They read papers
  - They have an opinion
  - They keep the opinion inside their own mind
- Quite strong reading (reviewing?!?) force
- Not used at all (almost)
- Using a lot of readers in place of a few referees can be seen as crowdsourcing
Crowdsourcing

"taking a task traditionally performed by an employee or contractor, and outsourcing it to an undefined, generally large group of people or community in the form of an open call"


Crowdsourcing is rather common and seems effective

- Kasparov versus the World (1999)
- Wikipedia
- Amazon Mechanical Turk, Figure Eight (Crowdflower), ...
- Crowdsourcing in information retrieval evaluation
- ...

Soprano & Mizzaro - Readersoucing
Crowdsourcing peer review?

- Peer review is not crowdsourced today
  - Still a few referees do the job (if you find them!)
- Even better (worse!): peer review is crowdsourced (readers read the papers!), but without exploiting the results (opinions are not logged, made public, exploited,...)
The shoemaker's children go barefoot

It's quite... strange that the Web tools / approaches that we developed are not used by us where they can be naturally applied...
So, Readersourcing!

- Readersourcing = Crowdsourcing peer review
- Outsourcing to the crowd of readers the task of peer review, usually done by a few experts
- Collect:
  - readers's numeric scores
  - and readers's judgments, opinions, ...
But...

"On the Internet, nobody knows you're a dog."
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Readersourcing?

- From Problem to Solution...
  - Not enough referees
    - Let's use the readers
    - Readersourcing = outsourcing to readers
- ... From Solution to (another) Problem
  - How to tell good readers from bad readers?
    - If 200 PhD students say that my paper is good...
    - ... and 10 Experts say it is bad...
    - ... who should be trusted?
  - Or: how to weigh appropriately good and bad readers?
  - Or: how to avoid bad reviewers/readers?
In short

- Let's build on readers's reputation
- Readers try to express the correct judgment...
- ... because it is rewarding to be "a good reader"...
- ... according to an objective measure
Papers, authors, readers: 3 scores

- Each **paper** has a **score**, measuring its quality
  - Paper with high score ↔ good paper
  - High judgments by readers → high score (~ average)
- Each **author** has a **score** too
  - It changes accordingly to the scores of the papers published by the author (~ average paper score)
  - Publishing good papers → high score
- Each **reader** has a **score** too
  - Judgments by high scored readers are "heavier"
  - Reader score is a measure of its reviewing capability
- (Nothing really new so far...)
Feedback on readers

- Reader score changes
  - Accordingly to correctness of expressed judgments
  - Right judgments $\rightarrow$ higher reader score
  - Wrong judgments $\rightarrow$ lower reader score

- "Right" judgment?
  - Theoretically,
    - equal to the final paper score (the score that the paper will have at time $= +\infty$)
  - In practice,
    - the score at time $= +\infty$ is not available, But we can:
      - approximate it (with the current score)
      - revise the approximation over time as we get closer to $+\infty$
In one slide

- Papers, authors, and readers have a score that measures their quality
  - (Steadiness: how stable the score is)

- Virtuous circle (hopefully)
  - Authors try to publish good papers
  - Readers try to express good/correct judgments ("they bet on the score the paper will have")

- Score of
  - Papers: which papers to read
  - Authors: "scientific productivity"
  - Readers: "scientific reputation"
A toy example

$t_0$: a publishes $p$
$t_1$: $r$ judges $p$
$t_2$: $r'$ judges $p$
A toy example (1/2)

t_0: a publishes p

rjudges p

t_1: r judges p

r'judges p

t_2:
A toy example (2/2)

$t_0$: a publishes $p$
$t_1$: $r$ judges $p$
$t_2$: $r'$ judges $p$
Not only in theory!
  (Still in beta)

An independent, third-party, non-profit, academic/scientific endeavour, aimed at quality rating of scientific/scholarly literature

Collaboration with SISSA-Medialab
Architecture
Screenshots

Readersourcing 2.0
Rate this publication

50
RATE
Otherwise
SAVE FOR LATER

PUB. SCORE (RSM): 50.00/100
PUB. SCORE (TRM): 50.00/100

65
RATE
Otherwise
DOWNLOAD

PUB. SCORE (RSM): 50.00/100
PUB. SCORE (TRM): 50.00/100
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What about Digital Humanities?

- Readersourcing makes (more) sense when quality is objective

- What about
  - Songs?
  - Movies?
  - Books?
  - Shoes, t-shirts, … products to be purchased?
  - Scholarly papers in the (Digital) Humanities?

- In all these cases quality is more subjective

- If it is true that in the (D)H quality is more subjective
  - (you tell us!)
- Can the Readersourcing model be modified/adapted?
  - (we can work on that!)
- DH is probably not so subjective as the really subjective ones :-)

Soprano & Mizzaro - Readersourcing
Summary

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Conclusions –
Take home message

■ You don't buy almost anything,
  ■ And still work/publish/... as usual
  ■ But you know that there are alternatives in the scholarly publishing and peer review world

■ You buy just something,
  ■ and start thinking of alternative publishing & reviewing models, rating papers, etc.

■ You buy it all,
  ■ and start using readersourcing.org for all the papers you read...
  ■ ... and even help with its implementation! :-)

Soprano & Mizzaro - Readersourcing
References

- [www.readersourcing.org](http://www.readersourcing.org)
- (just ask me for a copy...)
Thanks

- Paolo Coppola
- Vincenzo Della Mea
- Massimo Di Fant
- Luca Di Gaspero
- Marco Fabbrichesi
- Andrea Fusiello
- Stefania Gentili
- Stevan Harnad
- Paolo Massa
- Marco Mizzaro
- Elena Nazzi
- Carla Piazza
- Ivan Scagnetto
- Walter Vanzella
- Luca Vassena
- Paolo Zandegiacomo Riziò
- Some Referees (!?)
- ...