EARLY CAREER RESEARCHERS: A VERY BIG AND STRATEGIC MARKET AND ONE THAT IS CHANGING

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BACKGROUND

- 'Born digital' entering job market in droves. Millennials have hit town. Big question will they be the 'harbingers of change' or even the 'wrecking ball' (as far as publishers are concerned)?*

- Going to address question in respect to early career researchers (ECRs): *unestablished researchers typically under 35, who either have received their doctorate and are currently in a research position or have been in research positions, but are currently doing a doctorate*. There are a lot of them, they are the seed-bed and future**

- Are they breaking from the old ways?

METHODOLOGY

- Asking researchers whether things *are changing/will change* not as effective as 'following' them. Change challenges the ubiquitous questionnaire: Qs about altmetrics or open science not easily answered. This and survey fatigue creates poor quality data.

- 3-year longitudinal study examines current & changing habits in scholarly comms. 60 questions, 60-90 min interviews on **all** aspects (see appendix) conducted remotely or face-to-face.*

- Purposive sample 100+ science (3/4) & social science ECRs from 7 countries (China, France, Malaysia, Poland, Spain, UK and US).

- Unique and innovative project funded by publishers (PRC). Year 2.

Unquestionably paper-driven

• More fixated with publishing papers than seniors because of their precarious position (papers the only reputational currency) So, despite increases in number/range of research outlets, courtesy of Science 2.0, dance to same old reputational tune.

• Focused on publishing in highly ranked journals & they are prescribed, with ECRs having to choose from institutional lists of acceptable journals.

• Web of Science & Scopus (not US/UK) provide reputational stamps

Peer review

- Half reviewers, which explains general support for peer.

- Like double-blind review because of anonymity afforded, but concerned about open peer review, which considered *risky*, *dangerous* and makes it difficult to reject papers. Attracts *unwelcome* comment. Support for reviewer rating/matching system.

- Happy with publishers involvement and want editors to exercise greater control. Rogue reviewers.

TAKING THE PULSE 3 (YEAR 1)

Social media and online communities

- Patches of social media/online community use among ECRs & bigger than seen before.

- Finding information, communicating information, sharing, building a digital profile/presence, obtaining PDFs and engaging in outreach activities are main uses of these platforms.

- ResearchGate (the fastest grower – like social and gaming characteristics); used for finding collaborators in some countries. LinkedIn, surprisingly and Twitter are tools of choice.

TAKING THE PULSE 4 (YEAR 1)

Open access

•Like the idea of OA*, but not usually a priority (very pragmatic). But disquiet with high author charges making playing field uneven between those that can pay and those that cannot (ECRs).

•Archiving in repositories low priority, but they upload to RG.

Open science (OS)

•Much conference talk about "open" agenda, but, display little understanding & interest of OS technologies as agents for change.

•OS includes blogs as non-traditional scholarly outputs, but few are interested in blogs as an alternative to pubs.

TAKING THE PULSE 5 (YEAR 1)

Collaboration

- Sharing and collaboration is much mentioned by ECRs as central to the way they want to run their scholarly lives, but feel wings clipped by traditional reputational requirements. Like RG because it is built around these activities.

Metrics

- Not interested in altmetrics, which is not unexpected because they are not widely used and accepted by researchers or university system for reputation.

Transformations

- ECRs see opportunities to change, but cannot take them, as have no opportunities in an insecure/busy environment.

- Also, limited opportunity to change as shackled to a reputational system that promotes publications & citations

- However, moved on from situation where had no ideas about change and those who disliked it just railed against it.

- Now find ideas for change - mainly moving away from a preoccupation with papers & need for greater transparency

CHANGES 1 (YEAR 2)

- More experienced/informed and calculating one year on.

- Greater exposure and increased institutional pressures a factor. Observing to see what can be useful to them in their career. Means more likely to change behaviour if see something they once criticized could fast track them.

Biggest changes in jobs, careers and mentoring (turbulence). Next*:

- **Online communities.** Growth in active usage, more awareness of digital visibility opportunities and stronger belief they are the future

- **Authorship.** Tightening up of rules and more thoughtful** Sequence a perennial issue, cultures. Not so much UK/US

CHANGES 2 (YEAR 2)

- **Peer review.** a) more selective in accepting & more proactive in getting; b) disquiet, especially in China, because of a flurry of retractions. Blamed on pressure to publish.

- **Open access publishing** more acceptable, largely because of the alleged benefits of greater outreach, increased citations and (imagined) speed of publication.

- More interest in **altmetric**s and their reputational and visibility benefits

- Greater **social media** use for dissemination and outreach

- **Relatively unchanging:** libraries and open data

CHANGES 3 (YEAR 2)

Country differences.

- Malaysia, China and France show most widespread changes
- Spain it's a case of 'stirrings' and 'small' change
- In UK, Poland, and USA there is a preponderance of no change.

Discipline

- There are differences between scientists and social scientists* but no real differences in scale of change. Homogenization and globalization?

Status

- Those doing a PhD slightly less likely to change

TAKEAWAYS FOR PUBLISHERS (1)

- Convinced that (publisher-run) **journals** going to be central form of communication in future but worried that publishing papers getting in way of the pursuit of science

- When it comes to formalized (publisher compliant) automated system for **sharing** ECRs are split. Against come from disciplines supporting OA

- Rate **publishers** for their objectivity, quality of their journals and for managing peer-review, but actually know very little about them

- **Peer review** cannot be improved without compensation. Good selection/matching of reviewers more important than type of system or who manages it.

TAKEAWAYS FOR PUBLISHERS (2)

- Mega-journals - specifically PLOS ONE – seen as quick and non-selective. An innovation seen by some to be waning
- Most common criticism made against publishers is that researchers do all the most value-added publishing tasks for free
- ResearchGate – pure player - once disruptor is now a pillar of scholarly communication. Some use it as their scholarly dashboard or home page
- ECRs like social, busy and interactive spaces, like RG. Publisher offerings may look monastic and parochial by comparison.
- Scholarly communication always been subject of gaming and RG is takes to another level with the young in mind.

RETURNING TO THE RESEARCH QUESTION: WHETHER ECRS ARE THE HARBINGERS OF CHANGE?

Already identified some significant changes and still have a year to go. And there are many small changes which could be prophetic - the sign of bigger, deeper and structural change down the line.

A lot depends on whether ECRs take their millennial beliefs in sharing, openness and transparency into leadership positions. Good number are moving to permanent posts so we should know more next year.

THE HARBINGER TEAM

- David Nicholas (Lead), Anthony Watkinson (UK/US), Abrizah Abdullah (Malaysia), Chérifa Boukacem – Zeghmouri (France), Blanca Rodríguez Bravo (Spain), Marzena Świgoń (Poland), Jie Xu (China), Eti Herman (Israel) and David Clark (Systems).

- Publications on which this talk is based available at http://ciber-research.eu/harbingers.html and http://publishingresearchconsortium.com/index.php/prc-projects

- Project funded by Publishing Research Consortium

Harbingers Study 2017
Extent of change by Activity

Horizontal stacked bar chart showing extent of change by activity. Categories from top to bottom: Jobs, Career, Authorship, Mentoring, Peer review, Online communities, Open Access, Ethics, Altmetrics, Discovery, Access, Social media, Metrics, Publishing, Collaboration, Smartphones, Data, Libraries, Reputation, Open science, Impact, Sharing, Transformations. X-axis from 0% to 100%.

Legend: Significant, Small, Stirring, None