EARLY CAREER RESEARCHERS (THE NEW WAVE) ON OPEN SCIENCE

Data from Harbingers research project

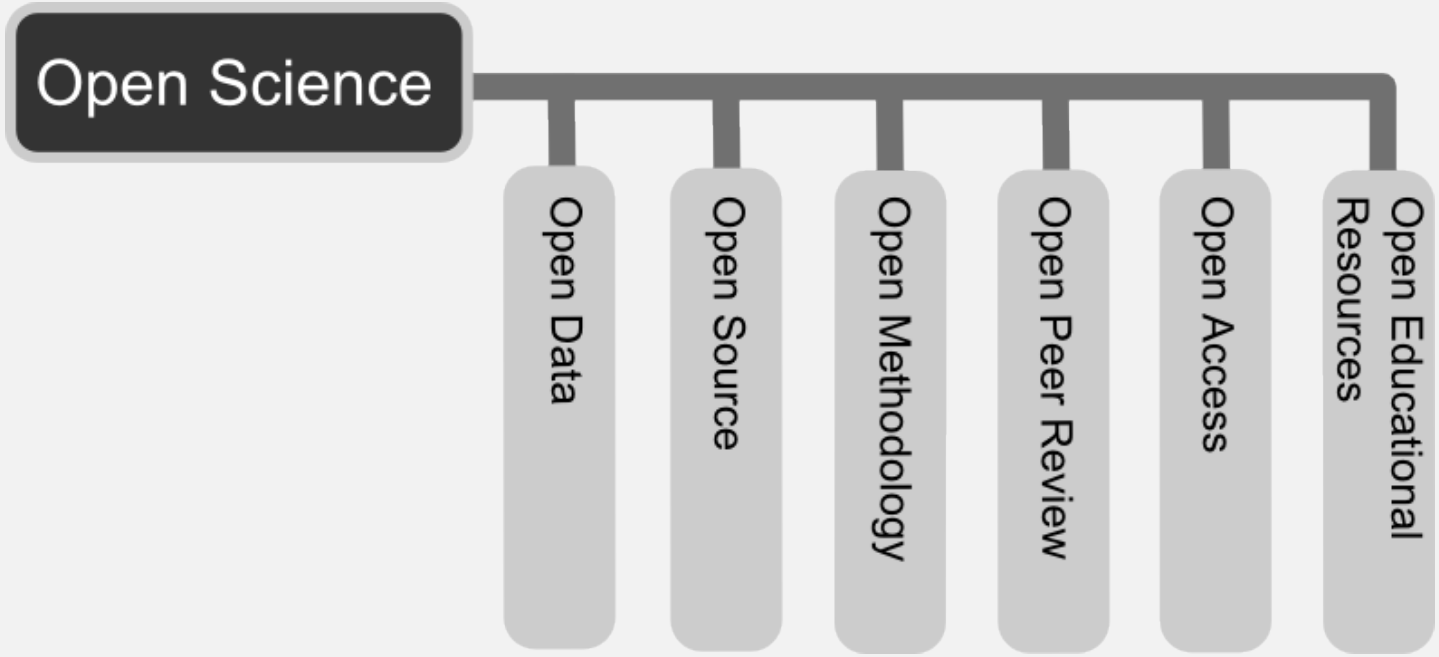
Professor Dave Nicholas on behalf of Harbinger’s team

CIBER Research. http://ciber-research.eu/harbingers.html

BACKGROUND

- Findings 1st year of Harbingers project, 3-year longitudinal study of ECRs, which sought to ascertain current & changing habits in scholarly communication.
- 116 science & social science ECRs from 7 countries who are subject to in-depth interviews. Research question: are ECRs taking the myriad opportunities proffered by OS and OA and social media.
- Potential benefits for ECRs: bigger/wider audience of users; more reads, social media mentions and (possibly) citations; improved chances of collaboration; chimes with views on transparency and level playing fields; greater chance of publishing; enhanced visibility-associated reputation

THE TERRITORY



FAMILIARITY AND SYMPATHY

- Early days? Despite promotion of OS, most ECRs display little understanding of it. Lots of don’t knows, but generally like the concept when told (24/28 US ECRs)
- Some confusion as don’t know they are practising OS
- Concept barely known in France and French even antagonistic and mistrust the agenda. “*A new means of imposing control and evaluation*.” Much higher awareness in US
- Some think blogs, social media etc. part of agenda; others largely equate OS with OA (8/10 Polish ECRS). Reproducibility also mentioned
- Opening doors wide to criticism, plagiarism and hippy science?

OPEN SCIENCE: UNDERSTANDING AND PRACTICE

	China	France	Malaysia	Poland	Spain	UK	US	Totals
Understanding	5 (38%)	**2 (14%)**	7 (58%)	2 (20%)	8 (44%)	4 (19%)	**13 (46%)**	41 (35%)
Consciously practicing	2 (15%)	**0 (0%)**	3 (25%)	1 (10%)	2 (11%)	0 (0%)	**13 (46%)**	21 (18%)
Total	13	**14**	12	10	18	21	**28**	116

THE PENNY HAS DROPPED FOR SOME

- *“Open science is meaningful for the researchers with insufficient funds and ECRs in the research institution. Because they can freely and discretionarily download the paper, data and software.”*
- *“Yes. It is a good way for technical expansion and acceleration of academic finding and sharing.”*
- *“Yes, it means a lot. It breaks down the barriers to collaborating. For example, in the old days, researchers had to know a researcher to collaborate and come from a top university. Open Science allows people to freely spread their own ideas and collaborate.”*

BUT OTHERS ARE CAUTIOUS

- *"I am wary of the role of technological innovations like this. We should consider the issue carefully and give some thought to aspects like: authorship, intellectual property and the quality of data that are published."*

OPEN ACCESS PUBLISHING

- Over half ECRs informed about OA and similar proportion well disposed towards it
- Less than half ECRs thought OA publishing would fast track their careers. One actually thought it would be reputationally damaging.
- Do not know what to make of it. Like characteristics associated with OA - easy access to content, a larger audience, greater visibility and perceived greater (citation) impact, but do not practice what believe not publishing much in OA journals, nor depositing paper in repositories. 1178 papers published by ECRs, 102 (9%) appeared in OA journals, less than 1 per ECR. This in the face of mandates.

OPEN ACCESS PUBLISHING (2)

- Biggest criticisms: 1) expensive, funding to support them not there (especially so for less well-resourced ECRs); 2) poor quality (mix-up with predatory journals); 3) nagging feeling that OA opens ECRs to greater criticism as a result of expanded audience and risks of plagiarism.
- Some ECRs question whether OA is the career route when everybody else is chasing high impact factor journals in order to build careers And except in case of biological sciences OA journals are not highly ranked. Academia still to make up its mind about it?

  "*We are rated by our ability to publish in IF journals, OA journals are less established, it takes some time before these journals acquire a legitimate impact factor. They would not be of interest to researchers*"

OPEN PEER REVIEW

- Much claimed of open peer review with advocates saying "*by adopting a more transparent process of research evaluation, we move one step closer towards a fairer and democratic research process*" (Tennant, 2016).
- What then do ECRs think of a process that deals with some of their concerns about transparency and closed-shops?
- Turned out not to be sure. Transparency good, but does not always work in practice. In UK 10/18 say they would like peer review to be open; this compared to 1/12 for Malaysia. Double blind (the polar opposite) is the overall preference.

OPEN PEER REVIEW (2)

- Criticisms: '*too risky*', '*more of a worry for ECRs, but OK for seniors*', '*unwanted effects*', '*dangerous*' and '*more difficult to reject*". French ECRs are very cautious suspicious of things labelled 'open' Spanish and French ECRs reckon that anonymity gives more opportunities for young researchers and women.
- Benefits: *the current review system does not negate negative biases, I know at least one fellow academic that I would not trust to review our work with integrity although he is an expert in the field. I like the open review system, I salute journals that identify the reviewers with the manuscript they reviewed, make their comments available online .*

OPEN DATA

- ECRs not so interested in open data and software because many want to exploit their data to the full (for their publications) - not give it away and misuse. French ECRs think that it is not always relevant/useful.
- In UK, problems seem to be ownership (university owns) and could this not through existing publication of papers. Many thought it should be made more visible, although some hedged this by saying only if anonymity was protected and after the publication of papers.
- Game changers might be giving ECRs reputational credit for such activities and more empirical evidence of robust citation benefit to those that make data available. Tenure and promotion committees have as much influence on researcher practices as mandates.

REALITY CHECK AGAINST EC AMBITIONS: EVIDENCE FROM ECRS

1. *Open Science movement is revolutionising the way research is performed and disseminated, fostering a scientific ecosystem in which research gains increased visibility, is conducted and shared more efficiently, and with is performed with enhanced research integrity*.
   Not happening on ground.
2. *Creates unprecedented bridges between researchers and the general public, allowing for a vibrant "citizen science" movement which is poised to have transformative effects on how research is executed*.
   We wish, but...

REALITY CHECK AGAINST EC AMBITIONS (2)

3. *For OS to move from a scientific revolution to a scientific reality, however, there remain several barriers that need to be overcome, including the overhaul of a research rewards system that is currently hostile to the practice of OS.* No evidence will happen soon. Current system being reinforced *internationally* (China). But the prevailing wind is with OS and ECRs could be the harbingers of change if academic reward system unbends and lets them innovate. They are after all the biggest group of researchers and the new wave.

Anyway, this is just the first installment and changes will be monitored over the next two years and we will have a better idea of how it turns out.

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) and Eti Herman (Israel).

- Publications on which this talk is based available at http://ciber-research.eu/harbingers.html