Science without borders: are technology and policy limiting internationalization?

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Section 7:
Dialogue

Science without borders: are technology and policy limiting internation-alization? A conversation between Juan Pablo Alperin and Mike Taylor

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MT: Juan, I heard you speak last year at the PLOS Article Level Metrics workshop in San Francisco. You gave a very powerful presentation on some of the problems facing researchers and journals based in the developing world. In particular, I was struck by your observation that when the developing world decides to innovate the use of things that we take for granted - for example the Impact Factor or DOIs (Digital Object Identifiers) - we effectively exclude many researchers who don't have access. In your recent blog posting (1), you state that only 4% of Latin American journals are indexed by Web of Science (WoS), and that it's argued that the excluded journals don't fall into the "mainstream" of science. To what extent do you feel that the category of mainstream is defined by access to technology?

JPA: I do not think that "mainstream science" is itself defined by access to technology. Scholarship is a networked process, which naturally lends itself well to a core-periphery framing. It is not my preferred characterization, but one that is arguably a reality. That is, if we were to network all the literature or form a network of all those contributing to scholarship, we may be able to identify that there is, in fact, a core which could be said to be the "mainstream".

What has been achieved through technology is to demarcate what should be considered for inclusion in that overall network; for example, if your articles are contained in an abstract and index database such as Scopus or WoS, then your work can be entered into citation analysis and therefore be considered part of the mainstream. To make matters worse for those that lack access, technologies provide a way of essentially excluding in a way that appears to be democratic and objective, but is actually far from being either.

This is not to say that technology cannot also be used for eliminating boundaries. Google Scholar is an example that offers results from small, independent journals next to those from large commercial publishers in a way that blurs the distinction between the two. It is not uncommon to find technology optimists who think that all technologies are equally unifying. The reality, however, is that access to technology can just as easily foment a false dichotomy, creating two classes of scholars (those that have access and those that do not), with the consequence that the scholarship of those in the latter group is perceived to be inherently less valuable.

MT: At a conference in Mexico recently, I heard a speech from Abel Packer, SciELO Brazil (2) on the threat that emerging mega-journals may have for local research journals. In short, the argument was that while these new platforms are more attractive to researchers (they provide international visibility with and access to DOIs, JIF, etc., whilst frequently being able to waive fees), the inevitable migration will lead to a decrease in the use of local journals. And that as these become less popular and less attractive to authors (particularly those writing in English), the potential loss of local journals will result in a loss of a valuable part of the academic infrastructure - for example, editorial boards, peer-review, conferences and workshops. Do you share this concern, or is the gradual death of local publishing inevitable? What do local journals have to offer that mega-journals do not?

JPA: Local, institutional, and student journals serve as an important learning ground for novice scholars to learn the ropes about communicating scholarship and, as you mention, they play a critical role in the research infrastructure. Their demise would be tragic: it would weaken research culture, yield more of the research agenda to those running mega-journals, and eliminate the necessary stepping stones for scholars to improve their research communication to the standards of their international peers. Given their critical importance, yes, I do worry about their decline.

However, I do not think it is inevitable or even imminent, at least not in Latin America, although there is definitely a risk. The funding model in Latin America has been very different than in the North. Currently, APCs (article processing charges) are virtually non-existent and most journals are funded through public funds (primarily funds channeled through public universities). So far, government agencies have been reluctant to shift financing from local journals to APCs, and I hope it remains this way. Unlike subscriptions or APCs, the current financial model in Latin America excludes neither reader nor writer. That said, if the APC model becomes the only model for Open Access elsewhere, it may begin to take hold within Latin America. If that happens, then international mega-journals will likely end up killing the local journals.

MT: I'm curious on the independence of this form of funding in Latin America - the extent to which it's subject to governmental policy or not. Generally speaking, do the funds that support journals come directly from Government, or are there intermediate bodies - research councils, or organizations similar to the UK's JISC (an independent body that is neither for-profit nor purely governmental, but which exists to support an independent academic infrastructure)?

JPA: We did a survey of journals some years back (3), and I know there have been other studies that corroborate the general finding, that the majority of journals in Latin America receive support from their university, most of which are themselves publicly funded. I believe a lot of it comes as in-kind support from the university (server space, technical staff, etc.). Science councils also play a big role, as they set incentive structures for researchers, write guidelines or define lists of "approved" journals, special support programs, and sometimes provide financial or technical support directly to individual journals.

MT: When it comes to building infrastructure, or developing a higher international profile, is there a potential advantage in more regionalism? For example, I know that there are attempts to share platforms between countries that have similar cultures, for example, Scandinavian and Baltic countries. Does a shared regional infrastructure make collaboration within the region more likely? Obviously an Ecuadorean researcher is going to be more interested in child obesity in Mexico than in (for example) Lithuania or the US, but do you feel that there is a beneficial regional level of collaboration that has yet to be explored - or should we just push for complete internationalization?

JPA: A shared research interest is only one reason for regionalism. Regional collaboration and a shared regional infrastructure also take advantage of similar economic models, incentive structures, levels of technical expertise, and a shared research culture. The potential is not just increased collaboration in the form of co-authorships, but also in avoiding duplicate efforts and benefiting from economies of scale.

Some great examples of this can be seen in Latin America, including the two major initiatives, SciELO and RedALyC.org. But even there, a lot more could be done. These platforms are taking advantage of economies of scale to increase visibility and are centralizing some of the technical aspects of publishing, but as of yet they still have done little to increase collaboration between scholars, build a network of copy and layout editors, share personnel, or otherwise bring together those working in the publishing process.

MT: Do you think it would be sensible to work towards having a regional impact factor (Latin American Impact Factor, African IF, etc.) using journal level analysis (even if not the traditional JIF formulae), or would that risk the ghettoization of developing world publishing?

JPA: I don't think it makes sense to create regional versions of a journal-level citation metric. I think the critiques of the IF, including that of those that have backed DORA (Declaration on Research Assessment), would still equally apply to each of these instances. Moreover, they would create the same problems I have been describing, but in the reverse: they would exclude research published outside of the region and therefore penalize researchers who are publishing locally, but are being read and cited from outside the region.

SciELO provides citation counts and an IF for journals contained within SciELO (4), but I do not think the metric has been widely used, and it certainly has not supplanted the view that Thomson-Reuters' IF is the one that "matters".

The purpose of regional portals has to be to improve quality, gain efficiencies, and increase visibility, not to isolate the regions into systems that are completely decoupled from the rest of the world.

MT: Much of the work in altmetrics falls into two categories at the moment: finding patterns between different social networks (for example Twitter and Mendeley), and looking for the relationship between altmetrics and citation. Needless to say, this work focusses on looking for DOIs and the resolving URLs, and this will obviously exclude any article without a DOI. Furthermore, Impactstory.org has recently adopted Altmetric.com's Twitter feed, and this has had the effect of removing the ability to look for tweets linking to a non-DOIed article's URL. What can we - as researchers interested in altmetrics - do to extend the focus of our research to the developing world? To what extent do we need to look at regional variations in platforms (for example, we know that some cultures use Facebook in a more scholarly way than Twitter, and that some countries - most notably China - have a strong cultural or politically mandated preference for their own platforms, e.g. Weibo)? Would the development of local language versions of research tools or a movement towards a community-driven identification of local language blogging and review sites be positive in extending the focus of altmetrics to the developing world?

JPA: As you mention, the dependence on DOIs is by far the most limiting aspect for studying altmetrics in developing regions. Despite CrossRef's efforts (and to be fair, I do believe they are making a concerted effort), DOIs are still not commonplace everywhere. For many journals, even in medium income countries, the US$1.00 per article fee remains prohibitive. As long as this is the case, and as long as altmetric tools rely on DOIs, it will be impossible to evaluate altmetrics on a large scale for journals running on low budgets.

As I mentioned in my talk at ALM 13 (5), there is a strong parallel between the use of WoS for evaluation and the use of altmetrics dependent on DOIs. If only tweets to articles with DOIs can be studied, then scholars publishing in venues without DOIs will be once again discounted. An altmetric provider that works for arbitrary URLs is therefore absolutely necessary (funding agencies, tool builders, and altmetric providers: take note!).

Second, we need studies that look at altmetrics, even in the two ways you describe above, for a set of journals from developing regions, even if we start with those that do have DOIs. The existing studies have almost exclusively focused on well-resourced journals from the global North. It is possible, and even likely, that the patterns are different a) for journals with lower visibility; and b) where the use of social Web tools is different (as you allude to above). The focus on journals from publishers like Nature and PLOS sets expectations and guides the research agenda on altmetrics.

With such studies, we would at least know the levels of penetration in the currently studied platforms, and to what extent they differ between journals. I think you are right that consultations with scholars from other parts of the world may turn up other sources that are useful for other communities.

I should mention that these issues are important enough to me that they are the focus of my dissertation work. With the help of SciELO, RedALyC, and Altmetric. com, I am studying download, citation, and altmetrics data for Latin American journals. Euan Adie from Altmetric.com has been kind enough to provide special handling for a set of URLs, so that it is possible to have altmetrics on those, even if they do not have DOIs. I will be releasing some preliminary results soon (stay tuned to my Twitter feed, @juancommander). I hope to reveal some of the ways in which altmetrics vary between contexts, and open new lines of research into these alternative metrics.

MT: How can international organizations – whether not-for-profits, like CrossRef, Orcid, PLOS, or commercial companies such as Thomson-Reuters, Elsevier or Altmetric.com – work with the developing world so they can increase their visibility and access to global infrastructure, while permitting their regional and national characteristics to thrive?

JPA: Those aiming to improve scholarly communications, including those international organizations you mention, must remember that access to the scholarly communication infrastructure is often not a technological limitation. Much of the time, it is other factors, such as an editorial decision on part of Thomson-Reuters and Elsevier that prevents a journal from being indexed, or a lack of finances that limits the use of DOIs. Giving access to the existing infrastructure is a first step, but it is not enough. The next step, if we take our global/international commitment seriously, is to be willing to make changes to that infrastructure: a) by being as acutely aware as possible of the ways in which scholars from developing regions are disadvantaged by the existing models and tools; and b) by consulting and actively engaging with scholar communities in developing regions.

MT: Juan, thanks for taking the time to answer my questions. Perhaps you'd be kind enough to write a piece on some of your findings for a later issue of RT!

JPA: Thank you for your interest, and thank you for posing questions that gave me the opportunity to talk about issues that are important to me.

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