

Raising the bar for Indian S&T journals: some contentions revisited

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There have been periodic discussions on the state of Indian Science and Technology (S&T) journals. Several reasons have been attributed for the low quality of these journals. Different authors at different points in time have articulated steps and approaches to strengthen the Indian S&T journals. One of the long-held contentions has been that the best of Indian scientists should choose Indian journals over foreign ones to publish their best works. This article traces key discussions of the last 90 years and revisits some of the contentions.

Keywords: Indian journals, journal quality, research journals, science and technology journals.

NEARLY in ninety years ago, that is in 1932, *Current Science* came into being. An editorial (1933) in the very first volume of the journal highlighted ‘the tendency of many scientific men to export their more important contributions for publication in foreign journals, with a proportionate impoverishment of Indian archives¹’.

Forty-five years later, Chaudhari² reported the proceedings and recommendations of two seminars on Science and Technology (S&T) publishing that were held in New Delhi. One seminar on the ‘Quality of scientific publications in India’ was organized jointly by the Indian National Science Academy (INSA), the Indian Academy of Sciences (IASc) and the National Academy of Sciences (NAS). The second seminar, ‘Science publishing in India: problems and prospects’, was organized by CSIR’s erstwhile Publication and Information Directorate (PID, now CSIR-NIScPR). The two seminars that drew experts from a cross-section of the scientific, academic and publishing communities, highlighted the declining standards of the Indian S&T journals and among other things, recommended the need for a ‘National Policy for Science Journals’.

Today, another forty-five years later, the situation with regard to Indian S&T journals has not changed much. We do not have a policy on Indian S&T journals and ‘paper drain’ or the tendency to publish Indian works in foreign journal goes on. And Indian S&T journals continue to totter.

Indian S&T journals have been a subject of perpetual and intense discussions in committees, seminars, editorials and articles. Everyone seems to know what is wrong with Indian journals and over the years, many have articulated the steps to improve them. However, we have not

been able to ‘walk the talk’ in transforming our journals to international standards *a la*, *Nature* or *Science*.

Given the long and unending discussions on the state of Indian S&T journals, a couple of questions that arise are: Will it ever be possible for us to raise the bar for Indian S&T journals? In the near future, can we have an international journal at par with *Nature* or *Science*? These may be difficult questions to answer in the binary, but it might be worthwhile to revisit some of the discussions on the subject of raising the bar for Indian S&T journals.

Best papers in foreign journals

Since the 1933 *Current Science* editorial, authors have time and again pointed out that Indian scientists and researchers prefer to publish their best works in foreign journals. The disregard for Indian journals has been one of the most discussed reasons for their sorry state.

Lakhotia³ noted that ‘if established scientists in the country do not wish to publish even some of their research output in Indian journals, do not wish to seriously review manuscripts for these journals and, more importantly, directly or indirectly penalize, irrespective of the quality of work, those who publish in them, these journals would continue to struggle and fail to become internationally competitive. Thus we are the enemy of established research journals published in India³’. Chatterjee⁴ suggested that ‘established scientists (practising and publishing at a good rate)’ should send papers to Indian journals. Mahadevan⁵ was also of the view that the only way to improve the quality of Indian journals is to get our best scientists to publish their best works in them and then have a rigorous and relentless reviewing process.

Tandon⁶ noted that ‘the only articles we send to Indian journals are those which are unlikely to be accepted by

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foreign journals or which have been rejected by them. If we want the standard of Indian medical journals to improve we have to first change the attitude of our policy-makers⁶. In an *Indian Journal of Medical Research* editorial entitled, 'Time for publish in India movement', Satyanarayana⁷ made a strong pitch for Indian scientists to consider publishing in Indian journals rather than in obscure foreign journals that have marginally higher impact factor.

Nishy *et al.*⁸ reported that the 'best research in chemistry from India is increasingly appearing in international journals'. The authors further noted that 'while this is a cause for celebration, a worrying issue is whether there is any future for Indian journals in this competitive environment'⁸. Nishy and Prathap⁹ carried out a wider study of Indian papers in foreign and Indian journals, and yet again empirically showed that Indian scientists publish their best works in foreign journals that received good citations and such works published in Indian journals received poor citations. Giving a proclamatory title to their article, 'Publish in foreign journals and prosper, or in Indian journals and perish', the authors showed that in chemistry 'nearly 99% of the "best" research from India appears in international journals'⁹.

So the narrative clearly is that if we can somehow get our scientists and researchers to publish their 'best' papers in Indian journals, we will be able to improve the quality of our journals. However, there is no easy way to motivate or coerce scientists to do so. Apparently, CERN had a policy that research funded by it needs to be published in European journals¹⁰. It is not known if this policy was successful and if there have been similar efforts elsewhere and, if so, what were its effects.

Assumptions and expectations

The narrative that if we get our best scientists to publish their best works in Indian journals it will improve the quality of our journals, is mired with assumptions and expectations. For one, it is difficult to know beforehand which is the 'best work' or 'best paper'. This means that a substantial number of Indian papers needs to be published in Indian journals.

There are many specialized and niche areas of research where there are no Indian S&T journals. Further, in the recent decades, collaborative research has been on the rise and mega-authorship papers are common. Many Indian papers have foreign collaborators and such collaborative papers, especially mega-authorship papers, tend to receive higher citations. It is doubtful if Indian authors of collaborative papers with foreign authors would be influential enough to channelize such papers to Indian journals¹¹.

Further, we need to carefully assess what really is the influence of Indian papers on the impact factors of the

foreign journals in which the Indian works are published. This assumes relevance as some studies have shown that Indian papers published in foreign journals have tended to decrease the impact factors of these journals¹¹.

So, rather than focusing only on getting Indian authors to publish in Indian journals, the effort perhaps should also be to attract more international papers by foreign authors into Indian journals. Once the Indian journals have more foreign papers, the best of Indian authors are likely to follow suit.

Peer review and Indian journals

Peer reviewing is one of the most important components of the publishing workflow. The various types of peer reviews such as the single blind, double blind and more recently, the open peer review, their merits and demerits have all been widely discussed by several authors. In spite of the many ethical, controversial and debatable issues regarding the various types of peer reviews, it is generally accepted that it is a vital step that if rightly done, lends credibility, improves quality and furthers research and scholarship.

Pichappan¹² stated that the 'Indian journals have poor reviewing process and they ignore review by international peers. The review, particularly by international peers would increase quality of papers. Should an Indian journal be serious in international visibility, it must opt for international peer review for all its papers'.

However, getting foreign referees to peer review papers of Indian journals can be challenging. Many international referees do not respond to calls for peer review. This is an area that Indian scientists can generously help with. The renowned Indian scientists should lend their expertise in carrying out rigorous, objective and timely peer reviews. The Editorial Board members of journals should also play a more proactive role in the selection of papers and use their networks and invisible colleges to help the Editor publish better papers in their journals. Indian journals should also experiment with the new possibilities such as the open peer review.

Based on a study of generally hard-to-get peer review data, Jacobs *et al.*¹³ stated that 'consistent and strong peer review system would promote the quality of the papers and reviewers are the mentors to the third world science'. In the past, peer review has been metaphorically referred to as a black box¹⁴, but today open peer review and platforms like Publons strive to bring not only transparency but also give recognition to the peer reviewers.

Start some, scrap some, merge some?

The exact number of Indian S&T journals available today is not known. Databases such as Indian Science Abstracts, Indian Citation Index, Scopus, Web of Science

(WoS), etc. have their own journal inclusion and exclusion criteria. The *Journal Citation Reports (JCR)* of WoS indexes only about 100 Indian S&T journals. Being indexed in the *JCR* and thereby having an impact factor is an indicator of the reasonable standing of these 100 or so Indian journals.

Although there have been declarations to discard the venerated impact factor or at least bring it down from its high pedestal, the fact is that it still holds sway in the publishing world. If impact factor loses its sheen someday, another rating or ranking system will replace it. In India, as is globally, almost all evaluations, especially of researchers for recruitment, promotions and awards, consider journal impact factors, citation counts and so on. On these parameters, Indian journals can never find favour.

Balaram¹⁵ suggested integrating journals and ‘disinvesting’ in many of our journals. There have been other similar calls in the endeavour to strengthen the Indian S&T journals. Closures or mergers of journals are not new. Several journals have ceased publication, many have merged and some have split. These happen for varied reasons. Balaram’s¹⁵ suggestion was at a time when the predatory journals had not yet appeared in the scholarly publishing world. In the last 15 or so years, the predatory or questionable open access journals have spawned in large numbers. The pressure to publish and the casual inclusion of ISSN as a quality criterion in the UGC API drove fly-by-night operators to launch hundreds of ‘international’ journals^{16,17}.

Like mushrooms, many of these journals have withered away, but new ones continue to sprout. The growing number of new researchers who are desperate to publish anywhere and at any cost is a big market for the predatory journals. Compiling ‘dynamic’ black-and-white journal lists, such as the UGC CARE list of journals, may act as a deterrent to publishing in predatory journals, but it will not serve to eradicate the questionable journals anytime soon.

Today, with thousands of predatory journals preying on a growing number of researchers, one might need to consider whether journals of some value, especially those that are being published by the academies and public-funded institutions need to be discontinued. Rather, there needs to be some mechanism to bolster these journals. The 100 or so Indian journals that have impact factors, however modest they are, should be strengthened and more journals of potential need to be identified and supported to get them included in globally recognized indices like the *JCR*.

Missing the publishing bus

At the turn of the century gone by, journals all over the world were undergoing a transformation. A *Current Science* editorial entitled ‘publishing wars’ discussed the arrival of the mega-open access journal *PLOS*¹⁸. In those

early years of journals transitioning from print to on-line, new journal models also came into being. Even as a publishing revolution was underway, the Indian journal publishing institutions were going about business as usual.

On the other hand, Indian S&T institutions began pooling scant resources to consolidate subscription to foreign journals by formation of e-journals consortia. The phenomenal outgo of foreign exchange by way of licensing foreign e-journals and global awareness regarding the exploitative approach of major commercial publishers have forced the Indian S&T policy-makers and funding institutions to assess the substantial budgetary spent on foreign e-journals vis-à-vis the limited access of the Indian institutions.

This awareness and the resultant ‘one nation, one subscription’ may possibly shake-up the consortia approach to foreign journal subscription. However, one only hopes that it does not pave way for the creation of a behemoth to spend mammoth sums to license foreign journals through the ‘one nation, one subscription’ sloganeered plan. Although the draft STIP-2020 mentions promoting Indian journals, we need to wait and watch the extent to which the policy interventions would give the much needed fillip to the Indian journals.

As is our science, so are our journals

Chatterjee⁴ stated that ‘there cannot be a good journal from not-so-good science, although the reverse is not always true’. Giving an example of Japan, the author pointed out that although that country has good scientific infrastructure, it does not publish any major scientific journal⁴. Tandon¹⁹ had opined that ‘as is your science, so are your journals’. Tandon, who at that point in time, was the President of INSA called upon the need to ‘to improve the quality of our research. This requires that we adopt a scientific culture, provide appropriate training to our professionals, based on adequate facilities and expose them to high quality scientific endeavour both inside and outside this country’¹⁹. Although our contributions in iconic journals such as *Nature* have declined over the years²⁰, our research papers in foreign journals continue to grow year after year. One can only hope that in the coming years, Indian science journals will flourish.

The next 10 years

There are about ten more years to go for *Current Science* to enter its 100th year. A lot can happen in ten years. One can hope that a few Indian S&T journals would emerge as world-class journals in the league of *Nature* and *Science*. For this to happen, a piecemeal approach will not help. We could begin by saving and strengthening the existing journals of the academies and institutions.

It is reported that a day before his death, C. V. Raman said, ‘Do not allow the journals of the Academy to die, as

such journals are the only indicators as to whether science is taking root in our country or not²¹. The near last thought of Raman, if one can call it that, is applicable to all Indian journals. The existing ones need to be bolstered and more new ones launched. Let a thousand more flowers of the right kind bloom.

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