

‘One nation one subscription’ is an elusive goal: **Muthu Madhan**

***Muthu Madhan** is a long-time crusader for open access (OA) to scholarly literature in India. He has been promoting OA through interoperable institutional repositories – the green route for OA. He has spoken about the importance of OA in different forums, and written articles in [popular journals](#). At present, he is working as Librarian of Azim Premji University.*

In this interview with Santosh C. Hulagabali, for [Open Interview](#), Madhan shares his observation on OA developments in India and elsewhere. Also, he talks on different issues related to OA. From this conversation, one might trace the important events that gave impetus to OA discussions in India and elsewhere, and the people who inspired Madhan.



- **You have been advocating open access (OA) to scholarly information for a long time. How did you develop your interest on OA, and in your view, how has the idea evolved over a period?**

In the year 2000, [Subbiah Arunachalam](#) of the M. S. Swaminathan Research Foundation, Chennai, organized a conference on ‘Advances in Information Access and Science Communication’ as a tribute to his longtime friend [Eugene Garfield](#) on his 75th birthday. Arunachalam had invited [Stevan Harnad](#), who has been campaigning for open access to scholarly publications, and [Alan Gilchrist](#), founding editor of the *Journal of Information Science* and an expert in building thesauri. In a true sense, the conference set the scene for OA advocacy and discussion in India. Arunachalam has written a report about the conference for [Current Science](#).

I was working for the library of M. S. Swaminathan Research Foundation and I attended the conference and thoroughly enjoyed the discussions, particularly the ones related to OA to scholarly publications. The idea proposed by Harnad – open access to scholarly publications through interoperable repositories - inspired me. Since then, I have been following the developments related to OA across the world.

Later in 2004, Arunachalam organized a workshop on [EPrints](#), the first ever open source interoperable repository platform. He invited [Leslie Carr](#) from the University of Southampton, [Leslie Chan](#), from the University of Toronto and Bionline International, [D. K. Sahu](#) of MedKnow Publications, Mumbai, and Dr. [T. B. Rajashekar](#) of the Indian Institute of Science, Bangalore as resource persons and trained 40 librarians in India about OA and how to use EPrints to set up [institutional repositories](#).

By that time, I joined National Institute of Technology, Rourkela (NITR), however, I participated in the workshop and learnt about EPrints. Also, I learnt DSpace from [A. R. D. Prasad](#) (DRTC) from one of the workshops he conducted.

Having learnt these software platforms, I set up two repositories for NITR – one for research papers (using DSpace), and the other for theses and dissertations (using EPrints). Also, I could persuade Prof. Sunil Sarangi, then Director of NITR to have an institute-wide [OA mandate](#). During this course, I became well-versed in these platforms, and I started conducting training programs for librarians.

I started advocating OA through interoperable institutional repositories, because, I found it simple and the most effective method for achieving OA to scholarly publications. Interoperable repositories are a powerful demonstration of how internet, web and related technologies can be used cleverly to provide access to scholarly information to all possible users.

After two decades, I would say, general skepticisms on the feasibility of OA to scholarly publications have faded away. Open access has become inevitable in science policy discussions today. Increasingly, funding agencies and institutions around the world mandate OA. Publishers who initially opposed the idea have started usurping the space.

• In general, OA discussions focus more on OA journals – the gold route, than interoperable OA repositories – the green route. Is the focus misplaced?

Yes. The focus is misplaced. You may note that the OA journals that charge authors a fee called Article Processing Charges (APC) to publish their papers- have captured undue attention of scientists (at least in some fields) and funding agencies over the TRUE OA journals that do not charge either authors or readers.

The [Budapest Open Access Initiative](#) (BOAI 2001) included launching of new generation OA journals as a 'complementary' strategy to author self-archiving in interoperable repositories. On the contrary, commercial journal publishers introduced embargoes to author self-archiving and stifled the green route.

In 2002, BioMed Central (BMC) journals started levying a fee from authors to publish their [papers open access](#). BMC is the first commercial fully OA journal publisher in the world. Its founder [Vitek Tracz](#) developed the author-pay business model confidently, as he was clear that authors were more interested in publishing than readers were in reading. From 2003, Public Library of Science (PLoS) started publishing full OA journals emulating BMC's business model. As Vitek Tracz noted, scientific authors particularly in the field of biomedical sciences did not feel dishonoured to pay money to publish their research findings, which was a surprise to me.

Later the countries where the world's largest commercial journal publishers are hosted favoured the author-pay OA journals. For example, in 2012, the UK government accepted the recommendations of the Working Group on Expanding Access to Published Research Findings, chaired by Dame Janet Finch and chose the gold route to deliver OA where APCs would be paid up front to both full-OA journals and hybrid-OA journals to cover the [cost of publication](#). And, in 2013, then state secretary of Netherlands- Sander Dekker expressed the position of the government in a letter to the Dutch House of Representatives that it would opt for the gold route to achieve OA to research papers produced [from the country](#).

With these developments, for-profit publishers could strengthen their position in the OA space. Also, it helped them shift the focus of discussions (at least for some years) from author self-archiving in repositories to authors paying money to make their papers OA in publishers' platforms. [Prof. Balaram](#), former director of the Indian Institute of Science, and former editor of *Current Science* said "The 'open access' movement, which began by promoting self-archiving and institutional repositories is now suddenly dominated by a growing number of journals which transfer the costs of publication to authors, while allowing readers free access. These costs can be considerable".

Even the funding agency consortiums such as [Coalition S](#) has focused more on sustaining the revenue streams of for-profit journal publishers, than considering the problems of scientists in doing science in developing countries and their participation in scholarly communication.

A meaningful retrospective would tell one that these initiatives and policies are futile exercises. It is just a waste of time and money, and as Harnad has been advocating since the beginning we could have achieved much in the past 20 years, had we focused on universal green OA.

• **If you are not supporting journals charging authors to publish, how would journal publishers run their businesses? You have said in one of your papers in *Current Science*, "As long as we continue to use APC-based journals, we cannot expect to make access to research affordable to all".**

In OA discussions I observe one paradox: on the one hand, people are concerned about publishers' profiteering, and worry about their loss of income on the other. This problem emerges when one thinks that OA should be provided only through journal publishers' platforms.

Open access is a matter of research community, research institutions and the research funders as they are the major stakeholders of research. Open access is about maximizing the web-wide access to scholarly literature, and eventually achieving the impact of research output produced out of public funds. Open access is about ensuring equal access to information, and equal participation in scholarly communication. And, it is all about how to achieve this using web and related technologies.

Open access is not for the publishing industry to maximize the wealth of their shareholders. Historically, scholarly journals ran their businesses through the earning from individual subscriptions. In the mid-1660s, [Hendry Oldenburg](#) the first editor of the *Philosophical Transactions of the Royal Society* "thought he would break even if he sold 300 copies, indicating production costs of £15 per issue. Sales of 500 would thus afford printer and publisher a profit per issue of £5 each: not handsome, but not entirely negligible either". The differential pricing –

different for individuals and institutions – was introduced only after the entry of commercial private [publishers in the 1950s](#).

Commercial publishers want to renounce the more than 350-year old practice suddenly and go for author-pay open access journals to retain their control over scholarly papers. Why should journals penalize the authors who write publishable papers by charging them exorbitant fee for the peer-review services, and doing the same free for the authors whose papers are rejected. This is unfair.-Michael Eisen, one of the founders of PLoS admitted recently that APC model which they introduced and popularised [was not a perfect idea](#). Balaram says “if you take money from an author to publish a paper, it is equivalent to an advertisement, even though the journal still goes through peer-review.” Authors yielding to such unfair practices will jeopardize the scholarly communication system.

Why should publishers impose unjustifiable embargoes for author self-archiving, particularly when there is [no evidence](#) for immediate author self-archiving leads to subscription cancellations?

Green open access and subscription can peacefully co-exist, at least till 100% universal green open access is achieved. Publishers will have enough time to think about their role in in that setting. Recently 27 non-profit publishers have rated green open access without an embargo period more favorably than switching their subscription-based journals to entirely gold open access. These [publishers say](#), "It seems like green open access would be a viable way for us to continue with the subscription model".

- **What would be the role of preprint archives in scholarly communication?**

Preprint archives are community initiatives and thrive with community support. Preprint sharing culture existed among physicists even before the internet and web was invented. However, the arXiv, developed by Paul Ginsparg, revolutionized sharing of information among physicists in a fully online manner. Over a period, arXiv has emerged as a main medium of communication for physicists all over the world.

“Physicists have been quick to adopt widespread pre-refereed distribution of scientific papers, but that has not been the case in other fields” says [Paul Ginsparg](#). And as he further pointed out, internal social norms of scientific communities shape the use of new technologies. Many communities value only the refereed journal publication as a legitimate method for claiming priority of ideas.

Thanks to COVID-19, the biomedical science community has started using preprint servers such as bioRxiv and medRxiv more than ever before. In all, bioRxiv has 104,944 preprints (as on 4 December 2020), of these 33,500 preprints have appeared in the past 8 months. Similarly, medRxiv has 14,070 preprints in all, of which 11,940 papers have appeared in the past 8 months.

More and more preprint archives based [overlay journals](#) would increase the popularity of preprint archives. *eLife* has announced recently that it would only review manuscripts already published as [preprints](#).

Preprint archives are increasingly becoming popular; however, it might take more years for preprint-sharing become mainstream in all fields. I would suggest scientific communities participate only in academic-led preprint archive initiatives.

• **The existing OA policies of funding agencies are not as effective as one would expect. What is the problem with current OA policies of funding agencies such as Department of Science and Technology (DST) and Department of Biotechnology (DBT)?**

DBT and DST enacted a policy in 2014, and the policy rightly chose the green route to achieve open access. The policy required authors deposit their papers resulting from their funding in interoperable institutional repositories. A centralized institutional repository hosting service for institutions that receive core funding from DBT and DST was set up. Two central repositories (one for DST and the other for DBT) were set up to help researchers from institutions that currently do not have their own repositories to self-archive their papers. Also, metadata harvesters to provide single-interface search were also set up. This service was named [Science Central](#).

All these efforts notwithstanding, the authors who received funding from DBT and DST have not uploaded the post-prints (final refereed drafts) of their papers in the repositories as the policy required. According to *Web of Science*, 51, 373 papers published during 2013-2020 (October) have acknowledged DST's funding, and 16,285 papers have acknowledged DBT's funding. Postprints of all these papers should have been deposited in the [Science Central](#) repositories, had the policy been implemented properly.

Any policy is as good as its implementation. DBT and DST did not properly communicate the policy to the scientists who received funding from these agencies. No compliance monitoring mechanism was established. The needs of authors and institutions were not assessed and addressed. The result is authors and institutions remained indifferent to the policy. And, the funding agencies did not care about it. It is a sorry state of affairs.

• **You were part of the consultations on 'Access to Knowledge and Resources,' - one of the 21 thematic groups constituted for drafting the Science, Technology and Innovation Policy (STIP) 2020. What are the objectives of the group, and how will STIP 2020 impact on the development of OA in India?**

I was part of only the initial round of consultation. The consultation group included scientists, librarians and a copyright and intellectual property expert. The main objective of the group was to discuss and find ways to provide OA to research output – papers, data, software etc., educational resources, and improve access to research facilities in general. The focus was only about the research output produced from publicly-funded institutions. We had several rounds of discussions, and I wish to share some of the key points with you:

- There was unanimous support for OA to peer-reviewed research papers through the green route and without any embargo.
- The group could not reach a consensus on supporting journals that levy APC from authors. I and Dr. [Arul George Scaria](#) of the National Law University wrote a [dissenting note](#) with 14 reasons why use of APC journals should be discouraged, and public funds should not be used to underwrite the cost of APCs. The note was included as part of the group's recommendations.

- And, there was a proposal for - ‘one nation one subscription’ - negotiating with publishers to provide nation-wide access to scholarly journals.

In fact, open access in India is a missed opportunity. We are already delayed by 20 years. I hope the Government will come up with a strong mandate for green open access with a proper implementation strategy, and a compliance monitoring system. It will be good for Indian science and scholarship, if 100% OA is achieved without any further delay.

Scientific institutions need not wait for a nation-wide mandate by the Government. They can have institutional mandates as leading American universities in the US such as Stanford and Harvard have initiated at their own level. Indian academic and research institutions can't afford to be indifferent to such developments if they want to be globally competitive.

• **Do you think the ‘one nation one subscription’ idea is a possible way forward to solve India’s access to information problem?**

No. As far as I am concerned, it is an elusive goal. I am not sure if publishers would agree for such a deal.

[Peter Suber](#), a leading and a level-headed OA advocate says, “Publishers might also refuse such a big deal because of the technical challenges of providing access to a population the size of India”.

Also, as [Heather Joseph](#) (of the SPARC, Washington DC) “..says that a nationwide subscription is not likely to reduce costs significantly unless publishers suddenly diverge wildly from the deals they've agreed to so far”.

One should always remember that publishers play the game of “[Heads I win, tails you lose](#)” when institutions negotiate with them!

If Government wants to provide access to scholarly information to the public (or to all possible would-be users), first it should keep the libraries of government funded research and academic institutions open to the public. Indeed, this should be the priority.

• **India is often portrayed as one of the centres of predatory publishing. What should one do to exterminate predatory journals?**

Predatory journals are everywhere including India. It is increasingly becoming impossible to eliminate these publishers and their journals. [According to Cabell’s international](#), in June 2017, there were 4,000 predatory journals on its list, and it rose to 13,000 in June 2020. The emergence of pay-to-publish model is the only reason for the proliferation of such dubious publishers and predatory journals all over the world. Discouraging this model is the only way out.

[Whitelists](#) are not going to help, as there is no well-ordered binary between predatory journals and legitimate journals.

- **Librarians in India often talk about open access and take part in debates and discussions. Researchers and scientists, who are the main stakeholders of OA, have been indifferent to this idea. How sensible these hypotheses are?**

Librarians' participation in open access discussions is important. Librarians are enablers of open access. They should have clarity on the importance OA as much as researchers should have.

Current Science has featured some interesting editorials written by scientists in support of institutional archives (e.g. The editorials written by [N. V. Johshi](#) (2005) and [P. Balaram](#) (2013)). But in general, as you say, Indian scientists have been indifferent to the idea of open access, particularly to the green route. They could not grasp the power of the green route and exploit it to maximize the visibility of their research.

Indian scientists, particularly the scientists working in the field of biomedical sciences, have been supporting APC open access journals for many years. In the initial years, Indian scientists' contribution to the APC journals was modest. But in the recent years, their contribution has increased considerably. During 2015-2019, Indian researchers have used 1,336 journals in full-OA journals to publish 39,502 papers (Data as seen from *Web of Science*). Of these, 996 journals charge an APC (average USD 1,631) and 27,762 papers have appeared in these journals. Also, they have used 1,542 hybrid-OA journals to publish 6,866 papers. Even if you consider only the papers where Indian authors are either first author or corresponding author, APC charges for these papers would be approximately USD 50million.

Indian scientists who use APC journals do not care the socio-economical and socio-political dimensions of paying money to publish. This is a factor for worry.



Note • All the answers/ opinions expressed in this document are of the interviewee.

Acknowledgement • Our special thanks to Prof. Subbiah Arunachalam and Dr. Sanjaya Mishra for their inputs and guidance.



Hulagabali, Santosh C. (2020 December, 12). Muthu Madan: 'One nation one subscription' is an elusive goal. [Blog post]. Retrieved from <https://openinterview.org/2020/12/12/muthu-madhan-one-nation-one-subscription-is-an-elusive-goal/>



Santosh C Hulagabali, PhD is Moderator of [Open Interview](#) and Editor of [Open Commentaries](#). He heads Central Library of Central University of Haryana. He is passionate about anything that is creative, challenging and positively impacts self and others. Email: santosh@cuh.ac.in



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