

Open access is a misnomer

Open access (OA) is a term best used for published research that is free for everyone to read. In my opinion, in its current use this term is a misnomer because it does not refer to research that is truly free to use. The name, “open access”, suggests an a priori value. Who would be for closed access? I suggest that a better description of the status quo would be to distinguish between *readers-paid* versus *authors-paid*.

For most academic journals, historically libraries have paid subscriptions to publishers so readers can have access to articles in those journals. In this case, readers or their institutions pay through their library support. In the authors-paid model, commonly called “open access”, authors pay a publication cost that varies among journals but can be as high as \$6000 per article. If the author cannot pay, no one has access. While the readers-paid model excludes some readers, OA clearly excludes many authors, and hence a substantial portion of potential readership. OA particularly excludes those without big grants or other institutional support that can pay for OA publication fees. This exclusion is especially felt among researchers and scholars in developing nations and at institutions where research may be secondary to teaching or outreach (eg conservation organizations, private liberal arts or community or Tribal colleges in the US).

Because journals are expensive to publish, most publishers are for-profit businesses, and most countries have limited public (ie government) support for academic publishing, there is not a clear best option for who pays. The readers-paid model excludes less affluent readers, as well as individuals working in non-academic institutions. The authors-paid model excludes all authors who cannot afford OA fees, hence stifling the diversity of content and views. Therefore, communities of scholars and researchers, and society at large, miss the knowledge, ideas, and experience of those who do not have the resources to pay for publication. In the OA model, scientific societies will face dwindling resources that originate in subscriptions. These funds have historically been used to support society activities that members enjoy and depend on.

The landscape of readers and authors and the resources to support OA and libraries varies among regions and institution types. In the US, library fees are paid by institutions, such as universities and agencies at the federal or state levels. They recover part of the cost from the overhead on research grants and student fees. And, some grantmaking agencies partially support OA. The situation is quite different for smaller liberal arts, community, and tribal colleges with libraries that do not subscribe to many journals. In Western Europe, the situation is similar to the US although with a larger appetite for paying for OA. China has a relatively affluent science enterprise that also pays for most subscription fees.

In Latin America and Africa, the system operates quite differently. Grants are smaller and overhead represents a small fraction of research budgets. Therefore, library fees are paid from university or research organization budgets competing for resources with fellowships, faculty, and infrastructure. Whereas support for libraries exist in different forms throughout the world, support for publication fees is extremely rare and concentrated among the most affluent organizations.

We must maximize access to novel ideas for the broadest and most diverse group of individuals. This benefits society at large by providing intellectual tools to tackle the wicked problems of our generation. Nobody wants to explicitly exclude groups of readers or authors. How can we optimize scholarly publishing? What system yields the greatest number and diversity of readers and authors? Both readers-paid and authors-paid have costs in the form of library fees or publication costs. What system provides the highest return on investment, where the return is evaluated by the number of readers and authors, their diversity, and impact? Should significant public funding be allocated to support readers or authors? Should we give preference to readers and authors from the developing world? Should we give priority to place-based or potential high-impact articles?

Scientific knowledge is universal, created by individuals collaborating across the world, and is central to solving wicked problems from global change to inequality. Therefore, designing a fair system that maximizes development and application of novel ideas is a global problem that cannot be solved in a piecemeal fashion by a small number of individuals. The questions described above should be addressed by stakeholders with diverse perspectives keeping in mind the overall goal of maximizing global scientific outcomes and their applications.



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