



## EDITORIAL

### *Open Access and Business Models of Scientific Journals*

The first free-access electronic scientific journals appeared with the creation of the Internet, before the invention of the world wide web. In 1991, *Surfaces* and *Psycoloquy* were pioneering journals featuring free internet content and ensuring the copyright of the authors (as would later be said in the Budapest declaration or in the Berlin declaration) [1]. Another example was *The Public-Access Computer Systems Review*, an electronic journal established in 1991, also committed to spreading Open Access (OA). One of the articles published in the first issues of this journal entitled "Online journals: disciplinary designs for electronic scholarship" described what would happen a few years later: the Internet or other networks would be the vehicle for scientific communication; the digital world would allow an acceleration in the dissemination of science compared to the printed era and that the cost of electronic publication would be lower than the printed version, therefore it could reach a greater number of users [2].

It is undeniable that one of the first events that marked the revolution in scientific publication and communication was the invention of the world wide web and the hypertext transport protocol HTTP in 1993. However, the progress has not been as expected regarding scientific publications due to the slowdown in the hands of commercial publishers during the second half of the 90s, motivating what we know today as the OA movement.

At this point, it is necessary to distinguish between free access and open access. The first term is a synonym of free, this is, the digital object is available on the web and can be downloaded without paying for it, but generally, the copyright rights are exclusive to the publisher. This is the standard situation in the scientific publication process: when an article is accepted for publication, the author signs the transfer of rights to the Journal. The publisher can decide whether or not to charge for access to the manuscript.

In the case of open-access resources, this copyright transfer situation does not occur, and there is also a situation of transfer of use, either by the author or the publisher. One of the ways to establish these conditions is through Creative Commons licenses that allow the owner of the rights to clearly establish the use of the manuscripts, whether they are works published by a publisher, or those distributed on personal web pages or in digital repositories [3].

Free OA journals for readers and authors represent the most desirable situation in the OA context; in this sense, sometimes referred to as the platinum route [4]. In these journals, the authors keep the copyright or assign it to the publishers. This type of journals may result from applying institutional or national policies to promote the dissemination and visibility of their scientific production, and as support for the transition to the digital format of journals published on paper. These policies are also materialized in the creation of portals in which these journals are hosted, as is the case of the Scielo portal, an initiative born in 1997 with the support of several Brazilian public institutions, and which has currently spread to several Latin American countries and to Spain.

A compelling reason for adopting this model (OA journals at no cost to authors or readers) is the benefit in terms of visibility, and increased impact of the works provided by the availability of the free version on the Internet, a much more relevant benefit than the economic one for some authors, who do not charge for their work [5].

Additionally, regarding the different methods of financing OA journals, the payment per publication or author pay model is considered by some to be the only economic model that can be opposed to the traditional subscription payment model. Perhaps because it is the only mechanism that raises the sustenance of the journal from sources of income that go beyond subsidies or sponsorship. In this type of journal, the copyright remains with the author, and the use of Creative Commons licenses is frequent. This financial model has the advantage that it offers a fairer alternative to the traditional model, since the processing of the final article is paid only once; likewise, the fact that it is free for the reader turns scientific knowledge into a common good. As for disadvantage, it can lead to inequality in publication, becoming a system based on economic capacity rather than merit and therefore affecting areas with little funding. Another criticism of this financial model is that it can influence the quality of the content, because a journal with a low submission of papers may be forced to accept some of lower quality in order to attract financial resources.

One of the first publishers to implement the hybrid model of pay-per-subscription journals with an OA option was Springer, which created the Open Choice program [6], later the Blackwell Publishing's Online Open system or the Oxford Open, from Oxford University Press, [7] among others. Fees are variable among publishers, although they range between \$2,000 and \$3,000. The

pressure of growing support for the OA movement, fostered by the provisions established by organizations such as the Wellcome Trust (United Kingdom), the UK Research Council, or the National Institutes of Health of the USA, recommending and/or requiring that publications resulting from research financed by them to be available in open access within a certain period of time, has led traditional publishers to establish means so that authors can, by paying publication fees, choose their works to be OA. This possibility has given rise to what are now known as hybrid systems.

Journals based on the subscription model provide access to their digital version with or without an embargo period. This possibility is offered by some journals that follow the traditional subscription system and retain the authorship rights of the works. When a journal allows free access to all of its contents, the only aspect that conceptually differentiates it from an OA journal is that relating to copyright. To differentiate this, these journals are called free access.

Nowadays, it is more frequent that journals release access to part of their contents and not to all the works. By definition, the embargo confronts the concept of OA, which proposes immediate free access to publications. Some nonprofit publishers that offer full-text access after an embargo period subscribe to the Washington Principles for Free Access to Science in support of the free dissemination of knowledge. For these publishers, the embargo represents an intermediate solution between open access and subscription access that guarantees the sustainability of the journal. In the case of countries with

very low per capita income, free access to science has been an insistent demand as a means to promote not only research but, in the case of medicine, good clinical practices.

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