

I would like to call our esteemed readers' attention to the following article, which was written by two eminent professors who belong to CAPES. Scientific communication has been undergoing important changes with the advent of Internet that allows unlimited universal access to all publications. For this, it is only necessary to have a computer and a connection to the World Wide Web in any place in the world. The only limits are related to the fees that are charged to read the desired journal.

Several suggestions have been suggested to eliminate or minimize the economic impact that has come in the surge of this new form of becoming internationally recognized. There are ideas such as the one from PLoS (Public Library of Science), whose tonic would be to charge authors to publish their articles and to give free access, without onus of the journals, to all who would like to consult them.

In Brazil, Scielo (www.scielo.org) has been performing pioneering work with a broad scientific reach to spread knowledge, counting on a modern and agile search engine, giving free access to all its publications. The article that follows, reprinted with due authorization, contains important information for us all, remembering that knowledge is not a privilege for few. On the contrary, this may be a victory for all, with levels of scientific progress that we desire and deserve being reached quickly. I hope that everyone enjoys the article and benefits from its message.

Domingo Braile
EDITOR RBCCV/BJCVS

A Linux for Scientific Periodicals

How to find just prices to access scientific knowledge?

Roberto BARTHOLO¹, Marcel BURSZTYN²

When looking to the rest of the world, we can see that all countries that have been outstanding in respect to economic and social development, since the end of the XIX century, adopted decisive and long-term measures directed at the promotion of education and development in science and technology.

Thirty years ago, Brazil was compared to South Korea, as a country that represented a great potential for development. We had similar economic indicators and also comparable educational and scientific-technological levels. A little more than 20 years after, Korea achieved a formidable success in its strategies, whilst Brazil evolved with much slower steps. Even with a great advance in the universality of junior schools, quality is still a limiting factor in our country.

At another level of the educational system, we have registered a notable growth in post-graduation courses.

In three decades, we have set up an apparatus to educate masters and doctors, which today includes around 1000 doctorate and 1800 master's courses.

Six thousand new Ph.D. students and 20 thousand new masters graduate each year. The role of the government has been of primordial importance in this project, whether by giving support to the courses or giving grants to students, with the CNPq and CAPES institutions the most important.

We know that the rhythm of changes throughout the world is continuously accelerating. New specialties and challenges emerge every day. Some professions are becoming obsolete, while others are emerging.

Education is an important and long-term topic. The profile of the professionals that we will require in 10 years time needs to be defined today so that we can educate their teachers. Education together with

1 - Manager of International Cooperation of Capes.

2 - President of Capes.

scientific and technical development should be part of the governmental policies as a question of principle, a foundation to construct the future. About 3 years ago, Brazil started to depend on an important instrument to provide support for basic and applied research, the Periodical Portal available through Capes-MEC.

More than 3000 international scientific journals, which during the last year were accessed by electronic means 3.7 million times, were made available in universities that provide post-graduation courses in our country.

The cost of this service is high – R\$58 millions (approximately US\$20 millions), this year alone. CAPES chose to face the challenge of increasing the universe of researchers with access to this portal, inserting new journals and reducing costs.

Thus, the Consultative Commission for the Negotiation of the Periodical Portal was established which recently successfully concluded its work obtaining a saving of around 23% in the cost in dollars for the acquisition of the same products.

Additionally, the commission managed to increase the number of institutions who will benefit from 99 to 129 and the number of available journals, which from January, will be 4,800. It is important to stress that the ‘product’ that is offered by the Periodical Portal has a singular characteristic: Its production fundamentally results from an investment in scientific capacity, which becomes available through channels of scientific media and whose quality has been officially verified by renowned international scientific societies.

Its circulation and commercialization represents a much smaller portion of the overall cost when you consider the easy reproducibility made practicable by the electronic medium and the internet.

In summary, scientific knowledge is not a product because of attributes that are intrinsic or inherent. On the contrary, science is recognizably proclaimed as a universal heritage of mankind.

In truth, the middlemen who commercialize the knowledge generated in the universities and research institutions can support themselves on the characteristics of a prime material *sui generis*. Its producers are known and renowned by the fact that the knowledge that they produce circulates in vehicles whose quality is recognized by scientific societies, whose motive to exist is not immediately commercial.

Scientists, in general, strive to have their production recognized as a valuable and deserving publication in vehicles of communication of repute. Generally, they offer their work to the editors of these vehicles, without any cost (or even incurring non-absorbed costs) and without any recognition of the author’s rights, the

results of their research.

Here we must stress the reality: knowledge frequently financed by a public source may become (and this is a fact) commercialized according to monopolist practices of fixed prices. A decrease in marginal costs does not contribute in this context to the decrease in the final price offered on the market.

This situation will only change with the opening of new possibilities of institutionalization of the spread of scientific knowledge. A question arises that is evidenced as a strategy for the development of peripheral countries in an era that is described as the ‘society of knowledge’.

How to find just prices for the access of scientific knowledge?

The response to this question, for certain, reminds us of an analogous polarity inherent in the debates about free software: which can be summarized between two paradigmatic models:

Linux or Microsoft? To imagine a future state where a Linux of the scientific periodicals is not merely a utopia for incurable romantics, perhaps is not an easy task. But certainly for us it seems to be a contemporary challenge that faces all who still believe that scientific knowledge should be a patrimony of humankind.

The result of this negotiation process signals that it is unreasonable that Brazil should pay significant amounts of money for periodicals, which as can be seen by the statistics over the last three years, is little used or not at all by of Capes Portal users.

To negotiate fairer contract terms is the path that we can and should follow. At least while there is no multilateral institution with the characteristics of an agency of the reformed United Nations, that has as its specific attribution to articulate scientific societies of the entire world and make, through today’s technological resources, a broader scientific diffusion possible at a lower cost, by means of a Global Periodical Portal, an instrument at the service of the democratization of science in the globalized world.

Whilst we have to continue comparing knowledge that the monopolistic markets control, the most valuable thing that remains for us is the choice of our priorities and the supreme capacity to negotiate fairer contract terms.

And for this struggle, Capes invites all the scientific community, through their teaching and research institutions and professional associations.

Article originally published in the Science Journal, a fortnightly publication of the Brazilian Society for the Development of Science. Reproduced with the authorization of the editors.