SciELO, Scientific Electronic Library Online, a database of open access journals.

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The idea of adopting the open access model for journals has only reached a large audience by the end of the nineties. One of the motivations was the distress of the university librarians due to the impossibility of keeping up with the subscription prices of their journal collections. The bothering of many scientists for having to pay access charges for articles on the internet also weighted significantly. After all, in its beginning the internet was a communication system that served exclusively the academic world.

In 1998 SciELO (Scientific Electronic Library Online) was launched on the Internet. A set of ten Brazilian scientific journals was since made universally available, allowing free download of articles and access to databases of authors, addresses and citations. The SciELO project was supported by FAPESP, Foundation for Research Support of the State of São Paulo, which has provided assistance to the present with 90% of the financial resources needed. The SciELO e-Library is celebrating 15 years in 2013, and its collection reached 270 journals. The admission of the journals in the collection should be approved by a board of scientists from different areas. This collegiate met thirty-seven times in these 15 years and assessed more than eight hundred Brazilian journals that have applied to join the collection; presently, 72% of the 270 SciELO journals are indexed in the Web of Science (Thomson-Reuters) and 65% in the Scopus-Elsevier, two world´s leading databases.

The SciELO system was adopted by eleven other Latin American countries as well as Spain, Portugal and South Africa, reaching over a thousand journals. It may be considered one of the most important program of scientific communication in emerging countries and a world`s leading one adhering the open access model.

Distinct models of publishers in emerging countries

In emerging countries most journals were born in and administered by academic institutions or scientific societies. However in Brazil, except for a few exceptions, they remained as such, whereas in other emerging countries most of the journals have been turned over to commercial publishers. This change began to happen in the middle of the past decade.

Currently the presence of commercial publishers of journals indexed in the Thomson-Reuters database attains 10.4%, 33.7%, 64.7% and 84.0% for Brazil, India China and Russia, respectively. International publishers prevail in this takeover and have triggered a great shift on the mode of access to articles, from an open one to a pay-per-view model. The relatively low penetration of international publishers in Brazil might be explained by the presence of SciELO. Apparently, the journal's editors pondered that open access is an important asset, not provided by commercial publishers, and should be preserved.

The impact factor in 2010 and its average annual increase in the 2001-2010 time period for the four emerging countries mentioned above are shown in Table 1. Is it possible to find an explanation for the differences amongst the countries? It has been a great challenge to weight the factors that influence the impact factor of the journals.

Assets for the improvement of journal's reputation

Journals launched by the seventies led to a four-fold increase in the number of titles to the present. Their reputation has been assessed as being due to various assets. The most evident ones seem to be the language of the articles, mode of access (open or restricted), publisher prominence and editorial board. Quality of the journal's articles is a consequence of these assets and is closely connected to reputation and impact factor. In principle, one would expect that each of the assets should favor increased impact factors if selected in the following way: articles in English, open access, powerful international publishers, and prestigious scientists as editors-in chief. However, the influence of each of

Table 1. Average Impact Factor-JCR (2010) and Average Annual Increase of Impact Factor (2001-2010) of journals from four emerging countries

Country	Impact Factor	Average Annual Increase of Impact Factor (2001-2010
CHINA	0.955	0.0919
BRAZIL	0.548	0.0701
RUSSIA	0.476	0.0152
INDIA	0.475	0.0832

these four assets is not straightforward.

Let us examine each of them: 1-The use of English language keeps a straight correlation with journal prominence. Figure 1 shows the growing prominence of English language in articles published by 20 countries whose first language is other than English. German and French, the two next most used languages are shown for comparison. 2-Studies on the influence of open access point to increased visibility (internet access and downloads) but not necessarily to augmented citations of the articles. For instance, most of the traditional refereed journals, whose prestige was acquired in the pre-scientometrics era, have remained pivotal to the scientists across the years and are not open access. 3-Influence of major publishers has been shown to be very erratic; take for instance the low

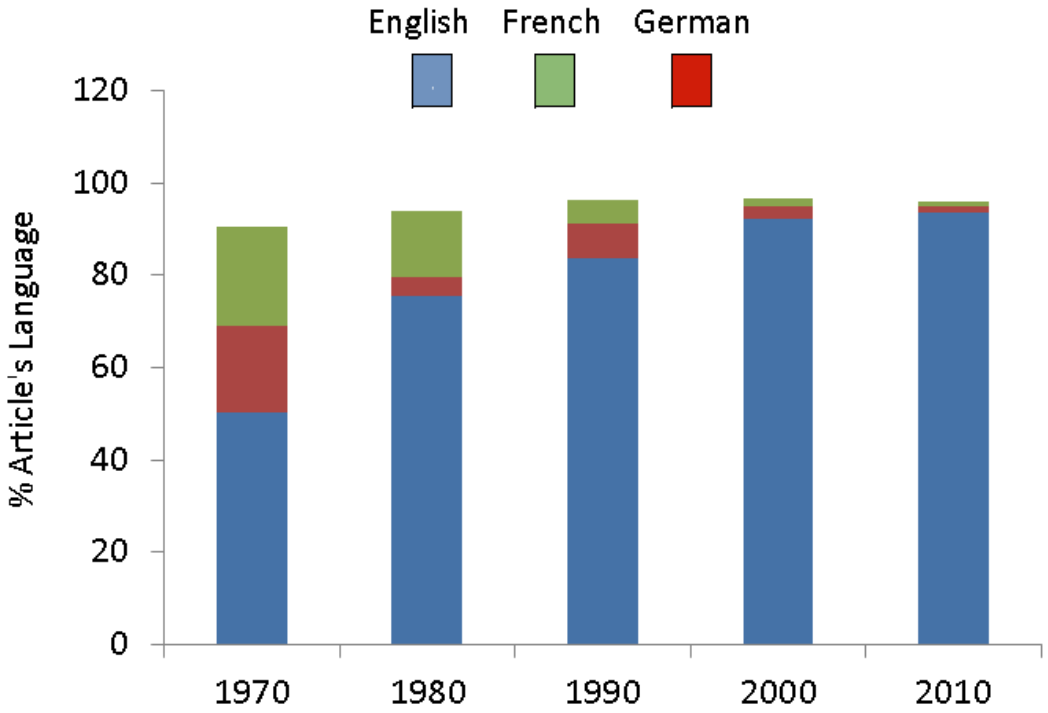

Figure 1. Increasing use of the English language in articles published by journals indexed by Web of Science-Thomson Reuters. Authors are from 20 countries of languages other than English. (**China, Germany, Japan, France, Italy, Spain, South Korea, Brazil, Netherlands, Taiwan, Russia, Iran, Switzerland, Turkey, Poland, Sweden, Belgium, Malaysia, Austria, Denmark)**

average annual increase of impact factor of Russians journals (Table 1), the great majority of them under a major international publisher for over five years. 4- Apparently the role of prestigious scientists holding editor-in-chief positions has not been evaluated. This is not surprising giving the multiplicity of competences to be assessed and the fact that to some extent, this activity is confidential. One would expect that their reputation would be a bonus to convince high-qualified *ad hoc* advisors to review the papers. Besides that, an editor-in-chief has to play a leadership role to choose associate editors, deal with the issue of publication ethics and be dependable in judging discords between authors and reviewers. Giving the multiplicity of qualifications that proficient editors-in-chief are expected to hold one may estimate how difficult it is to select one for a journal.

Chalanges to face to improve SciELO journals

In Brazil one may discern two streams of publication. There are scientists that opt for publishing in international journals and scientists that choose the national journals. The trend depends very much on the scientific area. In other emerging countries a similar situation is observed. In all of these countries over 70% of the articles published by national journals are signed by national authors. To some extent these journals are outlets for national scientific production that did not find its way in the main stream of international journals.

In developed countries this stream's division is not noticeable since their scientific journals are, in fact, international journals. For instance, journals edited in England, Netherlands and Switzerland publish less than 15% of the articles with authors from their own countries. Table 2 shows

Table 2. Number of journals indexed in Web of Science (2010). Total of articles per journal`s country (A) and articles published by authors from the country of publication of the journals (B)

Country	A-Articles in national journals	B-Articles published by authors of the journal´s country
BRAZIL	11161	9719 (87.1%)
CHINA	26518	22521 (84.9%)
SOUTH KOREA	10063	7239 (72.4%)
RUSSIA	19072	15376 (80.6%)
INDIA	11970	8499 (71.0%)
S AFRICA	1833	1131 (61.7%)
SPAIN	6777	4650 (68.6%)
FRANCE	22147	9779 (44.2%)
NETHERLANDS	127288	4175 (3.4%)
CANADA	7548	3035 (40.2%)
ENGLAND	229786	28799 (12,5%)
SUITZERLAND	25172	1605 (6,4%)

the different trends for a group of emerged and emerging countries.

How can emerging countries improve their journals to achieve international standards? Let us take the specific case of Brazil described above. SciELO has been operating as a meta publisher, providing all facilities of modern technology of information to the associated journals. Scientific assessment occurs when the journals apply for approval on the ScieLO selection and, periodically, for maintenance on the collection.

However, most of the SciELO journals face the problem of being ignored by scientists that have taken the international journal stream. Bring together SciELO journals and international scientists require a strategic approach:

First, the journals should be brought together under the umbrella of a publisher house. The experience in dealing with these journals would recommend SciELO to be this house. International publisher should not be withdrawn from this process, even that their success on dealing with emerging country journals has been very limited.

Secondly, professionalization of the editorialship is fundamental. Presently the editors are scientists who take part time efforts to deal with the journals. They count on minimum backup of secretarial assistance and receive no monetary compensation for their duties.

The third important pace is to count on professional assistance of international editors, with scientific prestige and recognition for their success in leading journals. These international editors should periodically meet the national editorial board for counseling. They should lend their prestige to get the assistance of proficient international peer reviewers. A reasonable financial compensation on international standards should be paid for this editorial participation.

These three initiatives would certainly change the Brazilian scientific editorial scenery and the role played by SciELO in this context.

The resources for that? Nowadays the Brazilian productive scientists have no problem in obtaining grants from governmental scientific agencies and use part of it for page charges paied to international publishers. Why not to pay page charges to a Brazilian scientific editorial house?