

Challenges to the publishers of humanities in scientific journalism and social networks: reflections and experiences¹

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Abstract

This paper analyzes the experiences of *História, Ciências, Saúde – Manguinhos* (History, science, health), a journal published since 1994 by the House of Oswaldo Cruz, at the Oswaldo Cruz Foundation. The background being the difficulties faced by journals of the humanities, the pathway of *HCS – Manguinhos* until it is welcomed by the SciELO Portal, the resulting implications in regard of the editorial routines, the potential of dissemination and the perspectives of internationalization. Editors are viewed amidst currents of thought which express either convergent or contradictory opinions concerning: first, the processes underway to hierarchize and internationalize the Brazilian scientific journals; second, the ways to disseminate their contents and evaluate their impact; and, third, the quantitative and productivist tendencies that prevail today in the academic milieu. The paper describes difficulties arising from the effort of making *HCS – Manguinhos* international and analyzes the results achieved after joining the social networks, in June 2013, by making use of metrics different from those long ago defined to assess the impact of scientific publications.

Keywords

Scientific journalism in human science – Social networks – Altmetrics and impact – Editorial management of journals – Internationalization

I- *Unfolding of “Challenges faced by publishers in the humanities – some reflections and experiences”, a lecture delivered by Jaime L. Benchimol in the conference that celebrated the 15 years of SciELO, October 22nd through 25th, 2013, in São Paulo.*

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Desafios aos editores da área de humanidades no periodismo científico e nas redes sociais: reflexões e experiências¹

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Resumo

O presente artigo analisa experiências de História, Ciências, Saúde – Manguinhos, revista editada desde 1994 pela Casa de Oswaldo Cruz, da Fundação Oswaldo Cruz. Tendo como pano de fundo as dificuldades enfrentadas pelos periódicos da área de humanas, discute a trajetória de HCS – Manguinhos até seu ingresso no Portal SciELO, as implicações que isso teve no tocante às rotinas editoriais, ao potencial de veiculação e às perspectivas de internacionalização. Procura situar os editores em meio a correntes de pensamento que manifestam posições convergentes ou contraditórias a respeito: primeiro, dos processos em curso de hierarquização e internacionalização de periódicos científicos brasileiros; segundo, das formas de divulgar seus conteúdos e avaliar seu impacto; e, terceiro, das tendências quantitativistas e produtivistas hoje imperantes no meio acadêmico. Relata dificuldades enfrentadas no esforço para internacionalizar HCS – Manguinhos e analisa os resultados alcançados após o ingresso nas redes sociais, em junho de 2013, fazendo uso de métricas diferentes daquelas há mais tempo instituídas para aferir o impacto de publicações científicas.

Palavras-chave

Periodismo científico nas ciências humanas – Redes sociais – Altimetrias e impacto – Gestão editorial de periódicos – Internacionalização.

I- Desdobramento de "Desafios enfrentados pelos editores da área de humanidades – algumas reflexões e experiências", palestra apresentada por Jaime L. Benchimol na conferência de comemoração dos 15 anos do SciELO, realizada entre os dias 22 e 25 de outubro de 2013 em São Paulo.

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História, Ciências, Saúde – Manguinhos (History, science, and health) is a journal published since 1994 by the House of Oswaldo Cruz (HOC), a unit of Oswaldo Cruz Foundation (Fiocruz), which in turn is responsible for publishing two journals of prestige, *Memórias do Instituto Oswaldo Cruz* [Memories of the Oswaldo Cruz Institute] (since 1909) and *Cadernos de Saúde Pública* [Notebooks of public health] (since 1985); later *Trabalho, Saúde e Educação* [Labor, health, and education] (2003); *Revista Eletrônica de Comunicação, Informação e Inovação em Saúde* [Electronic Journal on Communication, Information and Innovation in Health] (2007) and *Vigilância Sanitária em Debate* [Health Surveillance in Debate] (2012) were launched. *HCS – Manguinhos* results from movements of renovation taking place both in public health and in historiography. Health professionals standing up for preventive medicine embodied, in the 1980's, the Movement of Sanitary Reform, whose consequence was the only class-action amendment to the Brazilian Federal Constitution of 1988, which sets forth the universalization of health and the duty of the State to provide it for all. After taking over Fiocruz in 1985, Sérgio Arouca and his group of hygienists and researchers set up HOC, adding research and the dissemination of the history of health and the sciences of life¹ to the traditional activities of the institution.

At the same time, the so-called new history widened the repertory of its objects, methodologies and sources of research, expanding historiography at a “vertiginous pace” (BURKE, 1992, p.8). The new generations of historians began to critically study: the mechanisms of control implicit in medical discourse and institutions; the knowledge and practices that were alternative to academic medicine or originating from territories subjugated by colonial metropolises. Issues associated with race and gender, a more refined view of social categories and classes, attention

1- There is a great deal of literature, however a good introduction to the issue is found in Lima et al., 2005.

to actors and local particularisms would then inform the studies on health policies, institutions, and professions. History of medicine was no longer the history of doctors but also that of the sick, and the history of diseases went through a great boom of monographic studies. The body, childhood, sensitivities, the environment and other objects mitigated the frontiers between human and natural science. In Brazil, historians highlighted not only the creativity implicit in the adaptation of local contexts of knowledge, institutions, and discourses produced in the hegemonic social formations, but also the leadership of immigrant or native intellectuals and of the institutions they established in wider networks, thus acting as co-participants in the pioneering of several fields of science.

In line with such tradition, the journal released by HOC disseminates original works related to history of medicine, to public health and the life sciences, keeping the angle open to themes of social history and the history of science in general. Mainly, papers by historians are published, but also by sociologists, philosophers, anthropologists, educators and health professionals. The readership is made up mostly by researchers and undergraduate and graduate students of human science, health professionals and biologists, and also museologists, educators, communication professionals and other people with an interest in the history of science.

At first, *HCS – Manguinhos* was released every fourth month. In 1998, its electronic version came up; in 2000, it was included in the Scientific Electronic Library Online (SciELO), in the categories Human Science and Health Science. In Qualis (the Rating of Periodicals, Annals, and Reviews), one of the mechanisms utilized by Capes to evaluate scientific studies and graduate courses, the journal is assessed in more than 30 areas of knowledge. According to the last Qualis-Capes rating, it is rated as A1 in history, education, sociology, environmental science and interdisciplinary issues, and A2 in applied social science, literature/linguistics

and social work. History, however, is the multidimensional axis of the journal among so many interfaces.

Before joining SciELO, *HCS – Manguinhos* faced many of the problems that still affect a great deal of journals in the humanities. Journals with scarce funding, run by small teams, with an immense dose of voluntarism and, sometimes, with amateurism, whose editors split their working time work among a variety of teaching and research activities. Generally associated with graduate programs and, more rarely, with research institutes or scientific societies, with a high level of dispersion, journals in the humanities area face challenges of trivial nature: obtaining minimal conditions regarding funding, staff and material facilities to work, in order to assure minimum operating requirements – periodicity, adequate peer evaluation, sufficient text normalization and treatment, layout and graphic production.

HCS – Manguinhos joined SciELO after technical requirements were complied with wide-range effects over the journal's routine. The team gained recognition within Fiocruz, which also translated into more consistent support, and out of the institution, resulted in better ratings and other achievements mentioned below.

SciELO and the hierarchy and internationalization of Brazilian journals

In commissions and meetings with editors and researchers from the human science area, authors often identify some hostility against SciELO. This is certainly a mechanism to hierarchize journals among other instances: Capes, CNPq, indexers etc. Maybe one could say that the common sense in this area leans towards a “leveling” current of opinion, with arguments contrary to having an “elite” of journals, which for most would effectively result in more difficulty to access scarce funds.

Such questioning is combined with other issues, as the aversion to the prevailing logic of “publish or perish”, the criticism to the uncritical adherence to segregating gears of the international scientific journalism, dominated by the hegemony of the Anglo-Saxon world.

The editors of *HCS – Manguinhos* believe that all intellectual production is entitled to a place in the sun, and every journal, starting with the most rudimentary student's bulletin, plays an important role in the education of each author and the scientific culture at large. As researchers and professors, they subscribe a perhaps more refined expression of the same ideological field, the *Slow Science*, part of a movement that contends for reducing the speed of all dimensions of our social existence. Arising in 1980's in Italy, in defense of the traditional cooking that was being threatened by the fast-food chains, the movement reached science, with an insurgence in this realm against the global dissemination of productivism, of bloody competition, of the culture of hurry, and of immediatism. The battle cry was launched in 2010 by anthropologist Joël Candau. “Fast science, as fast food, favors quantity in detriment of quality” (MCCABE, 5.12.2012). In 2010, over 4,000 researchers signed a manifesto and the Slow Science Academy was founded in Berlin. The manifesto reads: “We are scientists. We do not blog. We do not tweet. We do not hurry. [...] We need time to understand each other, especially when we promote the dialogue lost between the humanities and natural science.” (THE SLOW..., 2010. s.p.)

As helmsmen of *HCS – Manguinhos*, we adhere, sometimes for conviction, but generally for pragmatism, to many of the trends criticized by the levelers and by Slow Science. We begin to blog and tweet, and we get in a hurry to cope with the increasing volume of productions that come to us, from authors driven by the quantitative pressure that prevails among the funding agencies and academic institutions. And we realize that such despicable logic is one of the most active yeast of endogeny, cousin of nepotism,

a very strong trait of Brazilian identity we also see in the academic milieu: each school of higher education, each graduate program feels it is their duty to have its own journal in order to make its local production flow, and quite often without the use of adequate evaluation criteria.

When interviewed in September 2012, Meneghini, one of SciELO creators, said there was not “in any other place of the world, a pressure so huge to set up periodicals as in Brazil”, a fact that he thought was due mainly to Capes. He estimated that there were between 3,000 and 4,000 journals in the country (MENEHINI, 2012, s.p.).

The quantitative logic, associated with structural problems that are specifically present in Brazil, mainly in the educational area, cooperates to reproduce the asymmetries that characterize the hierarchical and competitive world where science is written and published, dominated by certain hegemonic centers, either old or new. On the other hand, there is a situation where tangible possibilities are open to Brazilian journals so that they can impose themselves as channels of scientific communication with an international reputation, and this is true both for biomedicine and for *hard* science as it is for human science.

Between 1997 and 2007, the number of Brazilian articles in international publications doubled, amounting to 19,000 per year, and the share of Brazil in the universe of international scientific publications rose from 1.7% in 2002 to 2.7% in 2008. According to an edition of the *Journal Citation Reports* (JCR) for 2010, Brazilian periodicals indexed in the JCR Science e JCR Social Sciences collections added up 103 – an increase of 43% in relation to 2009 –, 11 of them with an Impact Factor higher than 1.² From 2007 to 2008, Brazil was the country that grew the most among the 20 nations with more papers published in scientific

2- JCR is one of the services provided by Thomson Reuters, a company operating in several areas of information and knowledge, resulting from the merger of Thomson Scientific (prior ISI) and Reuters news agency. For more information, see <http://thomsonreuters.com/>; Carta... (2009); Raupp, 17.10.2010.

periodicals indexed by the Institute for Scientific Information (ISI). The number of articles by Brazilian institutions accepted by those publications rose from 19,436 to 30,145. Due to a growth of 56%, the country jumped from the 15th to the 13th position in the world ranking of papers published in specialized journals (2.12% of the global production), outnumbering Russia and Holland (GOIS, 2009).

A recent article in *Folha de S. Paulo* (newspaper) presents a more cautious picture supported by Scimago, a database fed by the Scopus platform, from the Elsevier publishing house (RIGHETTI, 2013). The Brazilian scientific production continues to rise in relation to the amount of articles published: in a universe of 238 countries, Brazil rose from the 17th place, in 2001 (13,846 papers) to the 13th position, in 2011 (49,664 papers). Production has increased 3.5 times. But, concerning the impact, the country fell from the 31st to the 40th place, following the opposite direction of China and Russia, which improved their rank. The growth of production with a drop in impact is seen to be caused by the number of Brazilian journals included in the international databases (going up from 62 to 270, along ten years) and the academic policy which, on one hand, is expanding the number of M.A. and PhD holders, and, on the other hand, impels authors to publish “no matter what” or practice the so called “salami science”, criticized by biologist Fernando Reinach (2013), one of the many voices standing up against the quantitative “ideology”.

The numbers and the associated distortions express broader processes of globalization taking place in the societies and the expansion of information networks which have revolutionized scientific communication, as well as the current external visibility acquired by Brazil in several realms, not only in science. Such processes include: the crisis of social formations which are economically and technologically hegemonic; the policies adopted by governments and funding agencies aimed at the internationalization of Research

& Development; and also the dynamics of networks which interconnect producers of culture and knowledge, specific in each area of knowledge.

For the defenders of the internationalization of Brazilian science, their participation in the external networks is still weak, and science looks excessively inward, to its own academic goals, which results in reduced impact, even for those papers published in mainstream journals; in addition, the proportion of papers written with foreign partners remains low – these are variables that cannot be treated generically, since the more or less localized nature of the investigation objects and the cooperation networks range considerably within human and natural science and among their different internal areas.³

Evaluation of scientific journals in crisis

This discussion has been largely guided by the concern about the metrics in crisis, the Impact Factor.

Until October 2013, SciELO had more than 2,000 periodicals in its collection, with almost 500,000 papers published (data available at <http://www.scielo.org/php/index.php>), which shows how much the project, conceived 15 years ago, has grown not only in Brazil but in Latin America and the Caribbean, Spain, Portugal and South Africa. Journals included in the SciELO database were selected among many others, indexed in databases that were different or not indexed. With so many titles available, it was more difficult for the researcher to choose where he or she would have their paper published and, for the funding agencies it was harder to select those that would access their funds. The numeric explosion made the evaluation of scientific

3- Lea Velho (5-11.9.2011; DAVYT, VELHO, 2000), Rogério Meneghini (Jun. 2012; Fev. 2012), Rogério Meneghini, Abel Packer and Lilian Nassi-Calo (Nov. 2008) and also Rogério Mugnaini (2006) have grounded reflections about scientific journalism in Brazil and the internationalization of Brazilian science.

publication indispensable, in a moment when the traditional ways of performing such evaluations are in crisis.

In Brazil, such mechanisms take us back to the foundation of CNPq (the National Council for Research), in January 1951, with the purpose of “promoting and stimulating the development of scientific and technological investigation” (HISTÓRIA..., s.d.a); six months later, the National Campaign for Higher Education Staff Improvement (currently known as Capes), with the objective of ensuring “the existence of specialized personnel in quantity and quality sufficient to meet the need of the public and private ventures for the development of the country” (HISTÓRIA..., s.d.b). CNPq and Capes later developed programs associated with scientific journalism. The first agency released the program to aid the publishing in order to finance (partly) the Brazilian journals that were acknowledged in their areas of knowledge. And, in 1998, Capes established Qualis Capes, whose evaluation system includes national and international periodicals. In each area of knowledge, a committee evaluates aspects such as periodicity, the editorial board, the peer review system, circulation, etc. Capes defines the general guidelines, but each committee imprints its own profile to the respective evaluation system. At the end of the process, lists are disclosed on a per area basis with the ranking of the journals that range from A1 (the highest) to C. This mechanism is intended to assess the graduate programs, but it has gained considerable independence as a periodical stratification system, currently in synergy more or less contradictory (depending on the area) with what is set forth by SciELO.

In the 1960s appeared the first initiatives to measure the quality of scientific production. In 1964, the United Nations Organization for Education, Science, and Culture (Unesco) set up a system capable of assessing scientific periodicals produced in Latin America

(BARBALHO, 2005, p.135), soon after the release in 1963 of the Science Citation Index (SCI), a multidisciplinary database allowing to retrieve abstracts in English from the scientific journals indexed by it (PINTO, ANDRADE, 1999, p.449).

SCI established by Eugene Garfield, who also founded the above mentioned Institute for Scientific Information (ISI) (ARAÚJO, 2006, p.19), which in 1992 became part of international news agency Thomson Corporation. In 2008 it merged with Reuters Group and gave rise to Thomson Reuters. Based on studies about citations, Garfield also created the Journal Impact Factor (JFI), widely utilized since then due to its simplicity of calculation and because, for a long time, it was the only bibliometric indicator available for a great number of journals, mainly in the developed countries. The use of JFI became widespread in the academic milieu as a criterion to evaluate research quality, for the purpose of advancement in career, granting of research funds, and the assessment of teaching and research institutions (DECLARAÇÃO..., 16.7.2013). Criticisms to the tyranny and the limitations of JFI increased along past few years, and not only in regions with good reasons to react against the prevalence of journals in English or in areas of knowledge disfavored by an indicator that privileges the journals characterized by a short average life of citations, sciences of life and exact sciences.⁴ In human science, durability of good works and the cycle of citations they get are much longer.

It was from biological science and the EUA that the most recent and strong criticism to Impact Factor came. In December 2012, a group of scientists attending the annual meeting of The American Society for Cell Biology (ASCB), in San Francisco, California, wrote the San Francisco Declaration on Research Assessment (Dora). Signed by over 150 scientists and 75 academic organizations, the statement recalls that the Journal Impact Factor, currently

4- Other arguments against the impact factor are listed in the above mentioned news story, which has good bibliographical indications about the subject (DECLARAÇÃO..., 16.7.2013).

calculated by Thomson Reuters, was created to help librarians identify periodicals that were worth purchasing, and not as a measurement of scientific research quality disseminated in scientific papers. Besides enumerating the well-known handicaps of such bibliometric tool, Dora defines recommendations contrary to its use specifically by funding agencies, academic institutions, publishers, indexers, and researchers. The first phrase of the document is striking: “There is a crying need to improve the means by which the results of scientific research are evaluated”⁵ – a statement that leads to the core of the challenges arising from the ongoing revolution of techniques and strategies of scientific communication, the massive migration of periodicals to digital editions and portals that are either private or of open access, the appearance of the so-called *megajournals* and numerous new metrics associated with the networks that disseminate information and knowledge, light-years away from the techniques available when Garfield created the Impact Factor. Those who attended the event organized to celebrate the 15 years of SciELO, in October 2013, were able to witness the fascinating magma of innovations, questions and challenges faced today by all social actors involved in the production, dissemination and assessment of science.

Dora had great repercussion. In July 2013, three researchers from the Laboratory of Evolutionary Genomics and Bio-Complexity, at the Federal University of São Paulo presented evidence against the “catastrophic” use by Capes of the Impact Factor to assess biology periodicals, “in a country that desperately attempts to leave the peripheral condition in science and technology to take a place among the main players” (FERREIRA, ANTONELLI, BRIONES, 11.7.2013, s.p.). In an interview to the *blog* SciELO Perspectives, Euan Adie (29.8.2013, s.p.) said: “altimetry could be an alternative to the use of the IF in areas in which it is not

5- The document is available at <http://am.ascb.org/dora/>. It also contains valuable references for those interested in an in-depth discussion.

adequate (and there are plenty of them)". A phrase by Rafols and Wildson, who defend something similar in *The Guardian* (17.5.2013), has an emblematic value for the publishers who are concerned with not missing the train of history: "In order to let science bloom and cope with societal challenges, the key is diversity".

How HCS - Manguinhos has been dealing with internationalization

SciELO has been the decisive agent for the internationalization of Brazilian periodicals.⁶ It grew strong in the world of *big publishing* and helps science in the country become *big science*. By stimulating the strand of open access, it has instituted a new (and instable) power correlation with two actors that prevail in the world of scientific communication, indexers and international publishers, reinforcing hierarchical, concentrating and privatizing trends. A wave of mergers in the editorial business has given rise to giant companies such as Elsevier, which have voraciously attacked the periodicals of emerging countries, including Brazil, and which perform a true commercial battle over this kind of commodity. These are businesses with power to extort high prices from universities, scientific institutions and researchers all of them in need for the information stores in the journals. Recently, they turned open access to paper *readers* into a very profitable enterprise by converting papers into commodity now expensive for the *authors*, thus subverting the libertarian spirit that is in the origin of the Open Access project.⁷ A serious

symptom of such distortion is the recent tendency of foreign referees to charge for their work.

The humanity area undergoes inexorably the effects of this process.

As we said before, joining the SciELO portal in 2000 has had a huge impact over *HCS - Manguinhos*⁸, which, in 2006, was released every fourth month instead of every third month, in order to meet the increase in the offer of papers. The dissemination gains were remarkable. Between 2000 and 2006 the number of accesses to the works published grew 560.75 times. Between 2007 and 2013, it was almost nine times higher (jumping from 702,617 to 6,786,195). The periodical became well known in other parts of the country and the cooperation from abroad occurred more often. Being included in 2006 to the subset of History of Medicine in the PubMed/Medline, the greatest bibliographical databases with free access for medical literature, and the invitation in 2008 to join Arts and Humanities Citation Index, one of the bibliographical database of Thompson Reuters Corporation, were important landmarks in the path towards the desired internationalization of the journal.

If, on one hand, SciELO enhanced the visibility of the journals added to its collection, on the other hand, it brought new challenges to its editors: strictness in keeping up the periodicity; more care with endogeny; online submission of original papers; sagacity in choosing keywords and the quality of abstracts, so important in indexing the papers; more complex publishing processes to cope with both printed and digital editions; the use of *ahead of print* and *releases* to anticipate and advertise the publication of articles. An important challenge is to learn to deal with the bibliometric and scientometric tools available in the very SciELO Portal, in the sphere of search engines such as Google or the indexers that dominate the scientific journalism scene. In this field, editors are still crawling, a

6- Ninety titles in their collections with open access are indexed in Web of Science and Scopus, that is, almost all Brazilian periodicals referred in JCR. About the impact of SciELO, see: MENECHINI, 2003; PACKER, et al., may-aug. 1998; MENECHINI, MUGNAINI, PACKER, 2006.

7- See Momen, 23.10.213. The expression Open Access (OA) was first used in a meeting of the Open Society in Budapest in December 2001. It gave rise to the Budapest Open Access Initiative, available at: <<http://www.budapestopenaccessinitiative.org/boai-10-translations/portuguese>>. This document was followed by two similar initiatives, the declarations of Bethesda and Berlin, disclosed in 2003 by the Howard Hughes Medical Institute and by the Max Planck Society, respectively. Interesting reviews of the initiatives concerning scientific communication through open access are found in Hagemann, 14.2.2012; eCracking..., 17.1. 2012, p. D1.

8- One of the first analyses of such impact can be found in BENCHIMOL et al. jan.-mar. 2007.

difficulty that probably is also found among most colleagues in other journals.

Getting rooted in other parts of Brazil, beyond the Southeast region, and making *HCS – Manguinhos* international are goals that began to be pursued, and many publishers in the Humanities are equally committed to that.

In the age of speedy globalization of scientific communication, when periodicals need to be part of the Web, it is crucial to allow foreign peers to access the Brazilian production. We chose English, the “Latin” of science in an academic world still ethnocentric,⁹ keeping the Portuguese language as a means of communication with native readers and the vast and significant Portuguese-speaking nations. Choices according to the language vary, of course, depending on the singularities of the communication networks that each journal is linked to.

From 2006 on, the editors of *HCS – Manguinhos* started to translate about five articles, in each edition, from Portuguese or Spanish into English. In the printed edition, papers still circulate only in the languages they have been submitted in, the three mentioned above and French. The goal is to become a digital journal thoroughly bilingual, but that has a financial and operational cost which we cannot afford so far.

SciELO is getting ready to act as a publisher, by articulating efforts and through unified services it will provide periodicals with facilities that potentiate its capacity to process and disseminate articles in a foreign language. It is an extremely fruitful measure, of complex implementation though, due to operating reasons and the characteristics of the Humanities journals – the literary quality of its scientific texts, its length, the unavoidable web of references, citation, sources –, which make its translation complicate and expensive, much more than scientific papers from areas which utilize more concise and homogenous language and presentation.

9 - See Meneghini, Packer, 2007.

Translation, however, is not enough to make a journal international. Language is part of culture and is linked to a style of expression. Authors writing in Spanish or Portuguese often use plural pronouns (“we”) and a multifaceted and polyphonic analytical approach that is sometimes ambiguous. In academic English, the pronoun “I” is generally utilized, and emphasis is preferably on a single argument, as a clear organizing principle of the work (CUETO, 2011).

For us, Brazilians, a study about Brazil is of general nature, and the case study deals with a city or region, an event or a process located in time. For the foreign reader, general is the process that takes or has taken place in the US or in Europe, and Brazil is a particular case, almost unknown. Therefore, when a paper is translated, it is important to establish a relationship between the object of research and the universe of the foreign reader, providing him or her with contextual information that here would be legitimately considered as known. It is also appropriate to recall that, in historiography, the current lines of thought increasingly appreciate comparative approaches and the networking of actors, and the better is the reduction of the analysis scale, the further the analyst has to pursue his or her sources. Equally outstanding for the internationalization of a journal is to mobilize foreign reviewers to evaluate papers produced locally, in order to force a fine-tuning of the authors with the international state of the art and result in the acknowledgement of the periodical outside the nation, as a vehicle respected by external collaborators. It should be remembered that important foreign institutions, in countercurrent to the tendency of turning scientific communication into a commercial commodity, have put pressure on their staff to publish in open access journals.

Internationalization requires initiatives in terms of advertising, including the vast world of the social networks, still little explored by the Brazilian scientific periodicals.

The recent experience with the social networks

Conquering this territory was encouraged by SciELO, which in August 2012, in partnership with Fiocruz and Ibict, held the seminar on “Introduction to the use of social networks in scientific communication”. Parker (2013) argued then that the use of social media as an effective way of doing scientific marketing. Biologist Atila Iamarino (2013), author of a must-see blog, named *Rainha Vermelha* (Red queen, at <http://scienceblogs.com.br/rainha/>), showed that the impact can be assessed through other metrics, in addition to citation, such as comments (blog), retweets (Twitter) and sharing (Facebook).

In June 6th, 2013, *HCS – Manguinhos* came up with new personae: a blog (www.revistahcsm.coc.fiocruz.br), a page in Facebook (www.facebook.com/revistahcsm), and a Twitter profile (www.twitter.com/revistahcsm), initially in Portuguese. By the end of October, they were also released in English.

In each edition of the journal, articles are highlighted in the blog by means of releases, interviews with the authors or news covering the topic, which sometimes leads to interviews with other authors who work on related subjects. The blog is continuously fed with information disseminated in other places of apparent interest for the journal readers or bringing up contents published in it, through internet links. Present-day burning issues are featured in news stories, interviews and features. Everything that is posted in the blog sections generates more reduced contents in Twitter and Facebook, almost automatically – “almost” means that many times it is necessary to remake headlines, leading paragraphs, images.

Making use of the Google Analytics tool as well as Facebook and SciELO metrics, results are analyzed after being four months online.¹⁰

10- The experience is new to the editors, even as to the proper way to reference the data presented below. The pages generated in Google Analytics and Facebook can only be accessed by the journal's editors. Therefore, a report was prepared with the downloaded and used pages,

Google Analytics presents then number of hits to the blog based on several parameters. It quantifies readers of just one hit and those in a returning hit, who tend to dwell longer and to search a great number of pages. Such “qualified” hits indicate that readers have been conquered and maintained. Such traffic monitoring tool also allows assessing the length of a hit, the number of pages being accessed, the most popular contents, the geographic origin and the language of the hitter. The hit distribution maps are the best indication of the double objective of going international outside Brazil and taking it further than the borders of the domestic Southeast region.

These and other data, combined with Facebook metrics, allow a better understanding of who is the readership of the new faces of *HCS – Manguinhos*, what issues arise more interest and which actions bring more readers to the social media, and possibly although not necessarily to the contents disclosed by the journal in its digital editions.

It was released on a Friday afternoon. In a horizontal line displayed by Google Analytics, the curve of the blog hits evolves as days go by (RELATÓRIO, p.4). Peaks in the curve indicate, with lots of sensitivity, good news stories that have been posted, either about journal contents – an interview, for instance, with the author of an article about a topic that entices the public in the media –, or about a burning issue of the present situation: the statements by the blog about street demonstrations or about the controversial regulation of the historian profession had immediate effect on the number of hits.

Another finding of general aspect: the blog concentrates contents, but hits usually come through Facebook. Contents included only in the blog remain more hidden; on the other hand, Facebook views do not necessarily translate into blog hits. Along four months (7.6–6.10.2013), 58.41% of total hits to the blog came from Facebook, other 7.70% from

which are available for consultation on the journal's blog at: http://issuu.com/158900/docs/relatorio_4_meses_2013.

Facebook accessed via cell phone and 1.48% from Twitter, which adds up to 67.59%. Direct hits to the blog, led by advertising or a browser, reached 32.41% of total hits.

Besides being the main way of access to contents, Facebook has a great multiplying effect when the journal or its digital personae receive “likes” from internet users, which are disseminated through everyone’s network of friends. It is also in such ambience that our highest level of interaction with readers takes place, since they can make comments and share the posts, expanding the involvement with contents and its potential of propagation. In the first period of assessment (7.6-6.7.2013), 685 people liked the journal page in Facebook. Such “fans” had a network of 305.206 “friends”, the potential outreach in the social media (RELATÓRIO, p.88). In the table/chart generated by Facebook (“overview”), it was possible to see the outreach of each post confronting two categories of users: the “involved”, those who liked or shared it, and those who “talked about” the post. The “outreach” category is always higher, as it includes users in whose walls the contents simply appear in the Facebook profile of the journal because the user him/herself or one of their friends, at a certain point, liked, shared or commented on the posts. In a new table generated by Facebook (RELATÓRIO, p.97-106), the three actions – like, share and comment – appeared in the “involvement” column together with the other action: “click”, which most of the time means the Facebook user moved to journal’s blog where he or she can see or read the whole story.

According to the new table (RELATÓRIO, 99-100), from June through October, 124,357 people were reached, out of which 5,350 liked, commented or shared, and 5,695 clicked, thus accessing the journal’s blog. The page where these numbers are displayed shows the performance of each post and, therefore, the topics that raised more interest in the public accessing the Facebook profile of *HCS – Manguinhos*.

Taking a look at those who “liked” (RELATÓRIO, p.93-94) one finds there is a female

prevalence (59.9%), in the ages between 25 and 44 years old, with (still) absolute supremacy of Brazil, the city of Rio de Janeiro and the Portuguese language, but here are occurrences in other 20 countries and 44 Brazilian cities.

Concerning Twitter, there were 108 followers, that is, people who subscribed to receive all information placed in the platform.

One day before the first action in the blog/Facebook/Twitter by *HCS – Manguinhos* (June 6th), the Fiocruz portal disclosed the news, immediately shared with the portal of the Ministry of Health. The launch was soon seen in the *Jornal da Ciência* (the science newspaper), by the Brazilian Society for the Advancement of Science (<http://www.jornaldaciencia.org.br/>) and with the COC portal. New hits were attracted to the social media already online by means of an ad sent to all readers and partners with a record in the journal’s database.

In the first day (RELATÓRIO, p.4), the blog had 175 hits, out of which 131 were “only hits” – who read the news and went away – and 44 people who then formed the first contingent of “qualified” visitors: those who would return and take longer in reading the online contents. After a month, 6,444 internet users accessed the blog. 8,442 hits were counted, which means that 1,998 internet users accessed the pages again. New hits account for, therefore, 76.3% of total hits, and return hits were 23.7%.

The 8,442 hits are associated with 14,781 page views, that is, the average of 1.75 page per user, with a medium length of 1min48sec. The “qualified” visitor dwelled 3min28sec on average, and during such time he or she took a look at on average 2.44 pages.

The challenge is to gain the viewers’ “fidelity” and enhance, as time goes by, such qualified accesses, which are no doubt an indication of the success of bringing a scientific journal to the social networks.

In four months of operation, the blog (7.6-6.10.2013) had 20,287 accesses performed by 14,296 viewers only and 5,987 by “qualified”

viewers. The average length of accesses oscillated – 1min48sec (month 1), 2min29sec (month 2), 2min:34sec (month 3) –, achieving a medium time of 2min05sec from June through October; the average number of pages accessed along the period was 1.82. However, considering just the user who returned to the blog, the increment in time (in the average) went from 3min28sec in month 1 to 4min13sec in the whole period, and then number of pages accessed rose from 2.44 to 2.68 (RELATÓRIO, p.4, 67).

Parameters were searched to assess the above numbers. The average time of hits in SciELO Brasil, according to Google Analytics, is 2.25 minutes, with two pages per access, whereas 50% of users make more than one access. According to the information provided by Abel Packer, *SciELO coordinator*, in an e-mail dated 23.9.2013, there is no news of a conclusive study about the average time internet users dwell in websites with scientific contents. One of the most consistent works regarding the matter seems to have been conducted by Chau Li and partners (2010), from Microsoft Research, investigating the behavior of Web users with over 10,000 accesses to 205,873 pages. The main conclusions of the study are presented in more accessible language in an article by Nielsen (12.9.2011).

Internet users, says the author, generally browse webpages rapidly and they only read one fourth of each text, but the time they take can vary a lot depending on the page's quality and the interest it arouses. The average time in accessing a page takes a little less than one minute. Chau Li's team observed that 99% of the webpages have "negative aging effect". Users "take the initial time in a ruthless screening in order to abandon the rubbish as soon as possible. [...] When they decide that a page is valuable, they may dwell a little in it". The probability of going away is very high in the first 10 seconds. Only after about 30 seconds, the probability of dwelling in the page becomes longer, up to "two minutes or more, which is an eternity in the Web".

HCS – Manguinhos entered in the social networks using Portuguese. It is natural, therefore, that 83.66% of the blog hits, between June and October, have come from Brazil (RELATÓRIO, p.68). Yet, the initiative echoed internationally, as reveals the share of other languages (see, for every month, the RELATÓRIO, p.5, 26, 47, 68). Data shows a significant network and the potential that the blog and the Facebook profile recently launched in English may achieve, a language that already represented 9.01% of total access from June through October, 2013.

In the global local map showing the 20,287 blog hits along the period, Brazil prevails widely (18,105), but there are internet "travelers" in other 73 countries and some have not been identified (RELATÓRIO, p.69-70).¹¹ Considering those appearing with 50 hits or more, the list includes in decreasing order: USA (361), Portugal (329), Spain (198), Argentina (190), Chile (161), Mexico (148), Peru (121), France (96), Colombia (60), United Kingdom (56) and Germany (51). The location of 119 hits could not be identified. The last country is Senegal (8 hits); the list also includes Mozambique (10 hits). Variations can be observed in such data along the 4-month period during which the blog has been online.

The singularity of Portugal is highlighted by a specific map (RELATÓRIO, p.15), in which one observes, initially, an excellent percentage of return and a considerable distribution among the nation: accesses from 11 regions, which are more intense in 4 of them: Lisbon, Santarem, Braga, and Coimbra. From June through October, there were 329 blog hits, with a strong concentration in the Lisbon area (123), and 52.89% was the rate of returning accesses (RELATÓRIO, p.78).¹² In the first four months,

11- In Relatório, only 24 countries have been listed, those with the highest number of hits and those included as "not set".

12- It includes "the rejection rate" of 72.74%. If the editors have understood it well (explanations are nuclear and controversial), the more frequent a reader is, the higher can the rejection rate be, since he or she keeps him/herself updated in relation to the contents available, and he or she may then access the blog to read just the last piece of information

Table 1: Blog hits: USA, Mexico, Peru, and Argentina

	Month : 7.6-6.7.2013	Month 2: 7.7-6.8.2103	Month 3: 7.8-6.9.2013	Month 1 through 4: 7.6-6.10.2013
USA	113	71	85	269
Mexico	81	21	30	132
Peru	50	26	24	121
Argentina	93	28	30	190

Source: RELATÓRIO, p.17-20, 38-41, 59-62, 80-83

Table 2 - New hits and returning hits

	Month 1: 7.6-6.7.2013		Month 2: 7.7-6.8.2103		Month 3: 7.8-6.9.2013		Month 1 through 4: 7.6-6.10.2013	
	New hits	Returns	New hits	Returns	New hits	Returns	New hits	Returns
USA	78.76%	22.24%	69.01%	31.99%	67.47%	32.53%	70.53%	29.47%
Mexico	82.72%	17.28%	61.90%	38.10%	76.67%	23.33%	75%	25%
Peru	74%	26%	76.92%	23.08%	54.17%	45.83%	69.42%	30.58%
Argentina	73.12%	26.88%	71.43%	28.57%	60%	40%	70.53%	29.47%

Source: RELATÓRIO, p.17-20, 38-41, 59-62, 80-83

length was 1min47sec and 1,74 accessed page, in the average. Internet users from 36 Spanish cities also accessed the blog (RELATÓRIO, p.79). The total hits dropped in the second month and reached 198 in the four-month period. Regarding the percentage of returns, the médium value for the four months of the blog operation was 25.76% (RELATÓRIO, p.79).

We have considered the networking of other four countries especially valuable: United States, Mexico, Peru, and Argentina.

Assuming the criterion of the average number of pages accessed, many foreign internet users had initially a performance that was higher than that of the Brazilians, with a highlight in the first month with those users from Mexico (2.72), Costa Rica (2.20), Argentina (2.12), Portugal (2,08), Peru (2,10) and Venezuela (two). The average number of pages accessed in Brazil was 1.74 (RELATÓRIO, p.6-7). In the 4-month period of the blog being

included and leave right away after, because he or she has already seen the previous entries. The dissemination of contents by Facebook may thus add up to a high rejection rate.

online (June-October), the Brazilian médium value rose to 1.83, and in the average more than two pages were accessed only in México (2.66), Argentina (2.15) and Switzerland (2.04); Portugal was close to that level, with 1.94 (RELATÓRIO, p.69-70).

Re-sorting the global map according to the average length of accesses, one gets different sequences, for each month. From June through October (RELATÓRIO, p.71-72), Greek had two minutes and above that level were Switzerland (2:01), Senegal (2:08), Brazil (2:10), Argentina (2:11), Costa Rica (2:22), Mexico (2:34), El Salvador (2:53), Venezuela (3:27), Hungary (4:06), Israel (4:55), Angola, where two users remained a médium time of 6:02 in two pages, and Benim, where one user dwelled 12:21 in three pages of the *HCS - Manguinhos* blog.

The distribution of accesses to the blog from South America, from June through October, 2013 (RELATÓRIO, p.77), shows greater concentration in four countries - Argentina, Chile, Peru, and Colombia -, adding up to 2.85% of the total hits, with a crushing

prevalence of Brazil (96.87% of total). In the global map (RELATÓRIO, p.69-70), the Brazilian share is 89.25%.

The domestic distribution of accesses shows, as it would be expected, a prevalence of the Southeast region: 69,01% of total hits from June through October. There were over 100 accesses in the same period from 16 States: Rio de Janeiro (7,136), São Paulo (2,854), Minas Gerais (2,265), Rio Grande do Sul (953), Bahia (807), Paraná (781), Distrito Federal (560), Santa Catarina (519), Ceará (369), Pernambuco (300), Espírito Santo (240), Paraíba (214), Goiás (182), Pará (149), Rio Grande do Norte (142) and Amazonas (134). The distribution of accesses per city (RELATÓRIO, p. 75-76) shows that the journal's neuronal network has branches that are broader than one could think of: at first sight, if the four months of the blog being online are considered, the list includes 420 cities (RELATÓRIO, p.75-76), but a remarkable number of hits indicates zero time of access, suggesting the action of some mechanisms in tracking new websites. Excluding such cases, in four months of operation, the blog was accessed from 197 cities.

Perhaps the most significant data from a strategic perspective comes from double-crossing the new items more often accessed in the blog (RELATÓRIO, p.23, 44, 65, 86) and in Facebook (RELATÓRIO, p.88, 96-105), with access indicators for articles provided by SciELO Brazil. It should be noted that, before completing this study, SciELO Brazil launched new altimetric indicators that allow viewing, for every article online, its spread via different social networks (RELATÓRIO, p.110-112).

It is very likely that the journal contents may be disseminated effectively through three resources so far attempted: publication in the social networks of interviews with authors, of news stories about the articles online or also news stories about topics of the present situation which stimulate accesses to newly released articles or being online longer, either by means of web links associated with each news story

disclosed, or by the blog tab referring to the SciELO page where the journal editions since 1994 can be found.

The most successful cases translate into peaks that seem to be momentary, largely dependent, on the one hand, on the interest aroused by the topic in question among the social network users and, on the other hand, on the prestige or the extent of each author's network. A good example of that is the interview¹³ with Paul Gootenberg (2009), author of *Andean Cocaine: the Making of a Global Drug*. The interview was motivated by the publication in *HCS – Manguinhos* of an article by Ivan Farias Barreto (2013), *O uso da folha de coca em comunidades tradicionais* (The use of the coke leaf in traditional communities). Gootenberg published the post with the interview in his personal page in Facebook, which caused a momentary boom of accesses in several countries (353 views of the interview in Portuguese and 126 in English).

Good news stories that are online in the blog generate peaks of access to the articles published. An expressive example is *Os bordados de João Cândido (João Cândido's embroideries)*, by José Murilo de Carvalho (1995), withdrawn from the limbo when the author was called to make a statement, in July 2013, about the social movements that shook our nation. That was the online item that generated the greatest number of blog hits, 3,470, and many readers of the interview with José Murilo looked for the article in SciELO, whose accesses jumped from 13 to 320 at the time (RELATÓRIO, p. 109).

It must be reminded that, when the article was published in 1995, the dissemination was done only by generic releases for each edition of the journal, sent to the review sections of newspapers, which almost always ignored them (as they also ignored any other scientific periodical).

The collected data supplies more evidence of the multiplying power of accesses to articles provided by the social networks

13- Available at: <<http://www.revistahcsm.coc.fiocruz.br/guerra-as-drogas-a-que-custo/>>.

(RELATÓRIO, p. 107-109). An article by Rolim and Sá (2013) about the spread of Germanism in Bayer periodicals, published in the Jan-Mar 2013 edition, was the subject of a post in Facebook on July 7th. The 32 resulting accesses in May leaped to 62 in June. An article by Ferreira (2013) about the native traditional medicine, in the same edition, had 89 accesses when disclosed in Facebook, achieving 188 hits in June. The obituary of historian Ciro Flamarion Cardoso (2006), inserted in the blog on 3.7.2013, impacted the accesses to his article published in 2006, going from 47 to 104.

The momentary peaks of hits to the blog, Facebook, and Twitter, and, as a result, to articles are the apple of the editors' eyes, but the effort to join the social networks and keep the rhythm will not be worthwhile if it does not translate into an ascending average move in the accesses to scientific articles and in the citations they may get from other knowledge makers in their areas of expertise. In the horizon of expectancies in relation to the online branches of *HCS – Manguinhos*, especially its English version, there is a highlight, as mentioned before, of the increase in the impact of articles in the international indexers, since one of the expected gains is its greater and faster visibility for researchers from Brazil and abroad, thus making it more likely that they will be used, cited and, therefore, indexed.

Data so far gathered seems to indicate that this process is underway, but it is too soon to assess the magnitude of what is happening and what the consequences will be for the journal's internationalization.

Conclusions

The members of *HCS – Manguinhos* editorial staff had little experience in the social networks and, thus, their quick and overwhelming dynamics has astonished them and imposed on them routines that were quite different from those they were familiarized with. The inflation of information received

and posted in the social networks interferes with the work tasks of the scientific journal. Competences are different, the additional workforce and the financial costs are not small, and it is indispensable to keep a pace of constant updates, so that the new personae in the journal will not perish or have a self-defeating effect.

Blog, Facebook, and Twitter were launched precisely when the social movements were on the rise as they thrilled the Brazilian society. Not too late they themselves realized that the social networks draw them to discussions and controversies that do not strictly concern the contents disclosed by the scientific periodical, which requires a broader analysis of the present time and makes them more sensitive to non-academic activists.

Saying it over again, when the contents going online in the social networks, do not concern articles published, they are often linked to articles that are recent or old so that the controversies and topics of the moment boast accesses to the journal's academic productions. However, on the long run, this operation is not as simple as the above lines suggest. The journal's editions involve well-defined temporalities, the reception, analysis, preparation and publication of texts which, in turn, are the product of slow and hard-working intellectual elaborations about objects of research that are located in past times, observed in a long-term perspective or, more often, in the view of the historical circumstances. Social networks deal with the fleeting foam of the day, with the chaotic sequence of everyday facts. The connection between the events that they imply and the already ripe fruits of the historiographical research is frequently a forced, arbitrary operation. It is possible that such connection will contribute to make the communities of researchers *HCS – Manguinhos* is linked to assimilate more vigorously the praised principle of the School of the *Annales*: one must examine the past in the light of the problems and issues of the present time. If that does happen, the effort will have been worthwhile.

The successes that are often unexpected in the posts to the blog, Facebook and Twitter unavoidably bewitch editors, taking them to look continuously for materials that may rekindle these fleeting blazes. In it dwells the most joyful side of the enterprise and also its riskiest aspect, as one may lose sight of the scientific scope, which must continue to guide the actions in the social networks.

The periodical's new personae in the social networks have drawn a vaster and more diversified public than the one that effectively reads the journal's works and utilizes them as the raw material for new analytical or teaching productions. To what extent will these new people who read and like *HCS – Manguinhos* lead to a better academic performance of the journal? Nobody knows it yet.

The analysis drafted so far is based on webmetrics produced with criteria that are not clear and transparent at all by world organizations that are as much ubiquitous as manipulating and inaccessible to the internal criticism that every "source" should get. The data extracted from these systems, still unskillful, seem to indicate that it is possible to disseminate in an efficient way the academic contents of the journal through the social networks, and that *may have* a remarkable effect on the citation indexes of articles, on the long run and by means that these metrics do not allow to see now.

The new synergies arising from the entry into the social networks reinforce the journal's digital editions in detriment of the printed copies. The problem of the costs brings up a dilemma that has been discussed over time: printed editions should or should not be eliminated since many libraries do not want them anymore, only a few readers subscribe them and nobody buys them in bookstores. Unless there is a drastic reversal in the economic situation of Brazil, that "pulls the rug under" their feet, the editors of *HCS – Manguinhos* will not do it: first, because it is an illusion to suppose that, in this vast world, everybody has easy Internet access; and, when there is a power shortage, it goes down everywhere; as Millôr Fernandes (undated) once argued, the printed journal has no electric circuits, it does not need to be connected to anything. It is easy to use... you just have to open it!¹⁴ And it will endure almost an eternity in the bookshelves of libraries, while information technologies fall into disuse on a quarterly basis. There are still many people who would rather read the solid and fragrant journals; even in the new generations, there are spirit running away from the behavior of the mobs; and last but not least, the printed journal is still much more beautiful!

14- Millôr's remarkable text was replicated and copied without having its author cited in several parts of the world.

References

- ADIE, Euan. **Entrevista com Euan Adie, CEO da altmetric.com**. Disponível em: <<http://blog.scielo.org/blog/2013/08/29/entrevista-com-euan-adie-ceo-da-altmetric-com/>>. Acesso em: 21 out. 2013.
- ARAÚJO, Carlos Alberto. Bibliometria: evolução histórica e questões atuais. **Em Questão**, Porto Alegre, v.12, n.1, p. 11-32, 2006.
- BARBALHO, Célia Regina Simonetti. Periódico científico: parâmetros para avaliação de qualidade. In: FERREIRA, Sueli Mara Soares Pinto, TARGINO, Maria das Graças (Orgs.). **Preparação de revistas científicas: teoria e prática**. São Paulo: Reichmann & Autores, 2005.
- BARRETO, Ivan Farias. O uso da folha de coca em comunidades tradicionais: perspectivas em saúde, sociedade e cultura. **História, Ciências, Saúde – Manguinhos**, v.20, n.2, p. 627-641, jun. 2013.
- BENCHIMOL, Jaime L.; CERQUEIRA, Roberta Cardoso; MARTINS, Ruth B.; MENDONÇA, Amanda. História, Ciências, Saúde – Manguinhos: um balanço de 12 anos de circulação ininterrupta. **História, Ciências, Saúde – Manguinhos**, v.14, n.1, p. 221-257, mar. 2007.
- BURKE, Peter. Abertura: a nova história, seu passado e seu futuro. In: BURKE, Peter. **A escrita da história: novas perspectivas**. São Paulo: Unesp, 1992.
- CARDOSO, Ciro Flamarion. Ficção científica, percepção e ontologia: e se o mundo não passasse de algo simulado? **História, Ciências, Saúde – Manguinhos**, v.13, p. 17-37, out. 2006. Suplemento.

- CARTA dos editores. **História, Ciências, Saúde – Manguinhos**, v.16, n.1, 2009.
- CARVALHO, José Murilo de. Os bordados de João Cândido. **História, Ciências, Saúde – Manguinhos**, v.2, n.2, p. 68-84. out. 1995.
- CRACKING open the scientific process. **The New York Times**, p. D1, 17 jan. 2012. Disponível em: <http://www.nytimes.com/2012/01/17/science/open-science-challenges-journal-tradition-with-web-collaboration.html?_r=0>. Acesso em out. 2013.
- CUETO, Marcos. Carta do editor. **História, Ciências, Saúde – Manguinhos**, v.18, n.4, p. 979-984, dez. 2011.
- DAVYT, Amílcar e VELHO, Léa. A avaliação da ciência e a revisão por pares: passado e presente. Como será o futuro? **História, Ciências, Saúde – Manguinhos**, v.7, n.1, p. 93-116, 2000.
- DECLARAÇÃO recomenda eliminar o uso do fator de impacto na avaliação de pesquisa. Disponível em: <<http://blog.scielo.org/blog/2013/07/16/declaracao-recomenda-eliminar-o-uso-do-fator-de-impacto-na-avaliacao-de-pesquisa/>>. Acesso em: 15 out. 2013.
- DORA. San Francisco Declaration on Research Assessment, 2012. Disponível em <<http://am.ascb.org/dora/>>. Acesso em out. 2013.
- FERNANDES, Millôr. **L.I.V.R.O. Amigo do Livro**. Disponível em: <http://www.amigosdolivro.com.br/lermais_materias.php?cd_materias=3689>. Acesso em out. 2013.
- FERREIRA, Luciane Ouriques. A emergência da medicina tradicional indígena no campo das políticas públicas. **História, Ciências, Saúde – Manguinhos**, v.20, n.1, p. 203-219, mar. 2013.
- FERREIRA, Renata C.; ANTONELLI, Fernando; BRIONES, Marcelo R. S. The hidden factors in impact factors: a perspective from Brazilian science. **Frontiers in Genetics**, v. 4, n.130, 2013.
- GOIS, Antônio. Produção científica cresce 56% no Brasil. **Folha de S. Paulo**, São Paulo, 06 maio 2009. Ciência. Disponível em: <<http://www1.folha.uol.com.br/folha/ciencia/ult306u561181.shtml>>. Acesso em out. 2013.
- GOOTENBERG, Paul. **Andean cocaine: the making of a global drug**. Chapel Hill: University of North Carolina Press, 2009.
- HAGEMANN, Melissa. Ten years on, researchers embrace open access. **Open Society Foundations**, fev. 2012. Disponível em: <<http://www.opensocietyfoundations.org/voices/ten-years-on-researchers-embrace-open-access>>. Acesso em: out. 2013.
- HISTÓRIA...a. CNPq. **Centro de Memória**. Disponível em: <<http://centrodememoria.cnpq.br/Missao2.html>>. Acesso em: out. 2013.
- HISTÓRIA...b. **CAPES: Coordenação de Aperfeiçoamento de Pessoal de Nível Superior**. Disponível em: <<http://www.capes.gov.br/sobre-a-capes/historia-e-missao>>. Acesso em: out. 2013.
- IAMARINO, Atila. **Você compartilha, eu curto e nós geramos métricas**. Comentário publicado. Disponível em: <<http://www.revistahcsm.coc.fiocruz.br/voce-compartilha-eu-curto-e-nos-geramos-metricas/>>. Acesso em: ago. 2013.
- LI, Chau; WHITE, Ryan W.; DUMAIS, Susan. Understanding web browsing behaviors through Weibull analysis of dwell time. In: **International Acm Sigir Conference on Research and Development in Information Retrieval**, 33, 2010, New York. Proceedings...New York. 2010. p. 379-386.
- LIMA, Nísia Trindade; GERSCHMAN, Silvia; EDLER, Flavio Coelho; MANUEL SUÁREZ, Julio. **Saúde e democracia: história e perspectivas do SUS**. Rio de Janeiro: Fiocruz, 2005.
- MCCABE, Daniel. The slow science movement. **University Affairs**, dec. 2012. Disponível em: <<http://www.universityaffairs.ca/the-slow-science-movement.aspx>>. Acesso em: out. 2013.
- MENEHINI, Rogério. É hora de mudança. Entrevista a Sónia Moutinho. **Ciência Hoje**. Publicado em 20/09/2012. Atualizado em 25/09/2012. Disponível em: <<http://cienciahoje.uol.com.br/noticias/2012/09/e-hora-de-mudanca>>. Acesso em: out. 2013.
- _____. Publicação de periódicos nacionais de ciência em países emergentes. **Educação em Revista**, v. 28, n. 2, p. 435-442, jun. 2012. Disponível em: <http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0102-46982012000200020>. Acesso em: out. 2013.
- _____. Emerging journals: the benefits of and challenges for publishing scientific journals in and by emerging countries. **European Molecular Biology Organization - Embo Reports**, v. 13, n. 2, p. 106-8, fev. 2012. Disponível em: <<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3271339/>>. Acesso em out. 2013.
- _____. SciELO project and the visibility of 'peripheral' scientific literature. **Química Nova**, v. 26, n. 2, p. 155-156, 2003.
- _____; MUGNAINI, Rogério; PACKER, Abel L. International versus national oriented Brazilian scientific journals. A scientometric analysis based on SciELO and JCR-ISI databases. **Scientometrics**, v. 69, n. 3, p. 529-538, 2006.
- MENEHINI, Rogério; PACKER, Abel L. Is there science beyond English? Initiatives to increase the quality and visibility of non-English publications might help to break down language barriers in scientific communication. **European Molecular Biology Organization. Embo Reports**, v. 8, n.2, 2007, p. 112- 116.

MENEGHINI, Rogerio; PACKER, Abel L.; NASSI-CALO, Lilian. Articles by Latin American Authors in Prestigious Journals Have Fewer Citations. **PLoS ONE**, v. 3, n. 3, e3804, novembro de 2008.

MOMEN, Hooman. **Megarevistas e outras inovações na edição de revistas acadêmicas**. Comunicação apresentada em 23.10.213 em Conferência Scielo 15 anos (no prelo).

MUGNAINI, Rogério. **Caminhos para adequação da avaliação da produção científica brasileira: impacto nacional versus internacional**. Tese de doutorado. São Paulo, Escola de Comunicação e Artes, 2006.

NIELSEN, Jakob. **How Long Do Users Stay on Web Pages?** 12 set. 2011. Disponível em: <<http://www.nngroup.com/articles/how-long-do-users-stay-on-web-pages/>>. Acesso em: out. 2013.

PACKER, Abel. **Redes sociais para divulgar ciência**. Comentário publicado em abril de 2013. Disponível em: <<http://www.revistahcsm.coc.fiocruz.br/redes-sociais-para-divulgar-ciencia/>>. Acesso em: out. 2013.

PACKER, Abel Laerte, et al. SciELO: uma metodologia para publicação eletrônica. Brasília, **Ciência da Informação**, v. 27, n. 2, p. 109-121, ago. 1998.

PINTO, Angelo C.; ANDRADE, Jailson. Fator de impacto de revistas científicas: qual o significado deste parâmetro? **Química Nova**, v.22, n. 3, p. 448-453, jun. 1999.

RAUPP, Marco Antônio. A ciência e a presidência. **O Estado de S. Paulo**, São Paulo, 17 out. 2010. Disponível em: <http://www.estadao.com.br/noticia_imp.php?req=not_imp615775,0.php>. Acesso em: out. 2013.

REINACH, Fernando. Darwin e a prática da 'Salami Science'. **O Estado de S. Paulo**, São Paulo, 27 abr. 2013. Disponível em: <<http://www.estadao.com.br/noticias/impreso,darwin-e-a-pratica-da-salami-science-,1026037,0.htm>>. Acesso em out. 2013.

RELATÓRIO de uso das redes sociais junho/outubro 2013. HISTÓRIA, CIÊNCIAS, SAÚDE – MANGUINHOS. Disponível em: <http://issuu.com/158900/docs/relatorio_4_meses_2013>. Acesso em: out. 2013.

RIGHETTI, Sabine. Produção científica do Brasil aumenta, mas qualidade cai. **Folha de São Paulo**, São Paulo, 22 abr. 2013. Disponível em: <<http://www1.folha.uol.com.br/fsp/cienciasaude/105099-producao-cientifica-do-brasil-aumenta-mas-qualidade-cai.shtml>>. Acesso em: out. 2013.

ROLIM, Marlon Silva; SÁ, Magali Romero. A política de difusão do germanismo por intermédio dos periódicos da Bayer: a Revista Terapêutica e O Farmacêutico Brasileiro. **História, Ciências, Saúde – Manguinhos**, v.20, n.1, p. 159-179, mar. 2013.

RAFOIS, Ismael; WILSDON, James. Just say no to impact factors. **Political Science**: Hosted by the Guardian. Disponível em: <<http://www.theguardian.com/science/political-science/2013/may/17/science-policy>>. Acesso em out. 2013.

THE SLOW science manifesto, 2010. **The Slow Science Academy**. Disponível em: <<http://slow-science.org/slow-science-manifesto.pdf>>. Acesso em: out. 2013.

VELHO, Lea. Internacionalização da ciência: acaso ou necessidade? **Jornal da Unicamp**, Campinas, ano 25, n.505, 11 set. 2011. Disponível em: <http://www.unicamp.br/unicamp/unicamp_hoje/ju/setembro2011/ju505_pag2.php>. Acesso em: out. 2013.

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