História, Ciências, Saúde – Manguinhos: *examining 12 years of regular circulation*

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BENCHIMOL, Jaime L.; CERQUEIRA, Roberta C.; MARTINS, Ruth B.; MENDONÇA, Amanda.
História, Ciências, Saúde – Manguinhos: examining 12 years of regular circulation.
História, Ciências, Saúde – Manguinhos, Rio de Janeiro, v.14, n.1, p.1-36, Jan.-Mar. 2007.

This article analyzes the trajectory of História, Ciências, Saúde – Manguinhos since it was first released in 1994. A multidisciplinary journal, its pages are open to unpublished, peer-reviewed articles, images, documents, interviews, and other materials that address issues in the history of medicine, public health, and the life sciences. Approaching from the perspectives of health and of historiography, the article explores the context in which the journal was born and discusses the daily workings of a scientific editorial office. Tables and graphs illustrate variations in the topics submitted for publication, the acceptance and rejection rates for articles, the geographical origin of authors, and the ways profiles of contributors and readers of the printed and online versions differ in terms of their areas of interest.

KEYWORDS: history of medicine; history of sciences; scientific periodicals; Brazil; História, Ciências, Saúde – Manguinhos; on-line scientific periodicals.

English Translation:
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The goal in this article is to analyze the trajectory of *História, Ciências, Saúde – Manguinhos* since its first release in 1994.[1] The journal was an initiative of Casa de Oswaldo Cruz, a unit of Fundação Oswaldo Cruz. This institution belongs to the Ministry of Health and combines research, teaching, production of pharmaceuticals and vaccines, and other health-related activities. *História, Ciências, Saúde – Manguinhos* was first published every four months; four years later, it gained an electronic version and an annual thematic supplement started being published as well. In 2000 the journal was posted in SciELO (Scientific Electronic Journal Online), a free-access virtual library for complete texts published in 345 scientific journals, a large number of them in health and biomedicine. The journals are published in several Caribbean and Latin American countries, as well as in Spain and Portugal (www.scielo.br/hcsm).[2] Internet access to complete texts contributed to widen the reach and visibility of *História, Ciências, Saúde – Manguinhos*, and the increasing number of articles led to a demand for trimestral editions in 2006. At the same time, the journal was also indexed in the History of Medicine subgroup of PubMed and in Medline, the largest and most visited free-access bibliographical database on medical literature.

História, Ciências, Saúde – Manguinhos was launched on July 26 1994, at the so-called Casa de Chá (Tea House), an art-nouveau pavilion that had just been renovated and become again the pleasant meeting place for workers at lunchtime, in its roofed veranda delimited by a gracious wooden structure. The building stands next to the Castelo Mourisco (Moorish Castle), the largest monument in the architectonic site built by Oswaldo Cruz in the early 20th century to house the research institute that emerged, victorious, from sanitation and urban remodelling of the federal capital (Benchimol, Teixeira, 1993; Benchimol, 1990; Stepan, 1976).

In 2007, we celebrate 13 years of continuous publication of *História, Ciências, Saúde — Manguinhos*.[3] At the time the journal was first distributed, Fiocruz already published two prestigious periodicals — *Memórias do Instituto Oswaldo Cruz* and *Cadernos de Saúde Pública*. Later on, *Trabalho, Saúde e Educação* was launched by the Escola Politécnica da Saúde Joaquim Venâncio, which in 2005 was elected the best public technical high school in Brazil.

The oldest of all journals specialized in the biological and biomedical fields in the country, *Memórias do Instituto Oswaldo Cruz* was conceived in 1909 by the Instituto's patron, at a time Manguinhos was formed only by the Instituto Oswaldo Cruz. *Memórias* publishes original articles in tropical medicine, medical and veterinarian parasitology, microbiology, biochemistry, immunology, molecular and cellular biology, physiology, pharmacology, and genetics. On the other hand, *Cadernos de Saúde*

Pública were first released in 1985, being edited by the Escola Nacional de Saúde Pública then already in the realm of the Fundação Oswaldo Cruz, a conglomerate created by the military regime in 1970. *Cadernos* were first published by the time the country was in the process of redemocratization, political amnesty, and campaign for direct elections. Both journals have printed and electronic versions.

História, Ciências, Saúde – Manguinhos has as its subjects the history of medicine, health, and of the life sciences. Because it values transdisciplinarity and the social determination of processes occurring in those domains, the journal includes in its illustrated editions, works produced by historians, sociologists, philosophers, anthropologists, and professionals in the various health fields. Although open to connected fields of knowledge, the predominant journal themes have been hygienics, city and country sanitation, the creation and development of scientific disciplines and other fields of knowledge, the interactions between scientists and local organizations with European and North-American science, and still the diseases that endemically or epidemically spread in Brazil and other countries.

Besides the Analysis section containing unpublished articles, *História, Ciências, Saúde – Manguinhos* is open to research notes, interviews and testimonies, documental and iconographical sources that are relevant to historical research, book reviews, and abstracts of dissertations and theses. The journal editions frequently include thematic dossiers and once a year, one or more supplemental issues are produced on specific subjects. So far, these issues have covered the Canudos War, naturalistic travellers, public health in Latin America, the Amazon, the history of Hansen's disease, the history of immunizations in Brazil, Darwinism, genetically modified organisms or transgenics, the 1918 influenza pandemic , international medicine and last, sciences and arts.

Most readers of the journal are researchers and undergraduate and graduate students in the human sciences, physicians, sanitarians, and other professionals in the health and biological sciences fields. Fewer readers are architects, physicists, museologists, journalists and other professionals interested in the themes brought by the journal.

International indexes of scientific periodicals in medicine and the humanities, where *História, Ciências, Saúde – Manguinhos* is included, are some of the ways the journal plays the role of a communication channel between the social and the biological sciences.[4]

Although approximately 35% of the one-thousand issues go to subscribers (individuals and organizations, mostly research centres and libraries) and to readers of specific volumes during scientific

meetings or in bookstores, the journal primarily survives on Fiocruz support and an annual subsidy provided by the CNPq editorial support program.[5] The exchange of the journal for foreign and other Brazilian publications continuously enriches the Casa de Oswaldo Cruz library. 'The journal is also given for free to libraries and research institutes in Brazil and abroad.

História, Ciências, Saúde – Manguinhos is a product of the movements for reform in public health and historiography after the 1970s, with the harshening of the reactions from different sectors against the military dictatorship installed in the previous decade. In the health field, the professionals who were striving for prevention medicine in the medical schools of São Paulo and Rio de Janeiro created, in the 1980s, the Sanitarian Reform Movement based on the tripod for the universality, integrity, and gratuity of health as citizens' rights (Escorel, 1999; Gershman, 1995). At an interview for *Radis*, one of the leaders of the reform, the sanitarian Sérgio Arouca (out. 2002) pointed to the main aspects of the movement: to discuss the concepts of health and disease again and introduce the notion of social determination of diseases as opposed to a system that favoured the (mainly private) relationship between physician and patient. The movement resulted in the only popular amendment to the 1988 Constitution, which established the universalization of health and the State obligation to provide it, leaving private medicine with a complementary function.

In this same context, when Arouca became the Head of Fundação Oswaldo Cruz in 1985, he and a team of sanitarians and researchers created the Casa de Oswaldo Cruz. Two years later, the Casa became one of the techno-scientific sectors of Fiocruz, adding to its traditional activities the research and dissemination of the history of health and the life sciences, which later became de journal *História, Ciências, Saúde – Manguinhos*.

The history of medicine and public health: trends

In Brazil and in other countries, the history of medicine until the end of the 19th century was intrinsically tied to the teaching of physicians. The subject was one of the disciplines in the first curriculum of the Faculdade de Medicina do Rio de Janeiro, founded in 1832 and it continued until the reform led by the positivist Benjamin Constant, during the provisory republican government in 1891. History and medicine were together during the time the Hippocratic corpus and other classical texts from Ancient history were repositories of knowledge and experiences considered useful for the art of healing. The history of medicine became an academic discipline in the turn of the 18th to the19th century, when medical schools in several European capitals were restructured, when neo-

Hippocratism was in its high although the perception of air, water and places as determining factors of health were in the process of being drastically changed by chemistry, the geosciences and biology, and the perception of bodies and diseases, by pathological anatomy and experimental physiology. In the second half of the 1800s, with the dominance of laboratory medicine, the beginning of the Pasteurian revolution and the expansion of a scientificist ideology in this and other fields of knowledge, history became a superfluous luxury in medical schools and object of erudition for physicians who, at the end of their careers, cultivated the fine arts.

By the way, this is still a well alive cultural trait in Brazil: the involvement of physicians with the history of their own profession, particularly that of the remarkable doctors whose panegyrics help the exaltation of careers that materialize themselves not only at the physician's office, at the hospital or by the patient's bed, but also in the academy, in class associations and frequently in political organizations, in the legislative and in ministerial positions.

To the extent that the history of medicine became less important or banned in medical schools, the discipline went to other professional fields that aimed to reach for the human sciences the same scientific rigor attained by the natural sciences. Philologists, bibliographers, lexicographers, and mainly several historian-physicians with the professional mood for the study of the past and influenced by the emerging historicist trends at the turn of the 19th to the 20th century, led to considerable achievements in the knowledge of the evolution of western medicine in ancient times, during the Middle Ages, and in the Renascence.

Journals, associations and societies dedicated to the history of medicine, including an international association organized in 1921, flourished in several countries. In Brazil, the Federação Nacional de História da Medicina e Ciências Afins was founded in 1945, as initiative of the Instituto Brasileiro da História da Medicina. The Instituto organized several congresses in the country and, in 1949, the Federação first published the *Revista Brasileira de História da Medicina*.[6] Its narratives, with a positivist or nationalist approach, were written mainly by physicians; they ordered facts according to evolutionary schemes that combined chronological turning points of the Brazilian political and administrative history with the upward march of knowledge toward a scientific medicine, which was almost always efficient and due to the remarkable doctors of national or local importance – by the way, these were frequently at the origin of real family dynasties of physicians. Some works of greater impact and methodological sophistication became classical pieces in our medical historiography, such as the *História da Medicina no Brasil*, by Licurco de Castro Santos Filho, published in São Paulo in 1947 by Editora Brasiliense (2 vols.), and the *Capítulos da*

História da Medicina no Brasil, by Pedro Nava (Editora Universidade Estadual de Londrina/Ateliê Editorial), as an offprint of the journal *Brasil Médico-cirúrgico*.

Although still using those literary resources as inspiration, current historians of medicine and public health had to go to other mediators and make contact with an extremely talented generation of historian-physicians that started writing in Germany, between the First and the Second World Wars. Contemporaries to the journal created by Lucien Febvre and Marc Bloch in 1929, – *Annales*: Economies, Societés, Civilisations –, Karl Sudhoff, Henry E. Sigerist, Erwin H. Ackerknecht, and George Rosen, to mention just a few, they shared several methodological principles with the so-called École des Annales and with other collateral movements for the renovation of historiography: the rebellion against factual or evénémentielle history, against the supposed exemption of the historian and the kingdom of political history and of the narratives centred in the accomplishments of the great men and women.

The involvement in the present and the option for a history of medicine tied to the economy and society reflected not only the trends in historiography but also movements occurring in the public health realm, carried out by physicians that made history with the goal of changing the medicine of their times. They wanted to make medicine more social, more preventive, retrieving ideals of the 19th century reformers as Rudolph Virchow, the creator of cellular pathology and a combatant in the barricades during the 1848 revolution, in Berlin (Fee, Morman, 1993).

According to Peter Burke (1992, p. 18), the École des Annales was established late in the United States; on the other hand, the immigration to the country of German historian-physicians pursued by Nazism to that country soon promoted a great leap in the history of medicine in institutions such as Johns Hopkins University. Although not successful in holding back the liberal and privatizing trend in North-American medicine, they were able to produce fundamental studies such as the *History of Public Health*, by George Rosen, originally published in 1958 and still a classic in the formation of sanitarians as well as historians nowadays (the Brazilian edition dates back to 1994). It is appropriate to point out one of the rare works that followed Rosen's: *Health, Civilization and the State*: a history of public health from ancient to modern times, by Dorothy Porter (Londres, Routledge, 1999), in the countertrends to the fragmentation of the object of analysis and to the specialization of historians.

Beginning in the 1970s, the tradition inaugurated by the École des Annales was subjected to intense renovation. In France and its intellectual provinces, the movement led to the so-called New History, which widened the repertoire of objects, approaches,

conceptual tools and research sources, thus expanding historiography at a "vertiginous rate", as said by Burke (1992, p.8; see also Le Goff, Nora, 1976a, 1976b e 1976c). Concomitantly, the domain set by Rosen was flooded with numerous monographs and articles by and large produced by historians with no medical background and aligned with the trends in historiography and in the social sciences. Elizabeth Fee (1993; Fee, Morman, 1993) points out the ideological cleavages between the generation of historians modelled by the 1960s contestation movements and of historian-physicians belonging to Rosen's generation, who were illuministically optimists as far as the progress of science and the capacity of the medical establishment to solve humanity's health problems, as long as they used the stored knowledge on behalf of a preventive and social medicine. The new generations of historians critically studied the control mechanisms implicit in medical discourse and institutions, were interested in the knowledge and practices that were alternatives to academic medicine or that came from territories subjugated to colonial empires as well as to capitals in the Third World. The critique to euro-centrism was translated into a renewed interest in the history of medical systems that did not originate from the Greek-Roman matrix or did not follow European medicine. Race and gender issues, a more refined approach to social classes and categories, the attention paid to actors and local particularities came to inform the studies on health politics, institutions and professions. The history of medicine was no longer the history of physicians only to also become the history of patients, and the history of diseases had its real boom of monographic studies. The body, childhood, the sensibilities, the environment and other issues attenuated the frontiers between the science of history and other human and natural sciences.

In Brazil, the history of medicine and the history of sciences imbricate, perhaps more extensively than in other countries, due to impact of the biomedical institutes created at the turn of the 19th to the 20th century on the institutionalization of the sciences in general. Historians of medicine and other sciences have made great efforts to show the relativity of the concept of backwardness, in order to undo the previously accepted notion that Brazilian science and culture in general were pale simulacra or passive recipients of European, and eventually of North-American science and culture. Such effort aims to demonstrate not only the implicit creativity in adapting different kinds of knowledge, institutions and discourses produced in the hegemonic social formations to local contexts, but also that the immigrant or native intellectuals and the institutions they created were important components of larger networks and, as such, co-participants in the breakthroughs of several fields of knowledge.

The history of sciences and health

It is because we belong to a biomedical institution that we are here, discussing the problems and perspectives of *História, Ciências, Saúde – Manguinhos*.

Differently from what seems to occur in São Paulo and in other Brazilian states, where the history of sciences and the history of health are primarily done within universities, in Rio de Janeiro these disciplines have been flourishing mainly in traditional science institutions that had their golden times when Rio was the capital of Brazil. An increasing number of dissertations and theses related to the history or the communication of sciences have been presented to post-graduation programs in the city and the state of Rio de Janeiro. These, however, are not as open as they should be to research and teaching fields related to those kinds of knowledge. Also in other states those fields have been marginally studied by initiative of a handful of professors and some research groups also within post-graduation programs.

The editors of *História, Ciências, Saúde – Manguinhos* have often debated the convenience of restricting the journal scope to themes related to the history of medicine and public health, following the scope of the institution housing the journal (Benchimol, Martins, 2004, p.53-59). However, this area does not seem to be sufficiently mature to us so as to reach the degree of specialization that characterizes European and North-American journals, and we have decided to keep our wide-angle lenses open and capture all that is produced about the life sciences and sometimes about the sciences in general.

Following this orientation, the journal has published innovative studies related, for instance, to environmental history and to the sociology of industrial risks. Sociologists and economists working on industrial property and patents published their thoughts in the pages of this journal. Besides, studies of a historical nature conducted by nutritionists, nurses, social workers, odontologists, and other health professionals, including technologists involved in the production of drugs and vaccines, have been published increasingly more often by the journal. The differences occurring within this universe of texts are characteristic of the history of the sciences in Brazil, a field still institutionally and cognitively weak in spite of the progress observed in the last few years. It must be said, however, that all the issues of *História, Ciências, Saúde – Manguinhos* are structured in such a way that the history of medicine, public health, and of the life sciences remain as its centre of gravity.

The declaration by members of the network Hispalc – Red de Historia de la Salud Pública en América Latina y el Caribe –, which was created during the 21º Congresso Internacional de Historia de

la Ciencia, México City, in July 2001 properly addresses the agenda of not only the journal but also that of the graduation program on History of the Health Sciences, launched by the Casa de Oswaldo Cruz in the same year.[7] Similarly to George Rosen half a century ago, we also believe that history is a requirement for public health because it can help the understanding of the origin and evolution of problems in public health, and the complexity of negotiation, rupture and confrontation processes produced in the past in the field. To its professionals, history can provide a long-term social perspective that transcends the traditional biomedical formation as well as the aprioristic, immediatist or economicist interpretations of medical practice and of public health challenges at our times.

On the other hand, the history of health is a field in historiography for the understanding of realities still little studied in Brazil and the continent, such as the interactions between public health issues and the social, cultural, economic and political processes; the continuity or change relationships in behaviour patterns, mentalities, and life standards of the populations; the way different social and ethnical groups are subjects and/or objects of public policies and actions undertaken by medical and sanitarian institutions. The social history of health is a privileged way for the study of new areas of interest in the social sciences, such as those referring to gender, perceptions of the sciences, cultural representations of diseases, and the particular phenomena of post-modernity.

Some aspects observed in a large number of works submitted to *História, Ciências, Saúde – Manguinhos* in its first few years of existence fortunately tend to be overcome with the maturity and increasing professionalism in the field of history of the sciences. The first aspect is parochialism, a way to proceed that gives exclusive attention to what is nearby, local, or often national, in detriment of the universality and generality of phenomena and also of the knowledge already produced on a topic. This characteristic explains the impression we occasionally have of the papers we are asked to examine: the authors seem to reinvent the wheel, loose their capacity to deepen their analyses because they ignore the state of the art; they are not familiar with what was written earlier or has been written in other places on the same or similar topics. Under these circumstances the local, which can and must be the fulcrum of the universal, is impoverished and becomes provincial.

Parochialism is also related to another limitation: we still invest little in longitudinal studies comparing institutions and kinds of knowledge in different regions and social formations. Analyses of this nature allow for the relativization of our understanding of objects, which is fundamental to confer universality to the study of local processes and phenomena. These analyses are often an

imposition of the objects themselves, which fit within the limits of the episodic and local, due to an arbitrary reductionism that violates them.

We also point out two other limitations of professional training that tend to be surpassed as the history of sciences is consolidated in Brazil. We live at a time when the rigid frontiers between disciplines start in fact to collapse, making it increasingly difficult to distinguish the objects and approaches by historians, anthropologists, sociologists, political scientists, and other producers of knowledge. Transdisciplinarity is one of the forces that increasingly drag more social scientists to the study of sciences that in the past, seemed to be placed on the opposite side of an epistemological precipice. For several generations, this precipice that only philosophers dared to cross separated the studies on humankind from those on nature.

One of the necessary conditions for the historian to study the history of a science that is different from that in which he was trained is the dominance of other 'languages' to the largest possible extent. We, social scientists, heirs of a rhetorical and humanistic tradition were and still are graduated from schools that are overall weak in the physical, mathematical and biological science, which demands double our efforts in the study of objects related to those sciences.

History colleges still face the need to modernize their curricula with timidity. The training of historians capable of dealing seriously with the challenges of his or her time and creatively with exploration of the past requires, nowadays more than sensibility for the social hierarchies and inequalities; it requires the knowledge of languages and problems of other sciences, to understand and participate in controversies that are crucial for the future of the whole humankind.

Still another aspect of the history of medicine and public health is the difficulty to deal with quantitative and statistical aspects. Quantitative and serial history was a fertile field of the New History and in the 1970s, Maria Yedda Linhares, Francisco Falcon, and other historians tried to apply this program to the study of agricultural evolution in Brazil. If nowadays we have important qualitative analyses on the history of representations, discourses and politics brought about by diseases, as well as on health politics and institutions, our knowledge of the evolution of morbidity ant lethality of diseases is incipient; so is also our knowledge on the measurable results of politics, theories and practice implemented throughout the years.[8]

Origin and themes of the published materials

As mentioned before, the journal was launched in July 1994. Nonetheless, works were first submitted for publication since 1993, and from this year to the year 2006, the numbers of works submitted

per journal section were as follows: 567 articles for the Analysis section, 44 Research Notes, 43 texts for the Sources section, 140 collaborations for the Books & Networks section, 132 Theses Abstracts, 43 iconographic essays for the Images section, 40 Interviews, and 18 Debates.

As we look over the materials published or rejected by *História, Ciências, Saúde – Manguinhos* in its almost 13 years of distribution, a set of characteristics calls our attention. The first is the concentration of research objects in a period that roughly goes from the 19th century to the first decades in the 20th century (Figure 2).

Figure 1: Works submitted for publication in the journal sections, by time period: 1993 to March 2006.

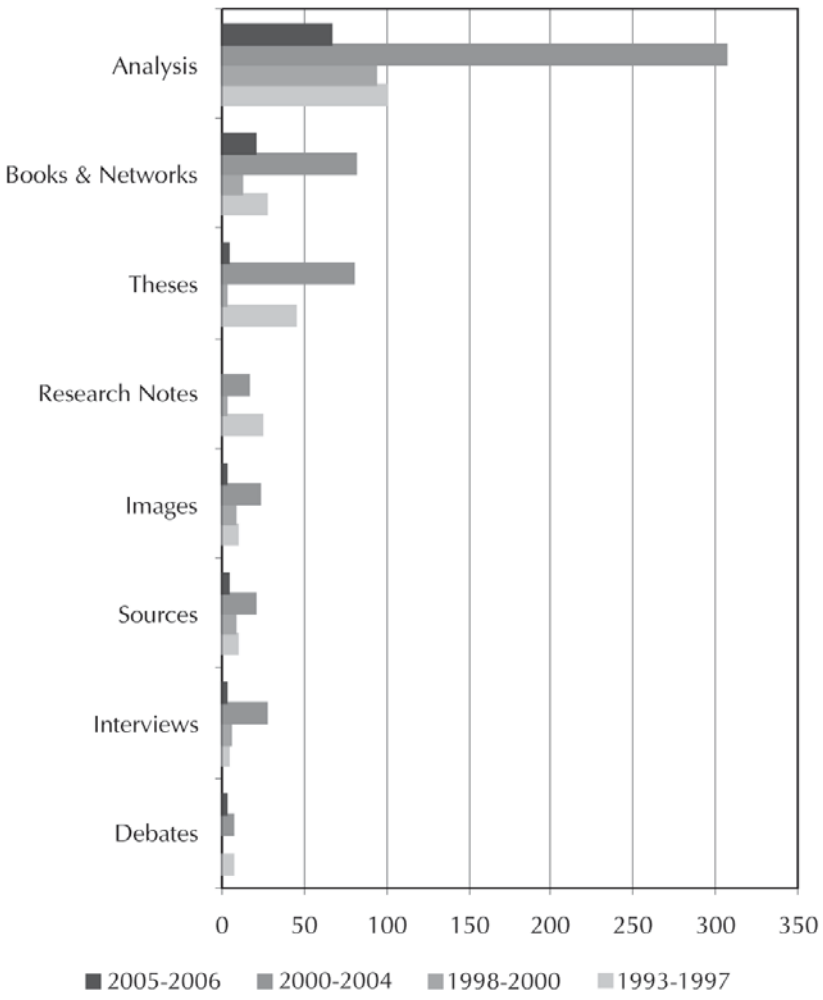
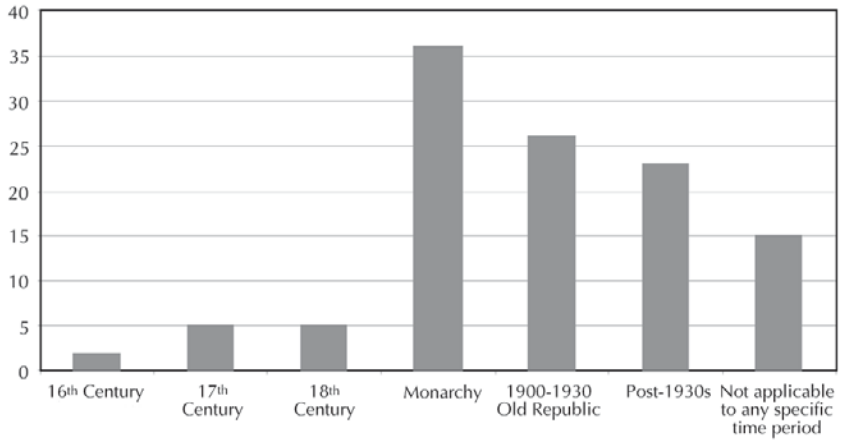


Figure 2: Time periods studied in the articles submitted for publication from 1993 to March 2006

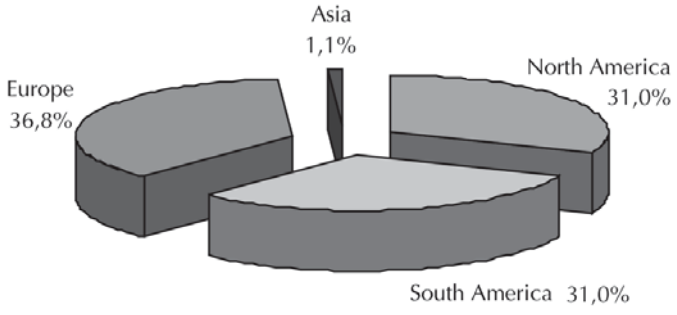


There are still few historians of sciences and of health exploring the colonial period or going beyond the 1930 Revolution, a limitation that tends to be overcome in the next few years, as shown by our study, with double benefits. On the one hand, diving into colonial history will result in narrowing the ties of the history of sciences and the very dynamic chains of historiography that are predominant in universities. On the other hand, the study of contemporary problems in the sciences and in health will help to strengthen the interaction with laboratory scientists, sanitarians and other health professionals – a vital link for both the production of knowledge, and the legitimacy and support for our activities.

Of all the works sent to the editors' office, a little over one-third of them come from Europe, whereas works by authors from North and South America have identical indices and occupy the first rank (Figure 3).

Another characteristic to mention is the strong concentration of articles sent from Southeast Brazil (Figure 4), suggesting a regional hegemony in the intellectual production for the fields of

Figure 3: Origin of articles according to continents – 1993 to March 2006



knowledge covered by the journal, which reflects structural traces of the social, political, economic and cultural formations of the country. However, the articles recently submitted for publication by scientists working in research institutions and centres in Rio Grande do Sul, Bahia, Pará, Amazonas, Mato Grosso, among others, seem to point to the beginning of change in such trend.

Some works by historians working at universities and research organizations in the Southeast still consider the processes that occurred in their region — specially in their urban areas — as expression of what occurs all over Brazil, which translates into a certain unawareness of the great diversity within the country.

Of all states in the Southeast, Rio de Janeiro has the highest contribution index (Figure 5).

It is difficult to relate each article to only one specific subject. Based on the keywords provided by the author(s) when submitting them for publication, and/or on the subjects according to which we classified the articles, retrospectively, we associated the published as well as the rejected[9] manuscripts submitted to *História, Ciências, Saúde – Manguinhos*, to a main subject and counted them. This led to Figure 6, which refers to the most frequent subjects in all journal sections.

Figure 4: Origin of articles according to the Brazilian geographical regions – 1993 to March 2006

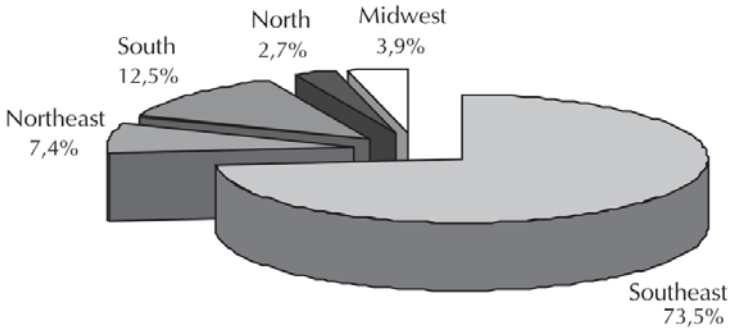
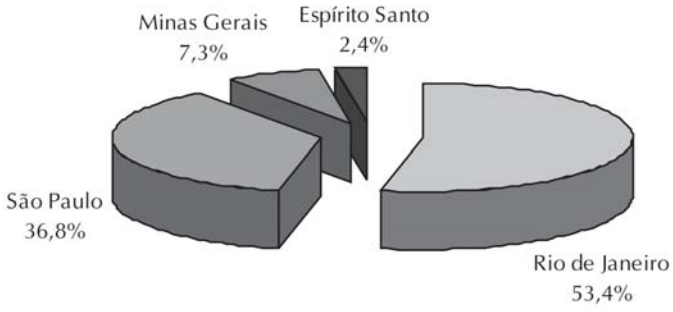


Figure 5: Origin of articles according to the Brazilian Southern states – 1993 to March 2006



In History of Medicine, we included articles on the classical issues in this field of historiography: theories on blood circulation, miasmas and germs as well as articles on the scientists that studied them, the evolution of disciplines such as bacteriology, immunology, anthropometry, parasitology, medical geography, radiology, obstetrics, homeopathy and anatomy. This important subject includes vaccines and politics of immunization, use of medicinal plants, social practices and categories related to the healing of diseases, conflicts involving academic medicine and popular healers, the professionalization of physicians, the institutionalization of experimental medicine, origins and trajectories of associations and journals sponsored by health professionals, among others.

Among the articles associated with the History of Diseases we have, for instance, from more to less numerous: Hansen's disease, tuberculosis, AIDS, Spanish flu, yellow fever, and cholera; later on, at the same standards, malaria and bubonic plague followed by syphilis and other venereal diseases, smallpox, poliomyelitis, epilepsy, Chagas' disease, oxyuriasis, leishmaniosis, aphthous fever, tabagism, and repetitive strain injury (RSI). In this category, we include works from a broader perspective on diseases and the State, conceptions of the health-disease process, African trade and diseases, and still research results on paleopathology and paleoepidemiology.

The category History of the Life Sciences compiles more theoretical works on the pluralistic approach to these sciences and their relations with the domain of techniques. Also belong to this category, scientific illustrations in historical perspective, trajectories of institutions such as the Academia Científica do Rio de Janeiro, the Instituto de Química Agrícola, the Instituto Oswaldo Cruz, and the scientists in historically and geographically determined contexts. Here are the studies on biotechnology, genetics, reproduction technologies, and some controversies in the domain of the life sciences. Although in contradiction to the qualifier 'of life', we also included in this category the works related to the history of other sciences: the geopolitics of space technologies, Brazilian minicomputers in the 1970s, North-South relations in theoretical physics, memory of the Mathematics and Physics Institutes at the Universidade da Bahia etc.

In Sociology of the Sciences, we classified works whose titles announced themselves as sociological analyses of science and technology, the expressive production concerning the analysis of risk, and also articles using 'post-normal science' as central category of analysis.

Natural History encloses articles on the naturalist travellers in the 18th and 19th centuries, on the 'involuntary travellers'

(expatriated Portuguese sent to the Amazon during the colonial period), the information networks to which belonged the first ones in the realm of European empires and their relation with biogeography, the circulation of living beings and of objects (alcohols, medicines, plumes etc.) and also, with the formation of collections in museums and private offices. More general aspects of natural history (science and nation) were included in this category as were works on the theories of evolution, generation and inheritance (Darwin, Buffon, Bonnet, Dobzhansky).

The Social History of Culture puts together almost all the works published in the special issue "Brazil: sertão Canudos" (v. 5, supplement, July 1998), on the conflict and the most famous book by Euclides da Cunha, *Os sertões*. The category also contains analyses of other artistic and cultural creations: embroidery by João Cândido, country culture in Brazil, João Cabral de Melo Neto and the 'severina' condition in the mangroves of Pernambuco to mention just a few examples. The photograph as object of historical analysis is presented with other very different categories such as the representations on alcoholism and the consumption of other psychoactive substances, anti-Semitism, 'integralismo' (a Brazilian fascist and nationalistic political organization in the 1930s), masonry, prostitution, medical visualization and folk culture in the 20th century, international and national expositions, and cities as symbolic spaces.

The History of Public Health is a less controversial category although it has several intersections with all other categories. It includes more general works on the history of public health, particularly in Mexico and Brazil, certain services (Serviço Especial de Saúde Pública, for example), the genesis of the concept of social medicine, works on particular episodes as the Revolta da Vacina, the epidemics and their relation to immigration, hygienics and the urban issue, including water. Two other issues are found in this category: eugenics and workers' health. If Hospital Assistance had more articles and other materials for publication it would have a specific theme section; however, because it is still residual, we introduced it in this section.

Due to the density of production on the role of the Rockefeller Foundation in public health in Brazil and other countries, the subject was given an independent category.

Epidemiology was separated from History of Public Health because it included works in a field of knowledge with institutional identity and theoretical and methodological tools that differ from those of historiography. In this category are studies on theories, practices, and the institutionalization of epidemiology, its relationship with social time and the concept of causality, and still violence and health.

The Psi field gathers works by social scientists and mental health professionals on typically historiographic objects: trajectory of institutions, currents of thought and important people in the mental health and/or psychiatric spheres; politics and legislation concerning the assistance to the mentally ill; practices such as lobotomy and cerebral leucotomy. Historical reflections on psychoanalysis, sexology, and the body were included in this list as well as the very update theme of psychiatric reform.

The History of Concepts contains philosophical or sociological articles on epistemology, nature of the complexity in science and technology, theory of chaos, concepts of health in Canguilhem and in contemporary scientific discourse; metaphysics of scientific knowledge, techno-scientific nihilism, reason, pluralism and argumentation.

Ethics, especially the constellation of current problems related to bioethics, had to be a relevant object of analysis by the collaborators of *História, Ciências, Saúde – Manguinhos*.

Race, another very up-to-date theme in our political arena, also influences the historical, anthropological, and sociological studies on heath: the ways Brazilian intellectuals have faced the issue; the place it occupied in the debates within international organizations; to which extent it is a category used to understand certain pathological manifestations among different human groups.

Another theme of great interest for the post-1960 historiography is gender, discussed basically from three perspectives: representations of female and male in medical discourse and in reports written by naturalist travellers; gender, science and health in State policies.

The Social History of Professions is a classic subject with pondered occurrence in articles published in *História, Ciências, Saúde – Manguinhos*, mainly those on nurse training and role; these were followed in order of importance by works on physicians, odontologists, physiotherapists, and pharmacists,

Environment brings together a promising historiographic path that, from this analytical category, conducts to new objects or re-examines and re-structures formerly established categories on the past, present and future of the globalized world in which we live.

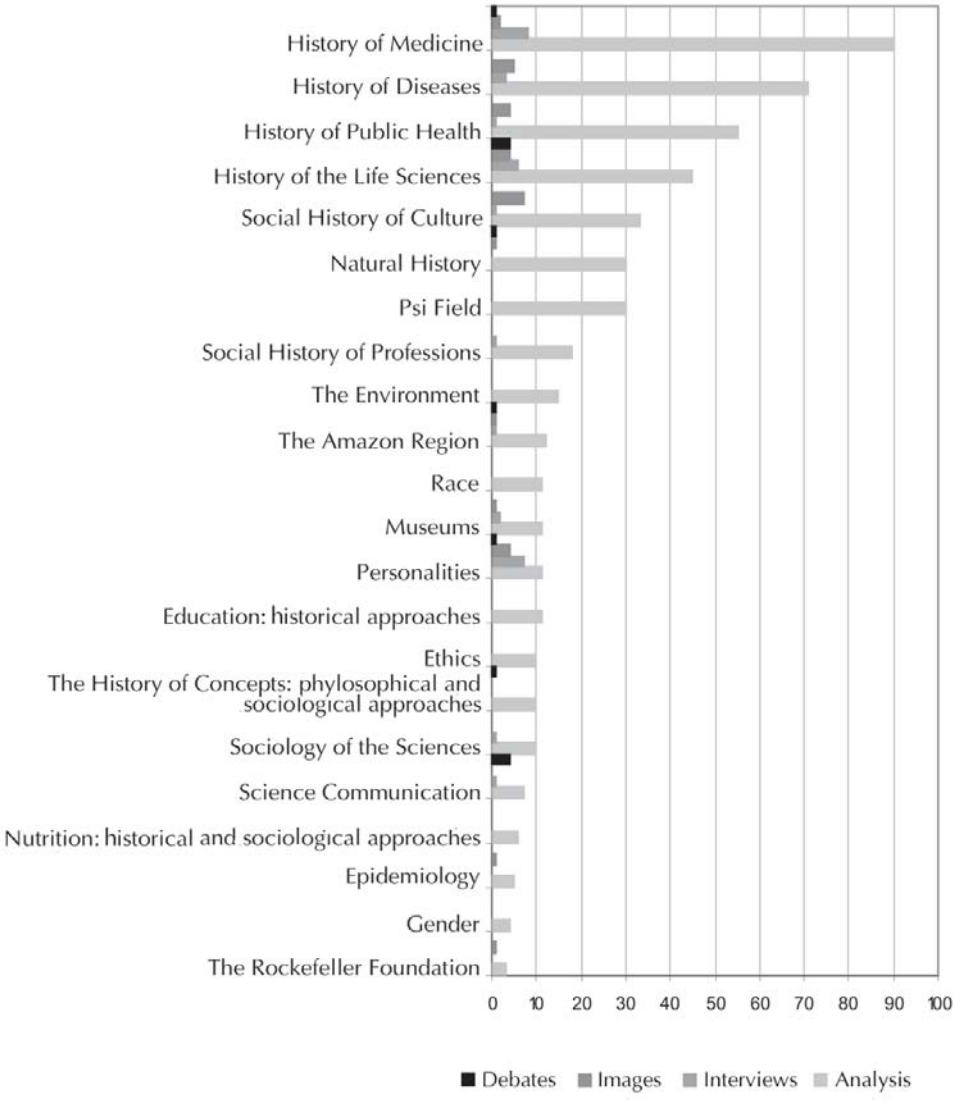
'Personalities' has become a separate category in order to bring together articles on the lives, works and thoughts of scientists as Oswaldo Cruz, Louis Pasteur, Wladimir Lobato Paraense, Arthur Neiva, Adolpho Lutz and his daughter Bertha Lutz, as well as on hygienists as Samuel Pessoa, artists (Aleijadinho) and naturalists (Richard Spruce).

As we said, *História, Ciências, Saúde – Manguinhos* is an interdisciplinary journal and, among the fields it connects Nutrition has an important position, with several articles of historical and sociological contents.

Museums – specifically the science museums – is an equally relevant theme, mainly because the journal has always been the communicator of works produced within or as a consequence of initiatives undertaken by Museu da Vida (Museum of Life), one of the departments within Casa de Oswaldo Cruz/Fiocruz. The museums influence is less noticeable but still important as inducer of reflections on science communication.

História, Ciências, Saúde – Manguinhos is also a drain for academic production in Education, mainly on the history of medical and health education.

Figure 6: Frequency of subjects in the sections: Analysis, Interviews, Images, and Debate – 1993 to March 2006



Finally, the Amazon deserves being counted separately because besides having a special issue in *História, Ciências, Saúde – Manguinhos* it has been a frequently submitted topic of articles for publication in the journal.

Polemic situations experienced by the editors

Eager book readers and writers, we, Brazilian social scientists still resist reading periodicals. Our institutions now demand that we increasingly publish in them; however, this is still difficult for us and we simply are not used to pay regular and systematic attention to the state of the art reflected in the pages of national academic journals - several of them surviving with very few readers — and of international journals, which let flow the great dynamism in the field abroad. In the 1990s, the sponsoring agencies started to evaluate more strictly the performance of Brazilian scientific organizations and universities, and Capes (Coordination for the Improvement of High Education Personnel) began to assess their publication of articles per year in indexed journals (Davyt, Velho, March-June 2000, p.106; Castro et al., 20 August 2006).

História, Ciências, Saúde – Manguinhos has been evaluated by Qualis (Classification of Periodicals, Annals, Journals and Magazines), one of the resources Capes relies on for the evaluation and support of scientific research and graduate courses in the country. The journal is classified in 11 knowledge fields defined by the program, which takes into account quality (A, B, C) and distribution (Local, National and International) criteria. Each knowledge field counts on a team of evaluators, and the criteria differ among teams. This renders difficult an understanding of the overall classification process. In general, journals in the SciELO collection are automatically classified as 'A National' those indexed in Medline are classified as 'C International'. Only journals in the Thomson Scientific bases are classified as A and B International. Our journal, for instance, is classified as 'A National' in the following fields: history, medicine I and II, psychology, multidisciplinary, science teaching, architecture and urbanism. In biological sciences III, its classification is 'C National' and in collective health, 'C international'.

Internationally disseminated as it is, the 'publish or perish' culture in Brazil can be partially credited to the logics in the distribution of scarce funding for research and to concerns of sponsoring agencies in making the national scientific production more visible. The matter is complex, polemic, but here we only want to point out that those facts led to a notable increase in affluence of articles to periodicals, also in the human sciences, where the legitimate resistance to mechanisms that favour quantity in detriment of quality is greater.

It is also a fact that the need to read and publish in specialized journals made the flaw in Brazilian undergraduate and graduate courses more visible: the lack of specific training in writing articles – a problem that has very slowly been solved. The problem has other aspects: university libraries still lack policies and/or consistent resources for subscription and distribution of periodicals; professors don't pressure librarians and the students, besides the fact that they don't value national periodicals, they have problems understanding the languages used in a large number of international academic publications in the history of sciences.

In executing their functions, the editors of *História, Ciências, Saúde – Manguinhos* find themselves in a situation where they have to reconcile often contradictory criteria. On the one hand, they praise the rules of impartiality and rigor theoretically assured by the mechanism of peer review, whereby every manuscript is submitted to at least two specialists for analysis before they can be published. On the other, they take into account that the journal must play the role of catalyser of transformations in an emerging field of knowledge.

One of the goals of peer-reviewing is to avoid fraud – the reproduction of parts of works without citing the sources or other unethical behaviours, which are by no means uncommon in science communication , as shown by Lafollette in Stealing into print (1992). The same problem is also analysed by Carlos Coimbra (Oct.-Dec. 1996). In his opinion, little is said in Brazil about plagiarism in science, which is "caused less by the inexistence of the problem than by the lack of initiatives to deepen this discussion" (p.440).

Authors of the article that became a reference on the topic, Zuckerman and Merton (Jan. 1971) were the first to criticize peer review, which they considered a too-closed system. In the 1970s, mainly in the United States, it began to appear criticisms of a system that privileged high-prestige institutions and researchers and reinforced the resistance to new ideas, by submitting them to slow ad bureaucratic processes. Blind reviews also were questioned as the impartiality and objectivity of evaluations were considered doubtful. Critics of the system also accused it of stimulating competition rather than collaboration and favouring the exclusion of minorities and the hegemony of the core countries in detriment of the peripheral ones.

The Internet has made possible the public directories of preprints, frequent in communities of physicists and mathematicians. In the biomedical field, however, there is still much resistance to mechanisms other than peer-review. Several journals do not accept manuscripts that have been previously made available in the electronic network. The *British Medical Journal* (BMJ) adopts this policy although it has encouraged the debate on the topic, showing

it is receptive to suggestions for change. A possibility is the publication of works before peer-reviewing, with the condition that they cannot be cited because they have not been accepted by the scientific reviewers yet.

The truth is that to this moment, nothing can replace the way the quality of scientific production is assessed by academic journals from the beginning of the scientific associations in the 17th century.[10]

The editors of *História, Ciências, Saúde – Manguinhos* have frequently made use of some subjectivity when choosing reviewers, hoping that they would analyze with greater condescendence the works coming from fields that were just beginning to emerge in the historiography of life sciences. This happened mainly during the first years of existence of the periodical, at a time when it accomplished almost on its own, the role of inducer of a knowledge field still incipient in several regions of the country. By this and other means – significant interventions of the editors themselves in the texts, for example, or negotiations with partners and authors to transform rejections into suggestions for change – we tried to foster the trend for valuing history as observed in several health-related professions, without jeopardizing the vital relationship predominant at the more professional centres for the production of knowledge in science and health.

A different and still more difficult problem that the periodical editors have to solve is the relationship with the community of historian-physicians, who preserve a high dynamism as they promote regular national meetings attended by, although few, historians in the fields of health and life sciences. On the one hand, we want to have historian-physicians as part of our audience of readers and see their production as legitimate and often useful. This production, however, is in general rejected by the reviewers we usually call to examine the works submitted to the periodical. Such reviewers belong, by and large, to a different, more professional, and theoretically and methodologically sophisticated lineage of producers of knowledge.

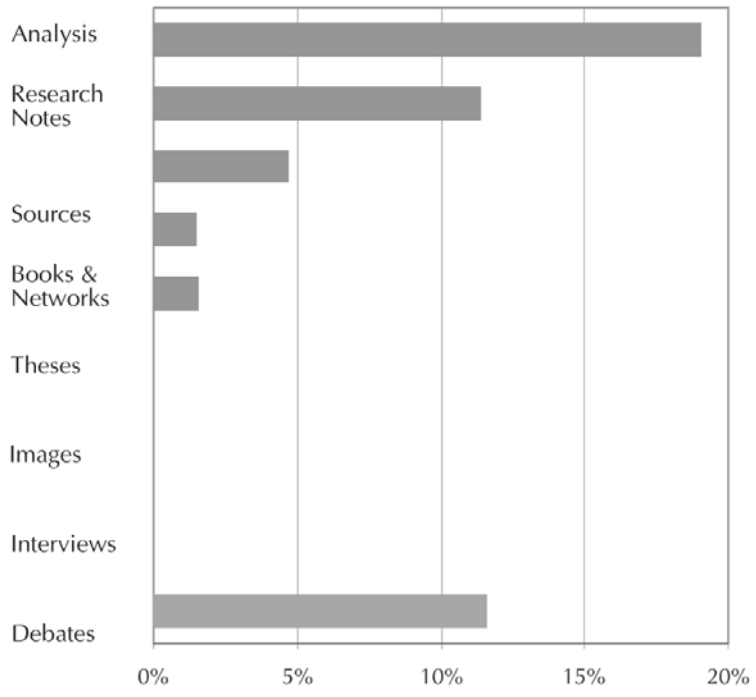
During the preparation of each issue of the periodical, a subjective accounting led us to combine more consistent articles with others written by less experienced authors and even with problematic texts that nonetheless presented relevant data or subjects still unexplored in our historiography. We are using the past tense here because the increase in number of articles submitted and the maturity of our field of knowledge has naturally led to increasing rigor in our evaluation criteria and consequently, to higher rejection indices of works submitted for publication. In Figure 7, the Interviews, Images, and Debate sections do not show rejection rates because most of their contents have been produced by the editors themselves or by invited collaborators. Over the last

years, however, also these works have been submitted to peer-review.

The Analysis section (original articles), as we said, gathers the largest number of works submitted to the journal (567 or 55.2% of the total for all sections) and has a mean rejection rate of 19% for the period 1993 to 2006. When we consider only the total number of articles submitted to publication in 2005, the index rises to 26.56% (17 out of 64 articles). This number is below the rejection rates of high prestige journals in the fields of medicine and public health in Brazil – 41.8% in 1988 and 39.6% in the following year, for *Revista de Saúde Pública*; 41.6% in 2001 for *Memórias do Instituto Oswaldo Cruz*, just to cite two good examples (Relatório..., 1989; Martins, 2003, p.102). *Dados*: Revista de Ciências Sociais, the only Brazilian humanities journal indexed in the Institute for Scientific Information (ISI), now Thomson Scientific, has a mean rejection rate of 40% according to its editor, Charles Pessanha.

Data are not available for all Brazilian periodicals in the humanities which would allow for comparisons compatible with the lifetime of *História, Ciências, Saúde – Manguinhos* and with the maturity of the knowledge areas to which it is tied. Even though, our rising rejection rates not the least express endogeny, a characteristic distortion of periodicals with closed evaluation systems where referees belong to the same organization as editors.

Figure 7: Rejected works per section – 1993-2006



Printed and electronic journals: coexistence or transition?

Besides the difficult decisions concerning what to publish or reject, over the last years we have faced the challenges set by the electronic version of the journal. The easy access to the new format and the wider reach of information are unquestionable gains. Our expenses have not changed much. If, on one hand, we lowered our expenses of mailing the printed issues, on the other we have been using that saved amount in staff training on the new languages and technologies, buying equipment and services to change printed into electronic archives, web development, and improving our electronic database managing the routine of the editors' office.

One of the problematic aspects of this transition, which requires accommodations between the printed and the online versions, is still the uncertainty concerning the durability of electronic files, considering the fast obsolescence of equipment and software.

At first, the coexistence of the printed and electronic versions rose doubts related to the most appropriate language for the new product, and to the graphic design of the journal. Should we keep the same characteristics of our printed edition in the online version (as we still do) even if this would result in busier virtual pages with slower access to articles, or should we go for a different project both in terms of its aesthetics and of the content to be available online? The problem was partially solved by means of the rapid access Internet broadband and the possibility of compressing or changing files into lighter formats in the electronic version. However, the question about what we should 'add' to the electronic version in order to take complete advantage of Internet tools still remains.

One of the decisions made in 2006 was to ask the journal editors to select among all articles published over the last three years, the ones to be translated into English for the online version (all six articles selected are printed only in Portuguese).

The interactions between these two *personae* also bring about issues such as the possibilities of linking different articles or articles and cited references, the use of tools such as hypertexts, video shows, sounds etc.

In July 1994, as we launched the first printed issue of *História, Ciências, Saúde – Manguinhos*, we also saw the first electronic scientific periodicals. The novelty was greeted by the research communities in the United States, Europe and emerging countries. They expected the innovation to widen the visibility of scientific literature, especially that produced in poorer countries and to reduce production costs because parts of the editorial process were eliminated, such as printing and mailing.

The communities of scientists were the first to use the Internet facilities, which undoubtedly contributed for significant changes in the global communication scenery, as shown by Briquet de Lemos (November 2005). People even thought that the electronic periodical would completely set researchers free from the old publication system created 300 years earlier, in 1664, by the pioneer *Journal des Sçavans* and the *Philosophical Transactions*. However, no revolutionary changes occurred in the format or in the publication system of the new electronic support. There was in fact an up to 58% increase in subscription prices of periodicals between 1998 and 2003 (House of Commons, 2004). One of the reasons for this is the contracts between publishers or companies that sell subscriptions, and the subscribers. In general, packets including the printed version and the possibility for internet access cost between 10% and 30% more that subscriptions for the printed version only. By the way, one of the effects of the rise in prices was the restriction on subscriptions imposed by research organizations and universities.

Until 2005, approximately 11 thousand electronic scientific journals were edited in the world. However, data show that the editorial market geared to scientific communication has become more profitable and monopolistic: in 2005, for example, the Reed Elsevier group, one of the eight companies that published 70% of the world medico-scientific literature published alone 2.600 journals in the field (Briquet de Lemos, 2005).

On the other hand, recent studies as the one by Carol Tenopir (2005) show that the scientific communities have been reading more articles after the advent of the Internet. According to this professor at the School of Information Science, University of Tennessee, two-thirds of what researchers read comes from electronic sources (the index reaches 80% among astronomers).

In Brazil, the collapse in access to scientific communication due to lack of funding for subscriptions was avoided thanks to the Portal de Periódicos da Capes, one of the programs subsidized by the federal government at the cost of R$16.280.139,00 (US$ 8.023.725,40), in 2005. With this service, students, researchers and technicians of 135 public institutions were assured access to articles published in 8.515 national and international journals. The cost of the project was equivalent to almost 50% of the federal government scholarships awarded to Brazilian students abroad, during the same period (Briquet de Lemos, 2005).

Almost all the scientific literature produced in Brazil is published by non-profit, governmental research organizations and by university publishing services. Most of those scientific journals have online versions and follow the open access file format. This is, in fact, a global movement where the following on-going projects

must be mentioned: PubMed Central (National Library of Medicine, USA), HighWire Press and OAIster (University of Michigan Digital Library), African Journals Online, and SciELO (Briquet de Lemos, 2005; Packer, Antonio, Beraquet, 1998; Packer, 1998; Castro et al., August 20, 2006).

Despite the huge potential that still remains to be explored, the gains concerning the online version of *História, Ciências, Saúde – Manguinhos*, specially after its inclusion in SciELO are significant. Reaching new audiences has resulted in larger numbers of collaborations and in the diversification of author's geographical origins, which are no longer predominantly Rio de Janeiro, São Paulo, and Minas Gerais. The journal has become better known in the Brazilian Northeast, Midwest and South, and contributions from other American countries and Europe have become more frequent.

Besides being an online library for scientific periodicals, SciELO adopts a methodology based on Thomson Scientific, previously Institute for Scientific Information (ISI). This indexer allows for the production of statistical indicators of citations and of the impact of the journals and respective articles in its database. In a similar way, SciELO provides the number of visits and citations of articles for all journals in its collection.

In Figures 8 and 9 and in Table 1 below, we observe the impressive increase in number of visits to issues and articles of the online journal from the moment it entered SciELO, in June 2000. This shows increasing interest for the subjects published in the journal, and support the argument by Tenopir (2005) that scientific communities started to read more articles after the Internet. Between 2000 and 2003, the number of accesses to articles increased fifty times whereas in the last four years it increased 2.500% (Figure 8).

The comparison between the statistics of papers submitted for publication and those most accessed online show discrepancies between the interests of writers publishing in the journal and those of readers who search the journal online (Figure 10). Among the manuscripts submitted to publication, the thematic ranking is History of Medicine, History of Diseases, History of the Life Sciences, Natural History and Social History of Culture, the latter being almost at the same level as History of Public Health. For users of the online version of the journal, History of Medicine still comes first, followed by Natural History, Area Psi, History of Diseases, and Social History of Culture. Considering that most journals in SciELO come from the medical field, it seems that *História, Ciências, Saúde – Manguinhos* has attracted readers and potential collaborators still 'foreigners' to history and the humanities in general.

Table 1: Ten items (articles, theses abstracts, iconographic essays) more often accessed in the electronic version

Number accesses	of Items
14.830	WAIZBORT, Ricardo. Social Theories and Biology: perspectives and problems of the introduction of the historical concept into biological sciences. *Hist. cienc. saude-Manguinhos*, 2001, v.8, n.3, p.633-653.
14.737	TENÓRIO, Fernando. Psychiatry reform in Brazil from the 1980's to present days: its history and concepts. *Hist. cienc. saude-Manguinhos*, 2002, v.9, n.1, p.25-59.
12.492	MAIO, Marcos Chor. A história do projeto Unesco: estudos raciais e ciências sociais no Brasil. *Hist. cienc. saude-Manguinhos*, 1998, v.5, n.2, p.523-525 (Resumo de Tese de doutoramento).
11.741	GROISMAN, Daniel. Old age, normality versus pathology. *Hist. cienc. saude-Manguinhos*, 2002, v.9, n.1, p.61-78.
10.672	BENCHIMOL, Jaime Larry. Adolpho Lutz: a biographical sketch. *Hist. cienc. saude-Manguinhos*, 2003, v.10, n.1, p.13-83.
9.370	MELO FILHO, Djalma Agripino de. Swamps, men and crabs in Josué de Castro: meanings and their unfolding. *Hist. cienc. saude-Manguinhos*, 2003, v.10, n.2, p.505-524.
9.147	COSTA, Ester de Queirós, LIMA, Eronides da Silva and RIBEIRO, Vitória Maria Brant. The training of public school cafeteria staff: an analysis of the instructional material developed by Instituto de Nutrição Annes Dias - Rio de Janeiro (1956-1994). *Hist. cienc. saude-Manguinhos*, 2002, v.9, n.3, p.535-560.
8.789	PôRTO, Ângela e PONTE, Carlos Fidelis. Vaccines and campaigns: images with a story to tell. *Hist. cienc. saude-Manguinhos*, 2003, v.10, supl.2, p.725-742.
8.304	LIMA, Eronides da Silva, OLIVEIRA, Celina Szuchmacher and GOMES, Maria do Carmo Rebello. Nutritional education: from ignorance to social representations in post-graduation by Rio de Janeiro (1980-98). *Hist. cienc. saude-Manguinhos*, 2003, v.10, n.2, p.602-635.
8.201	CYTRYNOWICZ, Roney. Serving the fatherland: the mobilization of Brazilian nurses during World War II. *Hist. cienc. saude-Manguinhos*, 2000, v.7, n.1, p.73-91.

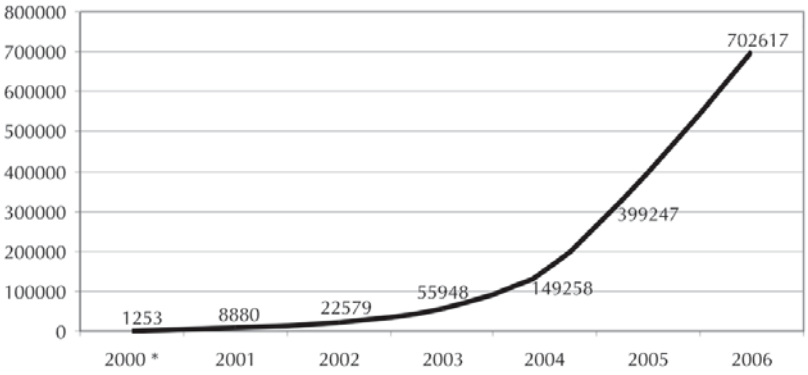
Source: Scielo; accessed February 14, 2007

Another bibliometric assessment tool to measure the performance of *História, Ciências, Saúde – Manguinhos* combines two variables: number of citations given by the journal articles and citations of these articles in other periodicals at Portal SciELO.

In these 12 years we were cited 222 times, where 50.8% of these are self-citations; this proportion is higher than those for *Cadernos de Saúde Pública*, *Dados*, or *Revista Brasileira de História*, periodicals with good reputation in three different fields, with self-citation proportions of 44.03%, 37.65%, and 29.76%, respectively. A hypothesis to explain the high rate of self-citations in *História, Ciências, Saúde – Manguinhos* is that it is basically the only journal in

the field in Brazil, in the sub-area History of Life Sciences. The authors who publish, for instance, in *Revista Brasileira de História* find a much larger repertoire of 'competing' journals where to publish, what certainly contributes for the multiplication of reciprocal citations and even self-citations (an author can cite himself or herself more frequently in other periodicals).

Figure 8: Access to online articles – 2000-2006



Source: Scielo, accessed January 15, 2007.
Note: The last 2006 issue is not included.

Figure 9: Number of accesses for the ten most visited journal issues

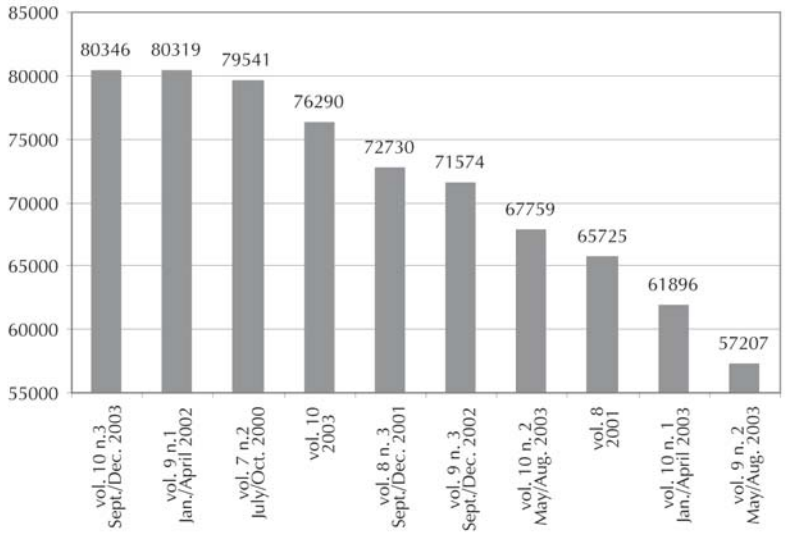
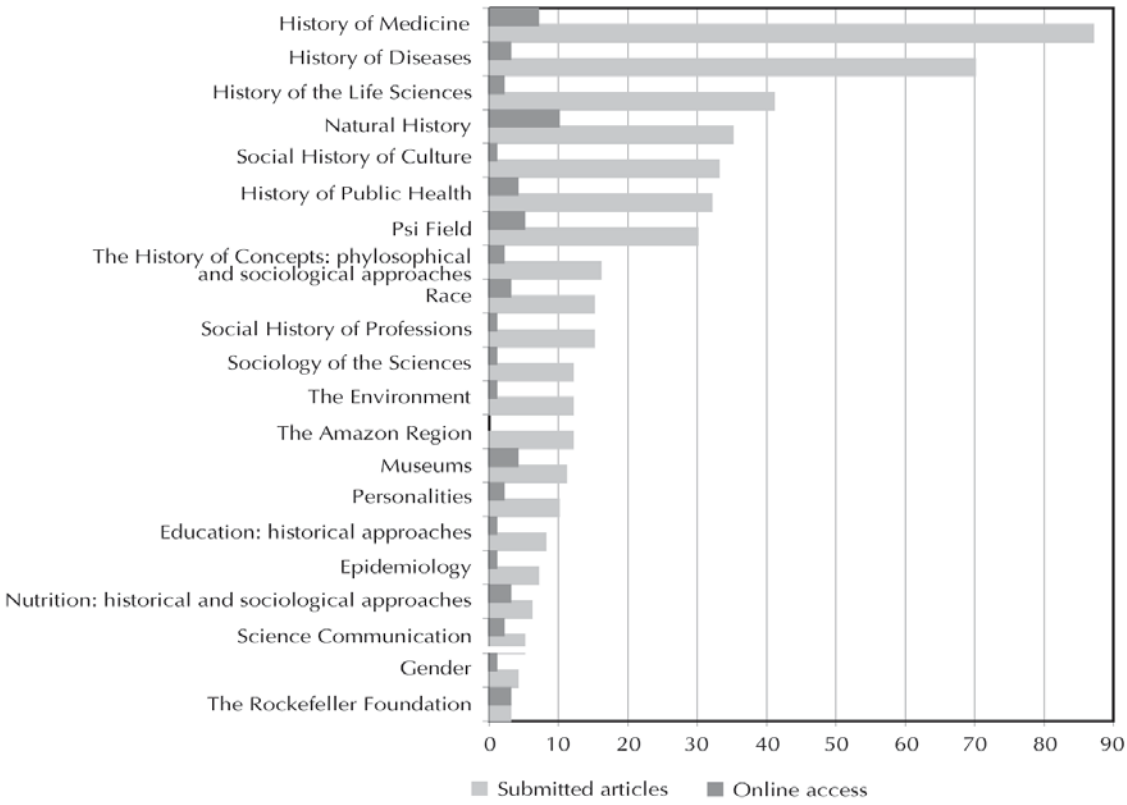


Figure 10: Frequency of subjects in the articles submitted for publication between 1993 and March 2006 and in those most visited in the SciELO site (in September 2006)



In Portal SciELO, *História, Ciências, Saúde – Manguinhos* is classified in to two categories: Health Sciences and Human Sciences. By observing the ranking of the 35 journals that cite this journal (a total of 222 citations) we found that periodicals in the first category (12) respond for 25.22% of the citations, Public Health for 18.01% and, specifically, the journals *Saúde Coletiva* and *Cadernos de Saúde Pública*, 10.81% and 5.85%, respectively. Human Sciences journals (19) respond for 21.62% of the citations of our journal. The remaining 2.36% were in Exact and Earth Sciences and Applied Social Sciences journals.

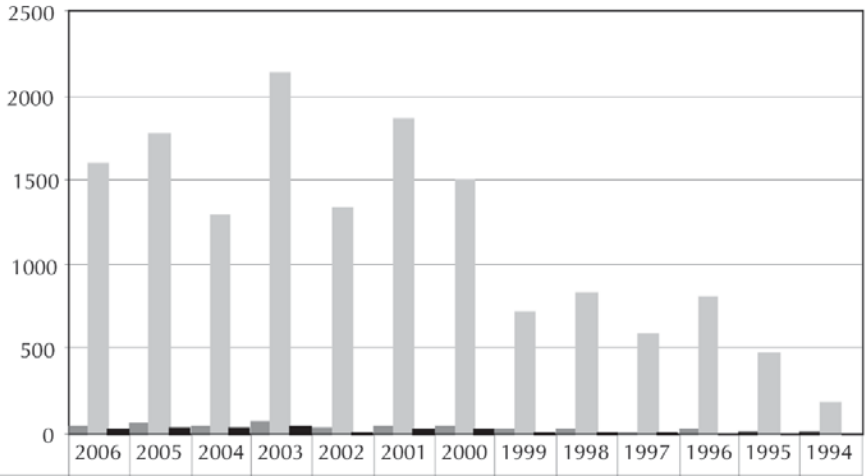
Out of the 4.276 citations by the authors of *História, Ciências, Saúde – Manguinhos*, selecting only the first one-hundred most cited journals, we found that 50.77% of these 1.810 citations were in the Health Sciences, and 28.89% in the Human Sciences. Among the remaining 13.99%, most were in the large media (primary and secondary sources) and in ,science communication journals.

One of the most important tools to assess the efficacy of journals and the scientific relevance of their authors is the so-called impact factor. For each periodical in its collection, SciELO calculates the

index as follows: they take one base year and calculate the ratio between the total number of citations received in the previous biennial or triennial and the total of articles published in the same period. Figure 12 and Table 2, with the values used for formulation, show the evolution of the impact factor for the journal since 2000 – the year it was included in SciELO. We can see the significant increase in the 2000-2002 triennial, which may be credited to the quality of the dossiers and thematic issues published in the period: transgenics, Darwinism, science and the naturalist travellers, and still public health and power in Latin America. Thematic issues tend to attract larger audiences of readers who not only read what is published but also themselves publish and cite in other journals, whereas the regular journal issues contain diversified repertoires of subjects and usually capture fewer readers that also give citations.

By calculating the ratio between the total of citations received and the total of articles published in the same year we obtain a correlated index that measures the speed the journal exerts its impact. Data show that 2003, the base year of the triennial when we had the highest impact factor we also had the highest immediacy index: citations received corresponded to 7% of the published articles at the time.

Figure 11: *História, Ciências, Saúde – Manguinhos*: number of articles published, granted and received citations – 1994-2006



	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
Total of articles	42	55	44	71	41	52	44	25	27	17	22	15	6
Total of granted citations	1592	1778	1291	2134	1335	1862	1508	720	834	586	810	473	192
Total of received citations	19	35	37	45	13	22	21	10	11	7	2	0	0

Source: Scielo; accessed February14, 2007.
Note: The last 2006 issue is not included.

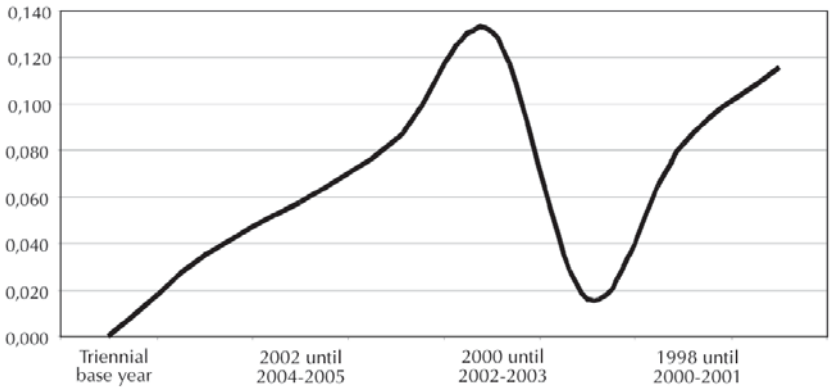
The magnitude of the impact factors for *História, Ciências, Saúde – Manguinhos* cannot be evaluated unless we compare them with those of other journals, a task that touches on several problems. The ideal situation would be to compare journals according to their similarities in subjects, periodicity, publication time, potential audience of readers etc., but the collections so far available at SciELO do not allow us to reach this ideal. Figure 13 displays the differences in impact factors for the 2003 base year for some journals in the two fields to which this journal belongs, by using for comparison not the high index obtained by *História, Ciências, Saúde – Manguinhos* that year, but the average impact factors for the triennial shown in Figure 11. We can see an important discrepancy for the two periodicals that are among those with the best performance according to SciELO statistics.

Table 2: Values used in the formulation of the impact factor of *História, Ciências, Saúde – Manguinhos* per base year – 2000 to 2006

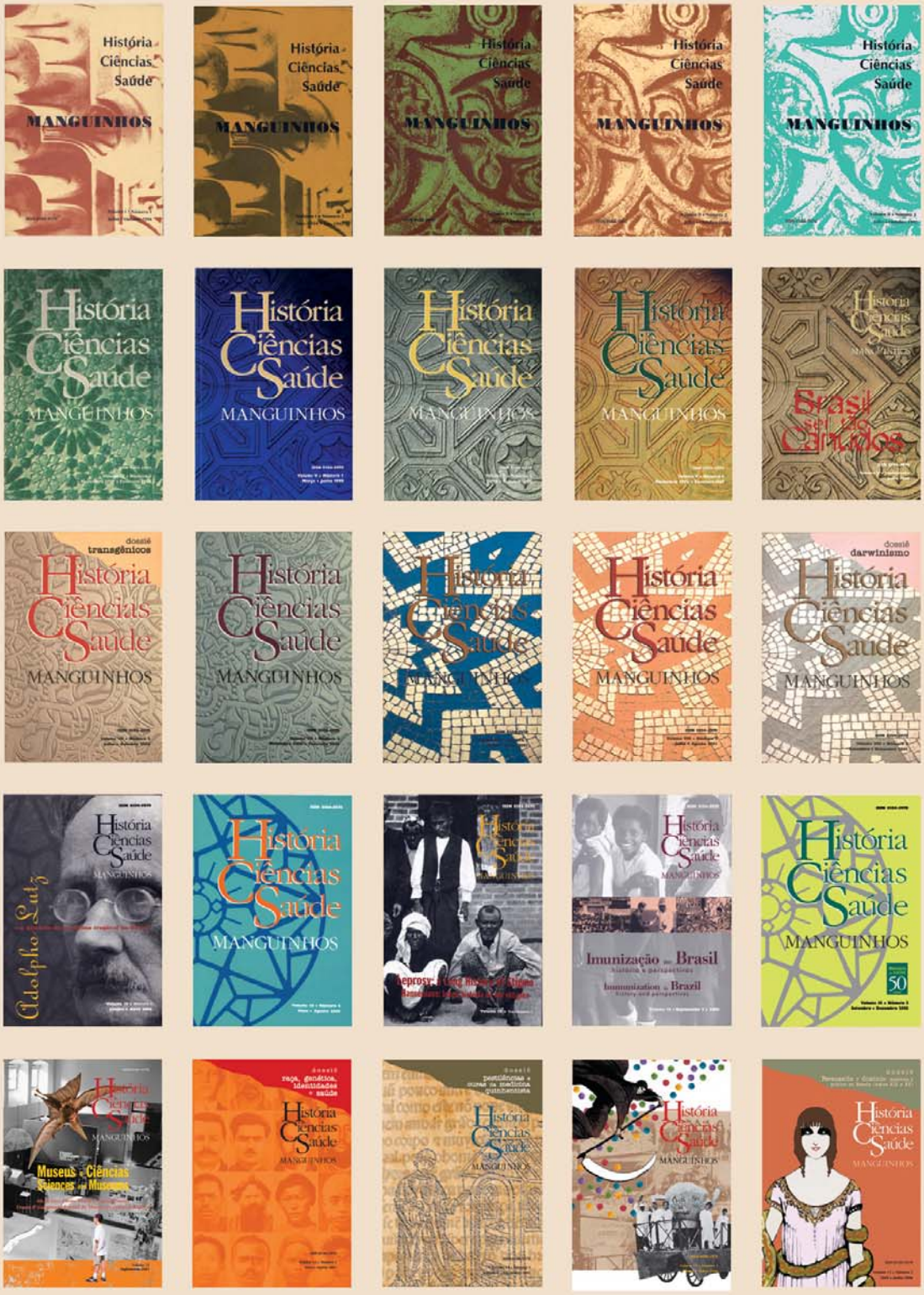
Base Year	Triennial	Citations per triennial	Articles published in the triennial	Impact factor	Articles published in the year	Citations for same year articles	Immediacy index
2006	2003 a 2005	6	170	0,0353	42	0	0,0000
2005	2002 a 2004	9	156	0,0577	55	0	0,0000
2004	2001 a 2003	14	164	0,0854	44	0	0,0000
2003	2000 a 2002	18	137	0,1314	71	5	0,0704
2002	1999 a 2001	2	121	0,0165	41	2	0,0488
2001	1998 a 2000	8	96	0,0833	52	0	0,0000
2000	1997 a 1999	8	69	0,1159	44	1	0,0227

Source: Scielo; accessed February 14, 2007.

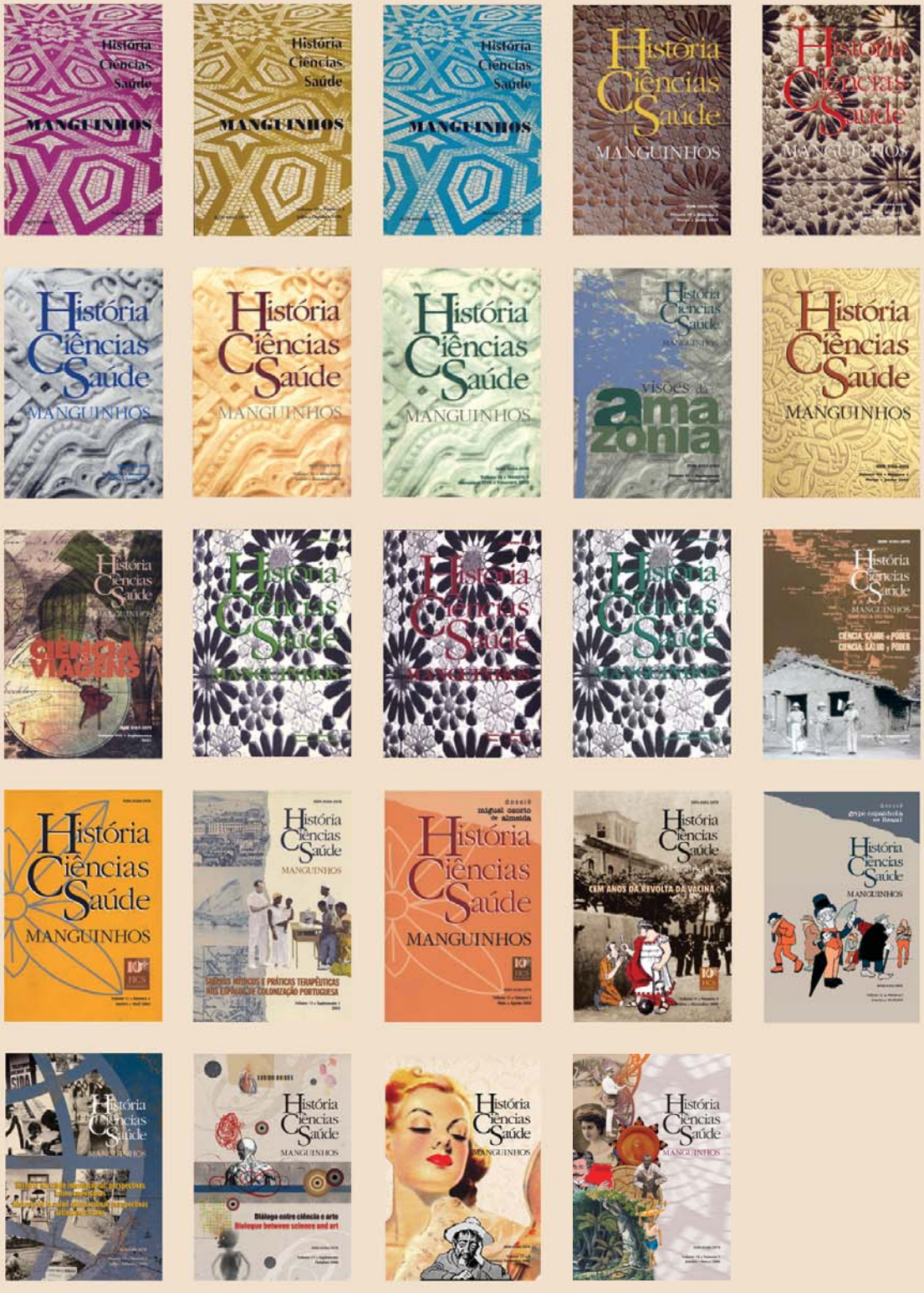
Figure 12: Impact factor (triennial) of *História, Ciências, Saúde – Manguinhos* per base year – 2000 to 2006



Source: Scielo; accessed February 14, 2007.



In 13 years we published 49 issues. At first, the cover designs had architectural details of the Moorish Castle, a beautiful Art Nouveau building that houses the main office of the Fundação Oswaldo Cruz, in Rio de Janeiro. In the last few years, we have began displaying photos, paintings or illustrations of the various subjects in the journal. The Manguinhos architectural elements are still shown sporadically.


História Ciências Saúde
MANGUINHOS
visões da amazônia
CIÊNCIA SABER + PODER
CIÊNCIA, SAÚDE & PODER
CEM ANOS DA REVOLTA DA VACINA
Diálogo entre ciência e arte
Dialogue between science and art

The impact factor of *Cadernos de Saúde Pública* in the referred triennial is 5.07 times higher than that of *História, Ciências, Saúde – Manguinhos*, and the journal *Dados* is 4.83 times. Would the number of accesses to the articles in each of the journals help to explain such great difference? In the case of *Cadernos de Saúde Pública*, yes, because it is already 9.25 times higher than the visits to articles in *História, Ciências, Saúde – Manguinhos*. However, this variable has revealed itself useless to explain the disadvantage in relation to *Dados*, as during the period taken into account, it had only 1.27 more accesses than *História, Ciências, Saúde – Manguinhos*. The situation of this journal is comparable to that of *Estudos Avançados* and better than that of *Revista Brasileira de História*, whose impact factor in 2003 is null according to SciELO statistics. The impact of another journal in the Human Sciences – *Mana* – is 1.9 times greater than that of *História, Ciências, Saúde – Manguinhos*, in spite the fact that accesses to articles in our journal are 1.62 times greater in the same period.

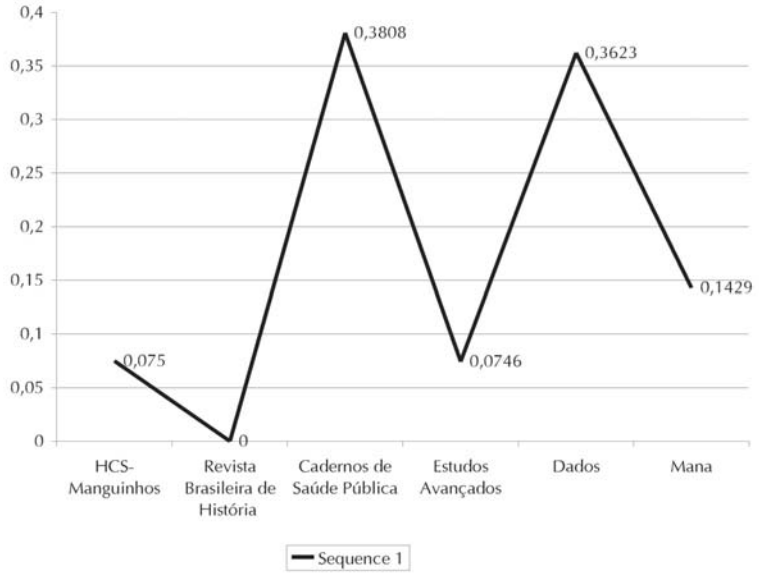
Differences in impact must be explained in the light of other variables: number of issues per title available in the electronic collection, editorial policies, characteristics of the scientific communities to which each journal is tied, density of each community in terms of the number and quality of journals releasing its scientific production.

One way or another, indicators of the most prestigious academic periodicals and the tendency observed in the indicators of *História, Ciências, Saúde – Manguinhos* are elements to be taken into account by editors as they plan for the future the journal in an increasingly competitive world of science 'in action'.

Conclusions

As we conducted this study, our objective was to analyze the trajectory of *História, Ciências, Saúde – Manguinhos* during its 12 years of circulation, particularly the changes in its text and image repertoires, in the technological means for publication, and in the efficient ways it articulates the universes of readers and collaborators with the scientific communities to which the journal belongs. Because it holds an important position among the few journals dedicated to the history of sciences and health in Brazil, it does not seem that we act arbitrarily if we believe this journal is a good mirror for the current trends in a field of knowledge now expanding among us. To the researchers in this field, particularly those who finish their post-graduate courses, this article provides good indications on the periods and subjects that deserve further studies. We would go as far as to say that here they will find valuable subsidies to deepen comparative analyses on the state of the art in this field, as far as predominant periods and subjects are concerned.

Figure 13: Comparison between the impact factors of some journals in the SciELO collection, in the health and human sciences



Source: Scielo; accessed February 26, 2007.

Our considerations in this article also bring subsidies for those professionals evaluating the literature produced in the history of sciences and health, or even in the wider human sciences arena. We have in mind mainly the evaluation committees in sponsoring agencies, SciELO and other indexers and databases of scientific journals. Perhaps its main contribution is to show that as they examine journals and consider the convenience of supporting them or not, they must consider their pollinating role in emerging fields of knowledge, and also their value for the dissemination of quality works coming from regions in the country and the continent that still strive to be visible in the already occupied knowledge territories.

The reflections we made here are important for the editors of *História, Ciências, Saúde – Manguinhos* and also for editors of other periodicals; they will certainly help them to see more clearly the editorial policy to follow as well as the problems that demand solutions, particularly those concerning the transition or coexistence of the printed and the electronic versions. We believe that the reading of this work will be rewarding for our readers and collaborators because they will find an intimate picture of a journal they are used to leaf as a finished and non-problematic product.

* Our thanks to Regina Figueiredo Castro for her critical reading, relevant comments, and fundamental suggestions for the enrichment of the article.

NOTES

[1] The figures in this article were prepared by the statistician Alcides José de Carvalho Carneiro, Sociodemography Coordinator, Instituto Pereira Passos, City Government of Rio de Janeiro.

[2] The electronic version is also available at http://www.coc.fiocruz.br/hscience.

[3] In November 1989, the first issue of *Cadernos da Casa de Oswaldo Cruz* was published. Cadernos was not a periodical journal. The precursor of *História, Ciências, Saúde – Manguinhos* was published once again in 1992, as a special edition and with a new title: *Cadernos de História e Saúde*. In the early 1990s, *Estudos de História e Saúde* was published as hand-outs containing one article per issue.

[4] *História, Ciências, Saúde — Manguinhos* is indexed in:
• Medline-Pubmed (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi), a free-access database;
• Historical Abstracts and America: History and Life (http://www.abc-clio.com);
• Hispanic American Periodicals Index (HAPI) (http://www.hapi.gseis.ucla.edu);
• Literatura Latino-Americana e do Caribe em Ciências da Saúde (Lilacs) (http://www.bireme.br);
• Citas Latinamericanas en Ciencias Sociales (Clase) (http://www.dgbiblio.unam.mx);
• Social Planning/Policy & Development Abstracts (CAB Abstracts) (http://www.cabi.org);
• Sociological Abstracts (http://www.csa.com);
• Base Bibliográfica em História da Saúde Pública na América latina e Caribe (Hisa) (http://www.coc.fiocruz.br/areas/dad/hisa/);
• Latintex – Sistema Regional de Información en Línea Para Revistas Científicas de América Latina, el Caribe, España y Portugal (http://www.latindex.unam.mx).

[5] In 2006, the program became a partner of the Coordenação de Aperfeiçoamento de Pessoal de Ensino Superior (Capes), and the joint investment of R$ 4,8 million (US$ 2,029 million) was distributed among a little over one-hundred journals in all fields of knowledge.

[6] An analysis of the journal that pioneered in the discussion of the history of medicine in Brazil was done by Mauro Amoroso, in "Diálogos entre Clio e Asclépio: Ivolino de Vasconcellos e a *Revista Brasileira de História da Medicina*, also in this issue.

[7] The declaration is available at http://www.hispalc.fiocruz.br/espanol/declaracion/declaracion.htm.

[8] We cannot forget to mention the beautiful *História das estatísticas brasileiras*, first volume just launched (Rio de Janeiro, IBGE, 2006). The author, Nelson de Castro Senra, has also been a promoter of fruitful discussions on the subject among historians.

[9] The articles are not necessarily refused due to low quality. They can be of good quality and bring original and consistent information, but might not fit in the scope of the journal. In theses situations, the editors suggest that authors submit their works to other journals. When the reviewers detect problems in the text, the author can still submit it again as long as the suggested modifications are accepted. The new version is submitted to a new evaluation.

[10] Other polemic studies on the topic are found in Harnad (25 April 2001, 2001); Davyt, Velho (March-July 2000); Bingham (1999); Smith (1999); Meadows (1999); Martins (2003), and Pessanha (1998).

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