

Medicine, science, and power: relations between France, Germany, and Brazil during 1919-1942*

Magali Romero Sá
(coordinator)

Researcher, Casa de Oswaldo Cruz/
Fundação Oswaldo Cruz

Jaime L. Benchimol

Researcher, Casa de Oswaldo Cruz/
Fundação Oswaldo Cruz

Simone Kropf

Researcher, Casa de Oswaldo Cruz/
Fundação Oswaldo Cruz

Larissa Viana

Fellow, Fellowship Program for
Technical and Technological
Specialists/Casa de Oswaldo Cruz/
Fundação Oswaldo Cruz

*André Felipe Cândido
da Silva*

Doctoral student, Graduate
Program in the History of Sciences
and Health, Casa de Oswaldo Cruz/
Fundação Oswaldo Cruz

Fundação Oswaldo Cruz, Casa de
Oswaldo Cruz
Av. Brasil, 4366, 4º andar
21040-361 – Rio de Janeiro – RJ –
Brazil

SÁ, Magali Romero *et al.* Medicine, science, and power: relations between France, Germany, and Brazil during 1919-1942. *História, Ciências, Saúde – Manguinhos*, Rio de Janeiro, v.16, n.1, Jan.- Mar. 2009. Available at: <http://www.scielo.br>.

Abstract

This research note presents hypotheses and frameworks regarding the study of the dynamics of the German and French medical-scientific movement that targeted Latin America, and especially Brazil, between 1919 and 1942. The research goal is to understand the actual impact and implementation of the intellectual cooperation efforts and concomitant flow of ideas, institutional models, common research agendas, and strategies that were meant to expand the field of Franco-German influence in Latin America.

Keywords

International Scientific Relations; Medicine; Latin America; Germany; France; Scientific Journals.

This research note presents hypotheses and possible frameworks regarding the movement that Germany's and France's medical-scientific communities introduced shortly after the end of World War I with the purpose of restoring the cultural, scientific, and economic positions that had been weakened in Latin America and internationally. Research on German-Brazilian and Franco-Brazilian scientific relations in medicine, especially so-called tropical medicine¹, is currently underway at the Casa de Oswaldo Cruz/Fundação Oswaldo Cruz. Preliminary papers on the topic have been presented at international and national events.² Because this topic is so broad in scope, is being explored for the first time, and, moreover, involves actors and institutions as diverse as Brazil, Germany, and France, a more thorough investigation of the scientific relations between these nations during the interwar period is called for. Our goal is to better understand the mechanisms through which Germany and France tried to re-establish cultural and scientific relations with Brazil and other Latin American countries during the period between the two world wars and to establish to what extent these efforts in intellectual cooperation – with their concomitant flow of ideas, institutional models, and common research agendas – were accomplished.

Europe emerged from World War I in a state of collapse, having lost much ground in Latin America to the United States, whose hegemony over the region and the world economy would be solidified in the interwar period. France and Germany endeavored to re-establish positions they had been obliged to abandon on the other side of the Atlantic and other areas of the world. The influence they had exercised over Latin American countries since the early nineteenth century was not just restricted to economic, political, and technical domination but also entailed a Eurocentric ideology of the world – assimilated by local elites – according to which Europe held title to 'civilization' and was predestined to spread the benefits of 'progress' the world over (Milza, 2007, p.30).

In relation to France, although diplomatic relations were not cut off during the 1914-1918 conflict, scientific relations were interrupted. This makes it worthwhile to analyze the initiatives taken by French scientists and intellectuals to restore scientific and cultural ties with Brazil and with Spanish-speaking countries in the interwar period.

Germany also moved to re-initiate cultural and scientific relations with Latin America shortly after the end of the war. Traditionally respected by Latin American scientists and intellectuals, Germany was the main reference for those engaged in the rather successful efforts to introduce a system by which research would be linked to teaching in the development of science. In the nineteenth century, Germany's organization of universities and research centers had served as a model for the institutionalization of science in various countries (Ben David, 1979). In the arena of medicine, Germany had not only achieved essential results in addressing and fighting infectious diseases that were highly prevalent worldwide but also designed the integrated clinical-university model, linking experimental research, clinical treatment, and university teaching – the foundation of contemporary medical training (Ringer, 2000; Reggiani, 2005; Stern, 2004).

World War I had compromised relations between Germany and Brazil, including the cultural and scientific realms.³ During the war, Brazil ran into serious trouble with coffee exports – its main economic activity – thereby sparking a trade crisis, a drop in the standard of living, strikes, and other chain effects. All indications are that Brazil, as the only Latin

American country to enter the war and be compensated by Germany when the conflict ended⁴, was the target of much more 'offensive' actions by the German government and German cultural and scientific institutions in their zeal to recover markets, prestige, and even regions that could supply their laboratories with the biological goods and raw materials previously obtained from its colonies. In addition to losing part of its territory to France and having its colonies redistributed among the victors of World War I, Germany suffered other sanctions under the Treaty of Versailles.⁵

According to Garcia (2006, p.156), Germany, deprived of its territorial colonies in Africa and the Orient but with its industrial infrastructure still intact, came to see Latin America as a market that could absorb its industrial excess. In addition to being able to rely upon the cultural and political influence of German emigrants – especially the large German-Brazilian community in southern Brazil – Germany also had won the admiration of many Brazilians, mainly due to its technical and scientific skills. Brazil in turn saw Germany as a promising market for its raw material exports.

German doctors and scientists played a fundamental role in the greater effort to win back cultural prestige and economic influence.

In a speech given before the American Association for the Advancement of Science in 1920, Simon Flexner⁶ declared: "Various countries have been at the forefront in science. Without a doubt, Germany has been in the lead for the last 50 years. But Germany is now poor, and struggling with numerous hardships. For this reason, it is now time for America to take possession of this heritage". Contrasting with the hegemonic ambitions of the United States, Bernhard Nocht, director of Hamburg's Institut für Schiffs-und Tropenkrankheiten (Institute of Maritime and Tropical Diseases) and one of the architects of the efforts to reconnect with Latin America, defended the thesis that "it is through medical and therapeutic practices and scientific exchange that German science will once again win the prestige it deserves" . Alluding to his country's coat of arms, Nocht added: if German science could succeed in "once again unfolding its wings", it would open new markets and products to commerce and industry. "Science and technology, industry and commerce, should move forward arm in arm", proclaimed the director of the renowned Tropeninstitut.⁷

Arguments such as these, which emphasized the importance of science for German foreign policy, were used by the scientific community with the aim of garnering support, mainly financial, in rebuilding the institutions that had been strongly shaken by the loss of colonies in Africa and the Orient, in particular the Hamburg Institute, a center of excellence in tropical diseases. Latin America was a propitious place to continue studies in this area. It presented endemic diseases similar to those found in Africa, many introduced by the slave trade in previous centuries. Some Latin American nations lie along the same latitudes as African countries and display similar climates and ecological conditions. With their interiors still to a large extent unexplored in terms of the incidence of disease, they represented a promising field of study. Last but not least, their academic and intellectual circles still nourished great admiration for German science and for its organization of teaching in various fields of knowledge. Bernhard Nocht believed that medicine was one of the most effective methods for promoting German science and culture. For this reason,

a number of staff members at Hamburg's Institute of Maritime and Tropical Diseases were sent on missions to countries in Central and South America to establish contacts and advise on campaigns against infectious illnesses.

From the 1920s on, the German medical-scientific community – especially in Hamburg and Berlin – took a number of initiatives targeting Latin America, including Brazil. These initiatives started in the cities of Hamburg and Berlin.

In 1920, the *Revista Médica de Hamburgo* began to be published monthly in Spanish and Portuguese. It was meant to disseminate German scientific research among the medical communities of Spain and Latin America, especially concerning advances in the pharmaceutical industry and therapeutic techniques. In 1928, it merged with the German-Argentinean journal *La Medicina Germano-Hispano-Americana* and was renamed *Revista Médico-Germano-Ibero-Americana*. It circulated under this title regularly until the eve of World War II (December 1938).⁸

In 1921, the Society of Friends of the Hamburg Institute of Maritime and Tropical Diseases was founded, with the aim of raising funds to restructure the institution and to finance research, scientific travel, and publications. At the same time, Ibero-Germanic Medical Societies were created in the two cities mentioned earlier, intended to promote courses for Latin American students, conducted in Spanish. With the support of the German government, efforts were also made to co-opt Latin American doctors and scientists, persuading them to share their work with German institutes and universities through lectures and courses. The German pharmaceutical industry closely accompanied this movement, lending it material support. In 1921, Chimica Industrial Bayer was founded in Brazil; in addition to importing and marketing products from its German parent company, it began producing drugs locally. Bayer hired Renato Kehl as technical manager of the Brazilian plant (1917-1932). He was a doctor and pharmacist of German descent, well known in Brazilian historiography but only due to his noteworthy role in the eugenics movement of the 1920s and 1930s. As a director of Bayer, Kehl implemented important initiatives meant to win influence with the government and in the Brazilian medical market; these included publication of two periodicals, *Revista Terapêutica* and *O Farmacêutico Brasileiro*.

Franco-Brazilian relations

As the model of 'civilization' for Latin Americans, France reestablished relations with Latin America immediately after World War I (Salon, 1981; Matthieu, 1990, 1991; Marès, 1983; Lessa, 1994). Patrick Petitjean (1989, 1996) has studied the 1920s revival of the movement called Groupement des Universités et Grandes Écoles de France pour les Relations avec l'Amérique Latine (or Groupement), an organization created at the Collège de France in 1907; its main purpose was the exchange of professors with Argentina, Brazil, and Mexico. The revival of the Groupement coincided with the 1922 creation of the *Revue de l'Amérique Latine* and the 1923 foundation of the Franco-Brazilian Institute of High Culture. Petitjean (1996, p.93) attributes the persistence of French cultural influence in Latin America, and especially Brazil, to three main factors: the role of French as the international scientific

language, accounting for 80% of the books adopted by institutes of higher education; 'Latinness' as a identity reference for the elites; and the influence of Auguste Comte and positivism, especially in Brazil and Mexico. More than anything else, the aim of intellectual relations with France at the turn of the twentieth century was "to weave networks of political allies through cultural and political influence, both as a means of economic penetration and also in order to obtain the support of these allies in confrontations with the great powers" (p.91).

The Rio de Janeiro Society of Biology was founded in 1923, affiliated to the Société de Biologie de Paris. The members of the Rio de Janeiro society met monthly at the Oswaldo Cruz Institute and sent French-language abstracts of their work for publication in the Paris-based *Comptes Rendus Hebdomadaires de la Société de Biologie et Ses Filiales*. Such renowned Brazilian scientists as Vital Brazil, Álvaro Osório de Almeida, and Carlos Chagas and Miguel Osório de Almeida – the latter two being researchers at Manguinhos – became foreign corresponding members of the French institute. This deserves highlighting as it was one of the key instruments in tightening medical-scientific relations between France and Brazil.

The *Compte Rendus* released the work both of the members of the Parisian Société de Biologie and of its affiliates in other French and foreign cities. A growing interest in Latin America can be noted in the 1920s. By 1923, when the Rio de Janeiro Society became an affiliate of its French counterpart, the latter's Latin American partners already included the Buenos Aires Society. In 1928, the societies of Mexico and Montevideo joined the network, while in 1932 it was the turn of the Chilean Society of Biology. In all, five Latin American countries joined the Société de Biologie in the interwar period.⁹ One of its objectives was the dissemination of French scientific and cultural influence among foreign countries. The report of the secretary general of the Société, M.J. Jolly, presented to the session held on May 1, 1926, mentioned the role that the publication of the *Comptes Rendus* was seen as playing: "among the most precious assets in our country's heritage is our language, which has disseminated the ideas of civilization, liberty, science, and progress to the world. Our bulletin should spread the French tongue, and not an international language" (*Comptes Rendus*, v.94, 1926, p.1111).

In 1930, another journal created at the initiative of French editors reached Latin America: the *Revue Sud-Américaine de Médecine et de Chirurgie*, published in monthly editions between 1930 and 1934. The first issue introduced the scientific boards for the countries invited to contribute to the journal.¹⁰ Brazil was represented by 26 board members, most of whom were professors at medical colleges. The presentation of the journal (*Lettre-préface*) was signed by professors from the Paris Faculty of Medicine, the Pasteur Institute, the Collège de France, and the Strasbourg Faculty of Medicine. One of the signatories was Georges Dumas, from the Faculty of Letters of Paris University, a noteworthy articulator of Franco-Brazilian relations in the field of the sciences. The letter reveals some important features of the editorial project. The French professors did not intend to contribute to the journal, because, although it was published completely in French, its originality resided in the fact that it would be "written outside of France". The benefits were intended to be felt on both sides of the Atlantic: through the journal, Latin American "doctors, surgeons, and biologists" would have an opportunity to get to know the research carried out by their neighbors and

thereby “unite their thinking”; the French, in counterpart, would become more familiar with the original work of Latin Americans, now available in a single publication. Another aspect highlighted by the authors of the letter was that the French and Latin Americans were “heirs of the Latin temperament”: “Being Latin means having been trained for centuries in the discipline of clear thinking, in the rigor of methods, in the dialectic that joins the keenest critical spirit to the most audacious intellectual initiative. These qualities are not acquired in a day; they require long work It is this tradition that we share. We are the only ones in this vast world who possess it” (*Revue Sud-Américaine*, n.1, 1930, p.11-12). Reviving and preserving this supposed common tradition was thus one of the principles that guided the scientific exchange desired by the journal’s editors and contributors.

In this context, as Jean-François Sirinelli (1998) has proposed, the position of intellectuals as central figures on the French political scene was strengthened, thereby lending them great weight in the civic sphere. Sirinelli’s argument is that the French cultural elites underwent a “spectacular progression” (p.264) in their power of influence in the public and political spheres at the end of the nineteenth century. This perception is very useful in studying the architecture, dynamics, and impact of the Germanic and French medical-scientific movements between 1919 and 1942, with the purpose of understanding to what extent they achieved their ambitions for scientific, cultural and economic hegemony in Latin American countries – especially Brazil – or, on the other hand, what transpired in the case of unsuccessful strategies.

Relevance of the research

Previously unexplored in the Brazilian historiography of the sciences, the policies that the German and French medical-scientific communities implemented in their efforts to tighten relations with Latin America are vitally important to understanding both international relations in their broadest sense in the early half of the twentieth century as well as the transformations that occurred in the sphere of the sciences and medical practices, which were growing ever more internationalized. The scientific initiatives fostered in Brazil by the Groupement in the interwar period are currently under study, with an emphasis on the role of Miguel Osório de Almeida. Based on documents and bibliography never before examined, this research will certainly provide a new vision of international relations, since it proposes to analyze the role of actors that until now have been ignored or underestimated by the specialized literature.

To date, few studies have been conducted on the Germanic influence on health and the biomedical sciences in Brazil, and most of the available works have focused on the period prior to World War I (Benchimol, Sá, 2004, 2005-2006; Sá, 2005).¹¹ For this reason, the study of German-Brazilian relations in the period in question represents an important contribution to the plans mentioned above, and especially to an understanding of the flow of institutional and theoretical models between the two countries and the way they contributed to the construction of research traditions, the nature of the exchanges with peers abroad, and therapeutic and prophylactic contributions to collective health and private clinics.

The German pharmaceutical industry, as we have said, maintained close ties with the post-war medical-scientific movement. It supported exchange efforts with foreign countries

with the aim of opening new markets and expanding its scope of action. There was a strong convergence of interests between the medical-scientific and pharmaceutical worlds. Even though German scientists did not always deliberately act as agents who were promoting the German pharmaceutical industry, they did have the effect of tremendously facilitating the opening of new economic opportunities for the drug companies, which in turn helped make possible the scientific activities debilitated by the war and by the difficulties that followed the Treaty of Versailles.

As noted by Dantes, Hamburguer, and Petitjean (1996, p.18-19), concrete case studies are indispensable when it comes to understanding the nature of these exchanges and what they meant to the biomedical sciences and to the German and Latin American teaching and research institutions involved.

We intend to explore the hypothesis that, despite the historical cultural affinities between France and Brazil and the increasingly stronger presence of the United States, the Germans managed to reestablish their prestige in the country and to garner support and recognition in various areas of the medical-scientific field in the interwar period, even during the ascension of National Socialism in the 1930s. A conjunction of factors favored this project, foremost among them the discovery of important medicines for the prevention of common diseases in Brazil and advances in other areas of knowledge, achieved mainly by doctors from the Hamburg Institute. Particularly important were the synthetic malaria medicines developed there. Henrique da Rocha Lima, who had been Oswaldo Cruz's right hand man at Manguinhos, was to play a fundamental role as a catalyst for collaboration between the sciences in Germany and Brazil, as a high-ranking staff member at this institute, which had made a name for itself in its work with typhoid during World War I. Equally important were the relations established between Carlos Chagas and Bernhard Nocht when they worked together at the League of Nations.

As the scientific director of Bayer and the main advocate of eugenics in Brazil, Renato Kehl also played an important role in strengthening German science among Brazilian doctors and scientists.

Another hypothesis to be explored is that these strategies for tightening relations, especially those implemented by the French, provided Brazilian doctors with opportunities to disseminate original research in Europe and to gain greater visibility for Brazilian science abroad, especially in the fields of physiology and parasitology. Our initial research shows that the French and Brazilians invested in the strengthening of scientific cooperation ties, which went beyond the Groupement in the interwar period. A preliminary analysis of Brazilian participation in periodicals published in France in the fields of medicine and biology indicates that Brazilian scientists made broad use of these channels to disseminate and legitimate their research. We intend to analyze their strategic use of exchanges with France and Germany, relying on the notion of tactics proposed by Michel de Certeau (1994, p.100). The Brazilian researchers who produced original scientific work did not waste opportunities to publish news of their research in international journals, which would give them – among other advantages – visibility and the ability to compete against or cooperate with other researchers and institutions.

It should be remembered that we are dealing with a period characterized by fierce international competition over niches of scientific activity in Latin America, both through the pharmaceutical industry and by occupying spaces in the academic-institutional field, which was solidified in different Latin American countries in the interwar period (see Wulf, 1994; Petitjean, 1996; Garcia, 2006; Sá, 2004; Maio, 2004; Milza, 2007). Americans and Germans were without a doubt the chief rivals of the French in the scientific field and in other arenas, with their disputes growing fiercer as public health policies and initiatives in Latin America acquired an increasingly international character. In this context, different health organizations – e.g., that of the League of Nations, the Rockefeller Foundation's International Health Board (IHB), and the Pan-American Public Health Office – sought to expand their sphere of activities in Latin America. In addition to the practical public health initiatives that the IHB had been implementing in Iberian America, the Americans were also involved in fostering the teaching and further training of Latin American doctors (Cueto, 1994, 1995). In this arena of competition, the French and Germans would develop their own strategies, as we intend to show at the end of this research.

Research strategies

We will place priority on analyzing publications that appear to have had strategic importance for the establishment of scientific relations: the *Revista Médica de Hamburgo* (RMH) and its successor, the *Revista Médica Germano-Ibero Americana* (RMGIA), which, as mentioned earlier, circulated between 1920 and 1938. Created by Ludolph Brauer and Bernhard Nocht, director of the Eppendorf Hospital and of the Institute of Maritime and Tropical Diseases, respectively, both based in Hamburg, the RMH played an important role in Germany's broader movement to tighten relations with Spain and Latin America. It helped link medicine to the political and economic spheres and reveal its value as a cultural propaganda tool. The analysis of these periodicals, understood as instruments for promoting international relations, makes this field of study even more complex since it reveals a web of actors and interests lying beyond strictly political mechanisms, that is, those wielded by the government.

The presence of Henrique da Rocha Lima¹² among RMH editors increased its impact among peers in Brazil. Since 1911, Rocha Lima had worked as a researcher and chief of service at the Hamburg Institute of Maritime and Tropical Diseases. In the journal, he fostered the publication of articles written by Brazilians and wrote reviews in Portuguese about the main works published in German periodicals. It was certainly because of him that personalities of the caliber of Arthur Ramos, Manuel Pirajá da Silva, Henrique de Beaupaire Aragão, Arthur Moses, Adolpho Lindenberg, Miguel Couto, and Carlos Chagas came to join the ranks of RMH contributors.

The majority of the Latin American doctors who belonged to the editorial staff were highly regarded individuals among their native country's medical communities and had graduated from or specialized at German institutions. Direct contact with Germanic culture and science made them important local spokespersons for German values and interests. The journal also obtained support from Germans who headed or worked at Latin American institutions (Sá, Silva, 2007).

Another focus of research are relations between scientists from Hamburg's Institute of Maritime and Tropical Diseases and the Robert Koch-Institut in Berlin, which worked to establish ties with Brazilian medical-scientific institutions like Rio de Janeiro's Faculty of Medicine, the Brazilian Academy of Medicine, the Brazilian Academy of Sciences, the Oswaldo Cruz Institute, and Butantan Institute, promoting the exchange of researchers and attracting Brazilians to study in Germany.

We have already emphasized the role played by the pharmaceutical industry in this movement and the emblematic character of the doctor and pharmacist Renato Kehl. Founder of the Eugenics Society of São Paulo and the *Boletim Eugênico*, as well as author of various articles and books, Kehl was the son-in-law of Belisário Penna, who was in turn an important figure in the Brazilian public health movement, director of the National Health Department's Sanitation and Rural Prophylaxis Service, and, after the 1930 Revolution, Minister of Education and Public Health for a brief period.

The same perspective also guides our analysis of French strategies for exchange with Brazilians, including visits by doctors to Rio de Janeiro under the auspices of the Franco-Brazilian Institute of High Culture and courses and conferences offered between 1922 and 1945. Moreover, we will analyze the ties established by researchers from the Oswaldo Cruz Institute and the Rio de Janeiro Faculty of Medicine with French scientists and the strategies that both sides adopted to strengthen technical-scientific relations between their countries.

The *Revue Sud-Américaine de Médecine et Chirurgie* is important to our understanding of the specificities of Franco-Brazilian relations in comparison with the path of German-Brazilian relations, as well as those between the United States and Brazil. A completed analysis shows that the French journal intended to disseminate the work of Latin American researchers in France, while the Germans placed priority on disseminating their own science in Latin America.

We intend to evaluate Brazilian participation in *Comptes Rendus* from a quantitative and qualitative point of view. The main topics addressed will be identified in order to ascertain which research areas and fields were prioritized by Brazilians and to evaluate their impact on the French and international scientific fields at that conjuncture. Miguel Osório de Almeida will serve as a compass in this analysis. As well as being an eminent physiologist with close ties to French researchers like H. Piéron, Lapique, and E. Gley, Osório appears to have been the main articulator of Franco-Brazilian relations in the field of the biomedical sciences. Therefore, his activities and relations with French scientists will allow us to better understand a circuit of biomedical exchanges beyond those circumscribed to the confines of institutions.

The project "Medicine, science, and power: relations between France, Germany, and Brazil during 1919-1942" includes sub-projects currently underway at the Casa de Oswaldo Cruz's Research Department and at the Graduate Program in the History of the Sciences and Health, to wit: "Miguel Osório de Almeida and biomedical exchanges between France and Brazil (1920-1945)", under the responsibility of research fellow Larissa Viana; "At the intersection of German-Brazilian relations: the trajectory of Henrique da Rocha Lima (1901-1956)", conducted by doctoral candidate André Felipe Cândido da Silva; "Between science and religion: scientific dissemination and popularization in the Catholic pharmaceutical

periodical *O Horizonte* (1923-1935)", a research project by master's degree candidate Polyana Valente.

Two projects coordinated by Casa de Oswaldo Cruz researchers are associated with the project presented here. Dominichi Miranda de Sá's research is entitled "Brazilian science as a State project: the ministries of Agriculture and of Roads and Public Works in the first half of the twentieth century" ties into the present research study in that it will explore the work of several government agencies within the two ministries that were entrusted with scientific exchange activities with other countries (i.e., Directorate of the Service of Brazilian Propaganda and Economic Expansion Abroad, Service for the Dissemination and Trade Expansion of Brazil, Information Service, and the Institute for Trade Expansion). Responsible for the project "Circulating knowledge: Brazilian-German relations in the psychiatric context (1903-1938)", Cristiana Facchinetti is investigating the medical-scientific movement between the German and Brazilian psychiatric communities in the first three decades of the twentieth century.

Bibliography and sources

During the period in question, Germany underwent re-structuring and turmoil that had a direct affect on its research and teaching institutions. To understand the scientific and academic context of the Weimar Republic we have drawn on the works of Burgess (2000); Cocks, Jaraush (1990); Coleman (1981); Harwood (1993); and Ringer (2000). In terms of France, we have used the works of Martinière (1982); Matthieu (1990); Petitjean (1989, 1996); and Suppo (1998, 2001), among others.

Dantes (2001) has pointed out the role played by scientific institutions as spaces that synthesize the social dimension of science by actualizing multiple relations, interests, and practices, which, in particular historical contexts, shape the processes of producing, validating, and disseminating scientific ideas. This perspective underlies the analysis of interrelations between Brazilian, German, and French institutions, as well as the study of the networks established between researchers and other social actors. The works of Wülf (1994), Mannweiler (1998), Fleischer (2000), and Risse (1999) help us better understand the trajectories of the Hamburg institutions and the individuals who were part of those collectives and engaged in the effort to restore the hegemony of German science in the interwar period. The studies and practices that specifically targeted the tropics are best understood with the help of the works of Eckart (1997) and Wülf (1994). Wolfgang Eckart analyzes Germany's doings in Africa back when it possessed colonies there, as well as the problems resulting from the loss of these colonies and the attempts to re-establish connections with the continent during the 1930s. Stephan Wülf addresses the German movement towards Latin America.

To understand and contextualize Brazilian institutions and scientists, as well as the prevailing questions of a medical or scientific nature back at that time, we are drawing on the works of Benchimol (1990, 1999, 2001); Benchimol, Teixeira (1994); Ferreira (1996, 1999); Ferreira, Fonseca, Edler (2001); and Kropf (2006). Public health initiatives in Brazil during the period in question are being explored through the works of Castro Santos

(1985); Castro Santos, Faria (2003); Hochman (1998); Lima (1999); and Lima, Hochman (1996). Based on primary sources, studies of the League of Nations' Hygiene Committee provide the framework for our analysis of relations between Carlos Chagas and Bernhardt Nocht within that organization. We are also relying on Weindling (2006), Borowy (2005), and Dublin (1995). Nocht became a member of the Committee in 1923 and was the only German to have an active participation in this forum. He worked on various commissions with Carlos Chagas, who was nominated a member of the Committee in 1922. Nocht also presided the committed responsible for the creation in Rio de Janeiro of the International Leprosy Research Center, proposed by Carlos Chagas to the League of Nations. Carlos Chagas had garnered undeniable prestige among his European peers after the discovery of American trypanosomiasis. In the tightening of ties between Germany and Brazil, German researchers often turned to the director of the Oswaldo Cruz Institute and the National Department of Public Health. Chagas' ties with German science were solidified in 1908, when the scientist worked at Manguinhos with Max Hartmann and Stanilas Prowazek (Sá, 2005). Hartmann wielded great influence in the education of the Brazilian scientist, who affectionately referred to the former as "my great master" (Chagas, Feb. 5, 1923).

The project's main documentary sources are the *Revista Médica de Hamburgo*, *Revue Sud-Américaine de Médecine et Chirurgie*, and *Comptes Rendus Hebdomadaires de la Société de Biologie et Ses Filiales*. Other sources include, but are not limited to, the archives and libraries of the National Academy of Medicine, the Rio de Janeiro Faculty of Medicine, the Brazilian Academy of Science, and the Society of Medicine and Surgery. Equally important to the project are the periodicals *Boletim da Academia Nacional de Medicina*, *Anais da Faculdade de Medicina do Rio de Janeiro*, *Brazil-Médico*, *Arquivos Brasileiros de Medicina*, *O Hospital*, *Folha Médica*, and *Memórias do Instituto Oswaldo Cruz*. By analyzing these materials, we can ascertain the extent of exchanges between German, French, and Brazilian researchers while they were producing and validating their scientific works.

Likewise relevant to our project are the collections held by the Casa de Oswaldo Cruz Department of Archives and Documentation, especially the Oswaldo Cruz Institute, Carlos Chagas, and Clementino Fraga funds, as well as the diplomatic documentation from the Itamaraty Archive and the Biological Institute of São Paulo's Rocha Lima Collection.

Lastly, it should be noted that research has already been conducted in Germany – in Berlin, Hamburg, and at the Bayer Archive in Leverkusen – and in France, at the Pasteur Institute archives, the Bibliothèque Nationale, and the Archives Nationales.

NOTES

* The year of 1919 was chosen as the starting point for our chronological focus because it coincides with the official end of World War I, when the European powers signed the Treaty of Versailles; the endpoint coincides with Brazil's 1942 entrance into World War II.

¹ Research related to the Papes/CNPq Project, coordinated by Magali Romero Sá and entitled "European theories and biomedical science in Brazil: tropical medicine at Manguinhos (1908-1940)" [Teorias européias e ciências biomédicas no Brasil: a medicina tropical em Manguinhos (1908-1940)]. The project commenced in 2006 and was completed in April 2008.

² A preliminary study on this movement was presented at a seminar on Max Kuczynski, held at the University of Giessen, Germany, in November 2006 (Sá, in press). Another paper on the *Revista Médica de*

Hamburgo and the *Revista Médica Germano-Ibero Americana* was presented at Brazil's 24th National History Symposium (ANPUH) in July 2007 (Sá, Silva, 2007) and sent to the journal *Asclépio* for publication (approved in 2008; Sá, Silva, in press).

³ The Oswaldo Cruz Institute (Rio de Janeiro) cut ties with German institutions. The *Memórias do Instituto Oswaldo Cruz*, which since its founding had been published in Portuguese and German, began to publish scientific works only in Portuguese, as well as increasingly in English. See Benchimol, 1990; Martins, 2003.

⁴ Brazil managed to get Germany to pay with interest for the coffee lost on sunken Brazilian ships. In addition, seventy German ships became part of the Brazilian fleet at symbolic prices. In relation to this, see www.crlenberg.com/historica_brasilguerra.htm.

⁵ The main terms of the Treaty of Versailles were: the surrender of all German colonies to League of Nations member-nations; the return of Alsace-Lorraine to France; the cession of regions to Belgium, Lithuania, Czechoslovakia, and Poland; reparations of 6.6 billion pounds sterling; prohibition of the union of Germany and Austria; Germany's acceptance of blame for the war; the limitation of the German army to 100,000 men, without tanks, heavy artillery, poisonous gas, airplanes, or seaplanes; the limitation of its navy to 100,000 tons, without any submarines. The treaty was signed by Germany under protest, while the United States refused to ratify it (MacMillan, 2004).

⁶ A doctor, administrator, and professor of pathology at the University of Pennsylvania between 1899 and 1903, Simon Flexner (1863-1946) was the first director of the Rockefeller Institute for Medical Research (1901-35) and president of the American Association for the Advancement of Science (http://en.wikipedia.org/wiki/Simon_Flexner).

⁷ Vertrauliche Denkschrift, 863, "Für das Hamburger Institut für Schiffs- und Tropenkrankheiten", BNI, 352 8/9 Prof. Nocht 1900-1930, Correspondenze V 1920-1921.

⁸ See Sá, Silva, 2007.

⁹ Between 1923 and 1940, the biology societies affiliated to the French *Société* were those of Bordeaux, Marseilles, Nancy, Petrograd, Lille, Barcelona, Strasbourg, Lyon, Buenos Aires, Athens, Belgrade, Romania, Portugal, Belgium, Denmark, Spain, Brazil, Poland, Sweden, Lithuania, Algeria, Montevideo, Montreal, Chile, Mexico, Czechoslovakia, and Japan.

¹⁰ Besides Brazil, there were scientific councils in Argentina, Bolivia, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, and Venezuela.

¹¹ In the 12-volume book on the life and work of Adolpho Lutz edited and organized by Benchimol and Sá (2004, 2005-06, 2007), pioneering studies were conducted on German medical-scientific influence in Brazil, especially between the late nineteenth century and early twentieth, and on the fundamental role played by Brazilian and German scientists, especially those from the Oswaldo Cruz Institute and Hamburg's Institute of Maritime and Tropical Diseases.

¹² Rocha Lima's work in the German medical-scientific movement in Brazil is being studied by André Felipe C. da Silva, under the supervision of Jaime Benchimol, as the topic of his doctoral dissertation at the Casa de Oswaldo Cruz's Graduate Program in the History of the Health Sciences.

REFERENCES

BENCHIMOL, Jaime L.
Febre amarela: a doença e a vacina, uma história inacabada. Rio de Janeiro: Editora Fiocruz; Bio-Manguinhos. 2001.

BENCHIMOL, Jaime L.
Dos micróbios aos mosquitos: febre amarela e a revolução pasteuriana no Brasil. Rio de Janeiro: Editora Fiocruz; Editora da UFRJ. 1999.

BENCHIMOL, Jaime L.
Manguinhos do sonho à vida: a ciência na belle époque. Rio de Janeiro: Casa de Oswaldo Cruz/ Fiocruz. 1990.

BENCHIMOL, Jaime L.; SÁ, Magali R. (Ed.).
Adolpho Lutz, obra completa. v. III, livro 2:

Helmintologia; livro 3: Viagens por terras de bichos e homens; livro 4: Outros estudos em zoologia. Rio de Janeiro: Editora Fiocruz. 2007.

BENCHIMOL, Jaime L.; SÁ, Magali R. (Ed.).
Adolpho Lutz, obra completa. v. II, livro 1: Febre amarela, Malária e Protozoologia; livro 2: Tabanídeos; livro 3: Adolpho Lutz e a entomologia médica no Brasil (apresentação histórica); livro 4: Entomologia. Rio de Janeiro: Editora Fiocruz. 2005-2006.

BENCHIMOL, Jaime L.; SÁ, Magali R. (Ed.).
Adolpho Lutz, obra completa. v.1, livro 1: Primeiros trabalhos: Alemanha, Suíça e Brasil (1878-1885); livro 2: Hanseníase; livro 3,

- Dermatologia e Micologia. Rio de Janeiro: Editora Fiocruz. 2004.
- BENCHIMOL, Jaime L.; TEIXEIRA, Luiz Antônio.
Cobras e lagartos & outros bichos: uma história comparativa dos Institutos Butantã e Oswaldo Cruz. Rio de Janeiro: Editora Fiocruz; Editora da UFRJ. 1994.
- BEN-DAVID, Joseph.
O papel do cientista na sociedade. São Paulo: Pioneira, 1979.
- BOROWY, Iris.
World health in a book – the International Health Yearbooks. In: Borowy, Iris; Gruner, Wolf D. (Org.). *Facing illness in troubled times: health in Europe in the interwar years*. Frankfurt: Peter Lang. p.85-128. 2005.
- BRUZIÈRE, Maurice.
L'Alliance Française: 1883-1983. Paris: Hachette. 1983.
- BURGESS, J. Peter.
Meaning and science in Weimar: crisis and the cultural foundations of reason. San Domenico: European University Institute. (Series EUI Working Paper. HEC, n. 2000/8). 2000.
- CASTRO SANTOS, Luiz A. de.
O pensamento sanitário na primeira República: uma ideologia de construção na nacionalidade. *Dados*, Rio de Janeiro, v.28, n.2, p.193-210. 1985.
- CASTRO SANTOS, Luiz A. de; FARIA, Lina R. de.
A reforma sanitária no Brasil: ecos da Primeira República. Bragança Paulista: Edusf. 2003.
- CERTEAU, Michael de.
A invenção do cotidiano, 1: as artes do fazer. Petrópolis: Vozes. 1994.
- CHAGAS, Carlos.
Carta a Max Hartmann. Fundo Carlos Chagas. (Departamento de Arquivo e Documentação/Casa de Oswaldo Cruz/Fiocruz). Feb. 5, 1923.
- COCKS, Geoffrey B.; JARAUSH, Konrad H. (Ed.).
German professions 1800-1950. Oxford: Oxford University Press. 1990.
- COLEMAN, William.
French views of German science. New York: Arno Press. 1981.
- CUETO, Marcos (Ed.).
The cycles of eradication: the Rockefeller Foundation and Latin American public health, 1918-1940. In: Weindling, P. (Ed). *International health organisations and movements 1918-1939*. Cambridge: Cambridge University Press. p.222-243. 1995.
- CUETO, Marcos (ed.).
Missionaries of science: the Rockefeller Foundation & Latin America. Bloomington: Indiana University Press. 1994.
- DANTES, Maria Amélia M.
Introdução: uma história institucional das ciências no Brasil. In: Dantes, Maria Amélia M. (Ed.). *Espaços da ciência no Brasil: 1800-1930*. Rio de Janeiro: Editora Fiocruz. 2001.
- DANTES, Maria Amélia M.; HAMBÚRGUER, Amélia; PETITJEAN, Patrick (Ed.).
A ciência nas relações Brasil-França (1850-1950). São Paulo: Edusp. 1996.
- DUBLIN, M.D.
The League of Nations Health Organization. In: Weindling, P. (Ed.). *International health organisations and movements 1918-1939*. Cambridge: Cambridge University Press. p.56-80. 1995.
- ECKART, Wolfgang U.
Medizin und Kolonialimperialismus: Deutschland 1884-1945. Paderborn: Schöningh. 1997.
- FERREIRA, Luis Otávio.
Os periódicos médicos e a invenção de uma agenda sanitária para o Brasil (1827-1843). *História, Ciências, Saúde – Manguinhos*, Rio de Janeiro, v.6, n.2, p.331-351. 1999.
- FERREIRA, Luis Otávio.
O nascimento de uma instituição científica: os periódicos médicos brasileiros da primeira metade do século XIX. Dissertation (Doctorate) – Faculdade de Filosofia, Ciências e Letras, Universidade de São Paulo, São Paulo. 1996.
- FERREIRA, Luis Otávio; FONSECA, Maria Rachel Fróes da; EDLER, Flávio.
A Faculdade de Medicina do Rio de Janeiro no século XIX: a organização institucional e os modelos de ensino. In: Dantes, Maria Amélia M. (Ed.). *Espaços da ciência no Brasil: 1800-1930*. Rio de Janeiro: Editora Fiocruz. p.59-77. 2001.
- FLEISCHER, Bernhard.
A century of research in tropical medicine in Hamburg: the early history and present state of the Bernhard Nocht Institute. *Tropical Medicine and International Health*, Oxford, v.5, n.10, p.747-751. 2000.
- GARCIA, Eugenio Vargas.
Entre a América e a Europa: a política externa brasileira na década de 1920. Brasília: UnB. 2006.
- HARWOOD, Jonathan.
Styles of scientific thought: the German genetics community, 1900-1933. Chicago: University of Chicago Press. 1993.

- HOCHMAN, Gilberto.
A era do saneamento: as bases da política de saúde pública no Brasil. São Paulo: Editora Hucitec; Anpocs. 1998.
- KROPF, Simone.
Doença de Chagas, doença do Brasil: ciência, saúde e nação (1909-1962). Dissertation (Doctorate in History) – Faculdade de História, Universidade Federal Fluminense, Niterói. 2006.
- LESSA, Mônica Leite.
A Aliança Francesa no Brasil: política oficial de influência cultural. *Varia História*, Belo Horizonte, n.13. 1994.
- LIMA, Nísia.
Um sertão chamado Brasil: intelectuais e representação geográfica da identidade nacional. Rio de Janeiro: Revan; Iuperj; Ucam. 1999.
- LIMA, Nísia; HOCHMAN, Gilberto.
Condenado pela raça, absolvido pela medicina: o Brasil descoberto pelo movimento sanitário da Primeira República. In: Maio, Marcos Chor; Santos, Ricardo Ventura. (Ed.). *Raça, ciência e sociedade*. Rio de Janeiro: Fiocruz; CCBB. 1996.
- MACMILLAN, Margaret.
Paz em Paris, 1919: a Conferência de Paris e seu mister de encerrar a Grande Guerra. Rio de Janeiro: Nova Fronteira. 2004.
- MAIO, Marcos Chor (Ed.).
Ciência, política e relações internacionais: ensaios sobre Paulo Carneiro. Rio de Janeiro: Editora Fiocruz; Unesco. 2004.
- MANNWEILER, Erich.
Geschichte des Instituts für Schiffs- und Tropenkrankheiten in Hamburg, 1900-1945. Keltern- Weiler: Goecke und Evers. 1998.
- MARÈS, Antoine.
Puissance et présence culturelle de la France: l'exemple du service des oeuvres françaises à l'étranger dans les années 30. *Relations Internationales*, Geneva, v.33, p.65-80. 1983.
- MARTINIÈRE, Guy.
Aspects de la coopération franco-brésilienne: transplantation culturelle et stratégie de la modernité. Grenoble: Presses Universitaires de Grenoble. 1982.
- MARTINS, Ruth B.
Do papel ao digital: a trajetória de duas revistas científicas brasileiras. Dissertation (Masters in Information Science) – Instituto Brasileiro de Informação em Ciência e Tecnologia/Escola de Comunicação, Universidade Federal do Rio de Janeiro, Rio de Janeiro. 2003.
- MATTHIEU, Gilles.
Une ambition sud-américaine: politique culturelle de la France (1914-1940). Paris: L'Harmattan. 1991.
- MATTHIEU, Gilles.
Un enjeu diplomatique: la politique culturelle de la France en Amérique du Sud dans l'entre deux guerres. *Cahiers des Amériques Latines*, Paris, n. 9, p.131-158. 1990.
- MILZA, Pierre.
As relações internacionais de 1918 a 1939. Lisboa: Edições 70. 2007.
- PETITJEAN, Patrick.
Ciências, impérios, relações científicas franco-brasileiras. In: Dantes, Maria Amélia M., Hambúrguer, Amélia; Petitjean, Patrick (Ed.). *A ciência nas relações Brasil-França (1850-1950)*. São Paulo: Edusp. p.25-39. 1996.
- PETITJEAN, Patrick.
Sciences et empires. In: Congresso Latino-americano de História da Ciência e da Tecnologia, 2, 1989, Madrid. *Anais...* São Paulo: Nova Stella. 1989.
- PETITJEAN, Patrick; PATY, Michel.
Sur l'influence scientifique française au Brésil aux XIXème et XXème siècles. *Cahiers de l'Amérique Latine*, Paris, n.4. 1985.
- REGGIANI, Andrés H.
Medicina y Kulturpolitik en la era del nacional socialismo: la Academia Médica Germano-Ibero-Americana (1936-1939). *Ibero Online*, Berlin, v.3, n.1. Available at: <http://www.iai.spk-berlin.de/es/publicaciones/ibero-online/numeros-publicados.html>. 2005.
- RINGER, Fritz K.
O declínio dos mandarins alemães: a comunidade acadêmica alemã, 1890-1933. São Paulo: Edusp. (Coleção Clássicos). 2000.
- RISSE, Guenter B.
Mending bodies, saving souls: a history of hospitals. Oxford: Oxford University Press. 1999.
- SALON, Albert.
L'action culturelle de la France dans le monde. Dissertation (Doctorate) – Université de Paris I, Panthéon-Sorbonne, Paris. 1981.
- SIRINELLI, Jean-François.
As elites culturais. In: Rioux, Jean Pierre; Sirinelli, Jean-François. *Para uma história cultural*. Lisboa: Editorial Estampa. p.259-279. 1998.
- SÁ, Magali Romero.
The tropical medicine in Brazil: the discovery of *Trypanosoma cruzi* in the German School of Protozoology. *Parassitologia*, Roma, v.47, p.309-317. 2005.

- SÁ, Magali Romero.
Paulo Carneiro e o curare: em busca do princípio ativo. In: Maio, Marcos Chor (Ed.). *Ciência, política e relações internacionais: ensaios sobre Paulo Carneiro*. Rio de Janeiro: Editora Fiocruz; Unesco. p.43-66. 2004.
- SÁ, Magali Romero; SILVA, André Felipe C.
Por entre as páginas do imperialismo germânico na América Latina: a Revista Médica de Hamburgo e a Revista Médica Germano-Ibero-Americana (1920-1933). In: Simpósio Nacional de História, 24, 2007, São Leopoldo. *História e multidisciplinaridade: territórios e deslocamentos*. v.1. São Leopoldo: Oikos. p.565. 2007.
- STERN, Fritz.
O mundo alemão de Einstein. São Paulo: Companhia das Letras. 2004.
- SUPPO, Hugo.
A política cultural da França no Brasil entre 1920 e 1940: o direito e o avesso das missões universitárias. *Revista de História*, São Paulo, v.142-143, p.309-345. 2001.
- SUPPO, Hugo.
Intelectuais e artistas nas estratégias francesas de 'propaganda cultural' no Brasil (1940-1944). *Clio – Revista de Pesquisa Histórica*, Recife, n.17, p.73-104. 1998.
- WEINDLING, Paul.
Health, race and German politics between national unification and Nazism, 1870-1945. Cambridge: Cambridge University Press. 1989.
- WEINDLING, Paul.
As origens da participação da América Latina na Organização de Saúde da Liga das Nações, 1920 a 1940. *História, Ciências, Saúde – Manguinhos*, Rio de Janeiro, v.13, n.3, p.555-570. 2006.
- WULF, Stefan.
Das Hamburger Tropeninstitut 1919 bis 1945: auswärtige Kulturpolitik und Kolonialrevisionismus nach Versailles. Berlin: Reimer. 1994.

