

Seven studies into the transmission of science and scientific legacy between Europe and Latin America (1850-1940)

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While the history of science is not a new discipline in Latin American studies, it has become increasingly specialized over the last thirty years, building up its own set of investigative tools. There has been a corresponding rise in the number of Latin American and Latin Americanist science historians, who are gradually building up a picture of the specific ways knowledge has been exchanged, transmitted and developed amongst American nations. One fruit of this is that in 2005, the history of Latin America was included for the first time as an independent symposium at the Congress of the Associação de Historiadores Latinoamericanistas Europeus (AHILA). Likewise, in 2006, special attention was given to the history of science at the International Congress of Americanists (ICA). The articles in this issue are a compilation of the papers presented at these conferences, and cover the different fields of interest and viewpoints being discussed today in the history of science in Latin America. The authors include historians, psychologists, sociologists, chemists and biologists who have made the history of science their particular field of interest.

The articles explore the different means and routes by which scientific knowledge was transmitted and exchanged between Europe and Latin America in the nineteenth century (Ismael Ledesma, Sonia Lozano, Natalia Priego and J. Manuel González) and between American nations in the twentieth century (Yajaira Freites, J. José Martín-Frechilla and Elena Quiñones, María Peñaranda, Elena García). One common denominator found in all the texts is the fact that they show us once again that the reception, “acclimatization” and communication of science in Latin America is a dynamic process where political, scientific and social factors interact like the currents of a river carving out its bed. Meanwhile, there is also a multidirectional exchange and contact between Latin American nations. Above all, these interchanges are a rich source of ideological, social, economic and political data for the history of Latin America in all its facets.

Amongst the studies that discuss the introduction of biology to nineteenth century Mexico, Ismael Ledesma-Mateos highlights the problems involved in the introduction

and assimilation of biology and its founding paradigms (such as cell theory, homeostasis theory, the theory of evolution and heredity theory). As Ledesma sees it, the introduction of knowledge is a process that brings together the multiple factors that distinguish the community receiving the new concepts and theories. The author sustains that during this process, phenomena such as the “social domestication” of the new knowledge take place, including the operations of translating the ideas and changing perceptions, giving rise to hybrid versions with local traits quite distinct from the original European versions. This can lead to the original theory taking on elements from the place of arrival and thus being modified, as was the case of Darwinian thought in Mexico, to which Alfonso Herrera included as an indissoluble element the problem of the origin of life and his own plasmogene theory.

Along a similar thematic line concerning knowledge transmission and adaptation processes, my article discusses one aspect of the early importation of bacteriology into Mexico in 1880. The backdrop to this was the battle against the Yellow Fever virus, which nations in the Americas had waged since the publication of the Annual Report of the National Board of Health in 1879. The aim of the study is to describe the epistemological and material problems that faced the first Mexican physicians who drew on bacteriology in the quest for a method to stop the proliferation of yellow fever. I set out the contradictions contained in the first microbial theory of the 1870s, which confounded the importation and comprehension of bacteriological theory. One such example was the problem of the immutability of bacterial species as described by Robert Koch, a view that was not necessarily shared by the followers of Pasteur, while there was also some confusion between the concept of Jenner’s vaccinations and the vaccines proposed by Pasteur’s followers.

Next, on the transmission of knowledge to Mexico during the presidency of Porfiriato (1876-1911), Natalia Priego describes very clearly the ideological and “pseudo-scientific” construction of the “Mexican identity” during this period. The purpose is to explain the use and meaning of the different conceptions of the word science as a political and social tool and a way forward to the modernization of the nation. Priego invites us to explore the contradictions between a scientific policy that favored the development of science and technology, and the widespread conviction in the nation that western science was the finished product of more developed societies whose culture, wisdom and modernity the Mexican masses could not hope to attain.

The last of the four articles that discuss the transmission of science between Europe and Latin America until the late 1800s is by J. Manuel González de la Pueña Puerta, Antonio Ramos Carrillo and Esteban Moreno Toral on the importation and professionalization of pharmacy in Cuba. The island of Cuba was one of the last Spanish strongholds in the Americas. One of the consequences of this prolonged presence was the activity, until the late nineteenth century, of institutions such as the Tribunal del Protomedicato, the Real Junta Superior Gubernativa and the Facultad de Farmacia, which regulated the practice of all branches of medicine. This regulation, which lasted until 1889, was one of the defining features of Cuban medicine. Thus, while other Latin American countries suffered from a dearth of regulatory agencies and laws to govern the practice of medicine and assure official recognition, pharmacy and medicine in Cuba entered the

twentieth century with institutions and legislation in place to regulate all branches and sub-branches of medicine.

We move into the twentieth century with three articles on the transmission and circulation of knowledge in Latin America during the first half of the century. The first is an article by Yajaira Freites which gives an example of knowledge exchange in Latin America in the form of cooperation amongst Argentina, Uruguay, Mexico and Venezuela in the area of sanitation to control a common foe: foot-and-mouth disease. The author shows how this international cooperation served, amongst other things, to professionalize veterinary science in Venezuela and improve the national and international systems for preventing and controlling epizootics. One significant point in this paper is that it shows clearly that it is not enough just to master the knowledge and techniques for diagnosing and preventing epizootics: experience in sanitation campaigns must also be acquired and developed by means of international collaboration and interchange.

In his article, J. José Martín-Frenchilla analyzes the development of the Venezuelan public health system and the role the Rockefeller Foundation played in training sanitation engineers and public health professionals between 1926 and 1932. The author touches on the little known participation of physicians exiled from Spain in forming and developing Venezuela's public health system as of 1938, which was after the Rockefeller Foundation had withdrawn from Venezuela. Emphasis is given to the teaching activities carried out by Spanish doctors and the repercussions this training had on the professionalization of sanitation work in Venezuela.

Finally, Elena Quiñones, María Peñaranda and Elena García discuss the history of psychoanalysis in Argentina and the influence of French and German psychoanalysis on the country through Ángel Garma, a Spanish exile and student of Freud's. The authors also set out the steps that led to the institutionalization and professionalization of psychoanalysis not just in Argentina but across the Southern Cone.

Our aim with this issue is to encourage greater communication and exchange amongst Latin American and Latin Americanist science historians, and expand the potential for developing a comparative history of the introduction and circulation of sciences amongst the peoples of the Americas so as to cast light on the particularities of scientific transmission in this region above and beyond general, simplistic classifications of peripheral nations.

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