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The Disconnect between the History of Science
and Latin American Studies

In January of 2003 Brazilian Minister of Science and Technology, Roberto Amaral, caused a stir when, during an interview with BBC Brasil, he stated that his country should not rule out acquiring the scientific knowledge necessary to build an atomic bomb. After speculation that Amaral's statement damaged Brazil's attempt to obtain a permanent seat on the UN Security Council, he attempted to clarify his position, "A country of Brazil's great size that wants to have the prominence that Brazil wants to have, cannot refuse to develop knowledge in any area."¹ Nine months later, due to the drought induced energy crisis of 2001-2002, the government again made headlines by announcing that it planned to begin enriching uranium in 2004 as fuel for its two nuclear power plants. The plan also included a timeline for exporting enriched uranium within the next ten years. Both stories point to the contemporary significance of pure and applied knowledge in the physical science as Brazil continues to attempt to develop itself into an important player on the global stage. That science and technology is important to developing nation, especially one as rich in resources as Brazil, should be a surprise to no one.

¹ "Um país do tamanho do Brasil, que quer ter a projeção que o Brasil quer ter, não pode renunciar a desenvolver conhecimento em nenhuma área."

What makes the energy crisis important for the purposes of this paper is not Brazil's reaction, *i.e.* enriching uranium, but rather the way in which the energy crisis was presented to the English speaking world. A May 17, 2001 article on the BBC's website, among the first English articles to discuss the energy crisis, offered the following headline, "Brazil Facing Football Blackout." The story opens with the following passage, "Emergency measure introduced in Brazil to combat a serious energy crisis are threatening to hit the football-crazy nation where it hurts....Introduced by a specially created government task force...the measures look set to also hit other parts of Brazilian life. Neon lights will be switched off and lighting on streets, beaches, squares and other public venues will be reduced. Fears are also growing that the bright lights of world-renowned Rio Carnival might be dimmed by the indefinite."

The energy crisis was not presented as being a political problem requiring a resolution through scientific or technological means, nor was it seen as a potentially devastating economic problem for the country's 175 million residents. Where it hurt was not the livelihood and standard of living for millions, rather it was football, beaches, and Carnival. Such is the treatment of Brazilian science and technology in the Anglo-European world. The country is presented not as a land that has made important contributions in fields such as tropical medicine and more recently in genetics and biotechnology, nor as one with great scientific potential, who has also made great improvements in the physical sciences, but as one of Carnival, beaches, and football. This cynical interpretation of a single article is not meant to diminish either the beauty or the significance of things such as Carnival and football. Were it only a news article that projected this image, one might simply dismiss the attempt to discuss the energy crisis

within the context of football as a way of making the article more appealing to a British audience. In at least one respect, however, the article is consistent with an unfortunate trend in Latin American studies in general. While Anglo-European scholars have discussed and analyzed numerous aspects of Brazil's historical, social, and cultural spheres, the scientific one has been largely ignored. When science is discussed, it is done so almost exclusively by anthropologists who are interested more in laboratory organization or science in a nationalist or post-colonial setting, than they are in the content of the work. What compounds the problem of a general lack of interest in science by those interested in Latin America, is that the converse is equally true. Those interested principally interested in the history of science are almost entirely oblivious to developments in Latin America.

This lack of interest in the history and development of science has not gone unnoticed by Brazilian scholars. In the preface to the 1991 English version of his 1979 work, *Formação da Comunidade Científica no Brasil*, Simon Schwartzman writes, "While the Portuguese edition was aimed at a wide, educated audience of professional, teachers, scientists, and policymakers who knew a lot about Brazil and very little of the current literature on the social studies of science and technology, the opposite would be true for an English-language text; while the Brazilian reader would be interested in the detailed history of institutions that existed and very often disappeared decades ago, or even in the nineteenth century, the international reader would be concerned with its general meaning and direction."² Schwartzmann, a sociologist by training, assumes that readers outside of Latin America would not be interested in a detailed history. Such a

² Simon Schwartzmann, *A Space for Science: The Development of the Scientific Community in Brazil*(University Park, PA: Pennsylvania State University Press, 1991), viii-ix.

characterization would be absurd were it to be made concerning Europe or the United States. It is, however, an accurate and sad reflection of the lack of interest in Latin America by Anglo-European historians of science.

Since 1980 *Isis*, the mostly highly regarded journal for the history of science, has published two articles on science in Latin America, both by Marcos Cueto, a historian trained at Columbia University, but now teaching in Peru. One article discussed high altitude physiology in Peru, the other, laboratory styles in Argentina. In other words the development of science in Brazil, one of the largest nations in the world, has not merited a single page of discussion in the principal journal for historians of science. To find any discussion of Brazilian science one has to turn to a series of articles published in a 1989 issue of *Nature*. As one might expect from a series that averaged one page per article, the series only scratched the surface of the state of science in Brazil.

The future prospects for a greater historical sensitivity towards Latin American are not promising. A search through Dissertation Abstracts reveals that over the past twenty years the number of dissertations at the intersection of the history of science and Latin American is generously given as thirty-seven. Of these well over half deal with scientific development only tangentially. A narrowing of the search to the field of the physical sciences results in two dissertations written in the last twenty years: a 2001 work on the history of Mayan astronomy from 500-1600, which cannot rightfully be considered as focusing on Latin America, and the 1986 work by Regis Cabral, "The Interaction of Science and Diplomacy: Latin America, the United States and Nuclear Energy, 1945-1955." In other words, in the past two decades there has been a single dissertation

written in the United States on the physical sciences in Latin America and even it is more a work of diplomatic history than history of science.

A negative assessment of the integration between United States and Latin American historians of science will come as a surprise to few. It is precisely because this is understood to be the case that it is a relevant point of discussion for a conference on Latin America. Why has there been such a complete unwillingness for historians of science to gaze southward? The principal goal of this paper is not to provide definitive answers, concerns such as this resist such reductionism, but rather to stimulate a dialogue on what can be done to correct this. With this in mind, it is worth noting some of the factors that have inhibited a greater of exploration of Latin American by historians of science. One can point to various historical and cultural trends, an example being the strong influence of the French intellectual tradition in the early twentieth century in countries such as Brazil. Another set of concerns could be grouped under the general heading of logistics. The principal barrier here being that of language. For historians of science Spanish and Portuguese are not seen as scholarly languages, thus a vast majority of researchers do not have the requisite linguistic tools to conduct archival research. Also because of this, literature produced in those languages has a very small audience among historians of science in the U.S. A second logistical concern is the reality that the state of the archives in some Latin American locations leaves room for improvement. By no means is this the case in all locations. It is rather a recognition that a stronger institutional memory, i.e. a recognition of the historical significance of locations such as the department of physics at the University of São Paulo, will enable those who study the

history of science and technology in Latin America to produce work that will generate a greater interest beyond Latin America.

The third and most important set of concerns is pedagogical. For this the problems can be located squarely within the U.S. Given the small number of historians interested in Latin American science and the general lack of interest in the history science by those in the region, the opportunities for future generations to be exposed to this topic is almost non-existent, thus ensuring another cycle of under appreciation. Consequently, as is suggested by Schwartzman, the details of this history are lost or accorded little value. Given these pedagogical realities, the unfortunate lack of interest is less a product of ethnocentrism than of simple ignorance. One consequence of such indifference is that institutional/foundational support within the history of science community is directed away from Latin America, thus, from a purely economic point of view, making it is logistically difficult to conduct research. While one can find financial support for this research, there is no question that there remain far more options for those interested in Europe-based research, than that based in Latin American. As a result, the attempt to bridge the gap between history of science and Latin American studies will have to be sustained primarily by the latter.

Having presented a rather pessimistic view and outlined the problems/challenges facing those who would like to see greater cooperation between historians of science and those in Latin American studies, it is worth noting some hopeful trends that might help to resolve the current impasse. The first is the developments in information and communication technology in recent years. Developments such as email and electronic databases have begun to help resolve some of the logistical problems associated with

doing research in Brazil. The second is the efforts of historians who are taking the initiative and seeking governmental or institutional support for improved organization of university records. An example of this can be found in the efforts of individuals at the University of São Paulo. Another trend, though often maligned in other circles, is that of globalization. Agreements such as the free trade of the Americas, would almost certainly stimulate a greater interest in Latin America beyond Mexico, if for no other reason than that of economic integration. The hope here is that this increased interest would be reflected as much in its history of science as in other disciplines. It remains a relatively unexplored avenue which has the potential to offer great insight into both individual countries, as well as the region as a whole. This being said, as long as the image of Brazil and Latin America is that of beaches, dancing, and football there will continue to be a prejudice which undermines the appreciation and understanding of scientific accomplishments occurring in that region.