

through the seventeenth century, and that it was aggravated by population change. The main facts are established, probably to a greater extent than the author modestly claims. Very convincing direct evidence is to be found simply in contemporary statements by viceroys and others that these conditions did exist. Borah defines the depression in terms of rising prices, food shortages, increased demand by Spaniards, and administrative efforts at control, including rationing, price fixing, and the prohibition of regrating. Some of these would, of course, figure as inflation symptoms in modern economies, but they are appropriate to a context of depression in the economy of colonial New Spain.

Borah interprets the large landed estates of the seventeenth century as the result of an effort to free Spanish food supplies from dependence upon the reduced Indian communities. In *latifundia* the Spaniards extended a system that was already in effect for wheat and cattle production. The extension involved a reorganization of Indian labor, related to the development of debt peonage and more systematic *repartimiento*. As Borah states, a full discussion of these processes must await further and more detailed research. Only provisionally also is the terminal date of the depression given as the late seventeenth century.

A multiplication error (p. 13) and some confusion in reference to Tables 1, 2, and 3 (p. 10) are minor technical defects.

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*Trabajos científicos.* By JOSE ESTÉVEZ, edited with a biographical introduction by LUIS F. LEROY Y GÁLVEZ. [Publicaciones del Ministerio de Educación, Dirección de Cultura, Cuadernos de Cultura, Novena Serie.] (Habana: P. Fernández y Cía., 1951. Pp. 316. Paper.)

José Estévez y Cantal, born, 1771, of obscure parentage in Habana, Cuba, so distinguished himself by his scientific studies and research during the first half of the nineteenth century that the compiler of this work, Luis F. LeRoy y Gálvez, has bestowed upon him the title of "first Cuban chemist."

Estévez began his professional studies at the University of Habana and after graduation joined Martín de Sessé in his extensive botanical survey of Cuba and the surrounding area. In the year 1802 he went to Spain under the sponsorship of the Real Sociedad Patriótica and the Real Junta del Consulado to pursue what turned out to be a six-year

course of studies. During this time he worked under the best scientists then teaching in Madrid, including Louis Proust and Christian Herrgen.

In 1805 Estévez returned to Cuba and took up work as a practicing scientist. For personal reasons, perhaps health, perhaps shyness, he refused the offer of the highest official position, Professor of Chemistry at the University of Habana. He seems to have developed research projects both on his own initiative and on consultation for other individuals or groups. He published a number of articles on various chemical topics, several of them dealing, naturally enough, with sugar problems.

These articles, gleaned by exhaustive research and here compiled for the first time, are the focal point of the book although they account for less than one-third of the total pages. They are supported by sections giving biographical material on Estévez, a justification for the bestowal of "first-chemist-of-Cuba" title, and appendices including transcriptions of all pertinent documents.

An examination of the *Trabajos científicos* reveals that during the first half of the nineteenth century scientific interest and research in Cuba was by no means as far advanced as in some other sections of Latin America, particularly nearby Mexico. The studies do not reveal much in the way of original research into hitherto unexplored areas, nor do they indicate the presence of a substantial, well-informed, inquisitive group of intellectuals stimulating each other to fresh discoveries. This should not be considered surprising. The biggest centers of interest and investigation were found in those areas where mining and refining topics were the focus of interest. From this point of view there was little to attract scientists to Cuba.

The real value of the book is two-fold. First, it helps to fill in our general picture of intellectual activity during the late colonial period of Spanish-American history. Instead of complete ignorance, which was taken for granted not too many years ago, we now know that even in a smaller center a highly trained scholar was working earnestly and intelligently to solve the problems of his area through the promotion of useful knowledge.

Second, the book with its included documents gives a complete case history of how one New World community successfully sought and obtained for itself the benefits of the new useful knowledge of the Old World by sending a promising young scientist abroad to acquire it through study and training.

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