Francisco Malta Romeiras

Ciência, prestígio e devoção. Os Jesuítas e a Ciência em Portugal (séculos XIX e XX).

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The Jesuit contribution to science has received considerable attention from historians of science since the late 1980s. The focus has been on the sixteenth, seventeenth, and eighteenth centuries (before the suppression of the order in 1773), and has linked the Society to the birth and early development of modern science. After the restoration of the Society in 1814, Jesuits resumed their educational and scientific work, but there are few studies of their contributions from this period. Accordingly, Romeiras's book seeks to fill this vacuum as regards a little known subject: the Jesuits' scientific work in Portugal after the restoration. He has already published a number of articles on this subject, some in collaboration with Henrique Leitão. Romeiras and Leitão are professors of history of science in the Faculdade de Ciências, Universidade de Lisboa.

The first part of the volume offers a short introduction to the work of Portuguese Jesuits in mathematics and astronomy during the seventeenth and eighteenth centuries up to their expulsion in 1759, when they were saddled by the Marquis of Pombal with responsibility for Portugal's scientific backwardness. The second part discusses the teaching of science by Jesuits in the period 1858–1910, that is, between their return to Portugal and the second expulsion brought about by the instauration of the Republic of Portugal. Romeiras concentrates on science instruction in the three colleges of Campolide, São Fiel, and São Francisco. In these three colleges, the Society made special efforts to excel in scientific instruction, installing laboratories for physics and chemistry and museums of natural science, as well as carrying out research, particularly in botany and zoology. Romeiras links this emphasis on the teaching of science to a desire to address the persistence of Pombal's accusations that the Society was against science. Jesuits in the new colleges took also advantage of the low standard of science education in the public schools (*liceus*). The third part, comprising practically half of the book, is dedicated to the journal *Brotéria* (founded in 1902). *Brotéria* distinguished itself from other contemporaneous Jesuit publications established in Europe by starting as a purely scientific journal, dedicated to the natural sciences. It later split into three series, focusing on zoology, botany, and popularization of science, respectively. It was not until 1932 that it began to publish a cultural journal, which continues to this day. The series on natural sciences continued for some time, specializing in genetics from 1980 to 2002. *Brotéria* was for many years the vehicle for scientific papers by Portuguese Jesuits in addition to those by non-Jesuit researchers in the natural sciences.

Romeiras's descriptions and narratives of the science education in these three colleges are used to render the lives and work of the Jesuit scientists and instructors. The first influential figure—though not a scientist—is Carlos Rademaker, who reintroduced the Jesuits into Portugal, established the college of Campolide (1858) near Lisbon, and served as its first rector. António Oliveira Pinto, tasked with teaching mathematics, physics and the natural sciences, carried out some of the earliest research in radioactivity in Portugal. São Fiel boasted a group of prominent Jesuit naturalists. Carlos Zimmermann was a pioneer of vegetal microscopy in Portugal, introducing his students to this work. He considered that science education in Portugal was too theoretical and that it was necessary to combine pedagogy with experimentation. Joaquim da Silva Tavares was an accomplished botanist, researching galls in plants, who became a member of the Academy of Science of Portugal. Cândido Azevedo Mendes specialized in the study of lepidoptera, gathering an important collection; after his expulsion from Portugal in 1910, he continued his work in Spain.

Jesuit scientific work in Portugal is closely linked with *Brotéria*, the 1902 founding of which was the work of Silva Tavares, Azevedo Mendes, and Zimmermann. As a scientific journal it lasted until 2002, with separate series on the natural sciences—botany, zoology, and genetics—and one on popular science (*Vulgarização científica*). Romeiras presents the story of the development of each of the different series in detail, stressing their character as purely scientific journals. Even so, Jesuit scientists contributed the greater part of the articles: for example, Silva Tavares alone authored some 40.6% of the articles in the popular science series. The series on genetics, published from 1980 to 2002, was the initiative of Luís Archer, professor at the Universidade Nova of Lisbon and member of the Gulbenkian Institute of Science, a pioneer of molecular genetics in Portugal and a leading Jesuit scientist.

In conclusion, with this book Romeiras presents a comprehensive history of nineteenth- and twentieth-century Jesuit contributions to science in Portugal. Portuguese Jesuit scientists, especially those of this period, are little studied subjects: Romeiras deserves our thanks for this very important contribution to the history of the modern Jesuit contribution to science.

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