Giovanni Battista Guccia. Pioneer of International Cooperation in Mathematics

Benedetto Bongiorno and Guillermo P. Curbera are the authors of this well-written book, based on their long and deep historical research on Giovanni Battista Guccia (1855-1914) through an intensive work in European archives. The book examines the life and work of the geometer G.B. Guccia, the first decades of the *Circolo Matematico di Palermo* that was founded by him, and the first series of its journal, the *Rendiconti del Circolo Matematico di Palermo*.

This work is appealing to those interested in the history of mathematics, but also to the lovers of scientific culture. It brings to light facts, images and documents that had not been available to scholars before. It also provides the reasons that made possible the birth in Sicily of a scientific journal with worldwide recognition, thanks to the commitment and support of Guccia.

The book is divided in eight chapters. The reader can follow the personal, academic and professional aspects of Guccia in chapters 1 to 7, while the last one includes a series of appendixes to go into concrete details, such as the mathematical work of G.B. Guccia, the statutes of the *Circolo*, the list of its members and its steering councils, and the original text of the excerpts of the documents included.

In order to introduce the reader to the topic, the first chapter is devoted to an interesting account of the geographical and historical circumstances that concurred on Sicily and Palermo, including the Piazzi's discovery of the asteroid Ceres. The importance of astronomy in early nineteenth century Palermo and Guccia's family relationships influenced greatly the course of his life, as explained in the book.

The second chapter deals with the school and university education of Guccia. By the influence of his uncle, the Prince of Lampedusa -the historical figure behind the main character in the world famous novel *Il Gattopardo*-, the young Giovanni Battista attended in 1875 the Palermo conference of the *Società Italiana per il Progresso delle Scienze*, where he met Luigi Cremona. This encounter led him to change from studying engineering to mathematics, and to move to Rome. In June 1878, Guccia had completed all the courses in mathematics and physics. After a period of intense mathematical work and personal maturation, by the end of May 1880, Guccia wrote from Palermo to his supervisor, Cremona, to fix the date of the oral dissertation of his thesis. On December 20, 1880, Guccia made the oral presentation of his handwritten thesis entitled *Sopra una clase di superficie rappresentabili punto per punto in un piano*.

The following chapter reviews three relevant processes regarding the organization of mathematics: the foundation of national mathematics societies, the creation of research mathematical journals, and the beginning of the international mathematical organizations. These three means of promotion of mathematics inspired the main projects developed by Guccia during the following decades.

In the fourth chapter, the authors explain the process of consolidation of Guccia as a mathematician in the international community. This happened in the early 80s, when Guccia followed Cremona's suggestion to visit Paris and London and, at the request of his advisor, he represented him to buy books for the Vittorio Emannuele Library. His strong links with French mathematicians gave Guccia a modern point of view of mathematical research. Thanks to this, he could design the plan to implement in Palermo his main projects, the *Circolo* and, after the success of this, the *Rendiconti*.

The qualitative improvement of both the *Circolo* and the *Rendiconti* is explained in the following chapter. Guccia's close relationships with Vito Volterra and Henri Poincaré, as well as the Heidelberg International Congress of 1904, were crucial in this promotion: the membership increased, transforming the *Circolo* into a truly international association of mathematicians.

In the sixth chapter the period from 1908 to 1914 is reviewed, when Guccia's projects reached their maximum splendor. The quality of the journal is illustrated by the first-class papers published by the *Rendiconti*. The celebration in 1914 of the 30th anniversary of the *Circolo* marks the highlight of both Guccia's main projects. A special mention should be made to the inclusion in this chapter of careful reproductions of correspondence related to the journal and the galley proofs of several papers submitted to the *Rendiconti* with corrections by Guccia.

After this period, World War I began. Guccia was a true internationalist and, shocked by the spectacle of Europe destroying itself, his already poor health suffered even more. As a result, Guccia passed away in October, 1914. Though the society's members were able to overcome difficulties and later to resist the pressure of fascist regime, the Allied bombing raid over Palermo destroyed Guccia's project in 1943. The *Rendiconti* had continued its publication almost half a way into World War II: the last volume was number 63 and appeared on May 30, 1942. The chapter finishes evaluating the work of Guccia. He started a scientific career, properly trained and advised by Cremona. At a certain moment in his life, Guccia divided his effort between research and the double task of building a mathematical society and managing a research journal. As the latter activities became an absorbing challenge, he abandoned active research and centered his energies on them, investing time and money in the project. Thanks to his enthusiastic devotion, Guccia achieved in his own right a prominent position in the history of contemporary Italian mathematics.

The interest of the subject, the pleasant style and the richness of the original material reproduced make this book highly recommendable.