Audin, Michèle
Remembering Sofia Kovalevskaya. (Souvenirs sur Sofia Kovalevskaya.) (French)
Zbl 1154.01009
Orizzonti 101. Paris: Calvage & Mounet (ISBN 978-2-91-635205-3/hbk). ix, 286 p. (2008).

Equality between women and men at the moment is normal in the developed societies, but it is a recent situation and it is due to the fight that many women and some men have done (for example, the mathematician Bertrand Russell). Women who pointed out in some activity during the 19th century were heroines, since they faced a large set of difficulties they had to get over with great tenacity.

This happened with Sofia (Sonia) Kovalevskaya (Moscow 1850, Stockholm 1891), a woman whose life and mathematic work interested a lot of people in the beginning of the 21st century. Of course, other mathematician women were distinguished in the past. We want only to cite two: Sophie Germain (1776-1831) and Emmy Noether (1882-1935). But, as the author of the book under review points out, Kovalevskaya was the first woman with a university professional activity at that moment: she gave lectures, proved theorems, participated in congresses, and moreover she believed in the responsibility of the scientists and defended the cause of the women.

This book gives us the very particular vision the author has about the figure of Sofia Kovalevskaya. Although she begins with the statement "Ce livre n'est pas un livre d'histoire... C'est un livre personnel" (This book is not a history book... It is a personal book), the book contains a lot of information about the life and the work of Sofia, and it is full of stories and texts on her.

Sofia was a student of Karl Weierstrass (1815-1897) and under his supervision she presented a doctoral thesis "in absentia" in the University of Göttingen in 1874. It really contained three memoirs: a first one on Partial differential equations, that contains the celebrated theorem of Cauchy-Kovalevskaya, published in 1875; the second on abelian integrals and the third on the Saturn rings, that were published in 1884 and 1885, respectively. The scientific work of Kovalevskaya also deals with the refraction of light, the study de a rigid body and of a theorem of Bruns, published in several papers between 1884 and 1891.

Gösta Mittag-Leffler (1846-1927) invites Sofia to join the new University of Stockholm and she accepts in 1884. Soon she is included in the editorial board of Acta Mathematica. In 1888 she received the Prix Bordin of the Académie des sciences on its work on the rigid body. In 1891 Sofia died of pneumonia.

Sofia Kovalevskaya was a woman with very large interests: she was a nihilist, with a notable literary activity and a very important researcher in Mathematics. The author of this book points out the deep unity of the different aspects of the personality of Sofia: scientist, writer, revolutionary.

The book is very interesting, since it contains much information on Sofia and a personal vision of her by the author. Moreover, it is well published and contains wonderful illustrations and many photos.

Reviewer: Antonio Martinón (La Laguna)

MSC:

01A55   History of mathematics in the 19th century

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Biographic references:

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