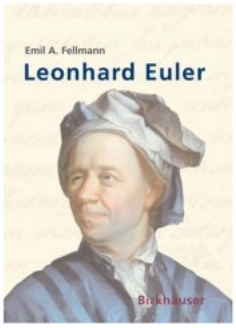
Leonhard Euler *Emil A. Fellman*, (English translation by E. and W. Gautschi), Birkhäuser, Basel, CH, 2007 (xv+179 p.), Hard cover, ISBN 978-3-7643-7538-6, 29.90 €.
Leonhard Euler, A Man to Be Reckoned with *Andreas K. Heyne and Alice K. Heyne* (text) and *Elena Pini* (illustrations), Birkhäuser, Basel, CH, 2007 (45 p.), Hard cover, ISBN 978-3-7643-8332-9, 19.90 €.



English edition



German edition

The original German edition of the Euler biography by Emil Fellman is now about 10 years old and finally an English translation by Erika and Walter Gautschi came out in 2007, 300 years after Euler's birth. Some of the original German citations are kept in the English edition but accompanied with an English translation. Fellman has chosen for a nontechnical text. No mathematical formulas are given and where some of the scientific work of Euler is discussed in separate sections, there are no technical details and these can be skipped without any problem if the reader so desires. In a prologue Fellman gives his view on Euler as a man: an open cheerful mind, humorous and sociable, leading a modest life even when in the second half of his life, Euler was relatively rich. He was very generous in his scientific work, without quarrels about priority. The reason for his geniality was an extraordinary memory, a rare ability to concentrate[1], and of course simply hard work. Euler's life can be divided into four periods, which also correspond to the four chapters of the book.

The first period spans Euler's first 20 years in Basel (1707-1727). He had always been interested in mechanics and mathematics, but he got really hooked by a geometry course from Johann Bernoulli during his studies at the university of Basel, which he entered at 13[2], to study theology according to the wish of his parents.


Academy St. Petersburg

When he did not get a professorship there at the age of 20 (he then had almost no publications then), he was attracted to join two of the sons of Johann Bernoulli, namely Niklaus II and Daniel I, with whom he became good friends and also J. Hermann, another compatriot from Basel. All these had been invited by tsar Peter I to work in the newly founded Academy of Petersburg.

So, the second period (1727-1741) Euler spent in Petersburg. Many details are given about his adventurous journey to Russia. When Euler arrived, Catharina I, widow of Peter I had just died a week earlier and there was a succession battle going on. In this period he married with Katharina (1733) and wrote his first major books on mechanics, hydrodynamics, arithmetic, and music theory.

The third period he spent in Berlin (1741-1766). He was proposed to join a Society that would later become the Science Academy which was a dream of king Frederick II of Prussia. The political situation in Petersburg where army officers were quartered in civilian houses and the fear that in all the commotion the wooden houses of Petersburg could easily catch fire[3] contributed to Euler's decision to leave indeed for Berlin.

[1] D. Thiébault: "A child on his knees, a cat on his back, this is the way he wrote his immortal works".
[2] A normal age in those days when universities also had a propaedeutic role.
[3] Which indeed happened to Euler when in 1771 550 houses among his own burned down in Petersburg.

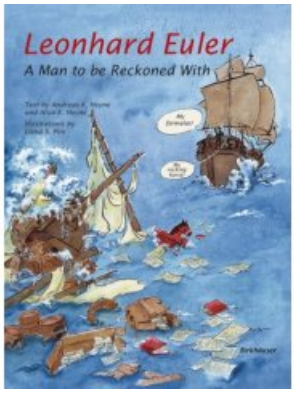
That was also a very fruitful period since then his major works on the calculus of variations, ballistics, analysis, differential calculus, astronomy, naval sciences, optics, and philosophy got published. King Frederick seemed more interested in the French scientists (d' Alembert and Lagrange) so that he did not asked Euler to become the next president of the Academy, and this will have helped Euler to think of returning to Petersburg (1766-1783).



Plaque at Euler's house in Berlin

He had negociated very favorable conditions with Catherina II for his return so that he had a rather comfortable life. He had lost his right eye already in 1935 because of an infection, but now he needed a cataract operation on his left eye, after which he was almost totally blind. He continued to be unboundedly productive though. His introduction to algebra has been used by many generations and is probably only outperformed by Euclid's Elements. His wife Katharina died in 1776. They had thirteen children but eight of them died at young age. After loosing his sight, Euler felt rather helpless and wanted to remarry. This led to some discussion with his children but finally he remarried the half sister of his first wife. The last hours of his life he had been discussing the orbit of Uranus with his assistants. Around five o'clock he went to spend with his grandchildren, and to drink some tea. Sitting on th couch his pipe felt from his mouth. When he tried to pick it up, he grabbed his head and cried "Ich sterbe" and lost consciousness. He did not recover from this stroke and died at about eleven o'clock.


Euler Grave at Alexander Nevsky Monastry



Fellman's book is richly illustrated with many historical grayscale images, which makes it a pleasant read. However, the comic strip, also published in hard cover is by definition much more illustrated with colour drawings. It does contain at the end a couple of pages of text giving a brief account of Euler's life and work an short items about many renowned people that lived in Euler's time. The strip itself is mainly anecdotical. Obviously not the main source of information, so that it can probably be appreciated best after some summary of Euler's life has been read already. One will obviously recognizes several episodes in Euler's life but it may be a bit confusing if the historical facts are not known.

Also this booklet is an English edition of a German original. The text is most of the time written in text balloons, which makes it easy to replace the German by the English words, but sometimes the text is integrated in the drawing. In that case the German is kept, but an English translation is given in footnotes.

There is always something to learn, even from a comic strip. This I found in a postscriptum at the end of the booklet. The Viaduc of Millau is Europe's highest motorway spanning the valley between Clermont-Ferrand and Montpellier in France. It was opened in 2004. It seems that in the information pavilion of the viaduc, there is a dedication to Euler. And rightfully so since indeed the stability calculations for the bridge certainly rely on Euler's formulas.


Viaduc de Millau

Adhemar Bultheel