

Preface

The present translation of Halley's reconstruction of Book VIII of Apollonius's *Conics* was carried out over the course of several years. It took that long because I wear another hat; namely, that of a lecturer in a program for science and technology education. And, in that field, translating and commenting on early 18th century reconstructions of ancient Greek mathematical works, unfortunately, has a somewhat low priority.

Still, though my interest in Halley's reconstruction of *Conics* VIII grew originally out of previous work I had done on Apollonius of Perga, the more I worked on the translation and thought about Halley, the more I began to see that the project actually spoke to my educational interests as well. I have long been concerned with the role that history of mathematics can play in mathematics education. I have had to ask myself in this connection what exactly does a student of mathematics gain from history? This was the question that preoccupied me more and more about Edmond Halley. Though he was a master of the modern and increasingly powerful mathematics of his time, Halley treated the ancient mathematicians with great seriousness. Why? What did he see himself learning from engaging with mathematicians such as Apollonius?

This really became for me the main question in the background of the present work. Of course one should also ask how far Halley's reconstruction of Book VIII succeeded in reproducing Apollonius's own thought and this lost book of the *Conics*. After all, that was Halley's immediate goal, and what he produced in this regard was hardly trivial. Indeed, as a person who has spent many years studying the *Conics*, I am tremendously impressed by the profundity of Halley's understanding of Apollonius. Ultimately, Halley's reconstruction of Book VIII is more about Halley than about Apollonius. It is, in a way, the portrait of this man's deep relationship with the past.

As I remarked at the outset, my own historical work has often had to take a backseat to other institutional obligations. During a period when I felt this particularly acutely and despairingly, I was urged to take up the Halley project by a dear friend and, by all accounts, a brilliant anthropologist, Tania Forte. Tania persuaded me that without such a project I would drift inexorably, as a historian of mathematics,

toward the River of Lethe. So, to Tania I must offer my very first thanks. Sadly, Tania will never read this: she died suddenly and tragically in 2005, just as she was beginning her own promising career and just as I was making my first steps in this translation and commentary. After Tania, I must thank next John Neu from the history of science library at the University of Wisconsin who generously made the text of Halley's reconstruction available to me when I was working on my Ph.D. some ten years ago. I am still touched by the kindness he showed me then. I also want to thank Gideon Freudenthal, who managed to find for me Halley's preface to the entire 1710 edition of the *Conics*, which I could not find in the best libraries here in Israel. Mayer Goldberg helped me obtain papers on Halley's actuarial work and, more importantly, provided invaluable help in all things digital, not to speak of wonderful long hours of conversation over coffee. Throughout my work on Halley's Book VIII, Sabetai Unguru was my constant advisor: he was always the first person I turned to when I had questions, doubts or ideas that needing working through and he never failed me. I owe to him deep thanks, not only for this, but also for his encouragement and warm friendship.

Thanks are also due to Marinus Taisbak who never turned me away when I came to him with Latin problems. I also want to thank my friend and fellow historian of Greek mathematics, Alain Bernard, with whom I discussed the reconstruction on several occasions. The introduction below owes much to my conversations with Alain. Lennart Berggren, who read the manuscript with a fine-toothed comb, also deserves thanks: his many comments and suggestions have made this a much better work than it was when he first received it.

Finally, I am grateful to my wife, Yifat, who truly supported me in this project, saying often, "I think you should put everything else away today and work on Halley." Although the work might have been begun without her, without her, it would never have been completed.

Beer-Sheva
April, 2011

Michael N. Fried

Edmond Halley's Reconstruction of the Lost Book of
Apollonius's Conics

Translation and Commentary

Fried, M.N.

2012, X, 134 p., Hardcover

ISBN: 978-1-4614-0145-2