

The Life and Works of John Napier

by Brian Rice, Enrique González-Velasco, and Alexander Corrigan (eds.)



SPRINGER, 2017, 994 PP., US \$199.00, ISBN 978-3-319-53281-3

REVIEWED BY OSMO PEKONEN

I sometimes feel like a dinosaur. When I went to school, logarithmic tables and slide rules were in active use, and I affectionately still keep them in my office. Now here is a book about the man who invented the logarithm. This is the first time all the published works of John Napier (1550–1617) have been brought together in a single volume. Almost all of his manuscripts and letters were lost in a fire in 1801, so we know relatively little about the man who has been described as “probably the greatest unknown Scot.” For instance, we know almost nothing about his youth and education. The initiative to commemorate John Napier on the occasion of the quadricentennial of his death was taken by Brian Rice, a direct descendant, and supported by Francis David Charles Napier, 15th Lord Napier and 6th Baron Ettrick. Rice joined forces with a historian of mathematics (González-Velasco) and a historian of early modern religion (Corrigan) to understand the multifaceted mathematician, alchemist, and religious polemist living in an age of great intellectual, political, and religious turmoil in Scotland and throughout Europe.

John Napier was born a scion of landed gentry at Merchiston Tower, a gloomy medieval country house located 1¼ miles southwest of Edinburgh Castle. (Today, the fully restored birthplace stands at the center of the Edinburgh Napier University campus.) The times were as interesting as those offered in the famous Chinese curse. Napier was nine years old when John Knox returned from exile to Scotland in 1559, introducing his stark version of Calvinism and founding the Kirk, the reformed Church of Scotland. Two years later, Catholic Mary Stuart, the widowed queen consort of France, returned to reign over the country of her birth. Religious conflict was inevitable, and Scotland erupted into civil war.

The Napier family had numerous influential connections in Scottish society. For instance, John Napier’s uncle, the bishop of Orkney, officiated at the controversial marriage of Mary Stuart, Queen of Scots, to the earl of Bothwell only three months after the murder of her husband, Lord Darnley, in which Bothwell was strongly suspected of being involved. The Napiers somehow managed to navigate through the civil war without clearly choosing sides, even if the strategically located Merchiston Tower was caught in the turmoil, being occupied, besieged, and bombarded on several occasions. John Napier was

nonetheless resolutely Protestant and deeply embroiled in the religious controversies of his time. He was convinced that Rome was “the mother of all spiritual whoredom” and the Pope the Antichrist and a limb of Satan.

The present volume contains five works of Napier, one written in English and four translated here into English from the original Latin. His first book, a virulent anti-Catholic religious pamphlet called *A plaine discovery of the whole revelation of Saint Iohn* (1593), had a huge impact; it ran to three further editions in English and was translated into Dutch, French, and German as well. The author foresaw a great war between Protestants and Catholics, a prophecy that was to be fulfilled soon after his death. His calculations for an imminent end of the world to take place in 1688, on the other hand, seem to have been as misguided as those of many other contemporaries (Newton still has a chance with his prediction of an apocalypse in the year 2060).

Napier published two mathematical works in his lifetime; another was published two years after his death by one of his sons, while the last one was edited by another descendant as late as 1839. There are some surviving minor sources that appear as appendices of the present volume. Each publication is accompanied by a thorough introduction. For instance, 360 pages are devoted to the text and commentaries of *A plaine discovery*, but let us focus here rather on the story of the logarithms.

Ninety pages of logarithmic tables as well as fifty-seven pages of instructions appeared in Napier’s treatise *Mirifici logarithmorum canonis description* in 1614, but the technique was ready at least twenty years earlier. By a fortunate chance it is known that Tycho Brahe was aware of Napier’s work as early as in 1594. Johannes Kepler congratulated Napier in a long letter addressed to him in 1619, apparently ignorant of the fact that his Scottish colleague had died two years earlier. Without logarithms, Kepler would never have completed his astronomical Rudolphine Tables.

The influence of logarithms was immediate and wide-ranging, first especially in astronomical calculations. As Laplace put it, the use of logarithms “doubles, so to speak, astronomers’ lives and spares them from errors and the distaste inherent to long calculations.” Logarithms soon found many other applications in navigation, engineering, land surveying, actuarial calculations, banking, and business in general. As a part of the computation of his logarithmic tables, Napier invented a number of calculating tools, such as the famous “Napier’s bones,” which he described in his *Rabdologiae seu numerationis per vigulas libri duo* (1617). Napier also popularized the use of the decimal point.

An early enthusiast of logarithms was Henry Briggs (1561–1630), a Cambridge graduate and later the first Savilian professor of geometry at Oxford. On their first meeting in Scotland in the summer of 1615, we are told, “almost one quarter of an hour was spent, each beholding the other with admiration, before one word was spoken.” Briggs introduced logarithms to base ten, and popularized the topic after Napier’s death. In the preface to his *Arithmetica*

Logarithmica (1624), Briggs makes it clear, however, that it was Napier who first proposed using logarithms to base ten.

Fearing an imminent Catholic invasion, Napier also dabbled in the invention of terrible new weapons of warfare that bear an uncanny resemblance to modern-day tanks and submarines. He experimented with improbable agricultural innovations such as the use of salt as a fertilizer. He also became involved in a quest for a mysterious lost treasure in the haunted Fast Castle (today a ruin) that brought him the reputation of a practitioner of black magic. His personal life involved two marriages and twelve children who survived to adulthood. He died on April 4, 1617, and was buried (most probably) at St. Cuthbert's Church, in Edinburgh, where he had served for many years as a church elder.

ACKNOWLEDGMENTS

Open access funding provided by University of Jyväskylä (JYU).

OPEN ACCESS

This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

Faculty of Information Technology
University of Jyväskylä
Agora, PL 35
40014 Jyväskylä
Finland
e-mail: osmo.pekonen@jyu.fi

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.