

BO1 History of Mathematics  
Lecture IV  
Newton's *Principia*  
Part 1: Isaac Newton

MT 2021 Week 2

# Summary

## Part 1

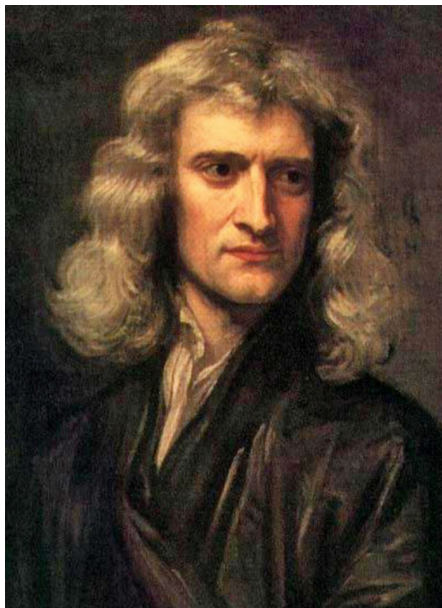
- ▶ Isaac Newton  
(1642–1727)

## Part 2

- ▶ Kepler's laws,  
Descartes' theory,  
Hooke's conjecture

## Part 3

- ▶ The *Principia*
- ▶ Editions and influence  
of the *Principia*



# Newton summarised

Alexander Pope, 1730:

*Nature and Nature's Laws lay hid in Night.  
God said, Let Newton be! and All was Light.*

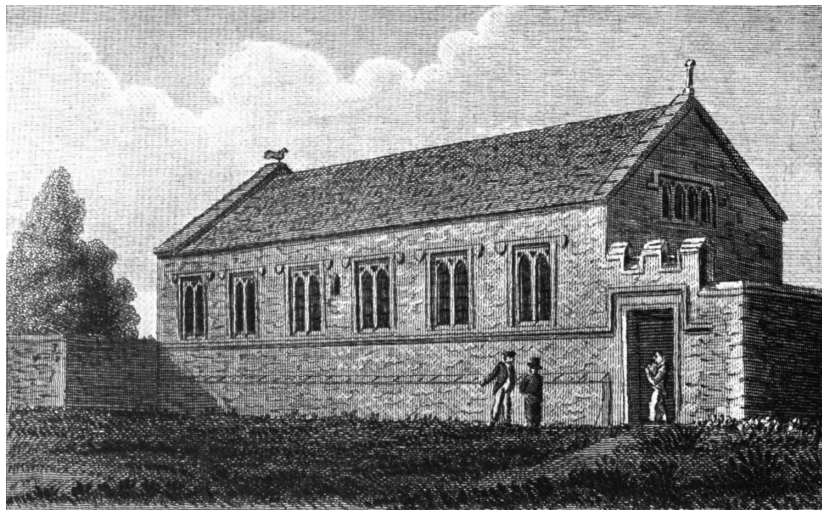


# Woolsthorpe Manor



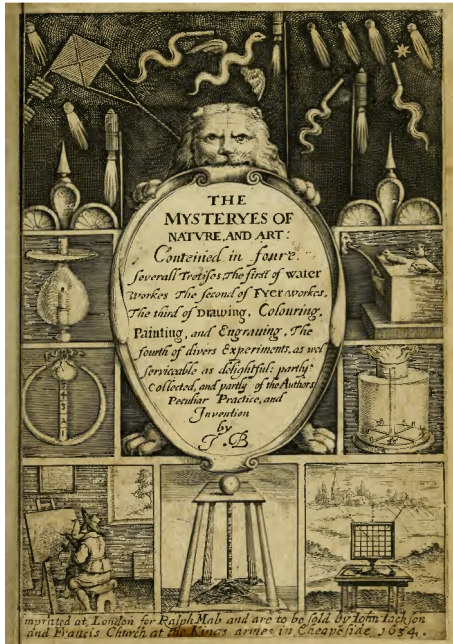
Newton born at Woolsthorpe Manor, 25th December 1642

# Grantham Grammar School



Now The King's School, Grantham

# John Bate: *The mysteries of nature and art* (1634)



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16

## *The first Booke*



little from it on the top.  
Having thus prepared the barrell, fit a good thick board unto it, so that it may slip easily up and down from the top of the barrell unto the bottom, nayle a lether about the edges of it, and another upon the top of it: on the underfide of it let there be fastned a good stiffe, but flexible spring of steele, which may thrust the board from the bottom to the top of the barrell: let the foot of this spring rest upon a barre fastned across the bottom of the barrell; let this board also have tied at the middle a little rope of length sufficient. When you use it, bore a little hole in the table that you set it on, to put the rope thorough, and pull the rope down, which will contract the spring, and with it draw down the board: then poure in water at the basin untill the vessell be full: Note then, as you let slack the rope, the water will spirt out of the pipe, in the middle, and as you pull it straight, the water will run into the vessell againe. You may make birds, or divers images at the top of the pipe, out of which the water may break.

*Another*

## *of Water-workes.*

17

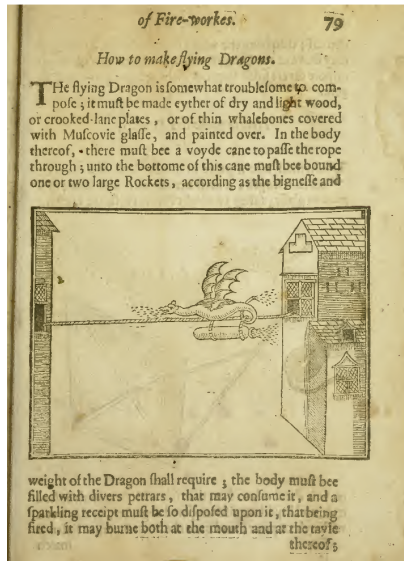
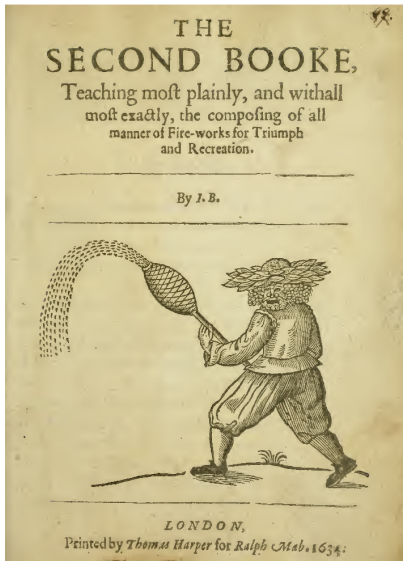
*Another manner of forcing water, whereby the water of any spring may be forced unto the top of a hill.*

Let there be two hollow posts, with a succur at the bottom of each, also a succur nigh the top of each: let there be fastned unto both these posts a strong peece of



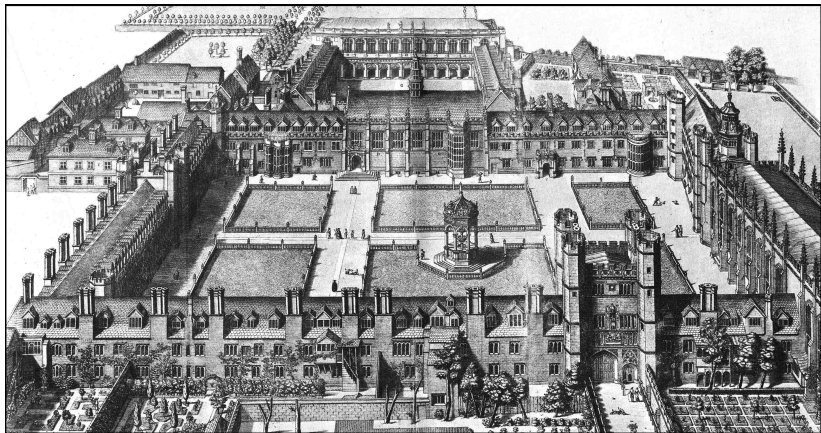
timber, having, as it were, a beame or scale pinned in it, and having two handles at each end one. In the tops of

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# Trinity College, Cambridge



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1696–1727: Warden of the Mint