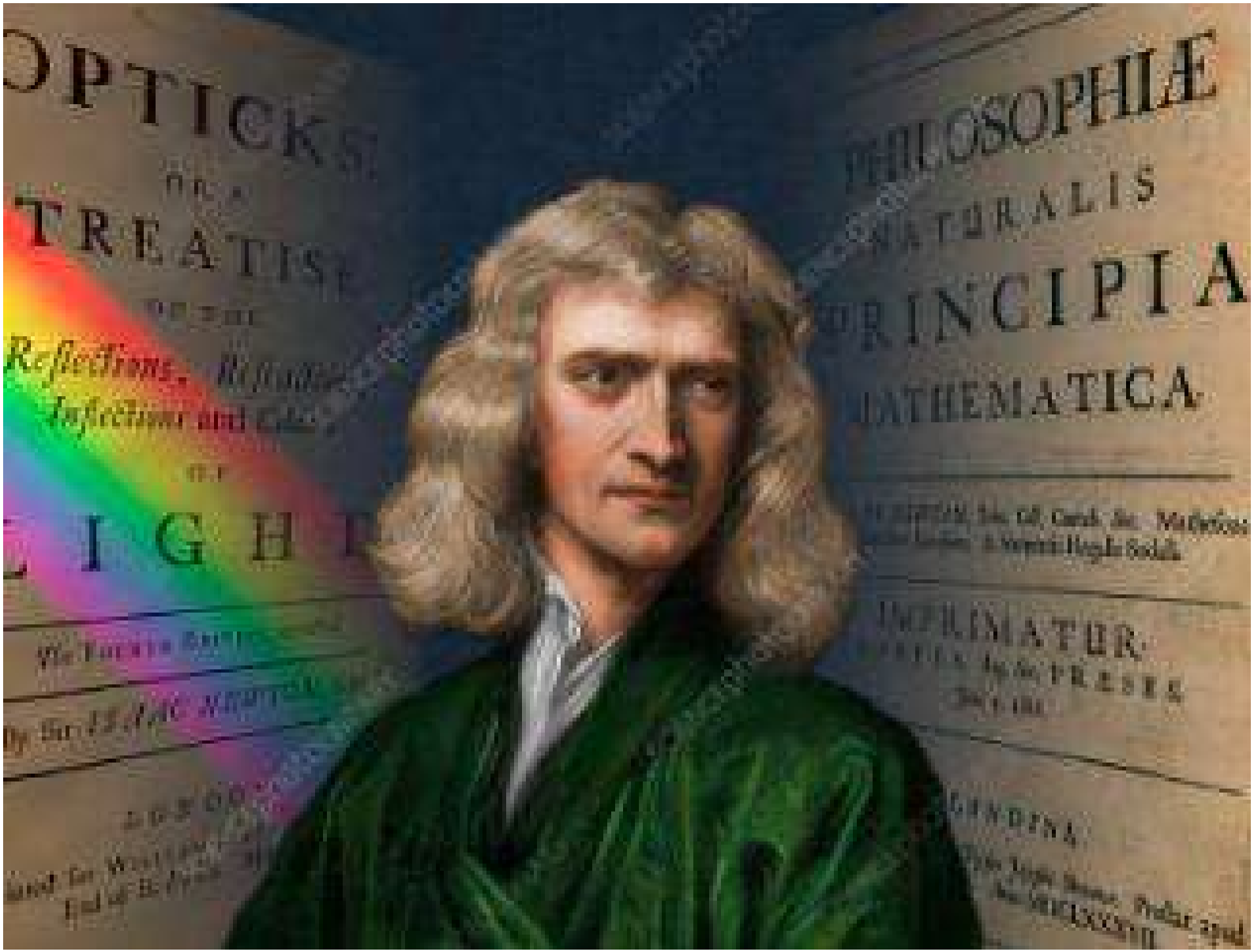
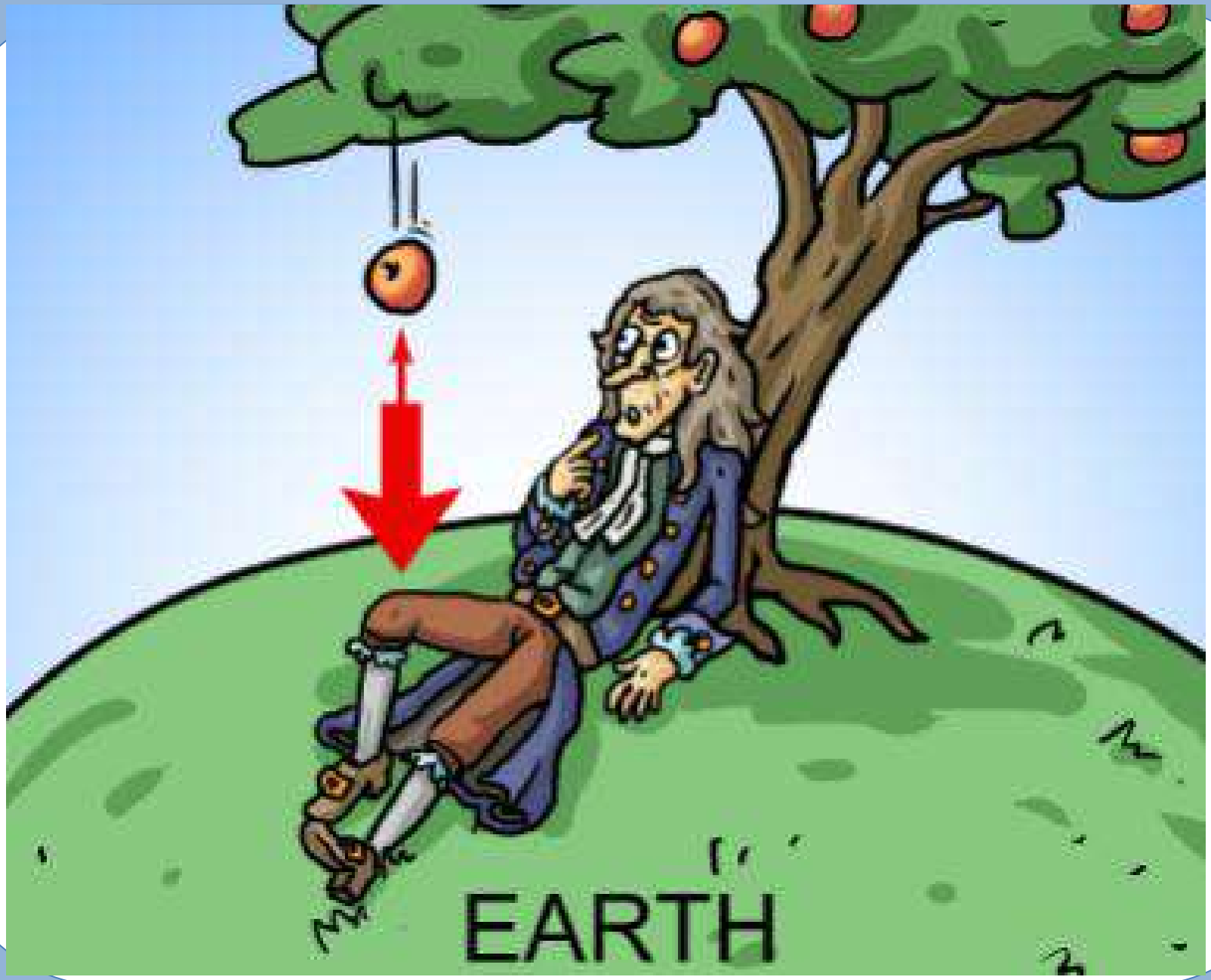
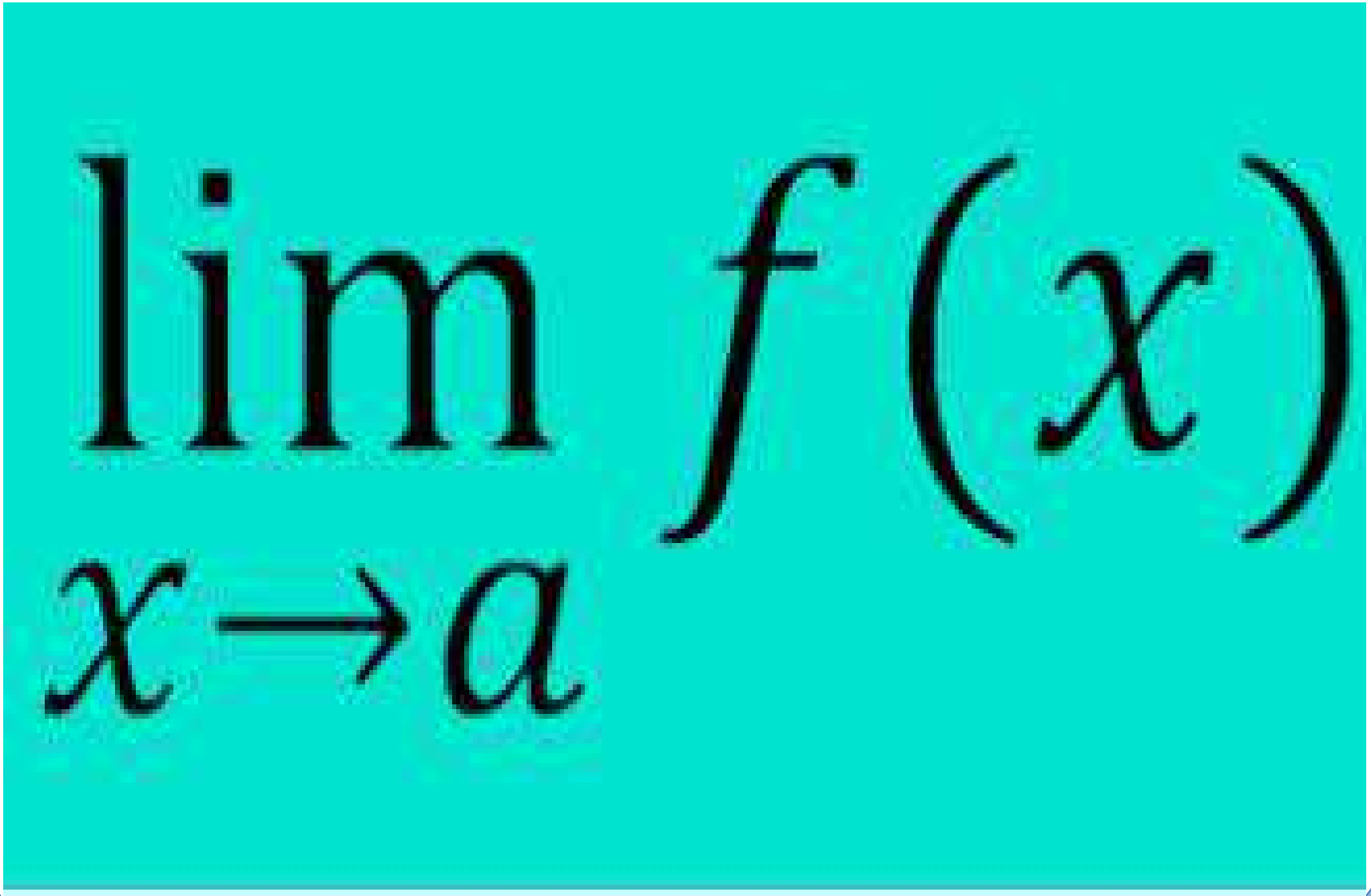
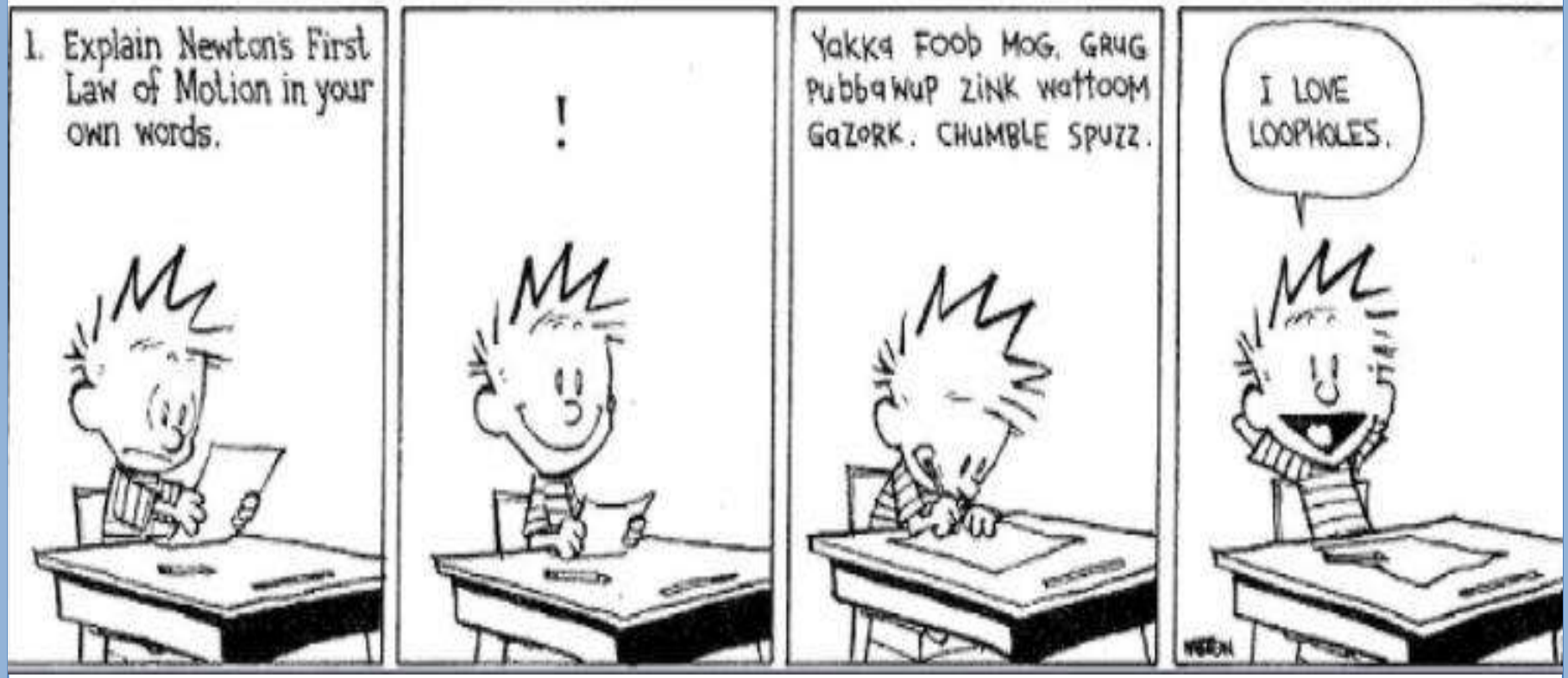
Newton and His Laws


OPTICKS
TREATISE
PHILOSOPHIÆ
PRINCIPIA
MATHEMATICA

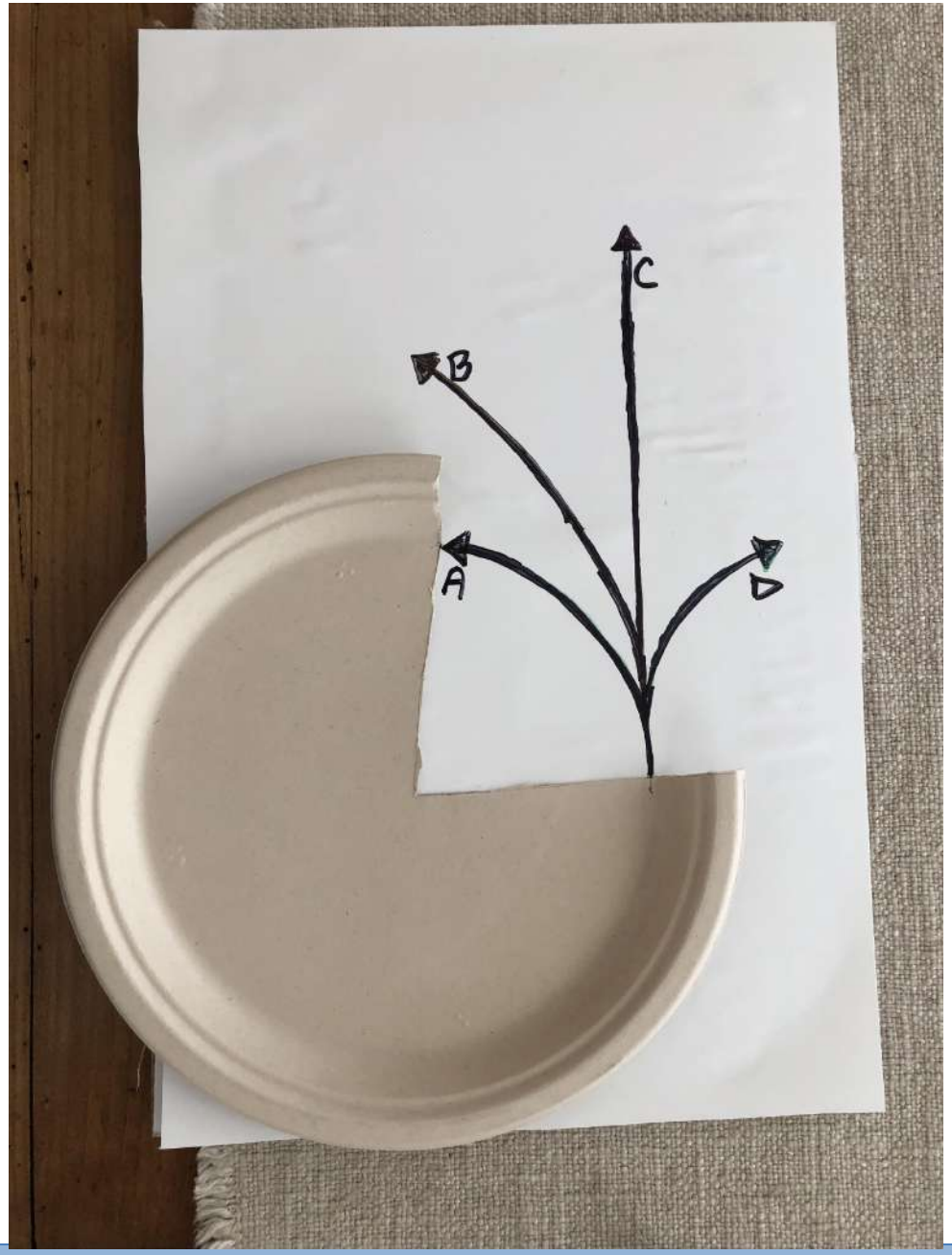

EARTH

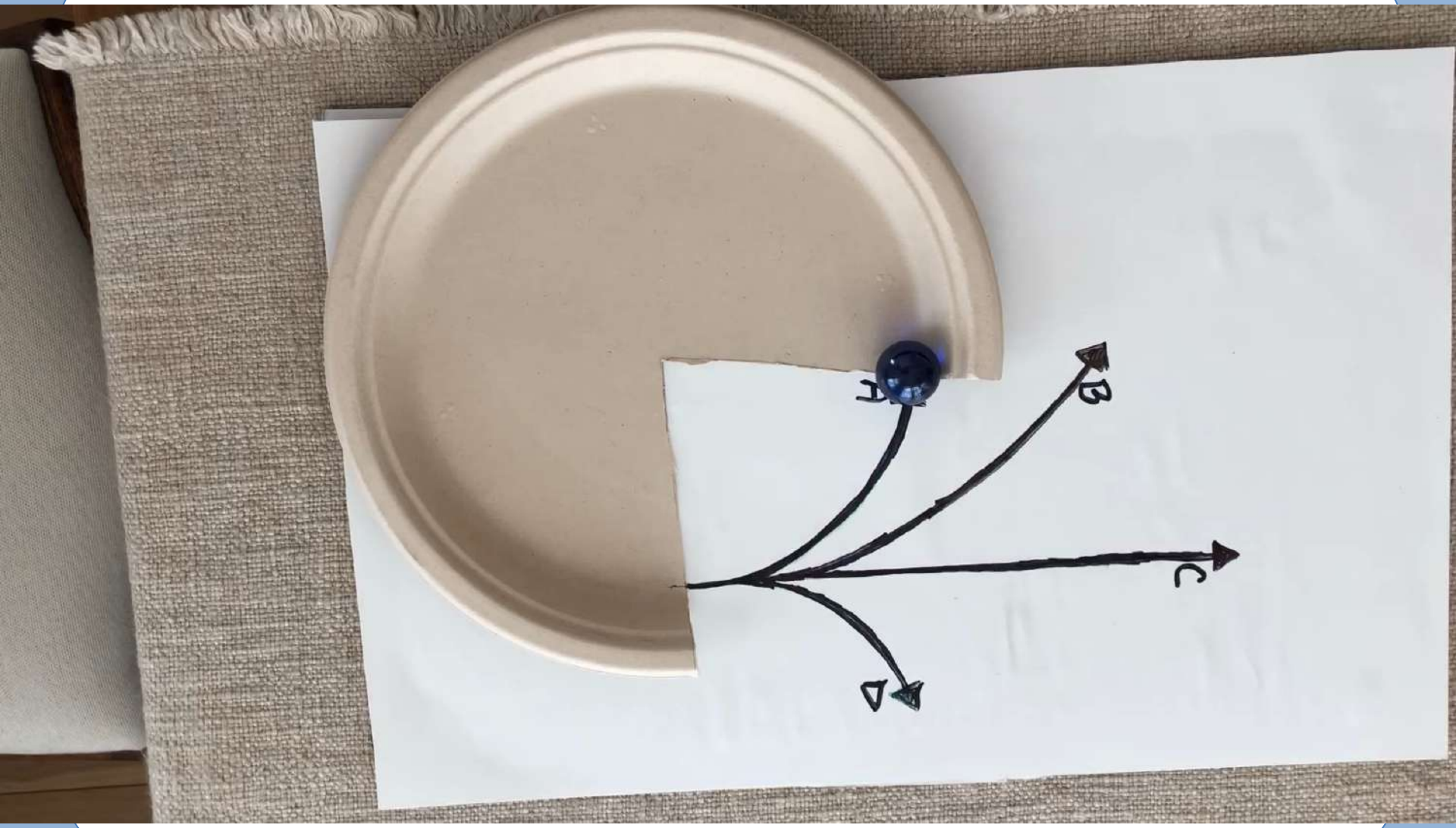

$\lim_{x \to a} f(x)$

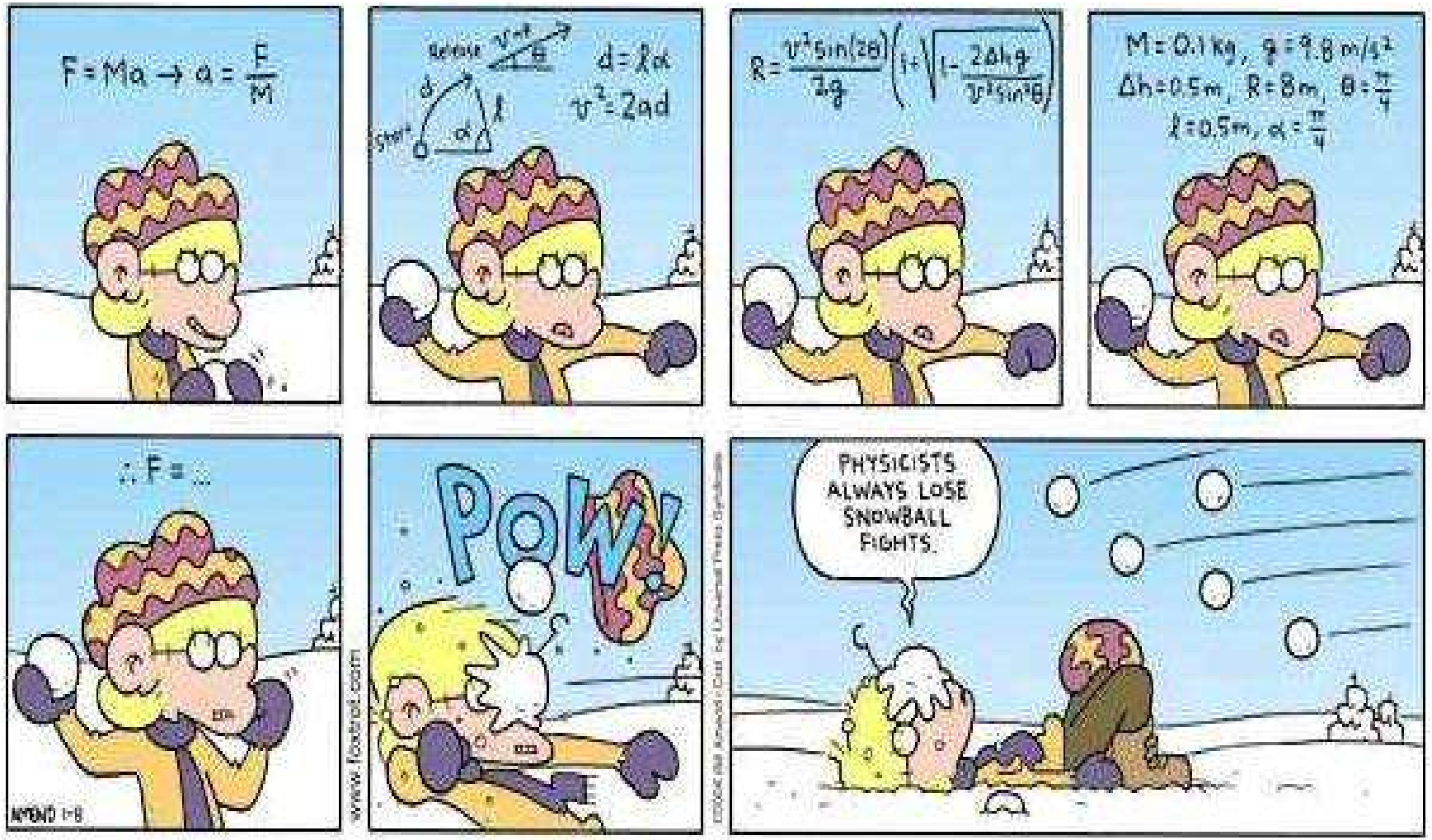

1. Explain Newton's First Law of Motion in your own words.
!
Yakka Foob Mog. Grug Pubba Wup zink wattoom Gazork. Chumble Spuzz.
I LOVE LOOPHOLES.

B
C
D

B
C
D


C
B
A
D


A
B
C
D


$F = Ma \rightarrow a = \frac{F}{M}$
release
$d = l\alpha$
$v^2 = 2ad$
$R = \frac{v^2 \sin(2\theta)}{2g}\left(1 + \sqrt{1 - \frac{2\Delta h g}{v^2 \sin^2\theta}}\right)$
$M = 0.1\,kg,\ g = 9.8\,m/s^2$
$\Delta h = 0.5m,\ R = 8m,\ \theta = \frac{\pi}{4}$
$l = 0.5m,\ \alpha = \frac{\pi}{4}$
$\therefore F = \ldots$
POW!
PHYSICISTS ALWAYS LOSE SNOWBALL FIGHTS.
www.foxtrot.com

$$F = ma$$

a better way to look at it is

$$a = F / m$$

ACCELERATION is DIRECTLY PROPORTIONAL
to the FORCE
and INVERSELY PROPORTIONAL
to the MASS

RAINY MORNING is a lab activity that is designed to address the NGSS standard MS-PS2:

Students who demonstrate understanding can:

> **Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.*** [Clarification Statement: Examples of practical problems could include the impact of collisions between two cars, between a car and stationary objects, and between a meteor and a space vehicle.] [*Assessment Boundary: Assessment is limited to vertical or horizontal interactions in one dimension.*]

inch

MADE IN CHINA
REX

ISAACUS NEWTON EQUES AURATUS

PHILOSOPHIÆ NATURALIS PRINCIPIA MATHEMATICA.

AUCTORE

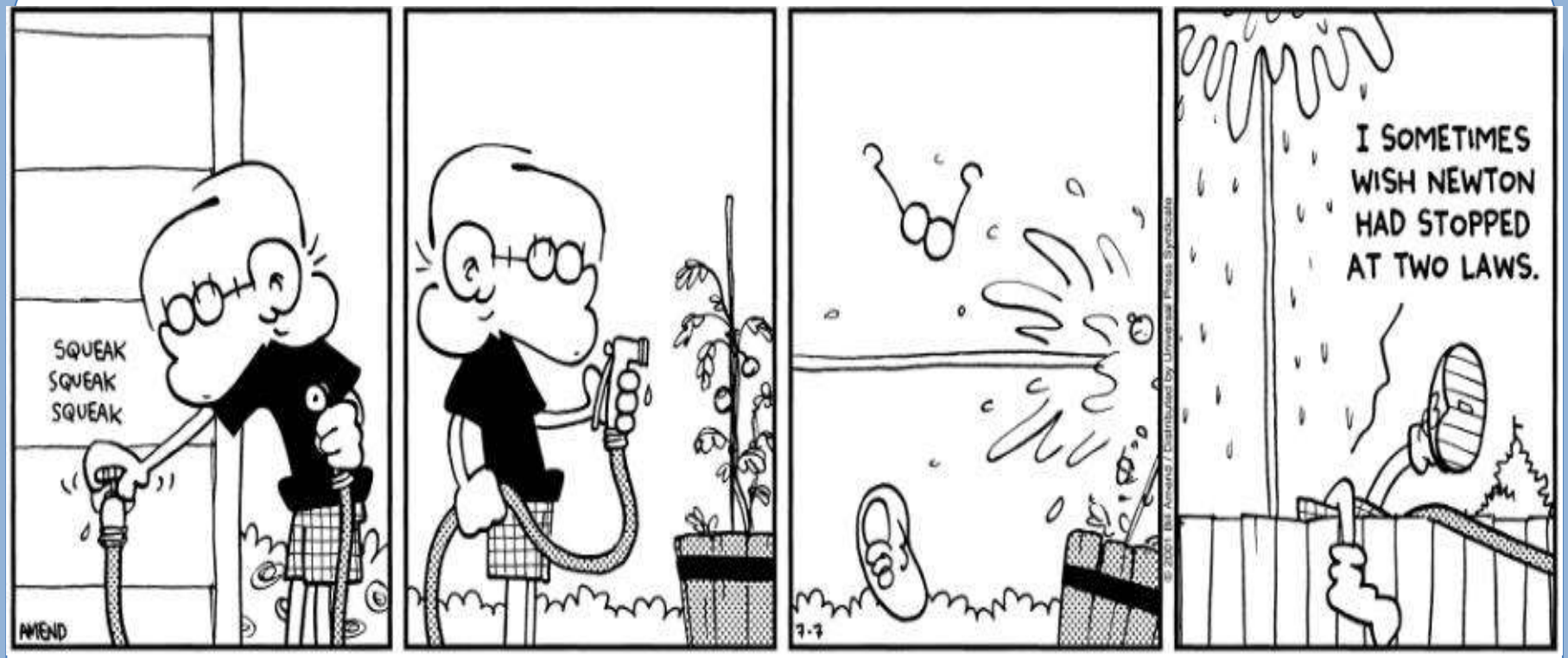
ISAACO NEWTONO, Eq. Aur.

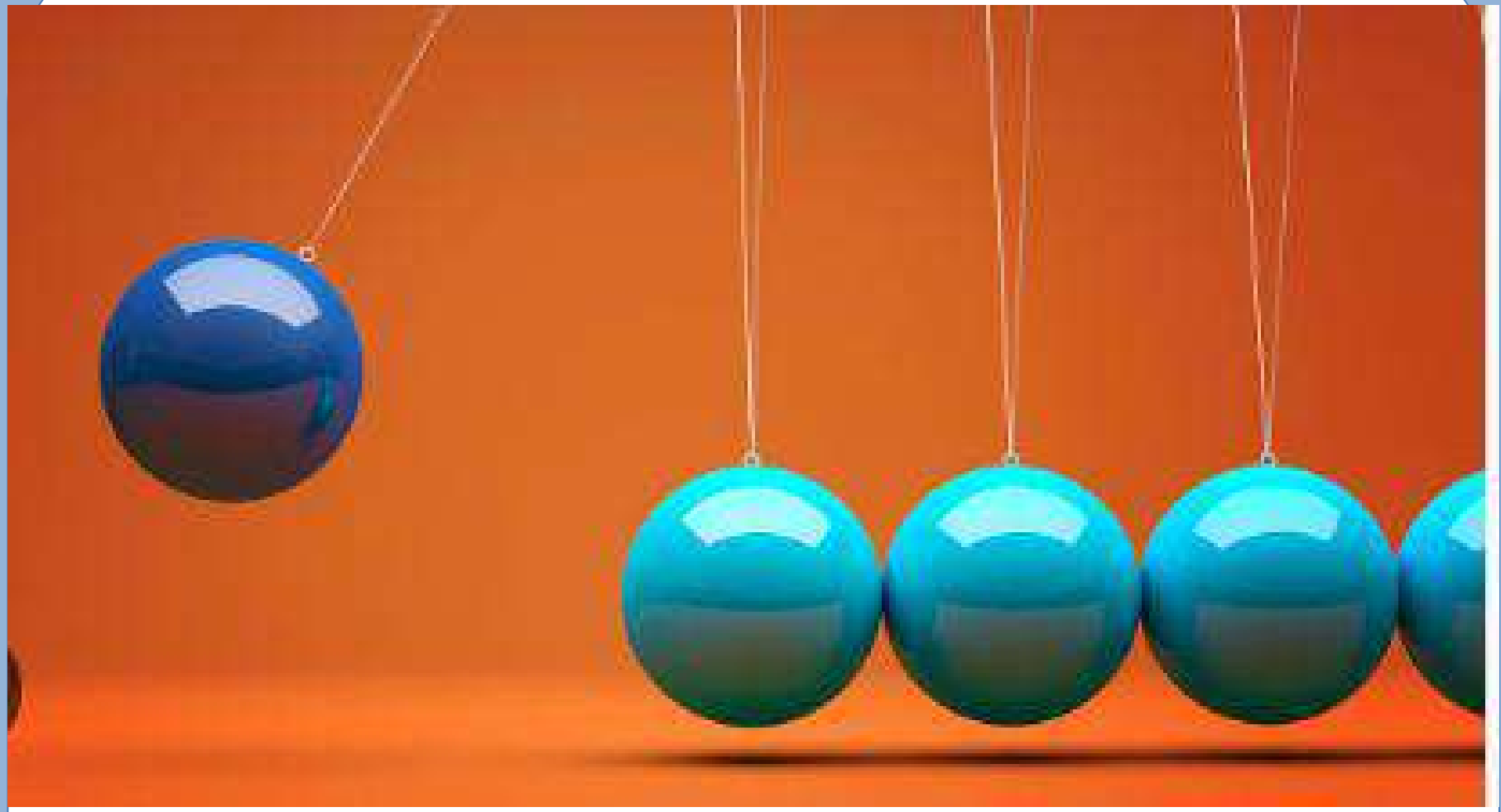
Editio tertia aucta & emendata.

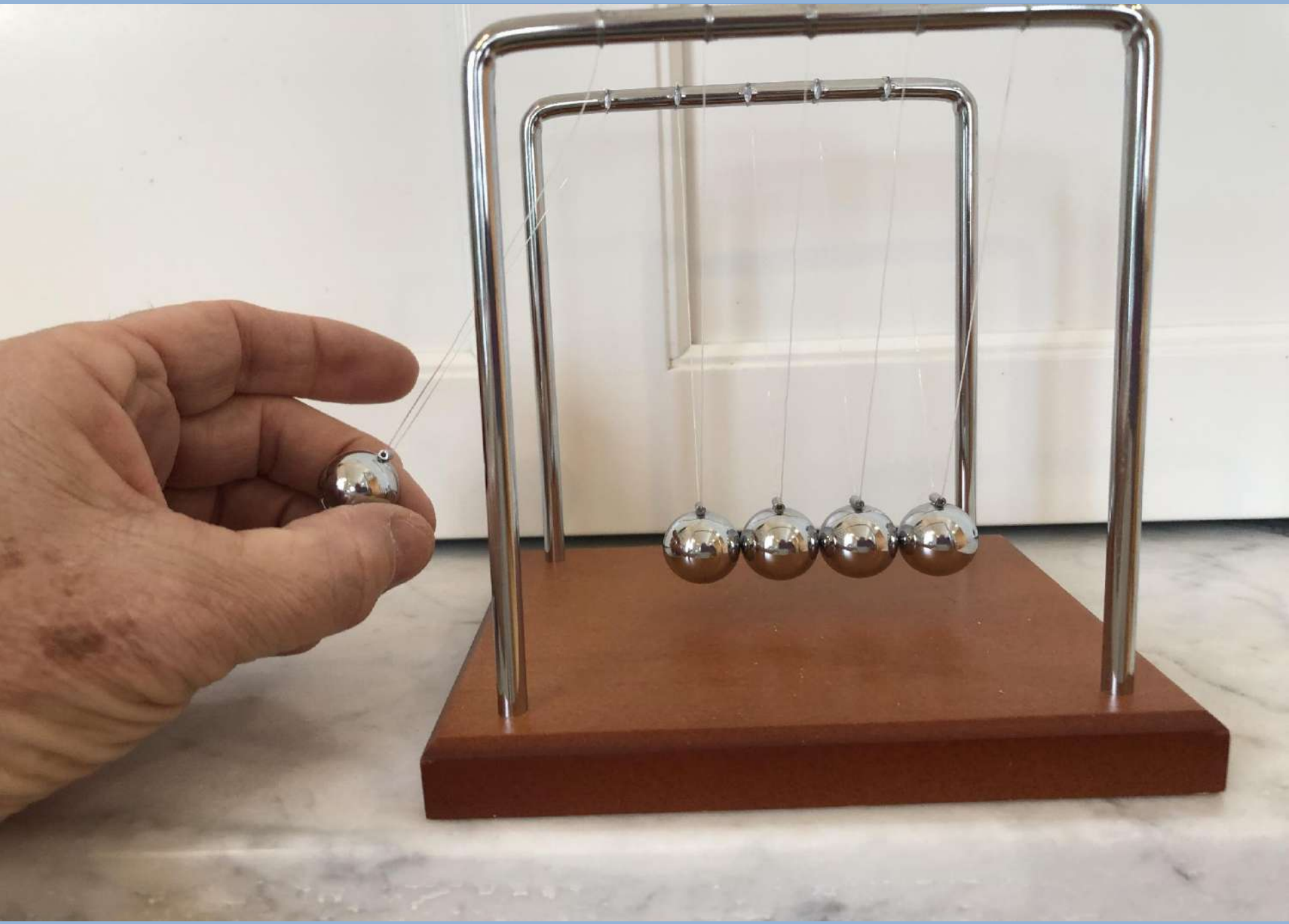
LONDINI

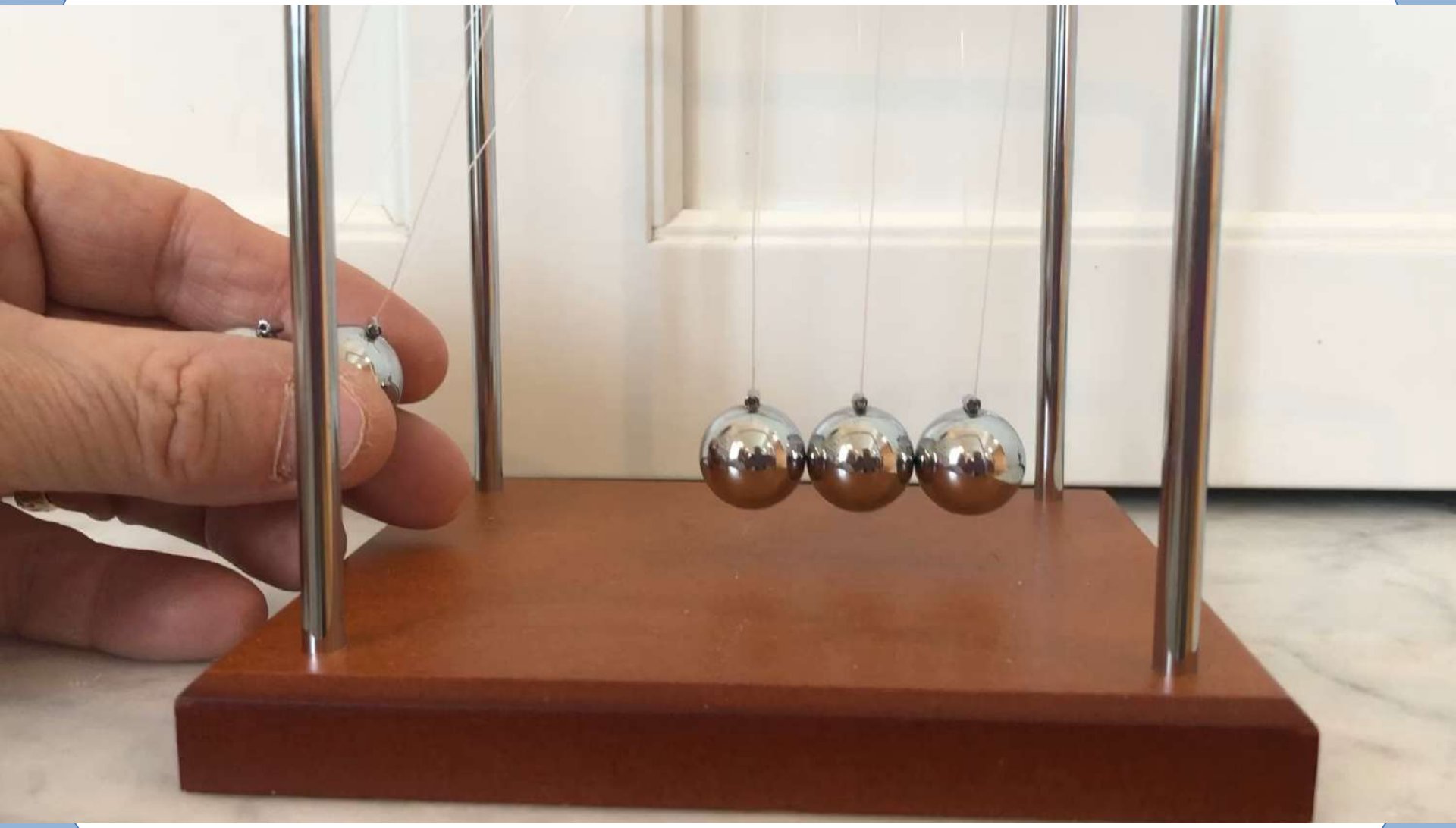
Apud Guil. & Joan. Innys, Regiæ Societatis typographos.

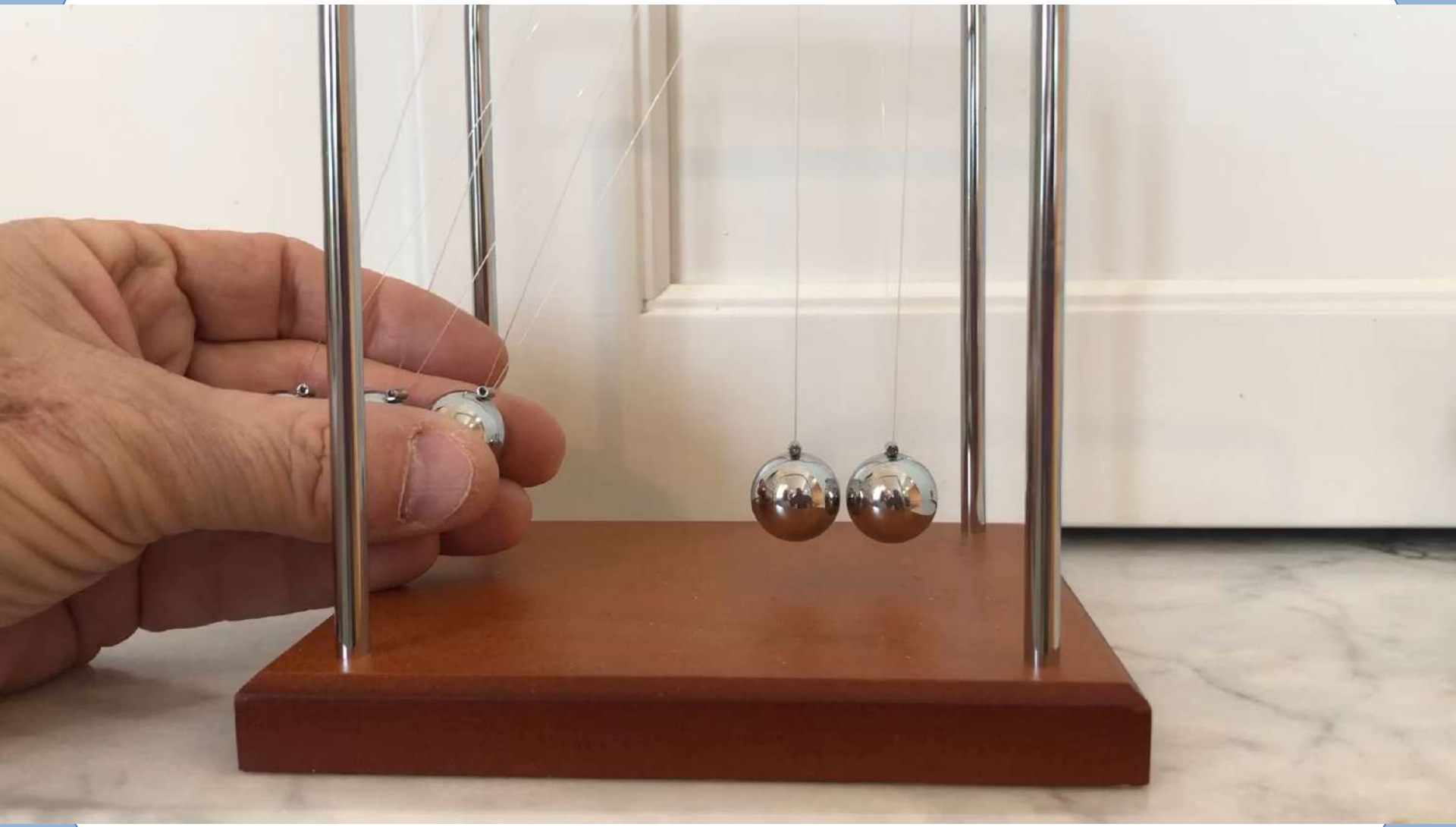
MDCCXXVII.

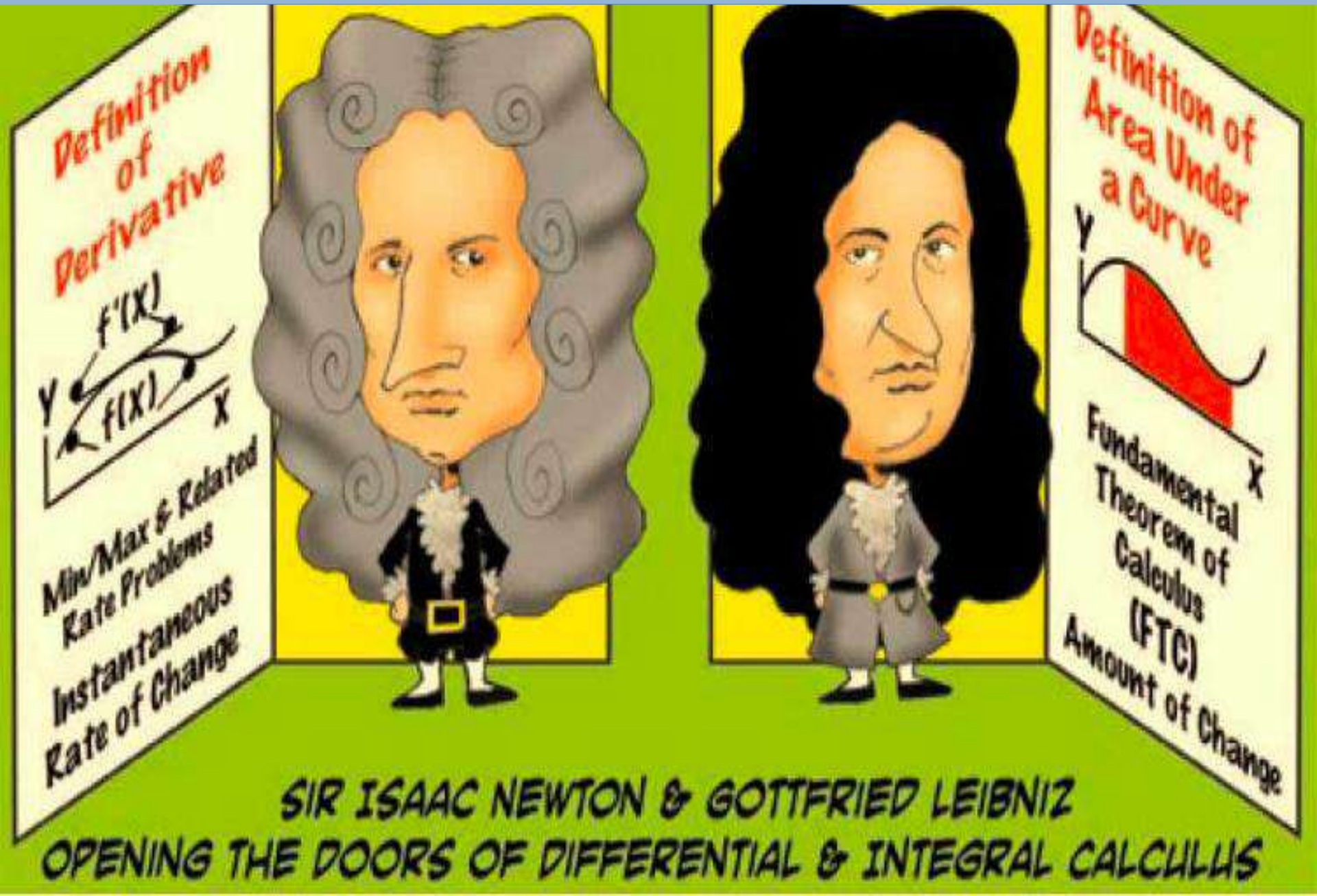

SQUEAK
SQUEAK
SQUEAK
AMEND
I SOMETIMES WISH NEWTON HAD STOPPED AT TWO LAWS.
7-7
© 2001 Bill Amend / Distributed by Universal Press Syndicate

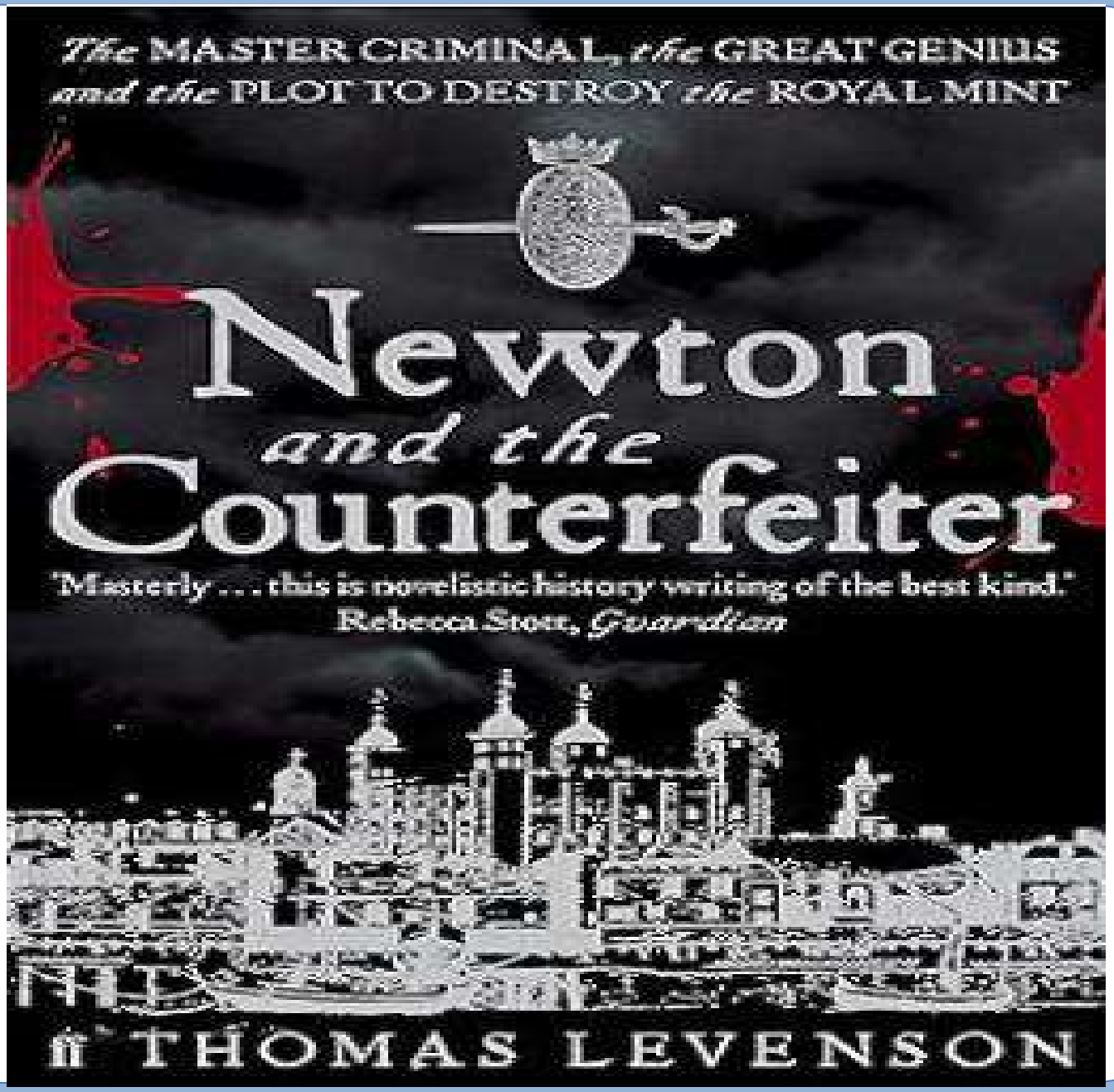


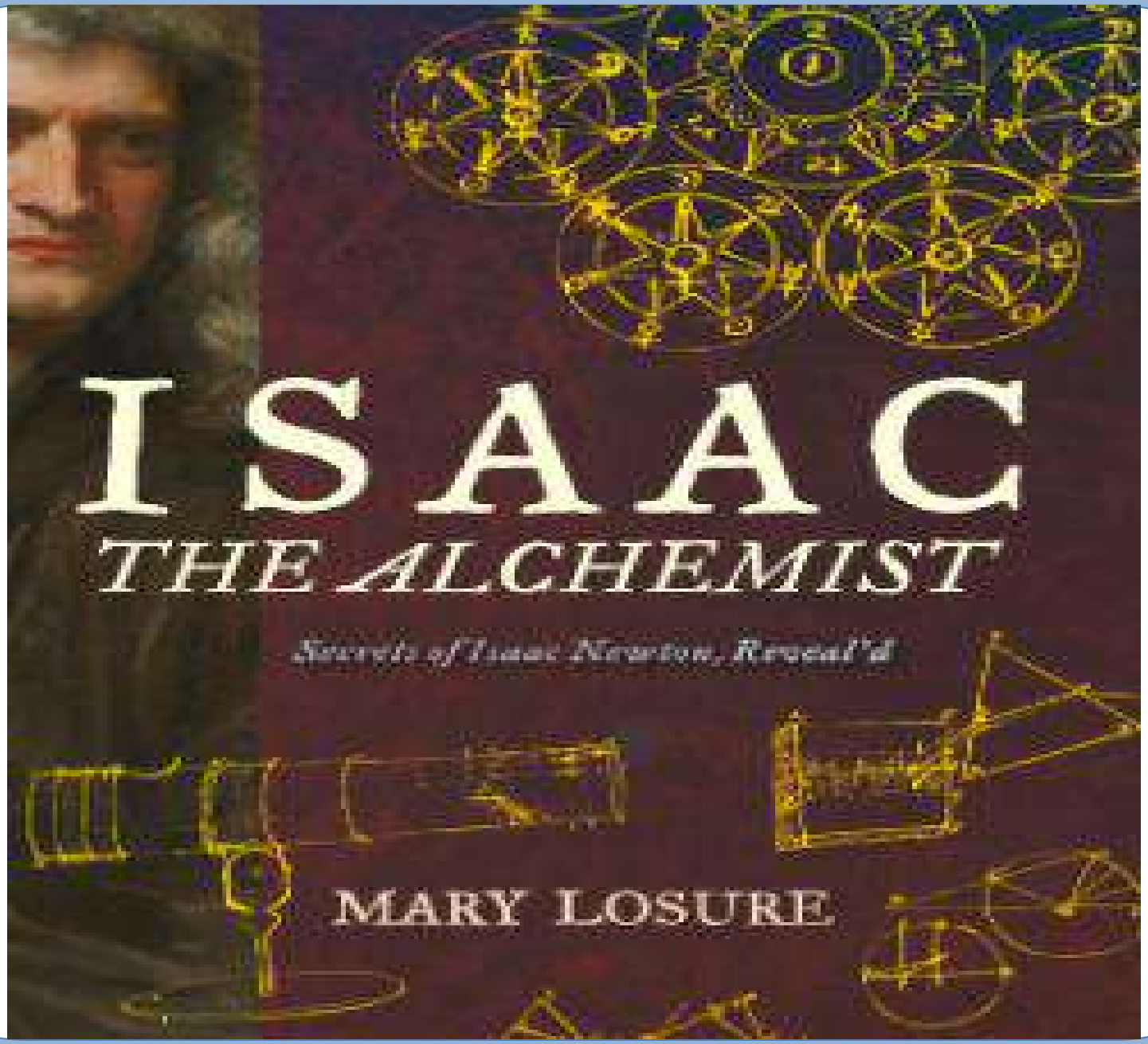







Definition of Derivative
f'(X)
f(X)
Y
X
Min/Max & Related Rate Problems
Instantaneous Rate of Change
Definition of Area Under a Curve
Y
X
Fundamental Theorem of Calculus (FTC)
Amount of Change
SIR ISAAC NEWTON & GOTTFRIED LEIBNIZ
OPENING THE DOORS OF DIFFERENTIAL & INTEGRAL CALCULUS


The MASTER CRIMINAL, the GREAT GENIUS
and the PLOT TO DESTROY the ROYAL MINT
Newton
and the
Counterfeiter
'Masterly . . . this is novelistic history writing of the best kind.'
Rebecca Stott, Guardian
THOMAS LEVENSON


ISAAC
THE ALCHEMIST
Secrets of Isaac Newton, Reveal'd
MARY LOSURE