

History of Mathematics

the supplementary module about all of mathematics
across all times and places

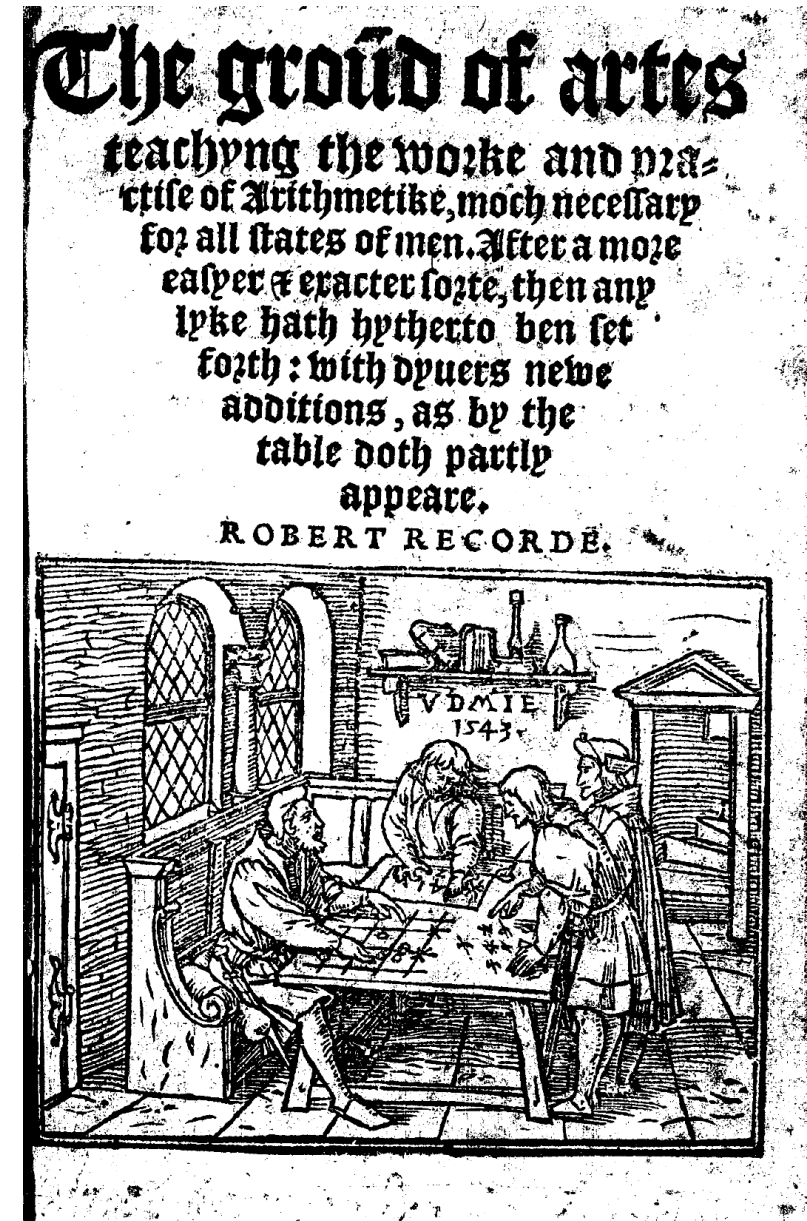
SMSTC Symposium, 30 September 2020

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A question

Who invented calculus?

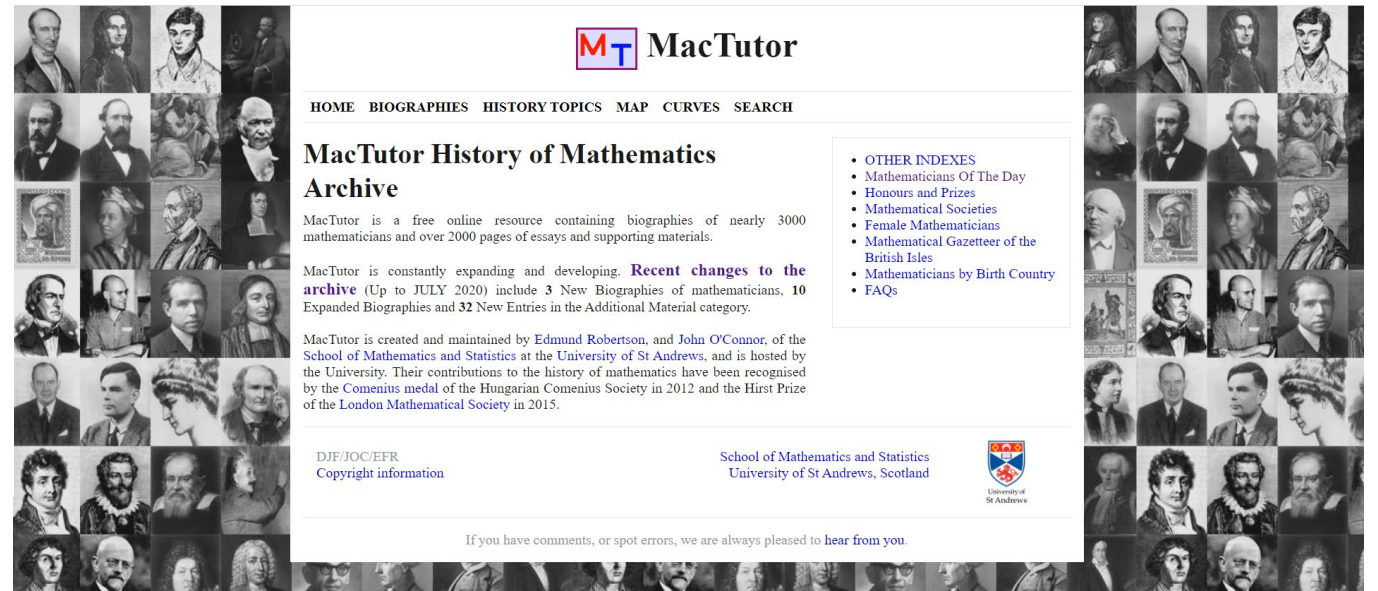


LIBRARY OF USEFUL KNOWLEDGE.

THE
DIFFERENTIAL AND INTEGRAL
CALCULUS

CONTAINING

DIFFERENTIATION, INTEGRATION, DEVELOPMENT, SERIES, DIFFERENTIAL EQUATIONS, DIFFERENCES, SUMMATION, EQUATIONS OF DIFFERENCES, CALCULUS OF VARIATIONS, DEFINITE INTEGRALS,—WITH APPLICATIONS TO ALGEBRA, PLANE GEOMETRY, SOLID GEOMETRY, AND MECHANICS.



The image shows a screenshot of the MacTutor History of Mathematics Archive website. The page features a grid of mathematician portraits on the left and right sides. The main content area includes the MacTutor logo, navigation links (HOME, BIOGRAPHIES, HISTORY TOPICS, MAP, CURVES, SEARCH), and a section titled "MacTutor History of Mathematics Archive". This section contains a description of the archive, a list of "OTHER INDEXES" (including Mathematicians Of The Day, Honours and Prizes, Mathematical Societies, Female Mathematicians, Mathematical Gazetteer of the British Isles, and Mathematicians by Birth Country), and information about the website's creators and funding. The University of St Andrews logo is visible in the bottom right corner.

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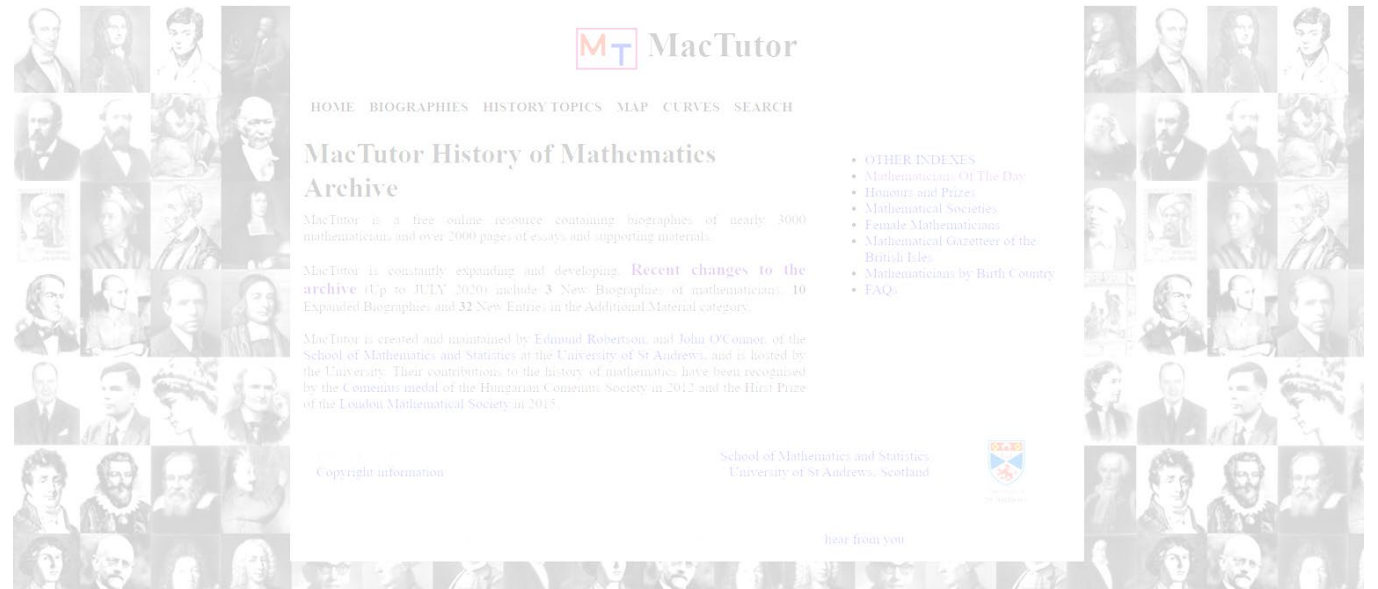
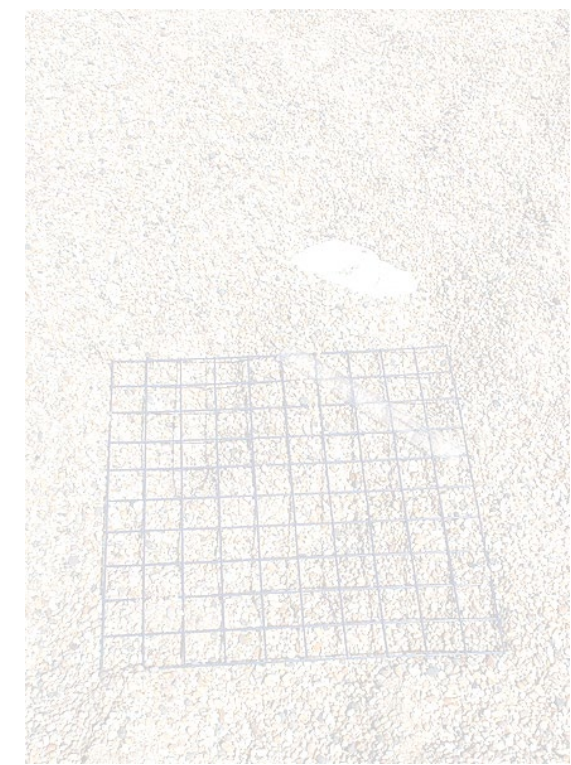
Is this a trick question?

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The image shows the front page of the MacTutor History of Mathematics Archive. At the top right is the MacTutor logo (MT) and the text 'MacTutor'. Below it is a navigation menu with links: HOME, BIOGRAPHIES, HISTORY, TOPICS, MAP, CURVES, SEARCH. The main heading is 'MacTutor History of Mathematics Archive'. Below this is a paragraph describing the archive as a free online resource containing biographies of nearly 3000 mathematicians and over 2000 pages of essays and supporting material. A second paragraph states that the archive is constantly expanding and developing, with recent changes including 3 New Biographies, 10 Expanded Biographies, and 32 New Entries. A third paragraph mentions that the archive is created and maintained by Edmund Robertson and John O'Connor, and is hosted by the University of St Andrews. On the right side, there is a list of 'OTHER INDEXES' including 'Mathematicians of The Day', 'Honours and Prizes', 'Mathematical Societies', 'Female Mathematicians', 'Mathematical Gazetteer of the British Isles', and 'Mathematicians by Birth Country'. At the bottom, there is a 'Copyright information' section, the 'School of Mathematics and Statistics, University of St Andrews, Scotland' logo, and a 'hear from you' link. The background of the page is a grid of small portraits of various mathematicians.

A question

Who invented calculus?

Is this a trick question?

There are no ***trick*** questions,
just ***surprisingly interesting*** ones!



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the University. Their contributions to the history of mathematics have been recognised by the Comenius medal of the Hungarian Comenius Society in 2012 and the First Prize of the London Mathematical Society in 2015.

Copyright information

School of Mathematics and Statistics,
University of St Andrews, Scotland

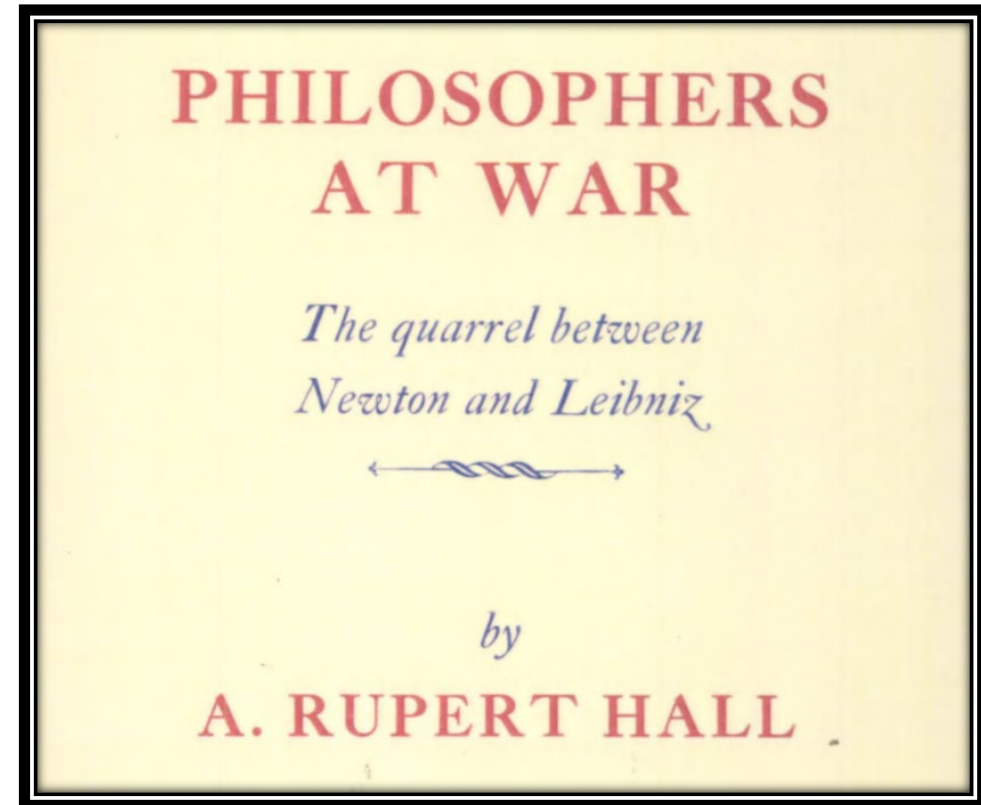
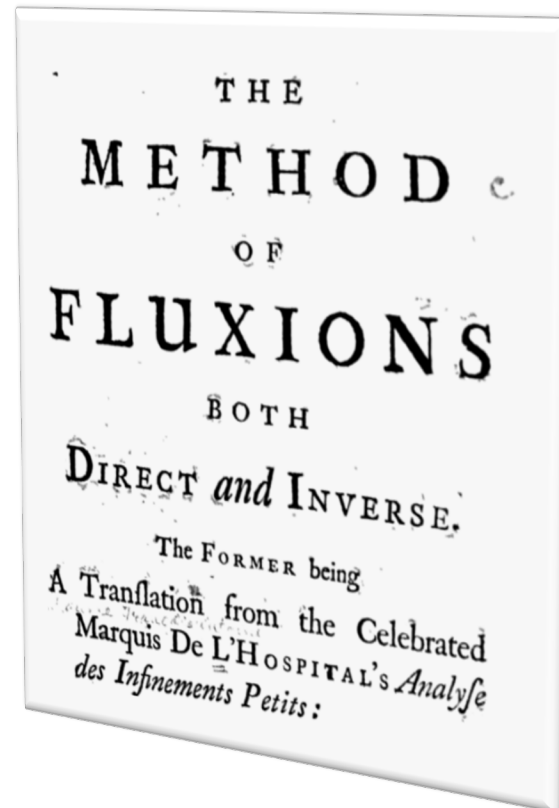
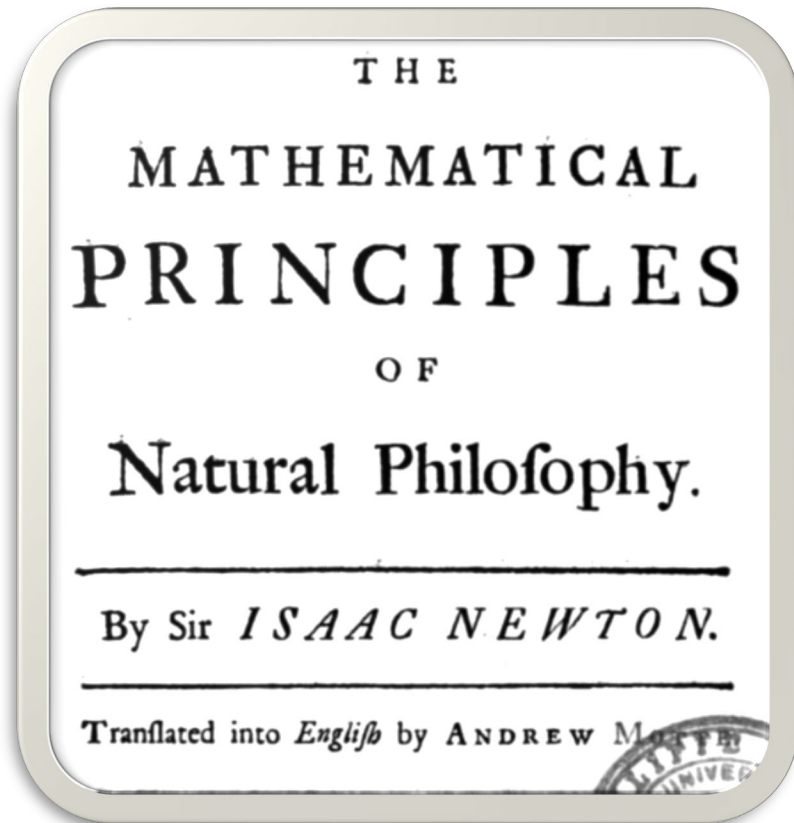


hear from you



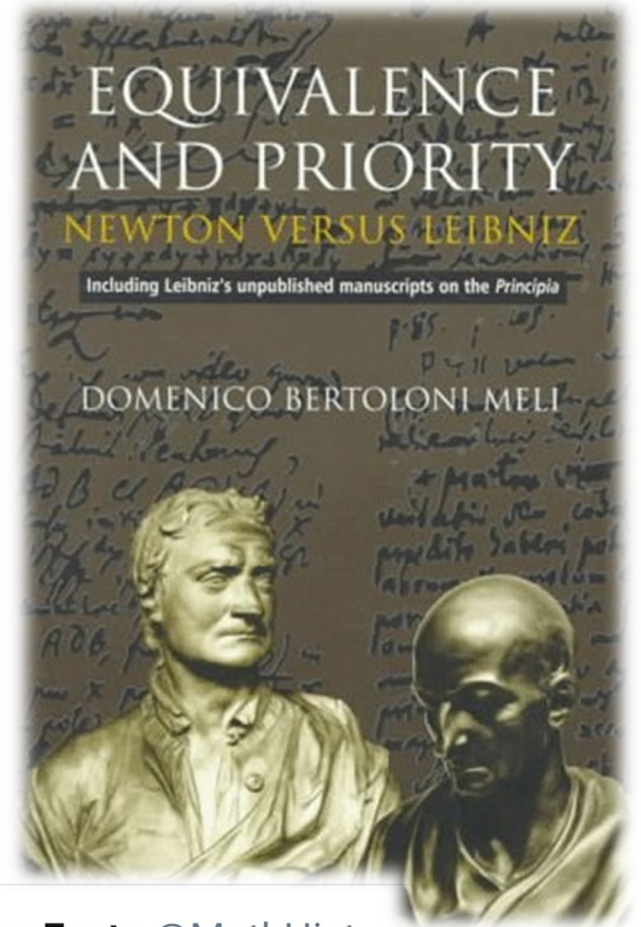
Who invented calculus?

- This is **not** a *conventionally interesting* question.



Who invented calculus?

- This is ***not*** a *conventionally interesting* question.
 - Historians do not tend to be interested in priority disputes *in themselves*.
 - Circular question: the answer always depends on what you mean by calculus, but the goal is to understand what *different people* meant in their times and places, not what *you* mean.
 - Where it started doesn't determine what it meant.
 - Heroes are boring, context is awesome.



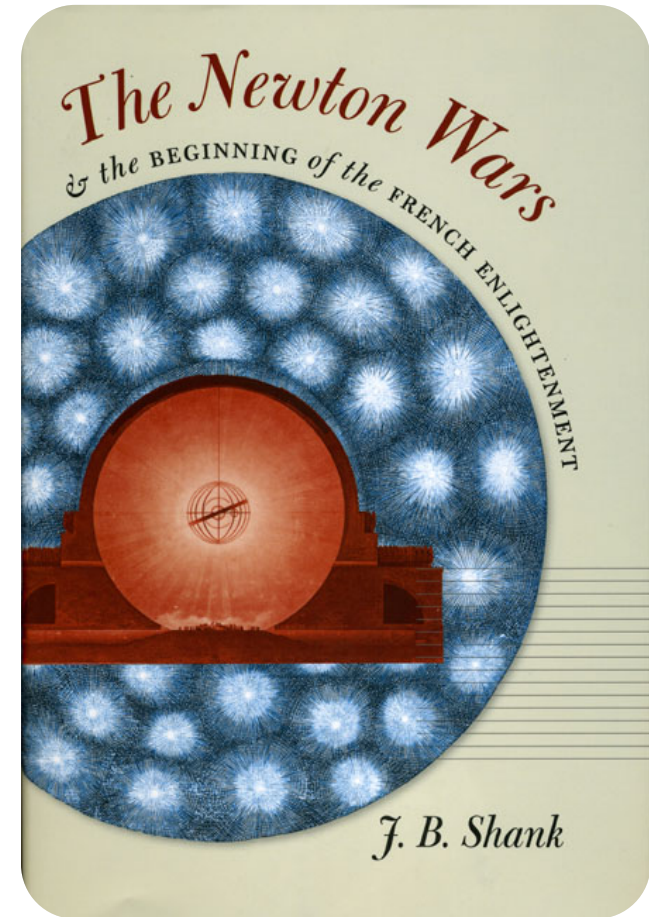
Math History Facts @MathHist...

Gottfried Wilhelm Leibniz, born OTD*, invented all the good parts of the calculus. #OTD #calculus #mtbos

*On That Day, 1 July 1646

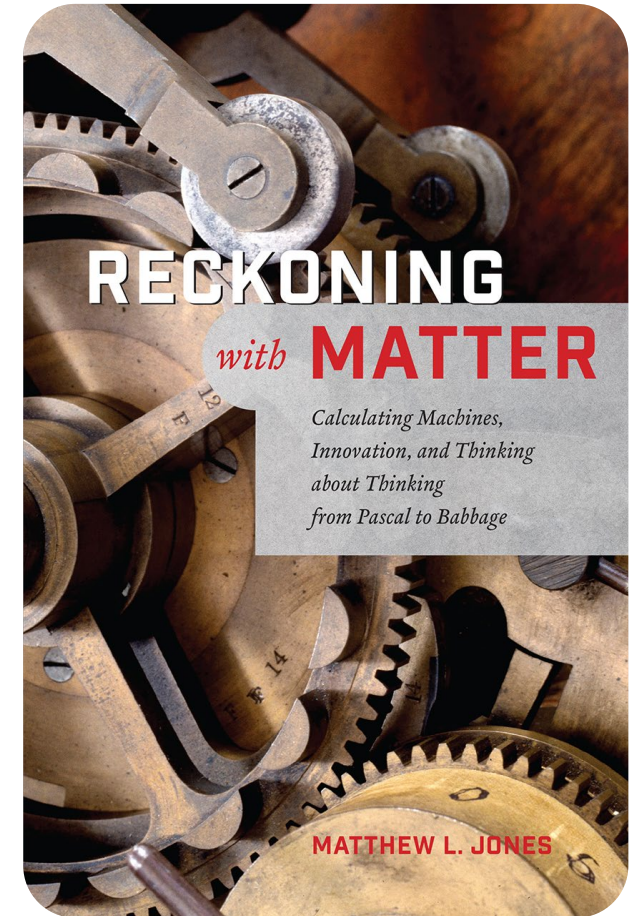
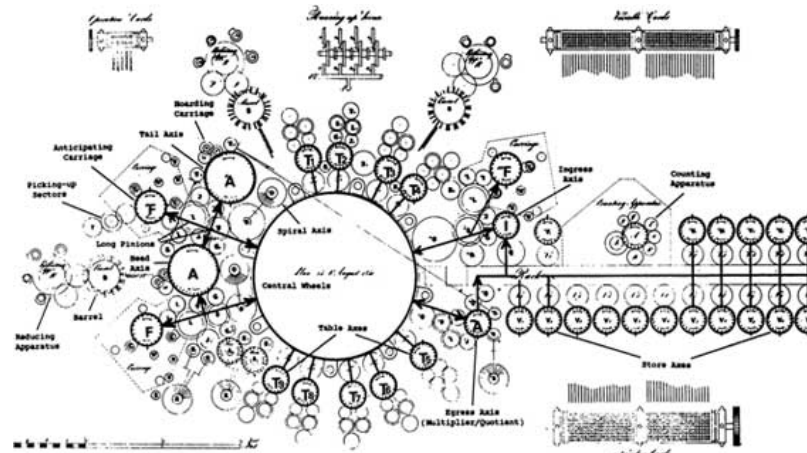
Who invented calculus?

- This is *a very surprisingly interesting* question.
 - The priority question itself and debates over it animated generations of science and philosophy.



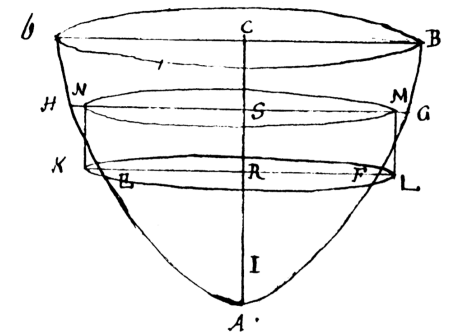
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 - Calculus was just one product of a centuries (millennia) long history of calculation.



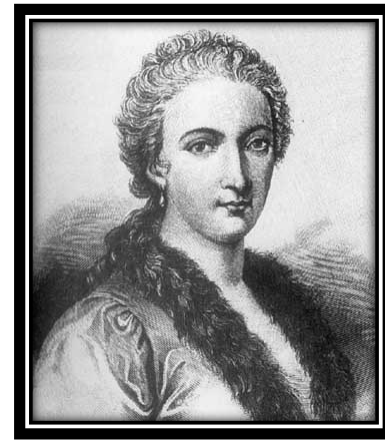
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 - Calculus has defined what rational inquiry was and who could perform it.
 - Calculus has been at the centre of major changes to education, theory, and society.



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- This is *a very surprisingly interesting* question.
 - The priority question itself and debates over it animated generations
 - Calculus has been continually reinvented, and the story of its reinvention is the story of centuries of transformations in science and society.
 - Calculus could not have been developed without the long history of mathematics
 - Calculus is a product of the scientific and social revolutions of the 17th and 18th centuries
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History of Mathematics

- Collaborative, discussion-based
- Current literature and primary sources
- Formal assessment available by arrangement if required

1. Introduction, how to read like a historian	6. Intermediate values
2. Origins and sources	7. Problems and practices
3. Rhetoric and form	8. Foundations and roots
4. Geometry and nature	9. Minds and machines
5. Enlightenment	10. Globalisation