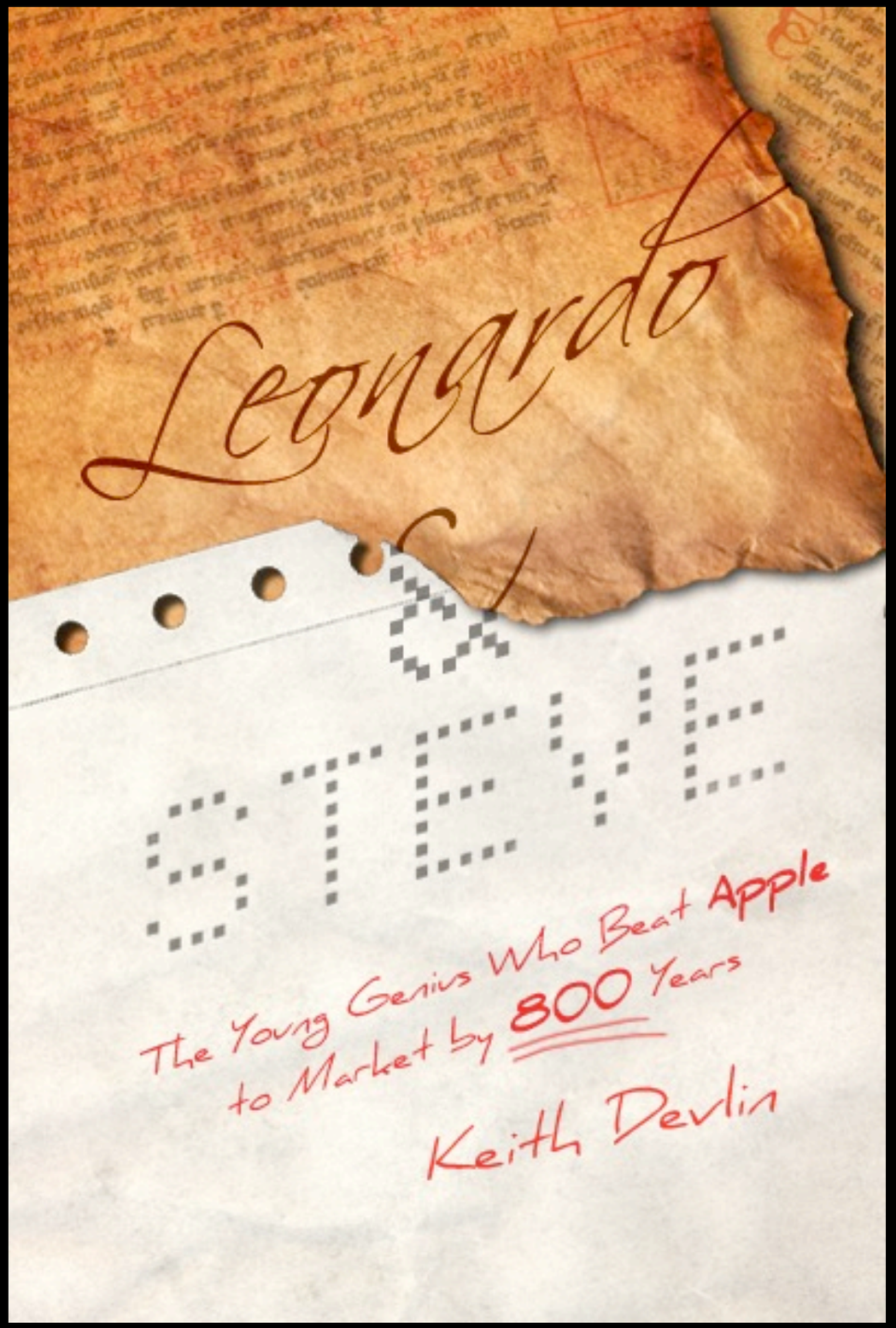
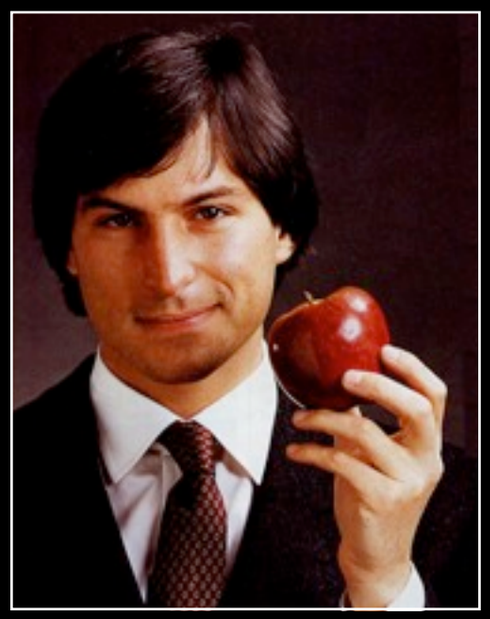
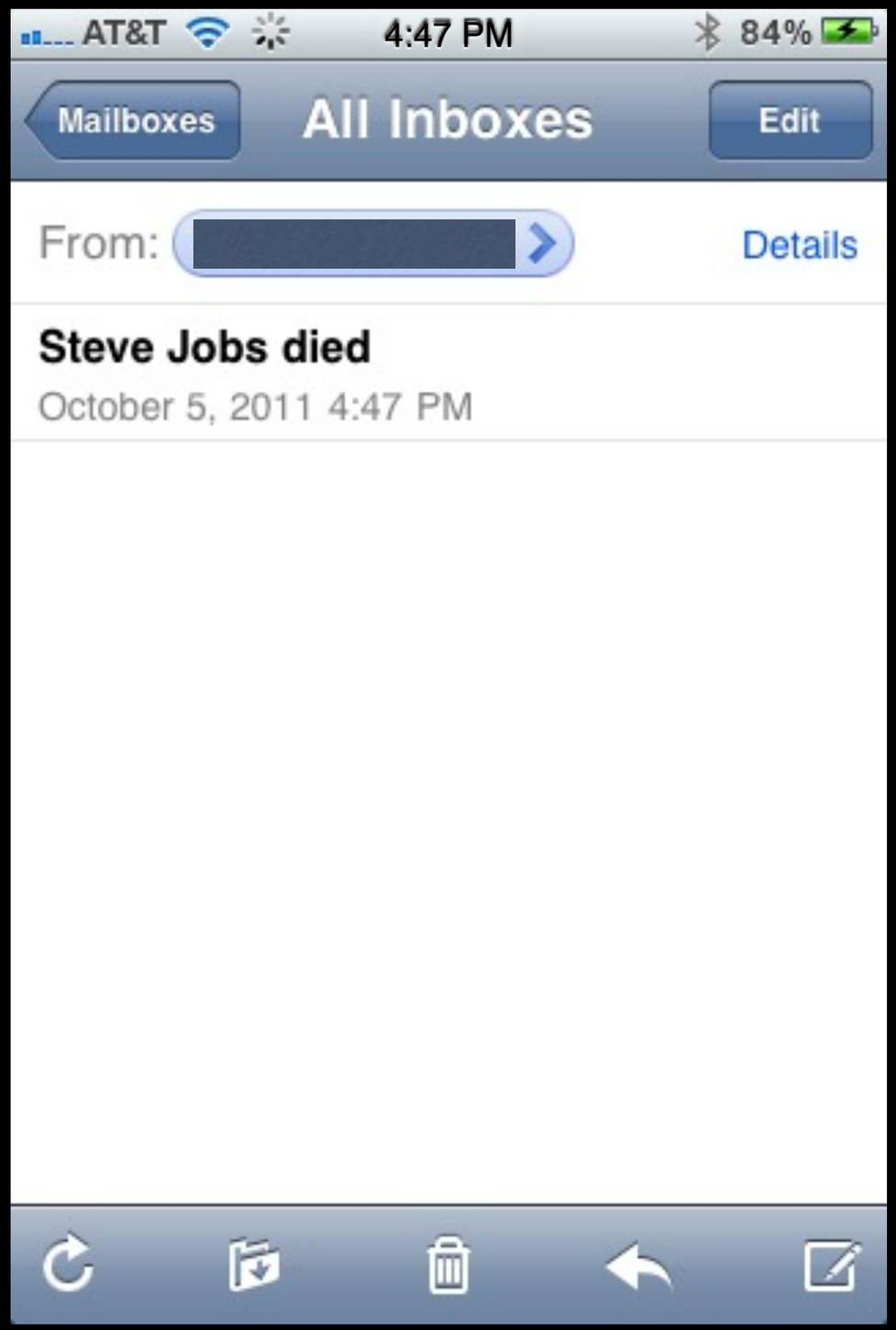

Leonardo
&
Steve
The Young Genius Who Beat Apple to Market by 800 Years
Keith Devlin




hello.

October 5, 2011, 4:47 pm



Email received on my iPhone, Oct 5, 2011, 4:47 pm

Apple Store, Palo Alto, Oct 6, 2011, 7:30 am

Apple Store, Palo Alto, Oct 6, 2011, 7:30 am

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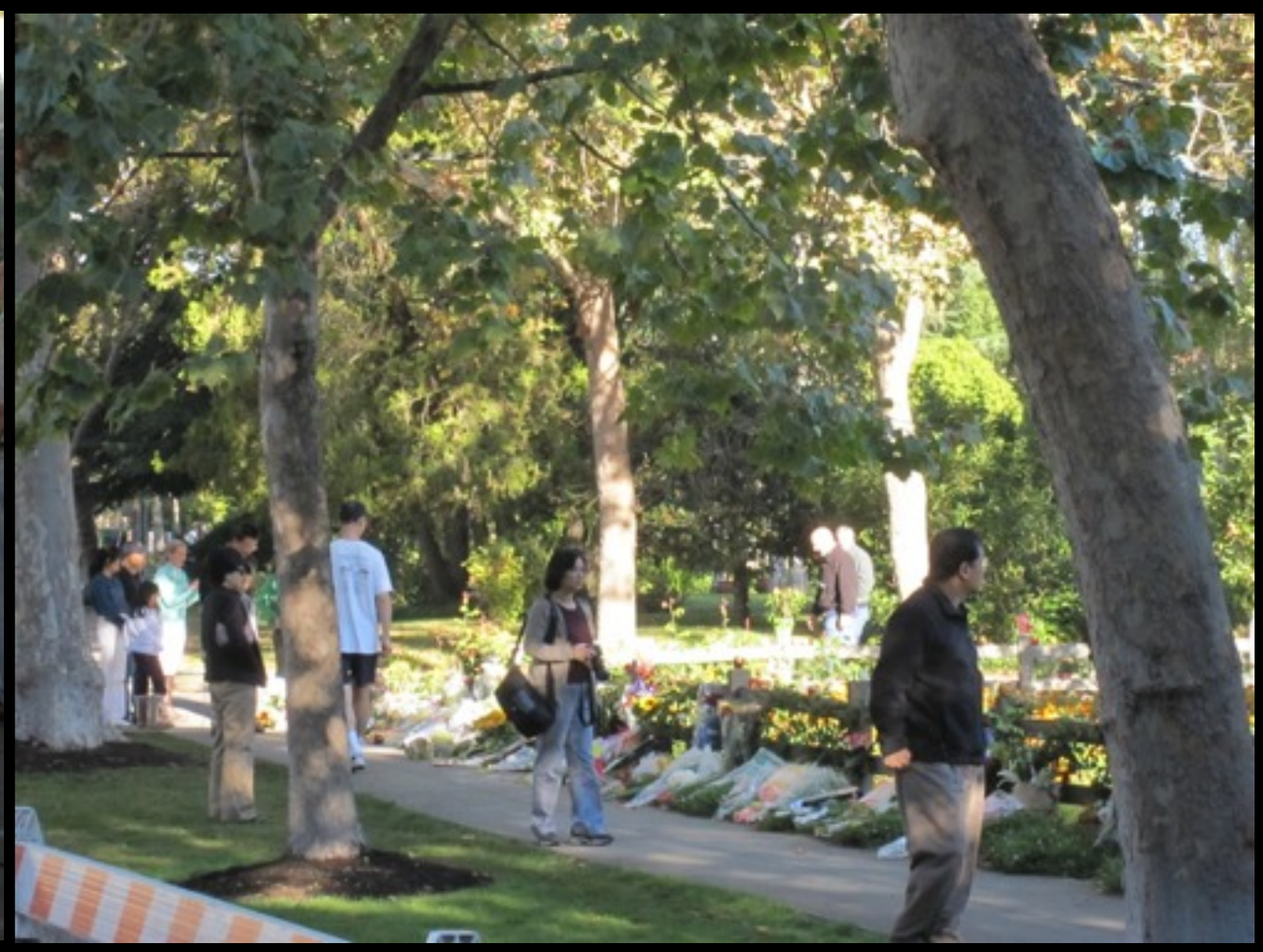

Steve Jobs' house, Waverley Street, Palo Alto, Oct 8, 2011

The First Personal Computing Revolution

Keith Devlin

Who was this? Where? When?

The young man could hardly contain his excitement. He was sure the invention he had just seen could change the world. It would usher in a new era of personal computing. No longer would a businessman or trader have to rely on a member of the select brotherhood of computing professionals to crunch the numbers. He could do it himself.

The people who showed him the invention were fascinated by how it worked, but they clearly did not see what the young man could: its huge commercial potential. As so often happens in history, the right person was in the right place at the right time. Not only had the young man shown mathematical talent at an early age, he had grown up in what was then the acknowledged world capital for innovation, particularly in the business world. He also had the savvy to know how to make the invention available to ordinary citizens. The trick was to package and market it to them directly, in a way that they could at once appreciate and understand.

Within a few years, the young man had succeeded beyond all expectations – save perhaps for his own far-sighted vision. The personal computing revolution was underway, new businesses were being created, new ways of carrying out international trade and commerce were developing, new financial institutions were being established, and new fortunes were being made. The world would never be the same again.

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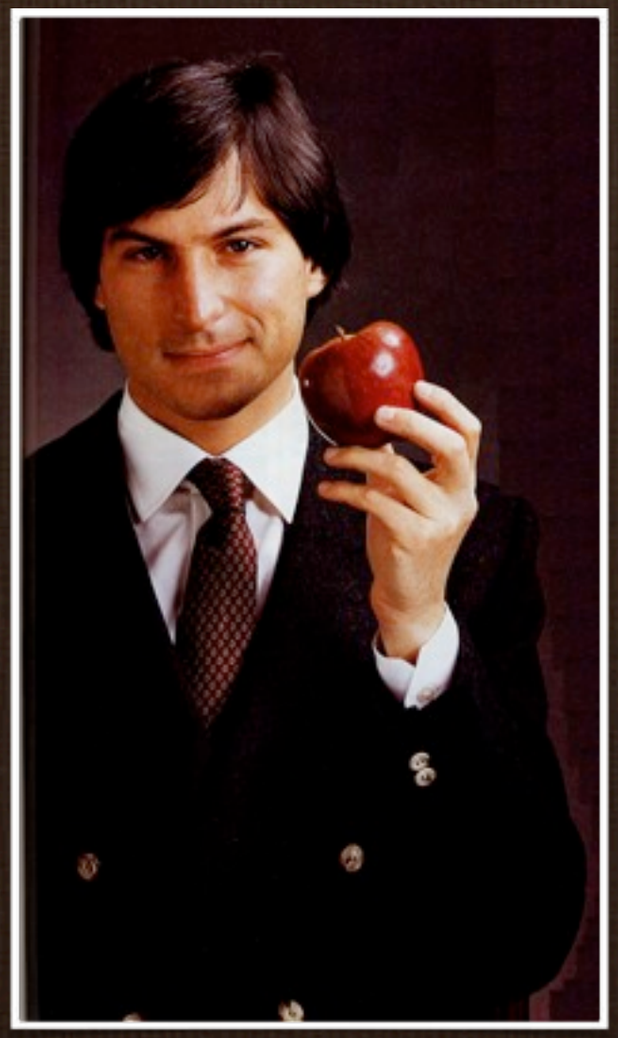

Silicon Valley, 1979-1984

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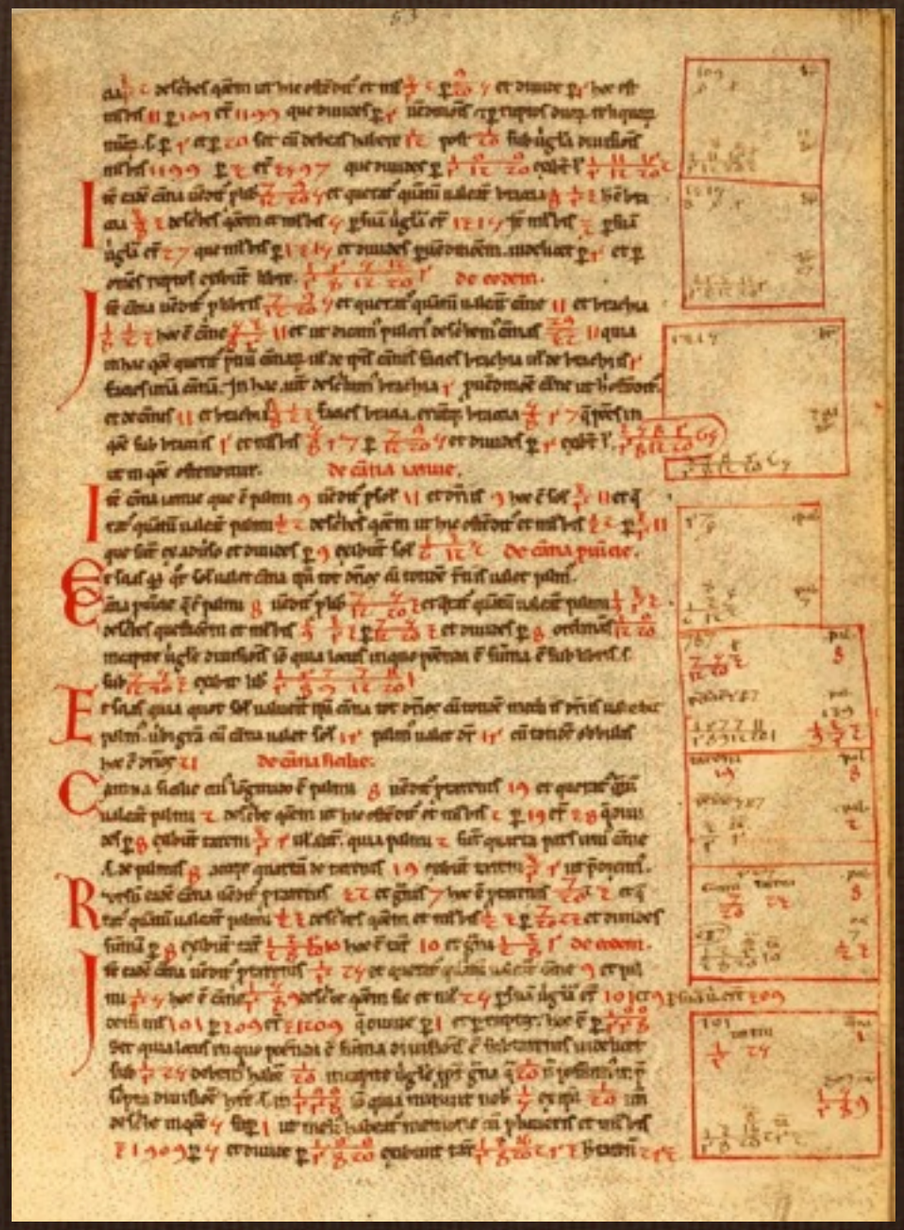

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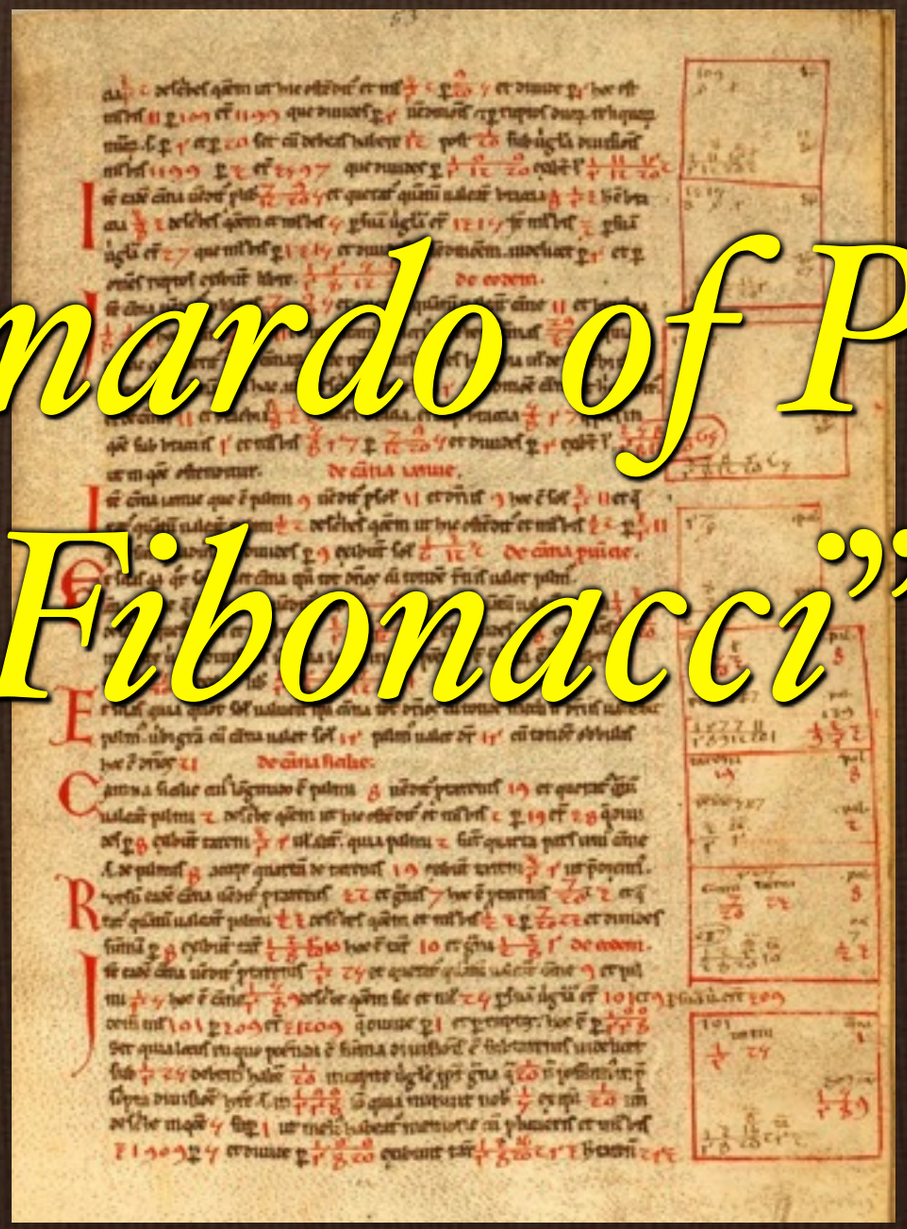

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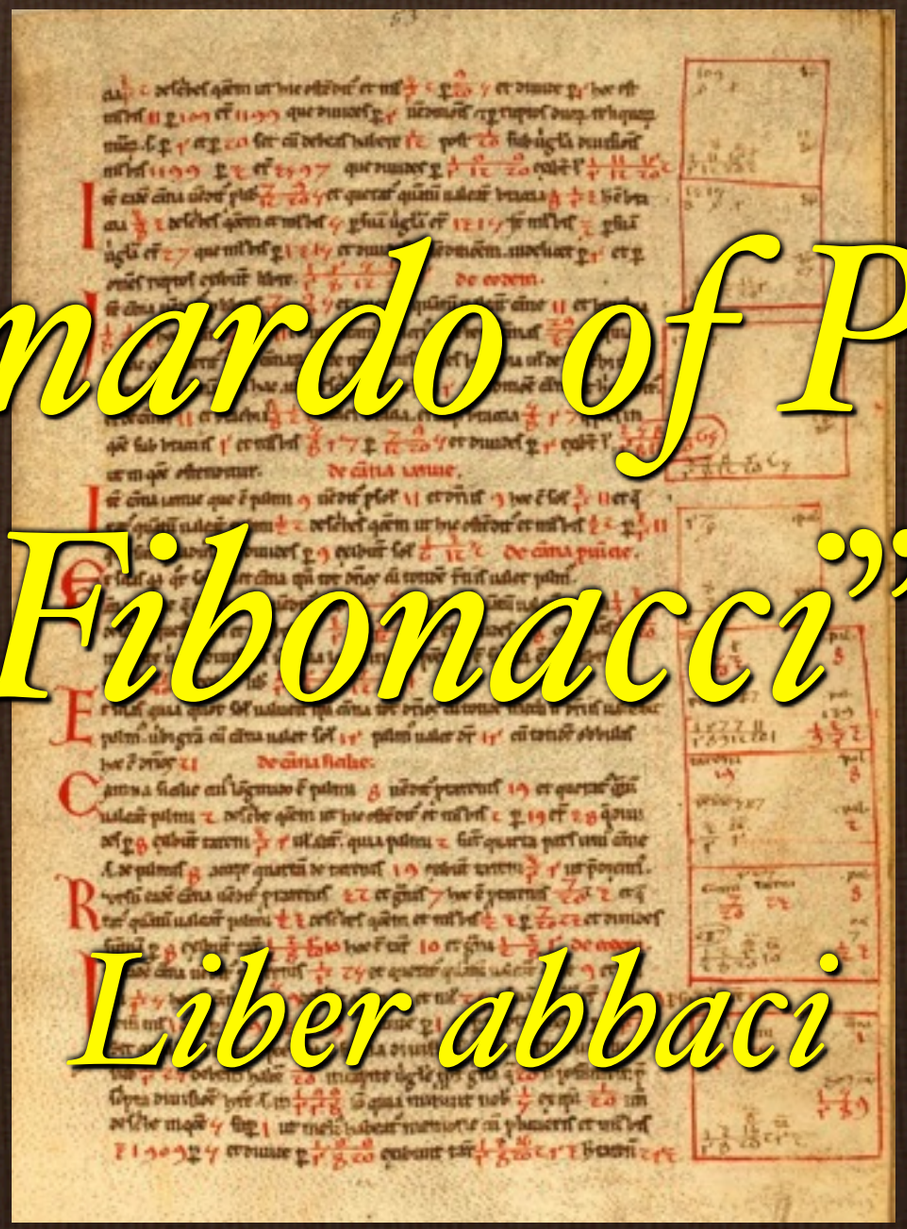

Liber abbaci

Pisa, Italy, 1190-1202

Another memorial

***Piazza XX Settembre* across destroyed Central Bridge, September 1944**

Another memorial

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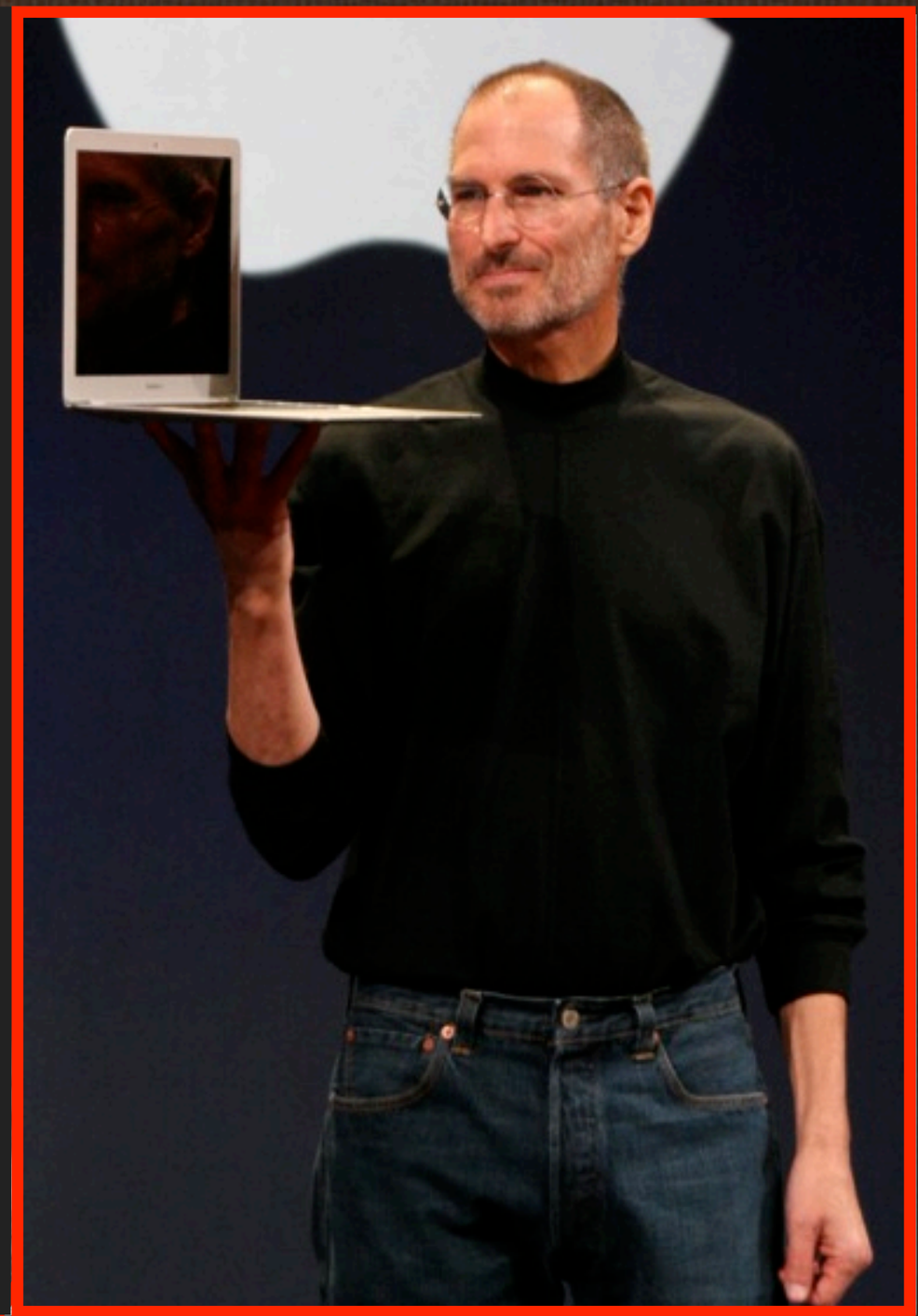
Piazza XX Settembre **across destroyed Central Bridge, September 1944**

The comparison



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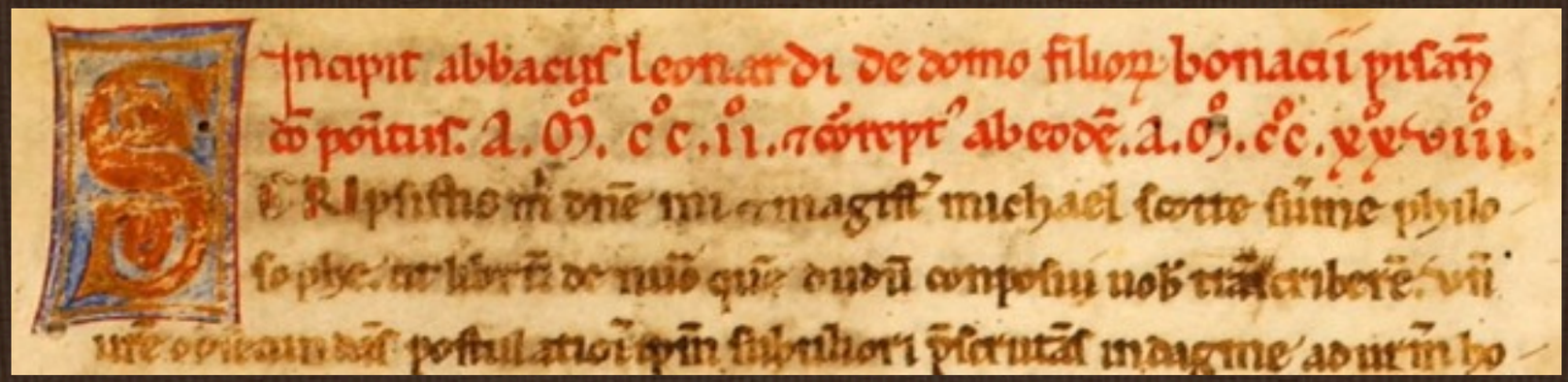
- Completed in 1202, this book is generally credited with bringing the Hindu-Arabic number system and its arithmetic to Europe, and launching the modern, Western-led, commercial world.

What was his real name?



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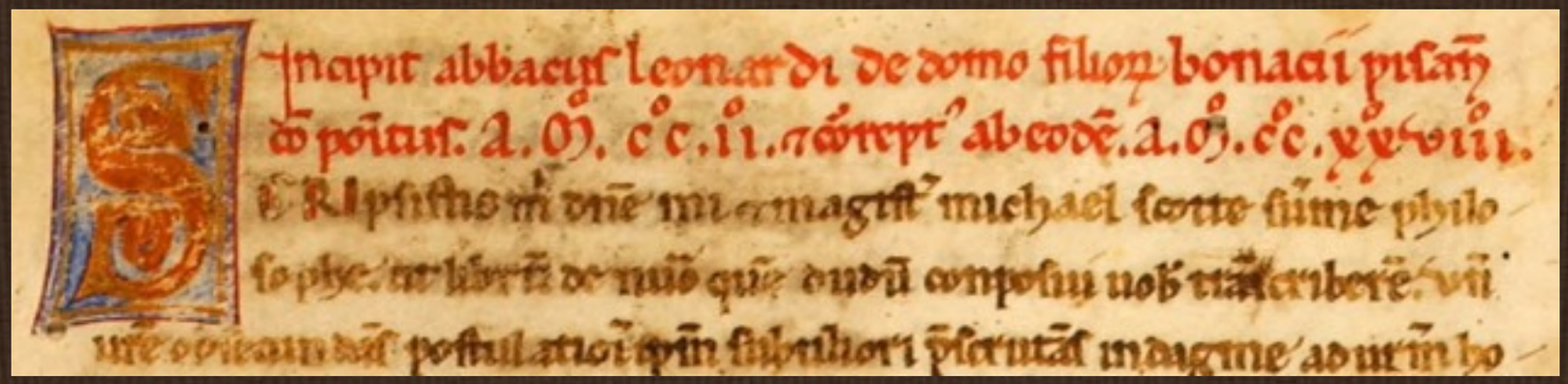

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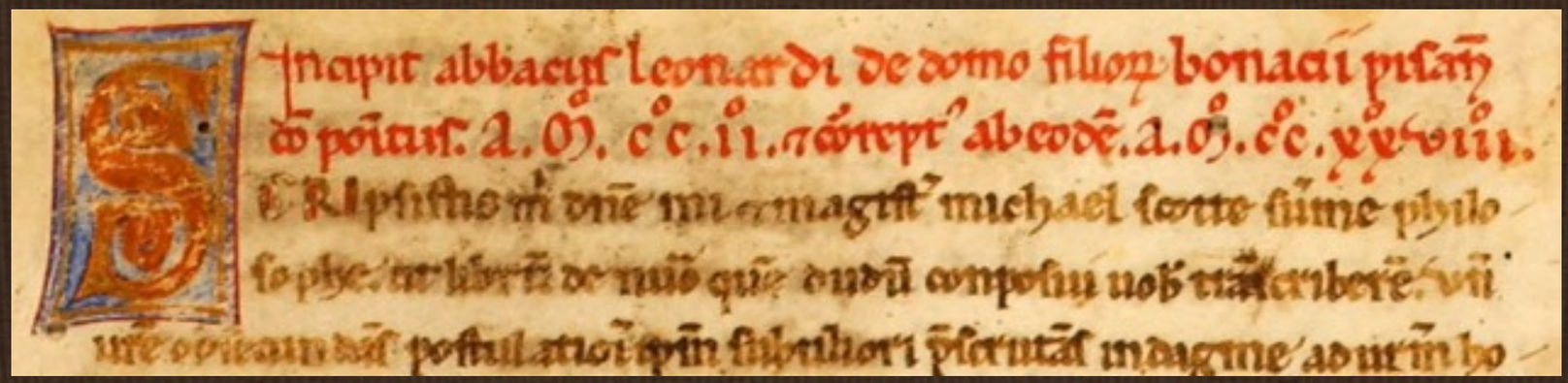

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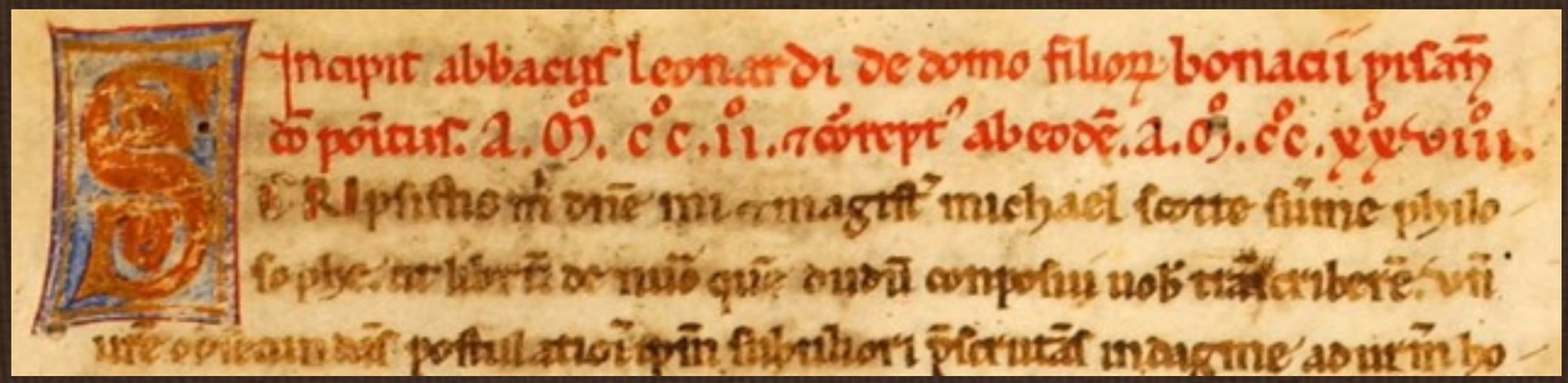

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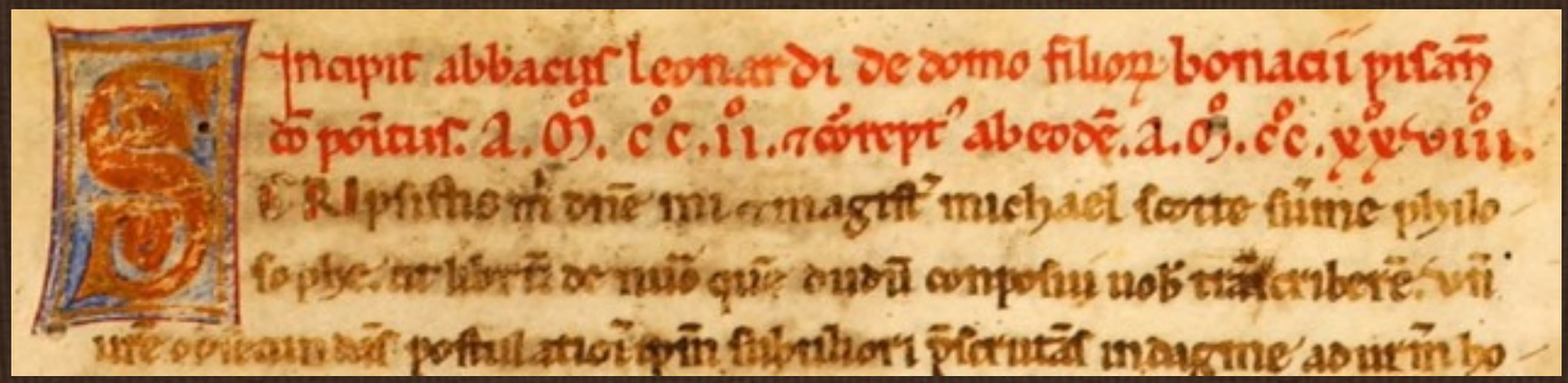

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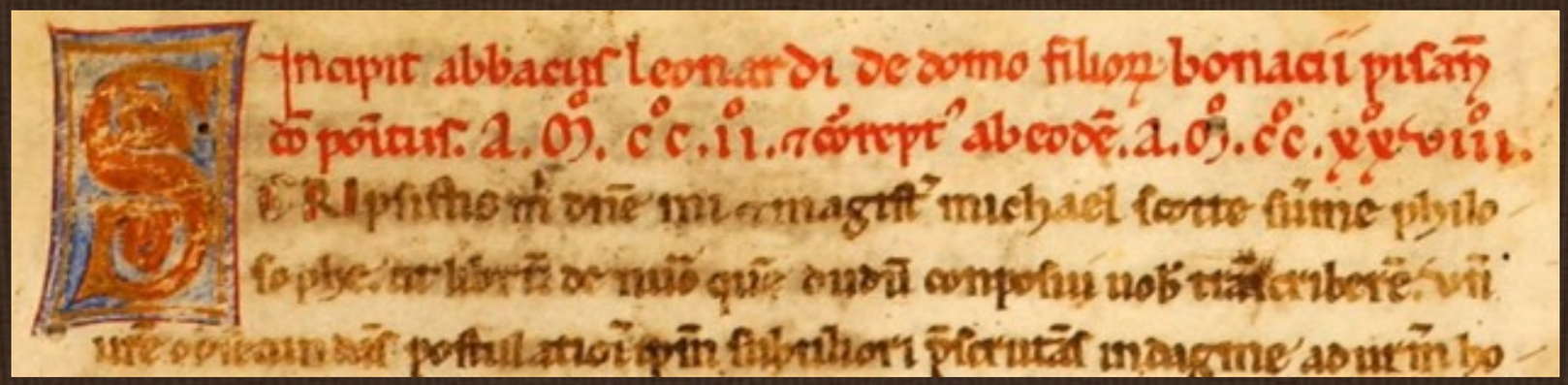

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- The "Fibonacci sequence" was so named by the French mathematician Edouard Lucas in the 1870s, after Libri coined the nickname Fibonacci.

The Fibonacci sequence

The "Fibonacci sequence", an unending sequence of whole numbers that begins

1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, …

The rule for generating new numbers in the sequence is that each number is the sum of the two preceding numbers, so 1+1=2, 1+2=3, 2+3=5, etc.

This sequence arises when you solve a particular problem Leonardo gave in *Liber abbaci*:

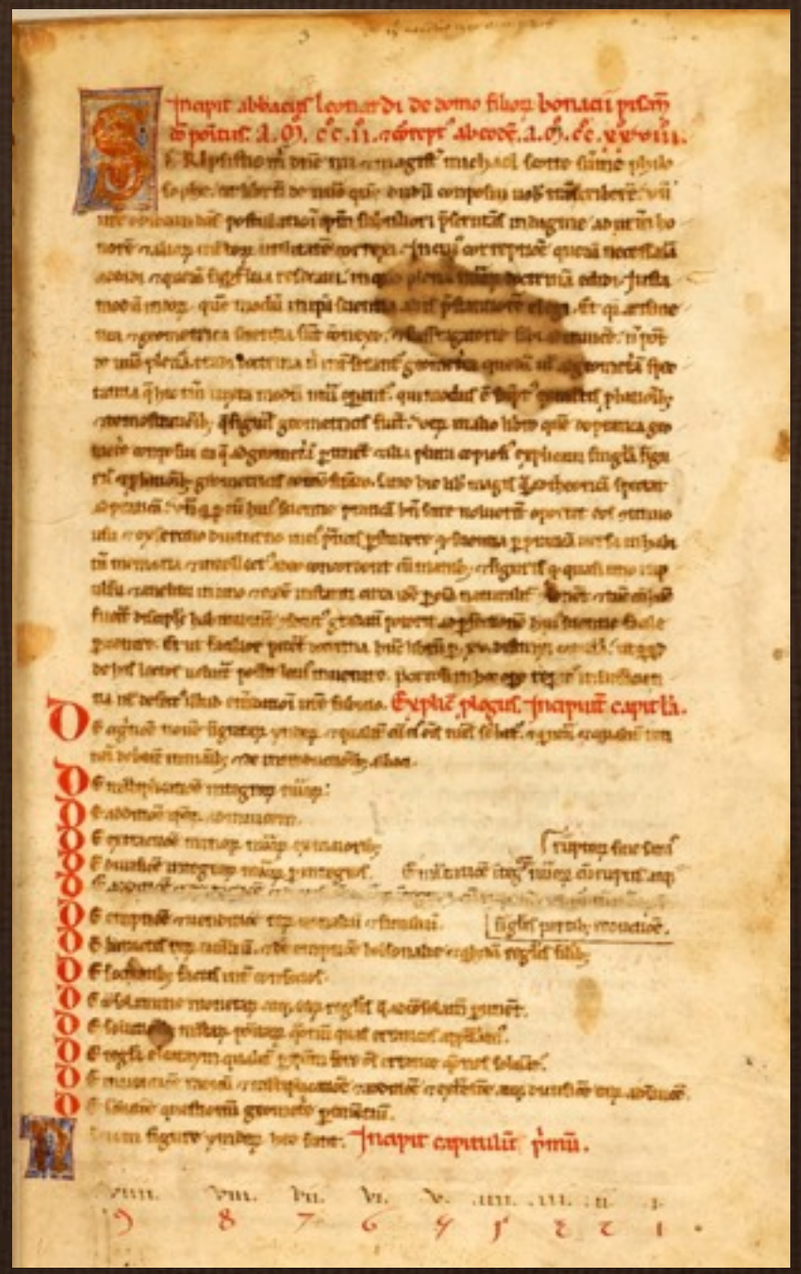
How Many Pairs of Rabbits Are Created by One Pair in One Year.

A certain man had one pair of rabbits together in a certain enclosed place, and one wishes to know how many are created from the pair in one year when it is the nature of them in a single month to bear another pair, and in the second month those born to bear also.

The numbers of pairs each month are the Fibonacci numbers. You can read off the answer to Leonardo's problem: 377 pairs.

The problem and its solution date back well before Leonardo.

Books Leonardo wrote



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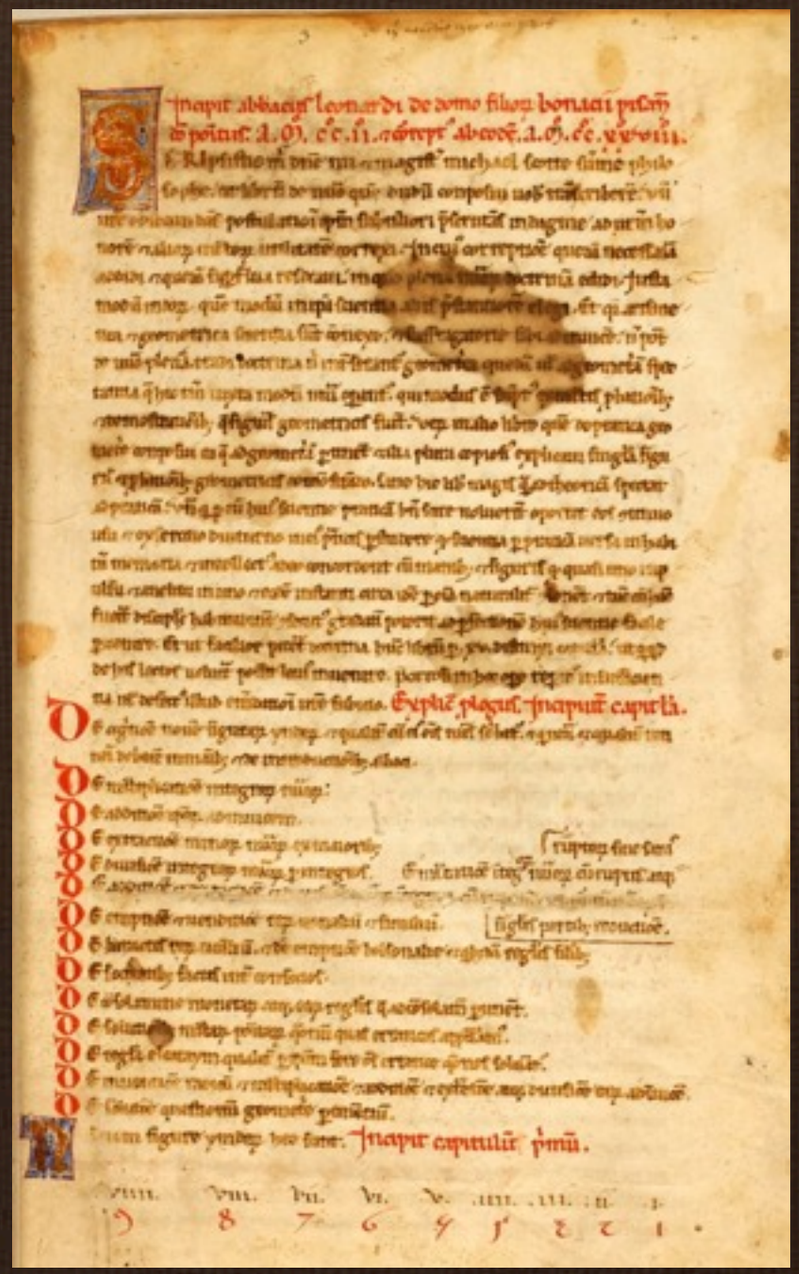

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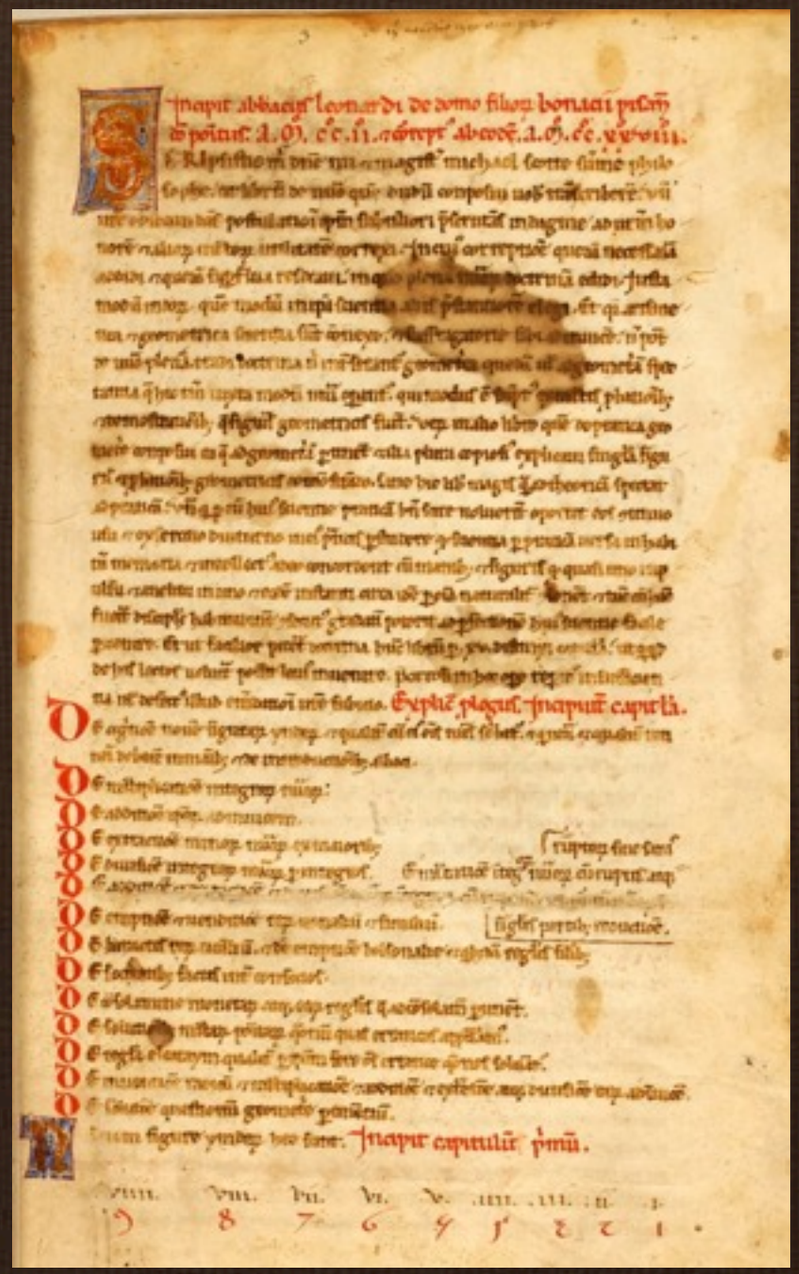

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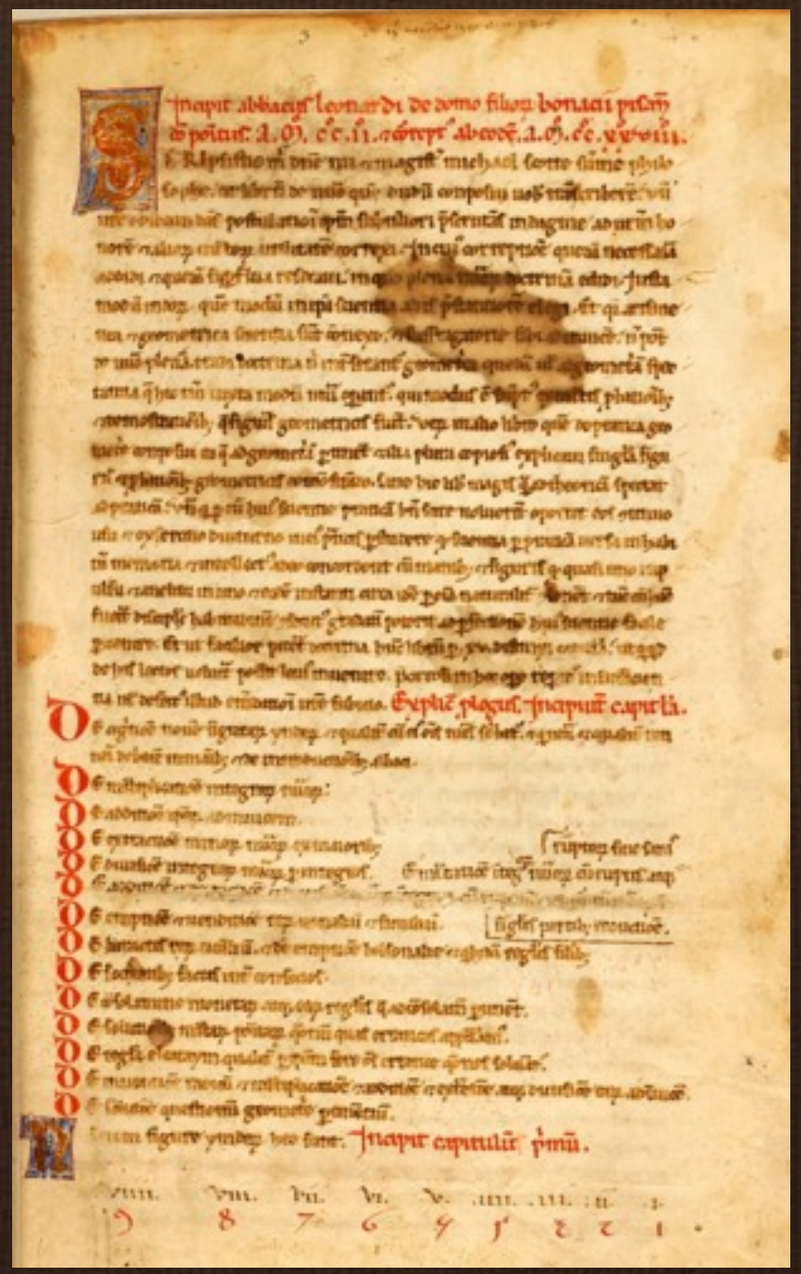

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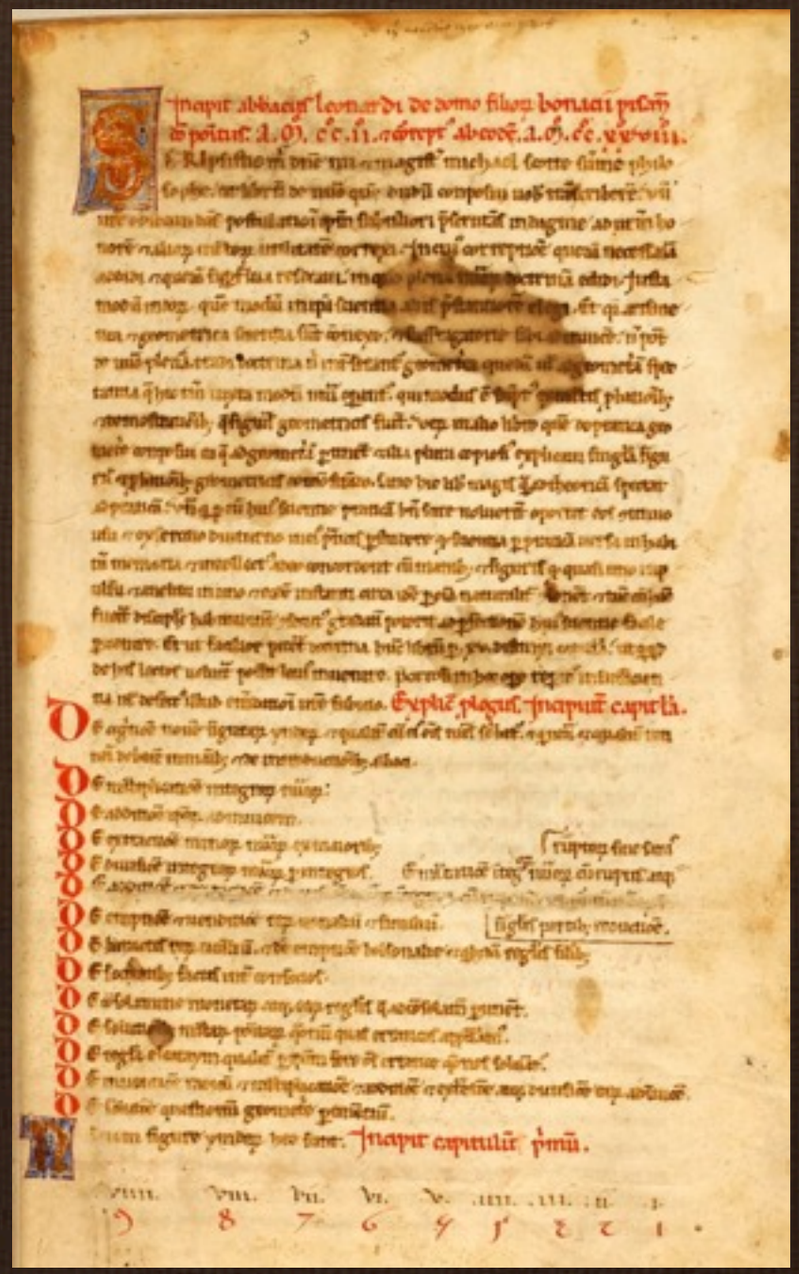

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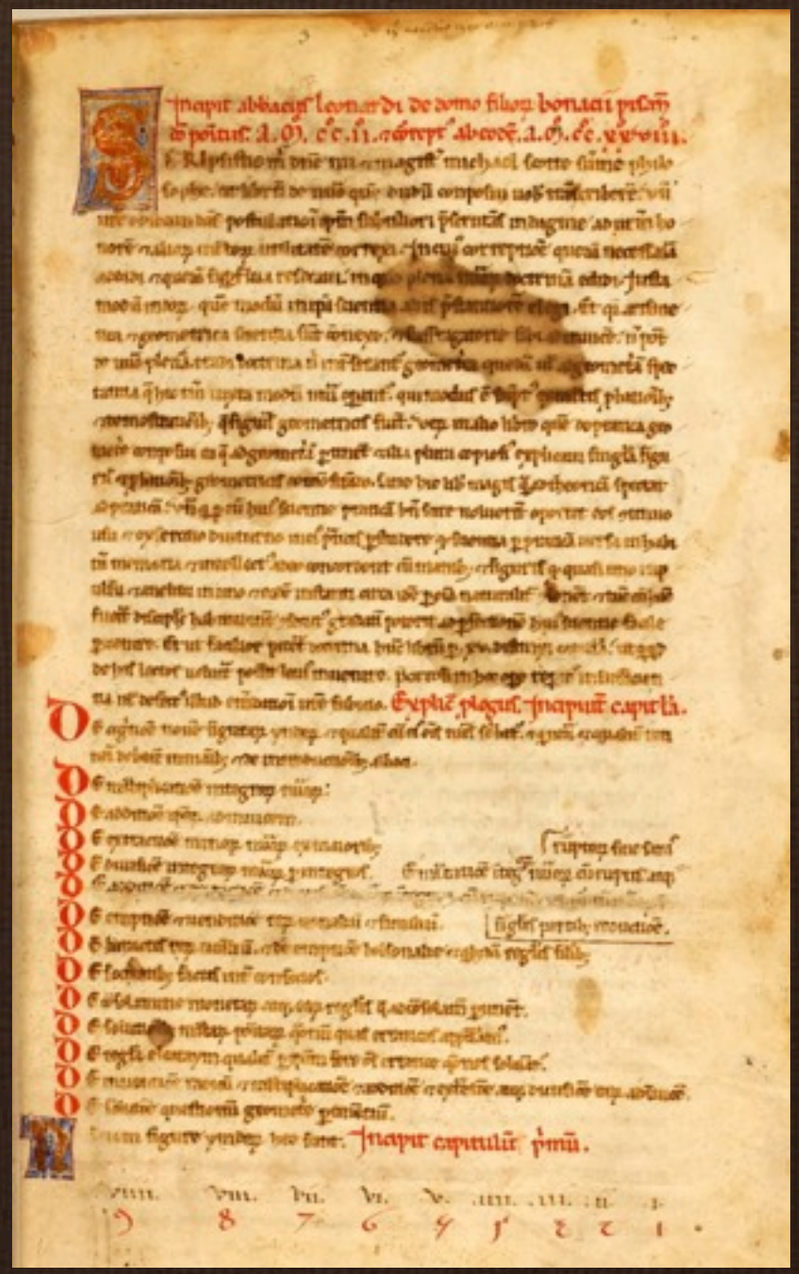

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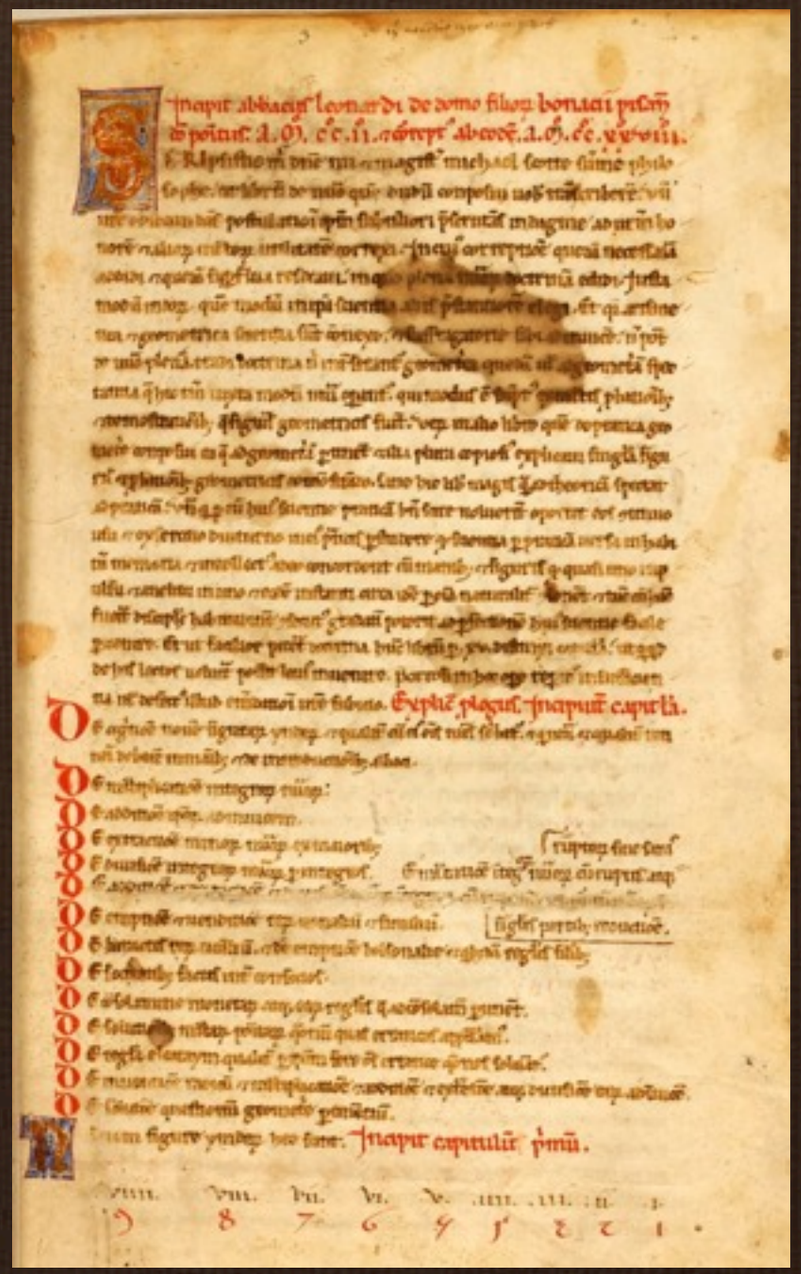

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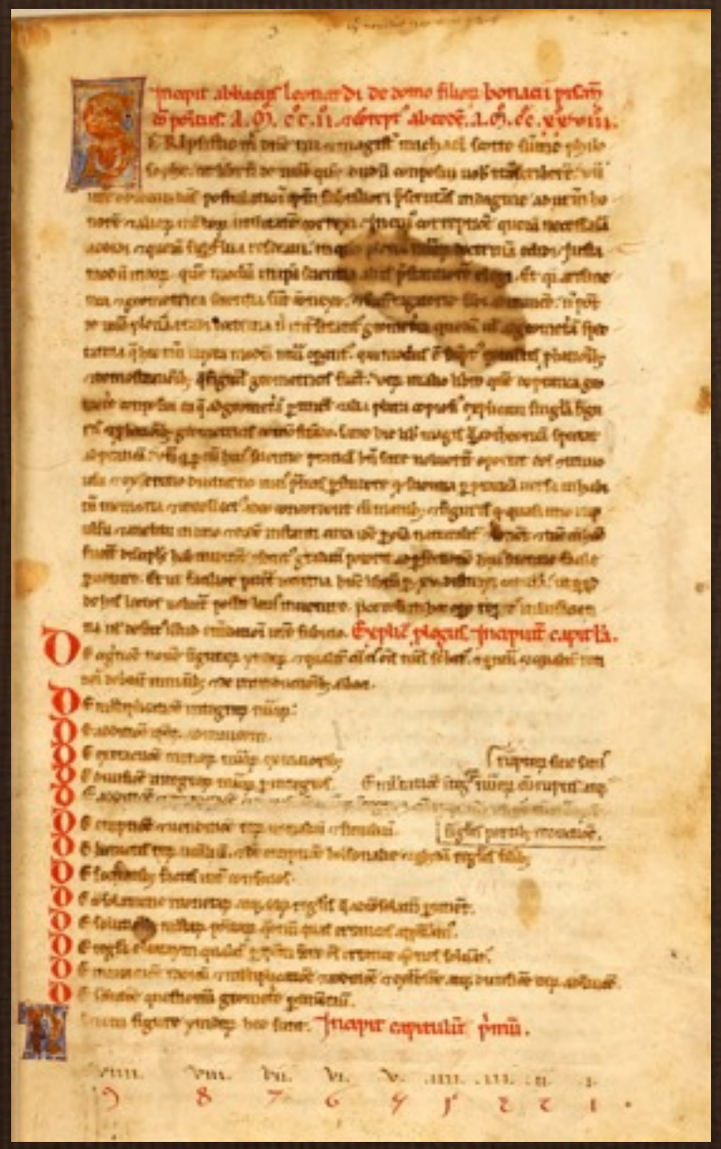
- Abbacus schools (earliest known in Verona in 1294)
- 1340-1510: records of 20 in Florence alone

Why was Leonardo forgotten?

Printing press, 1436

Who started the revolution?



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The Missing Link – 2003

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Prof Rafaella Franci

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Via de' Ginari 10, Florence

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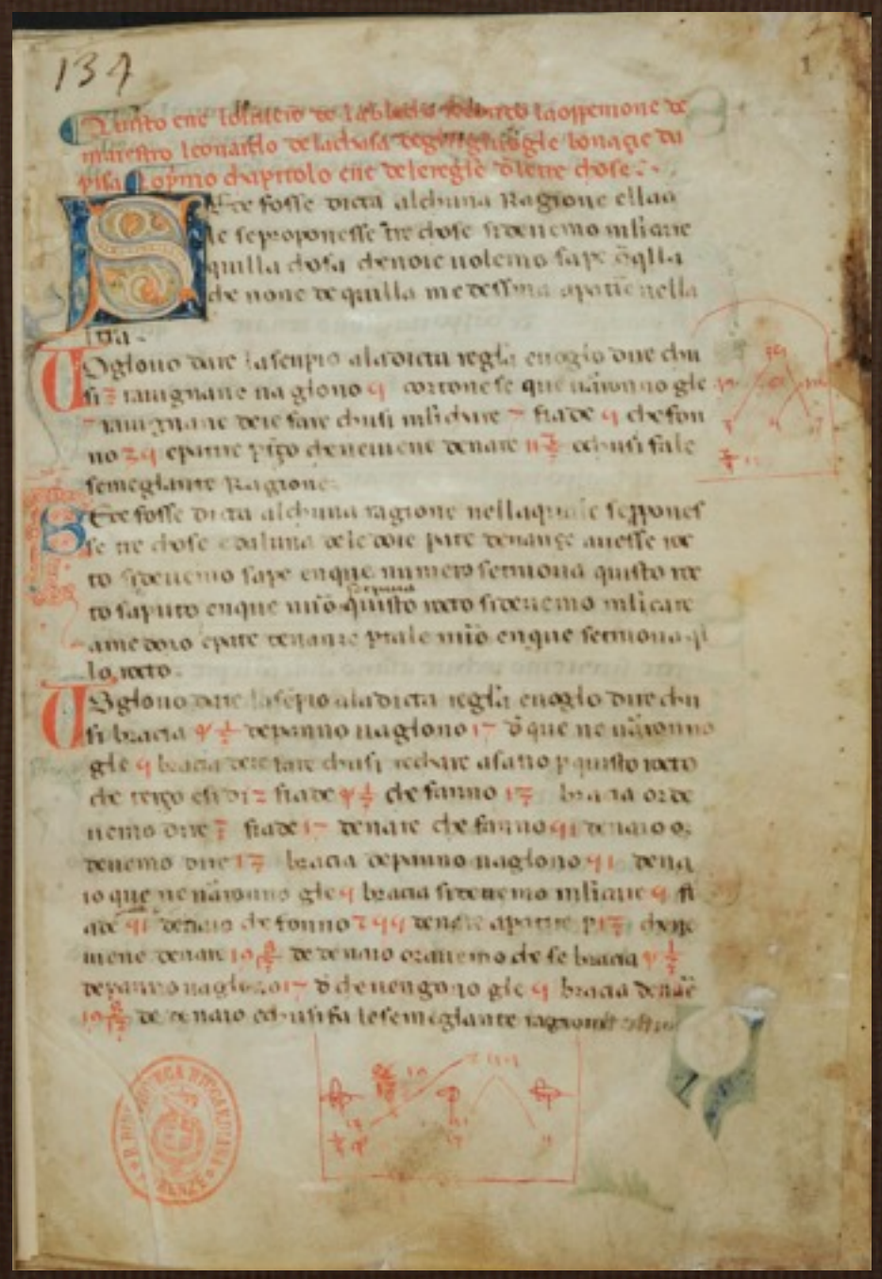
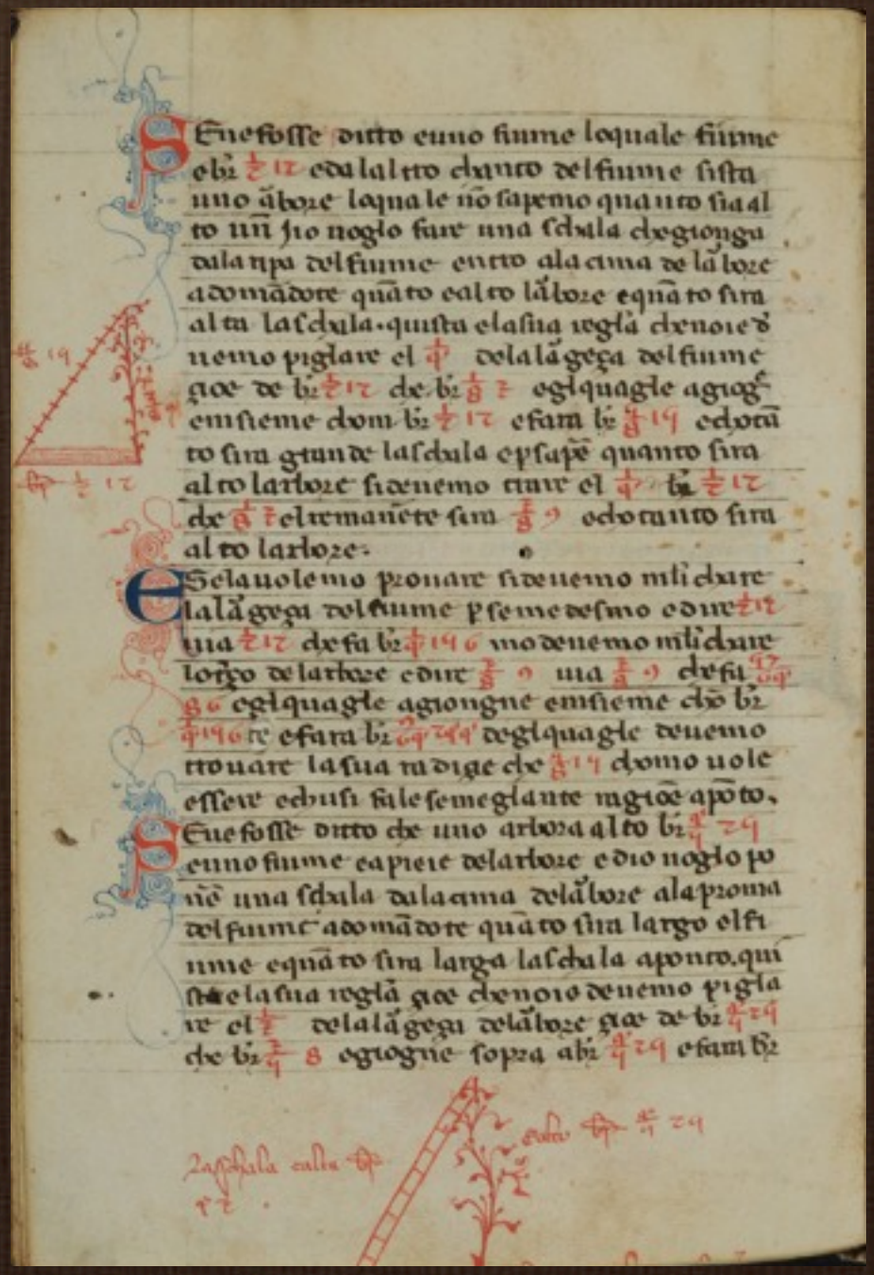
Prof Rafaella Franci

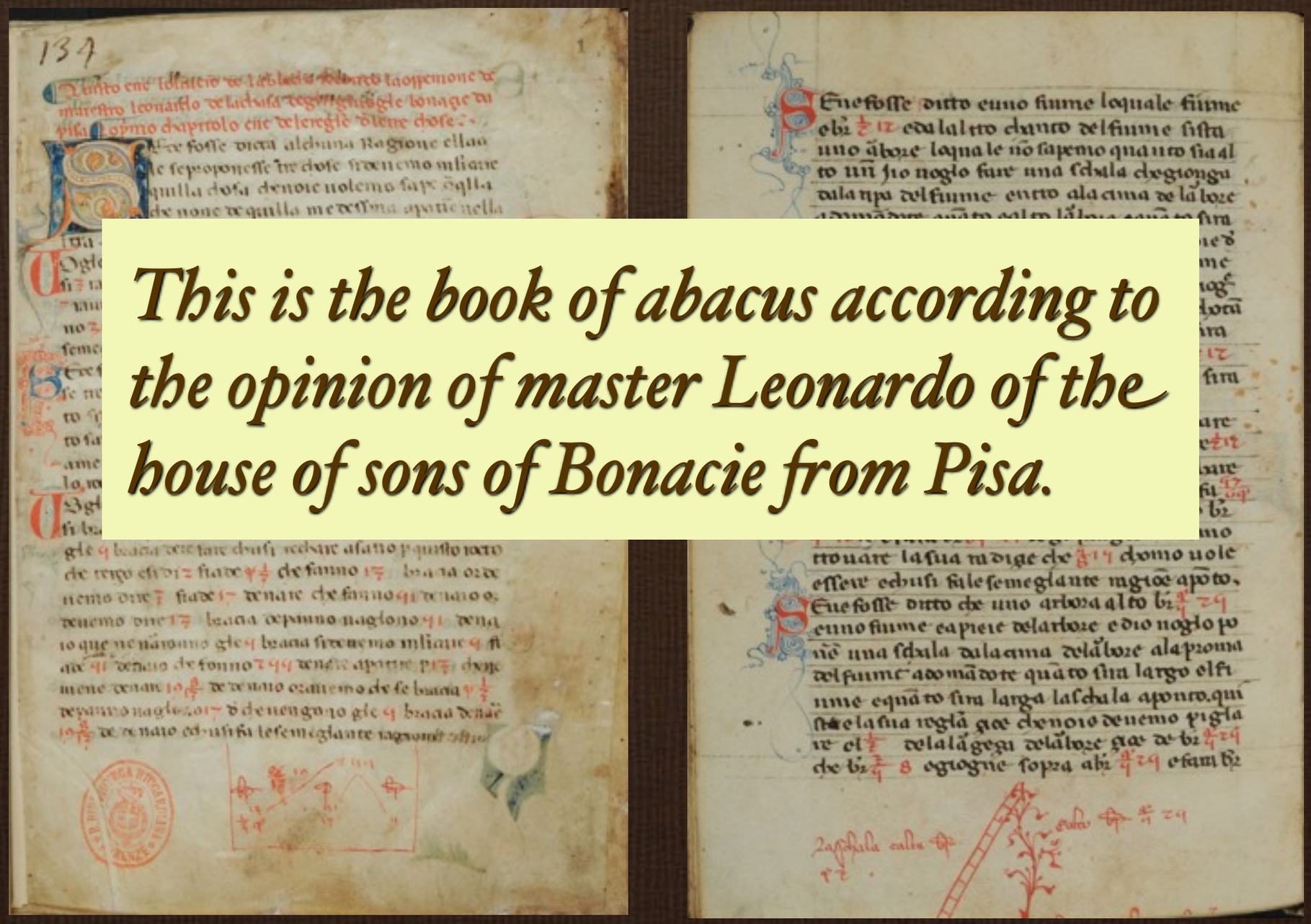
The Missing Link





Codex 2404, Umbrian author, ca 1290

The Missing Link

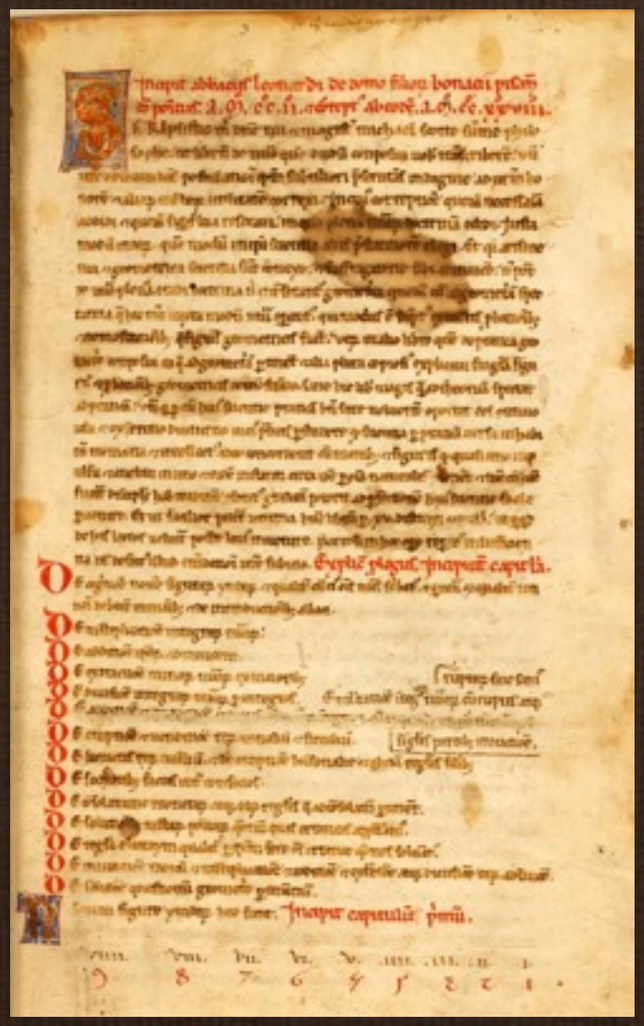


This is the book of abacus according to the opinion of master Leonardo of the house of sons of Bonacie from Pisa.

Codex 2404, Umbrian author, ca 1290

Leonardo's lost "Book for merchants"

Leonardo's lost "Book for merchants"

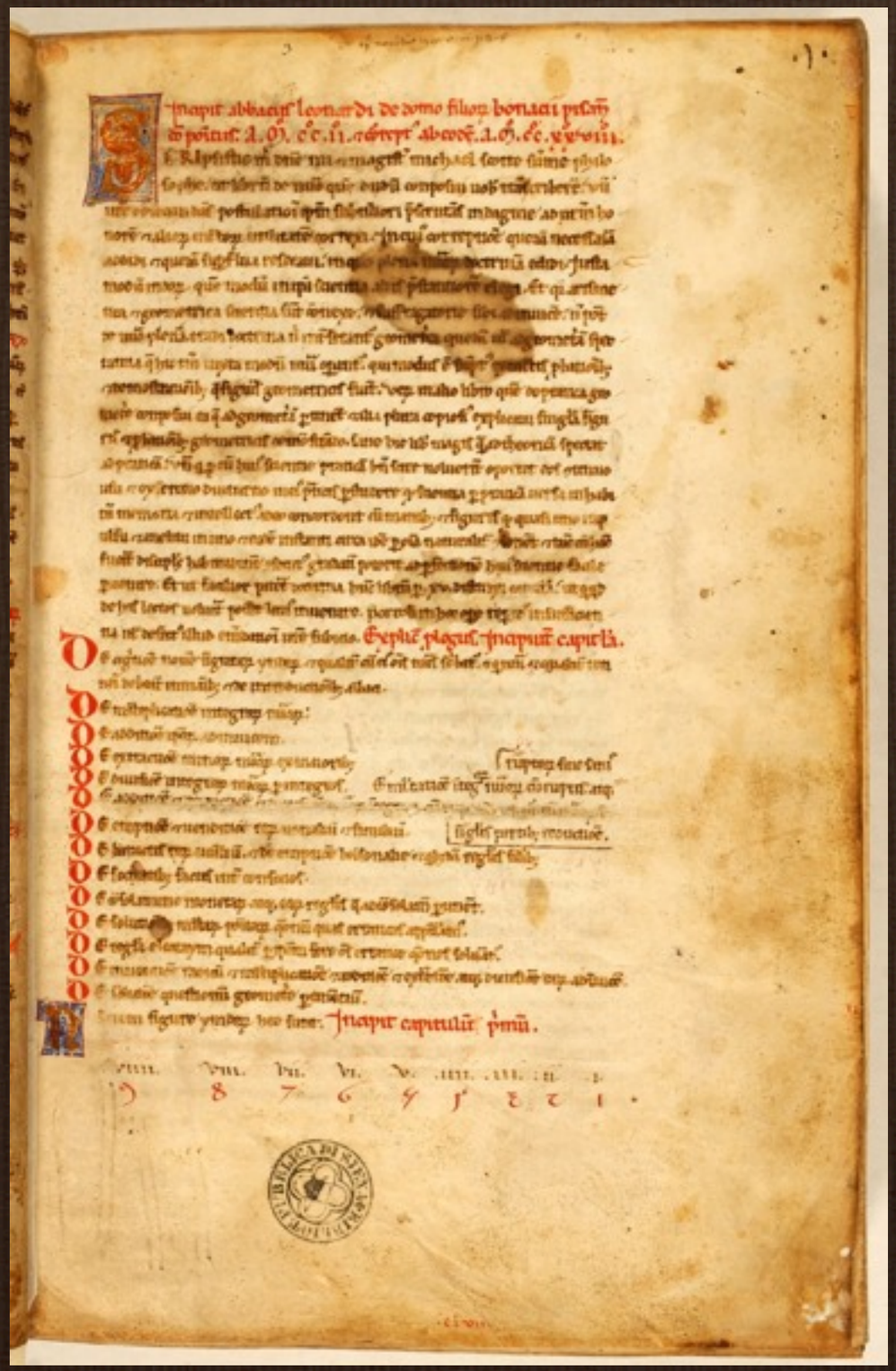


Leonardo's lost "Book for merchants"

Leonardo's lost "Book for merchants"

Leonardo's lost "Book for merchants"

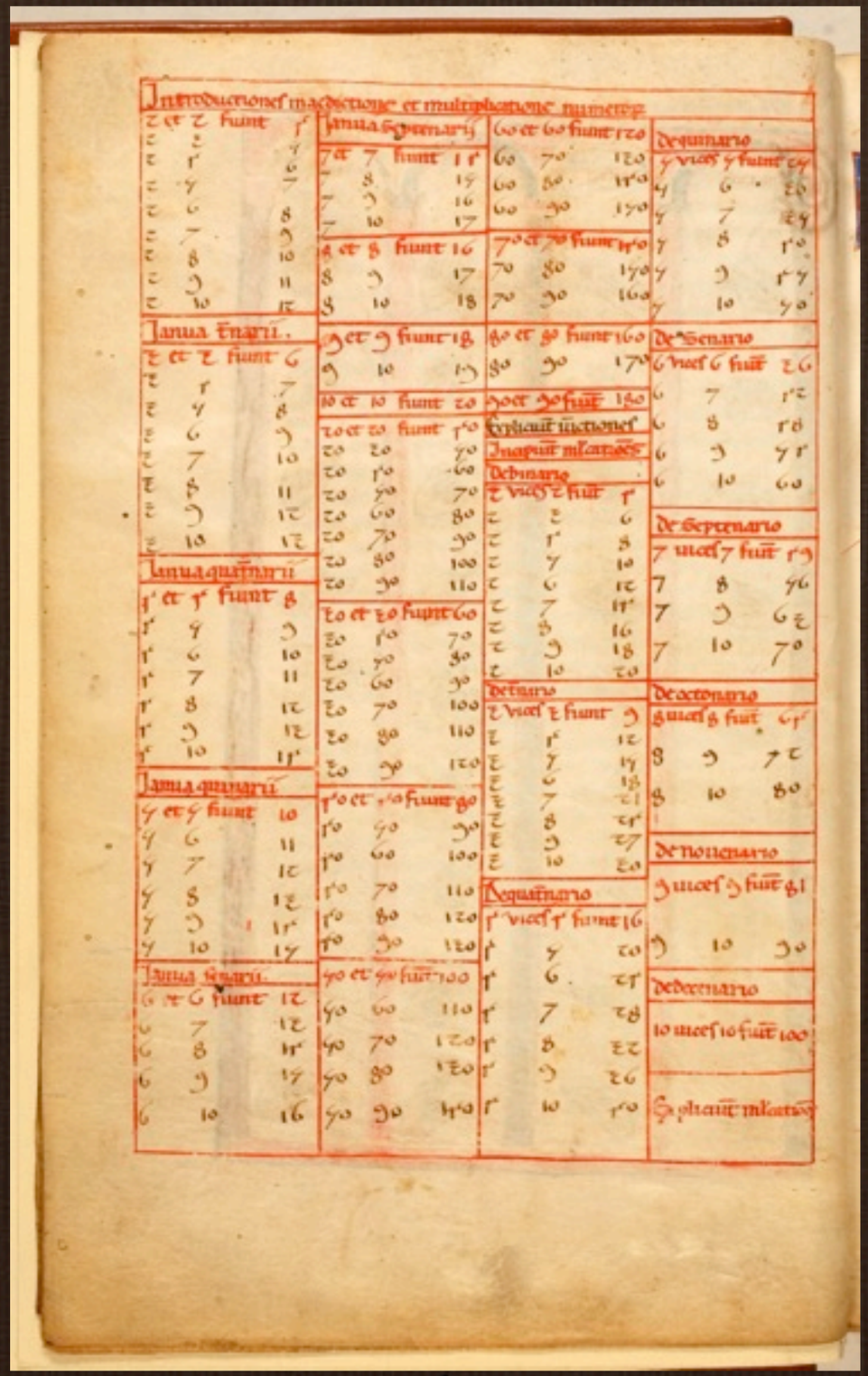
The Siena Manuscript



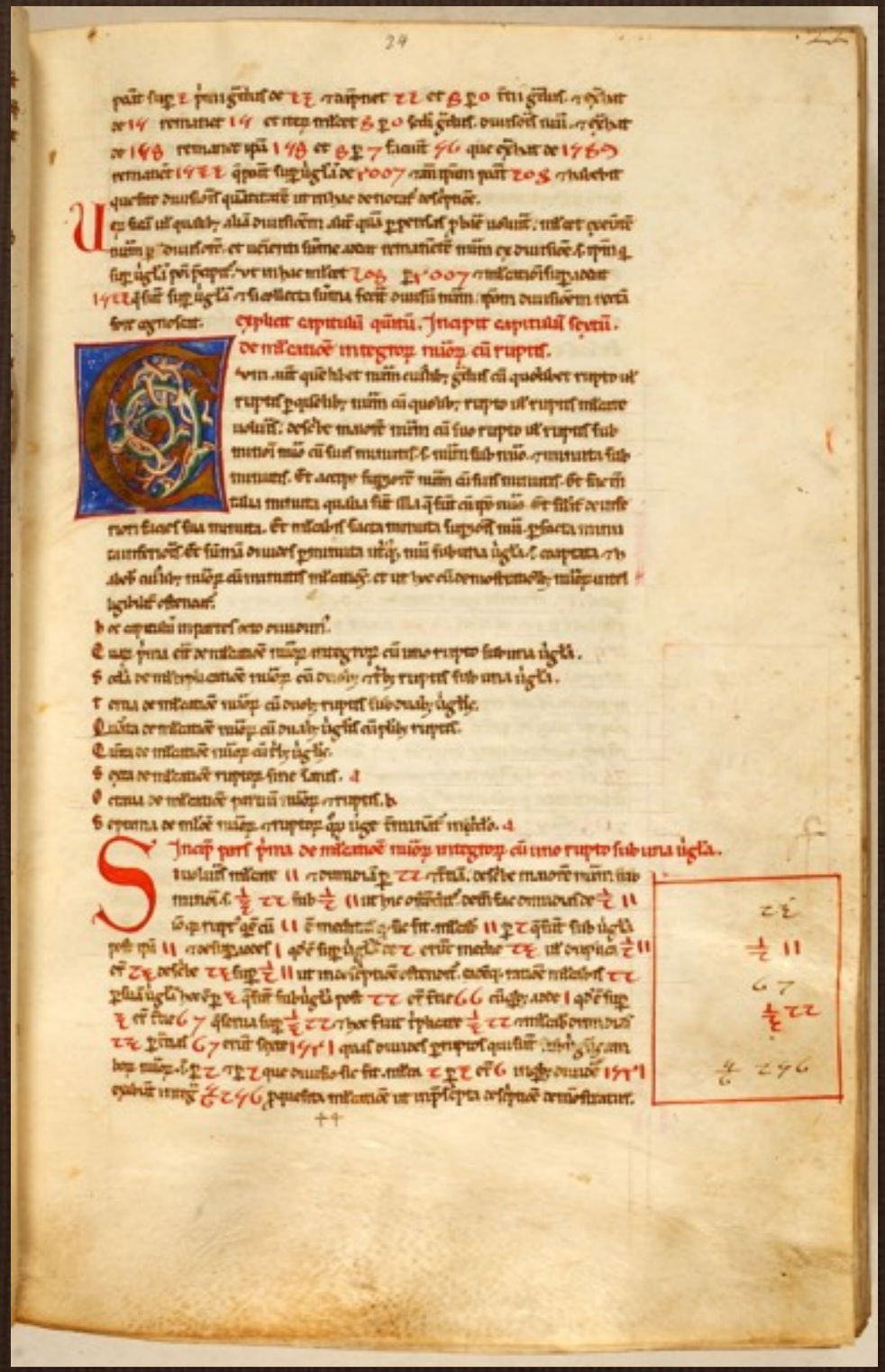
3a

5a

The Siena Manuscript

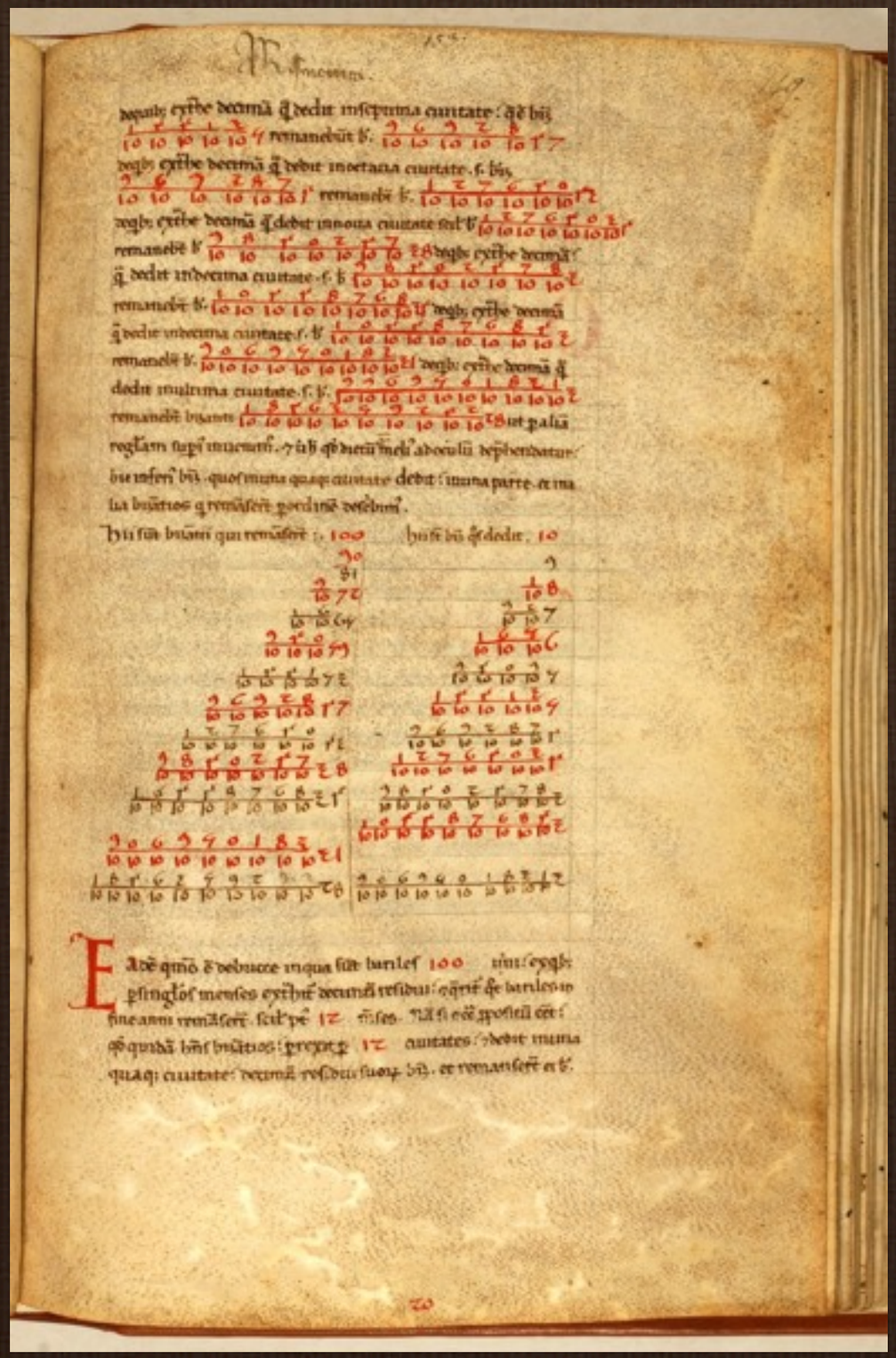


5b

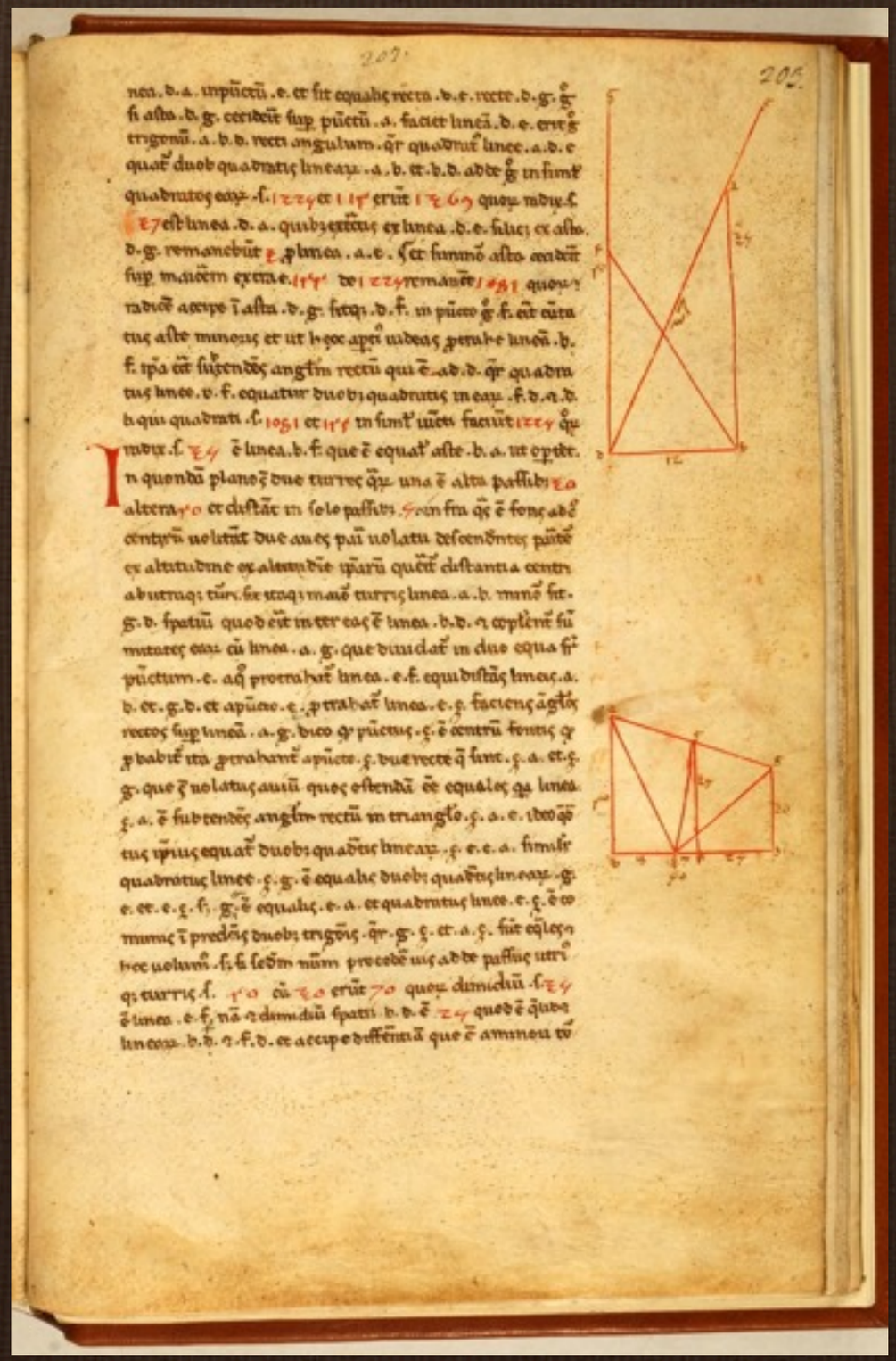


24a

The Siena Manuscript

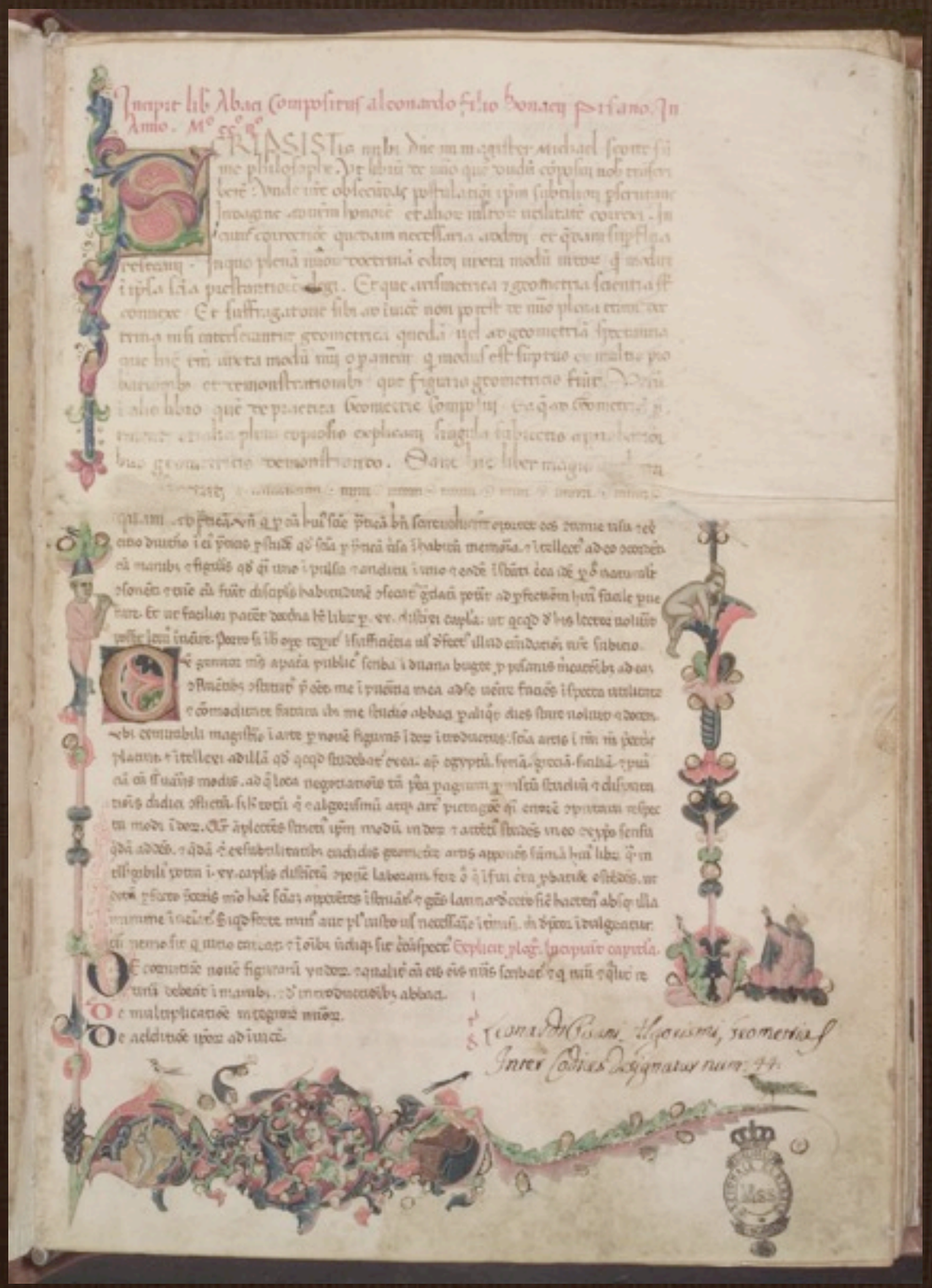


153a

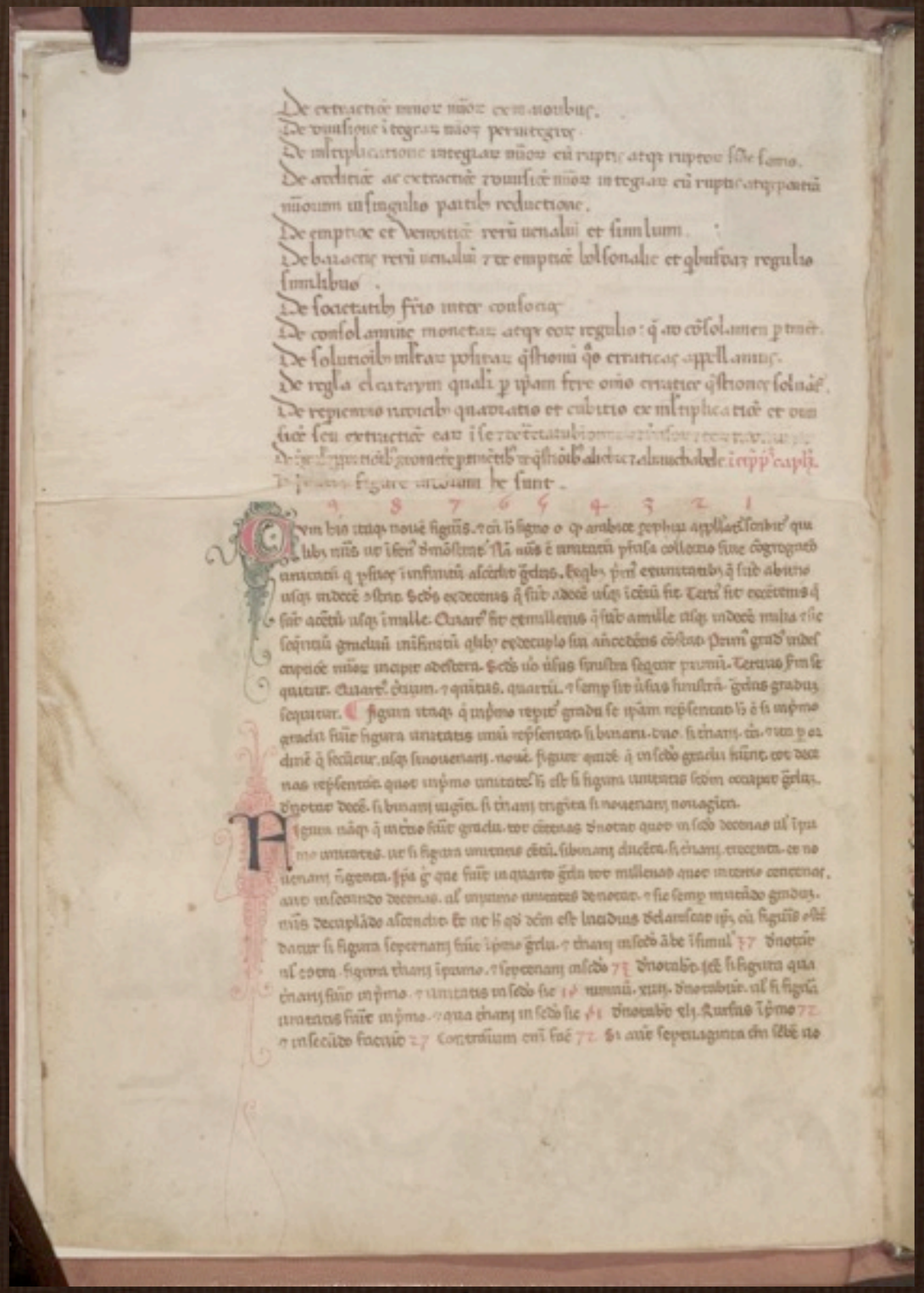


207a

The Florence Manuscript

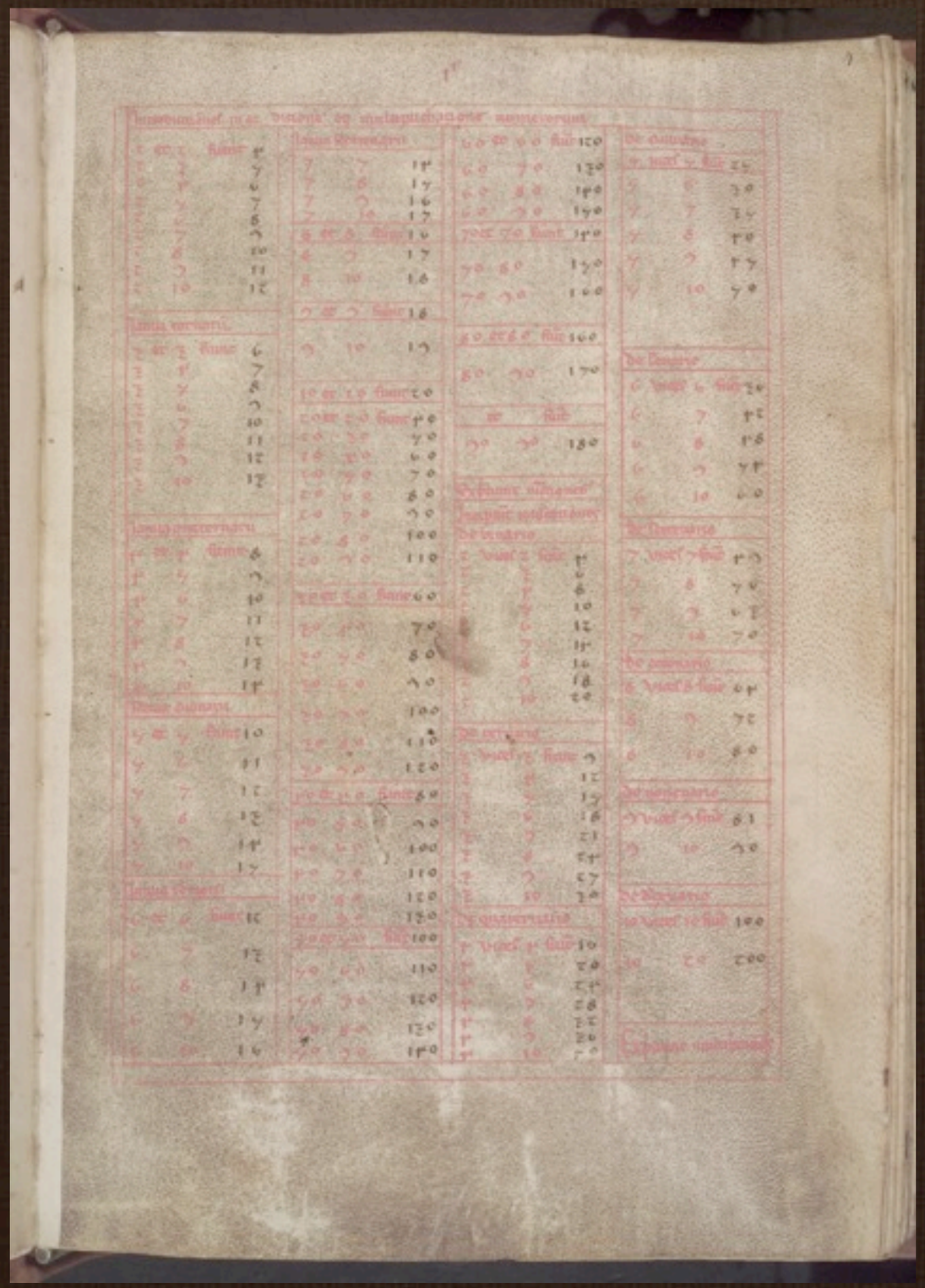


1a

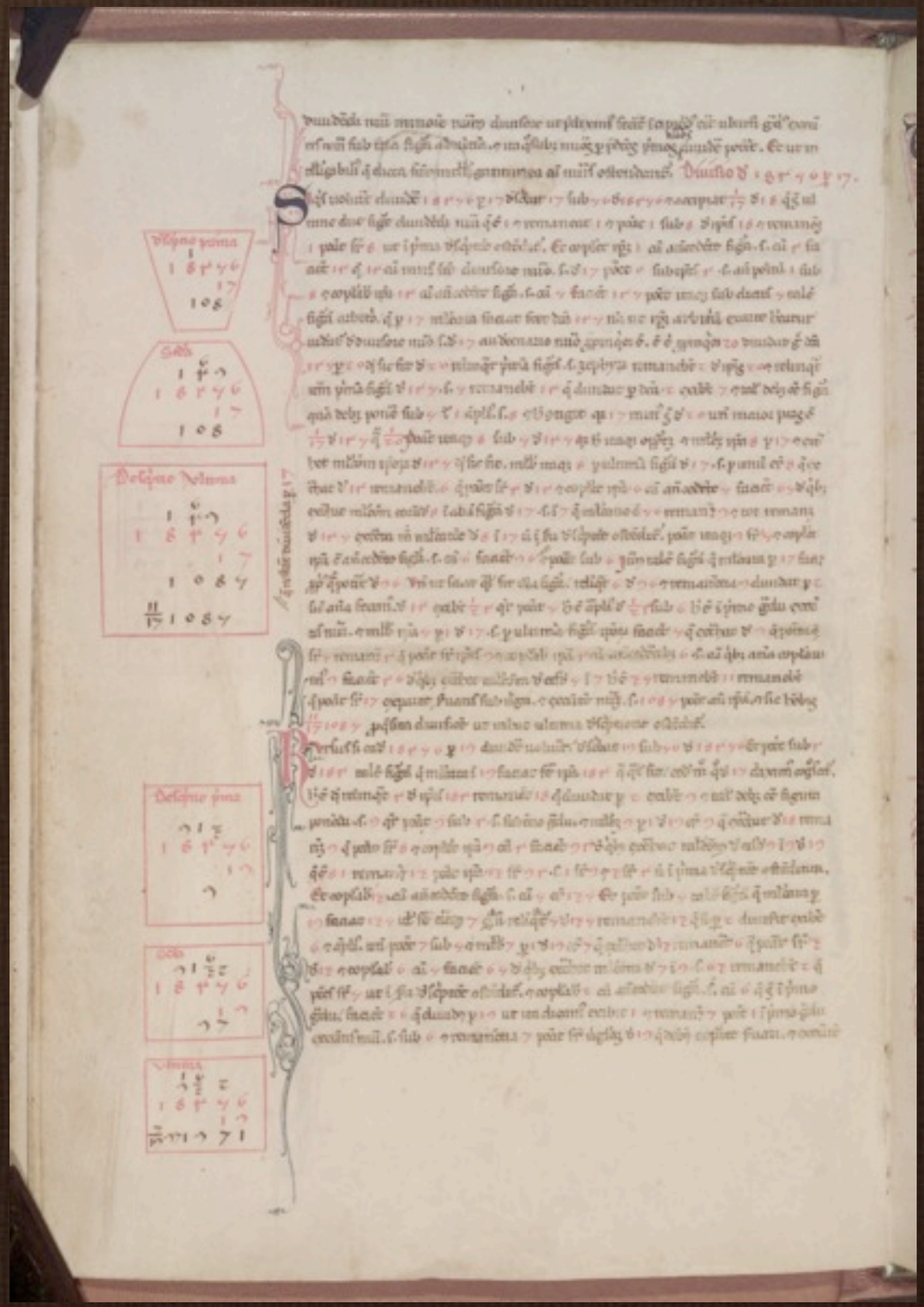


1b

The Florence Manuscript

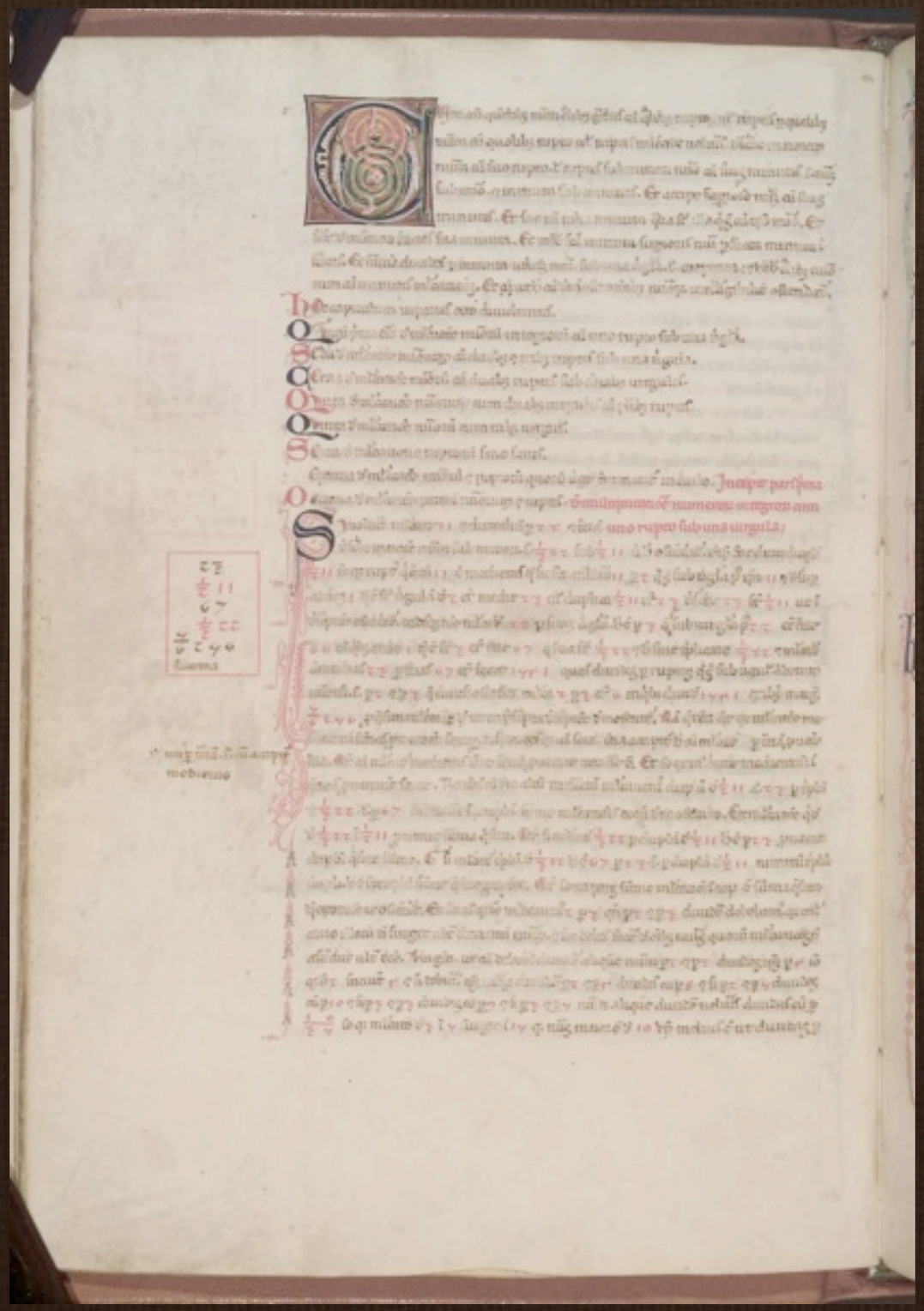


4a



14b

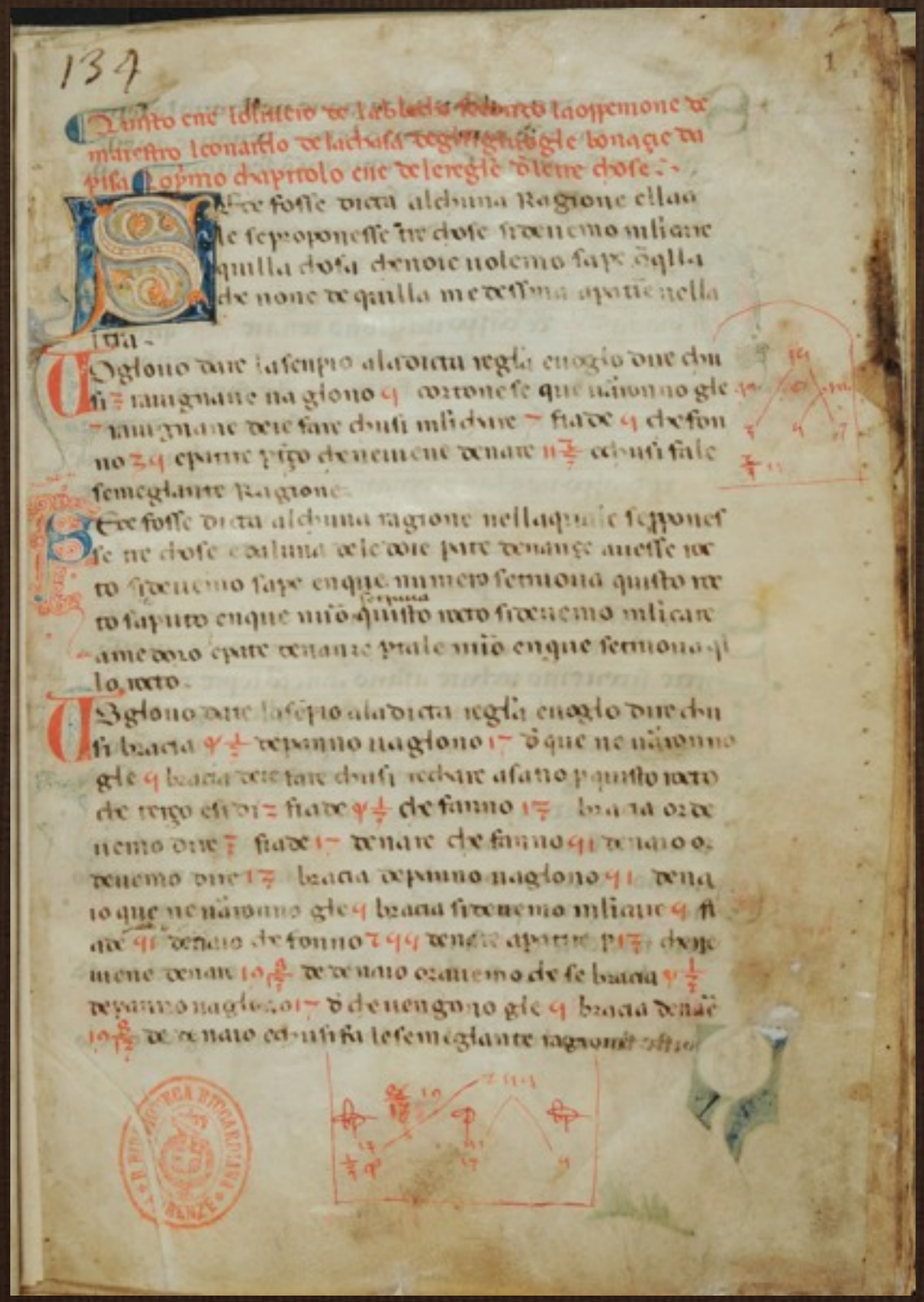
The Florence Manuscript



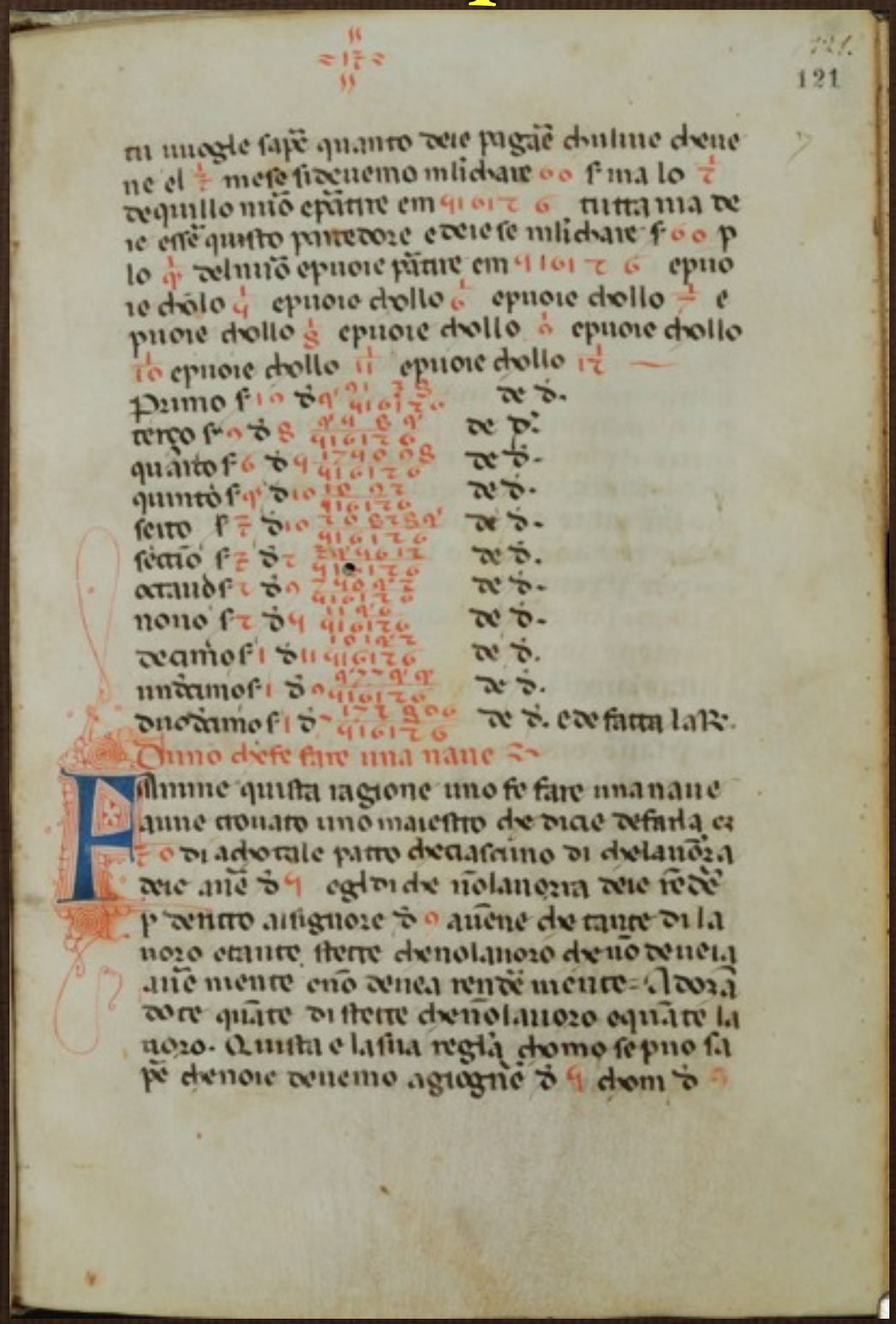
20a

27b

The Riccardiana Manuscript

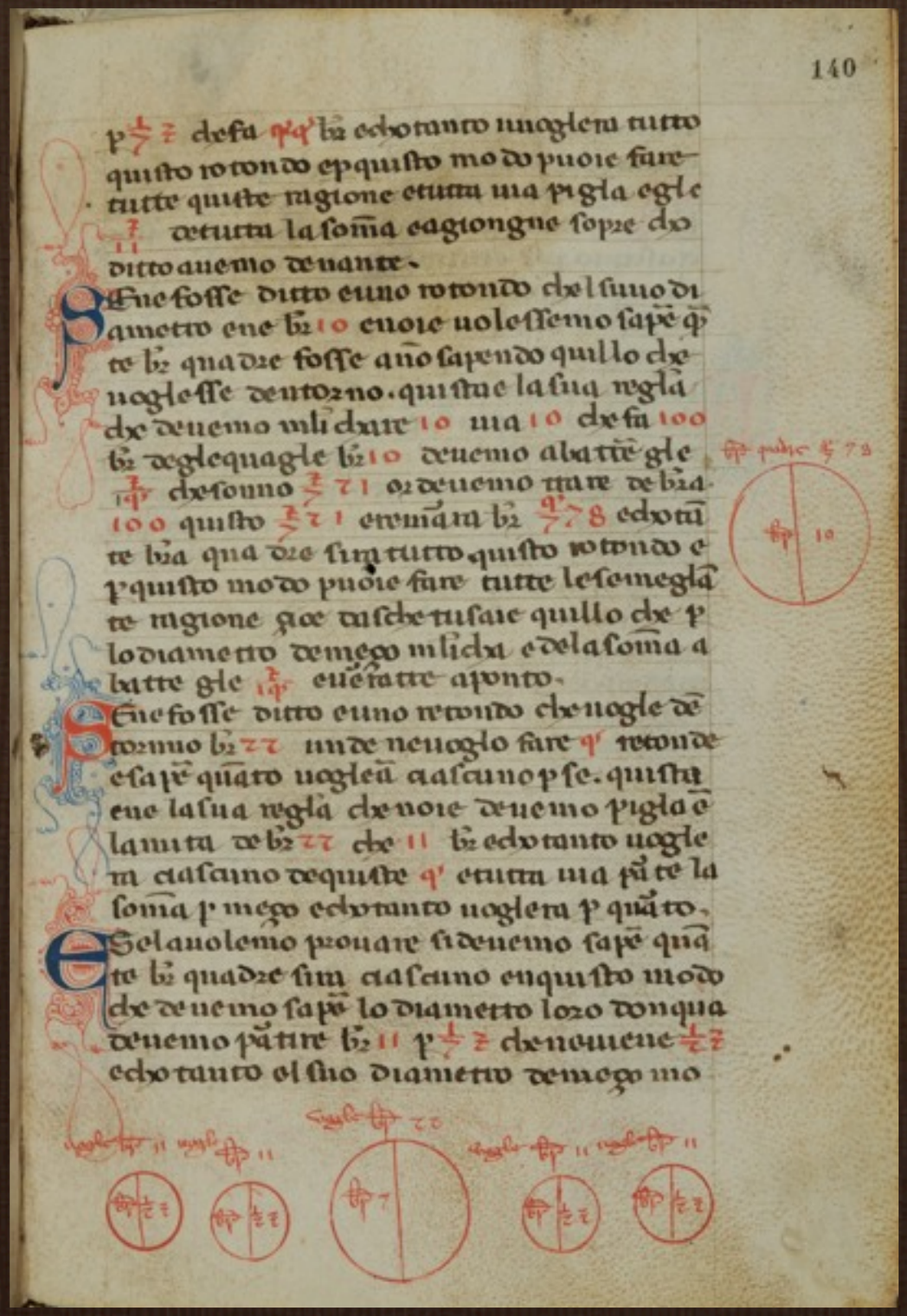


001r



121r

The Riccardiana Manuscript

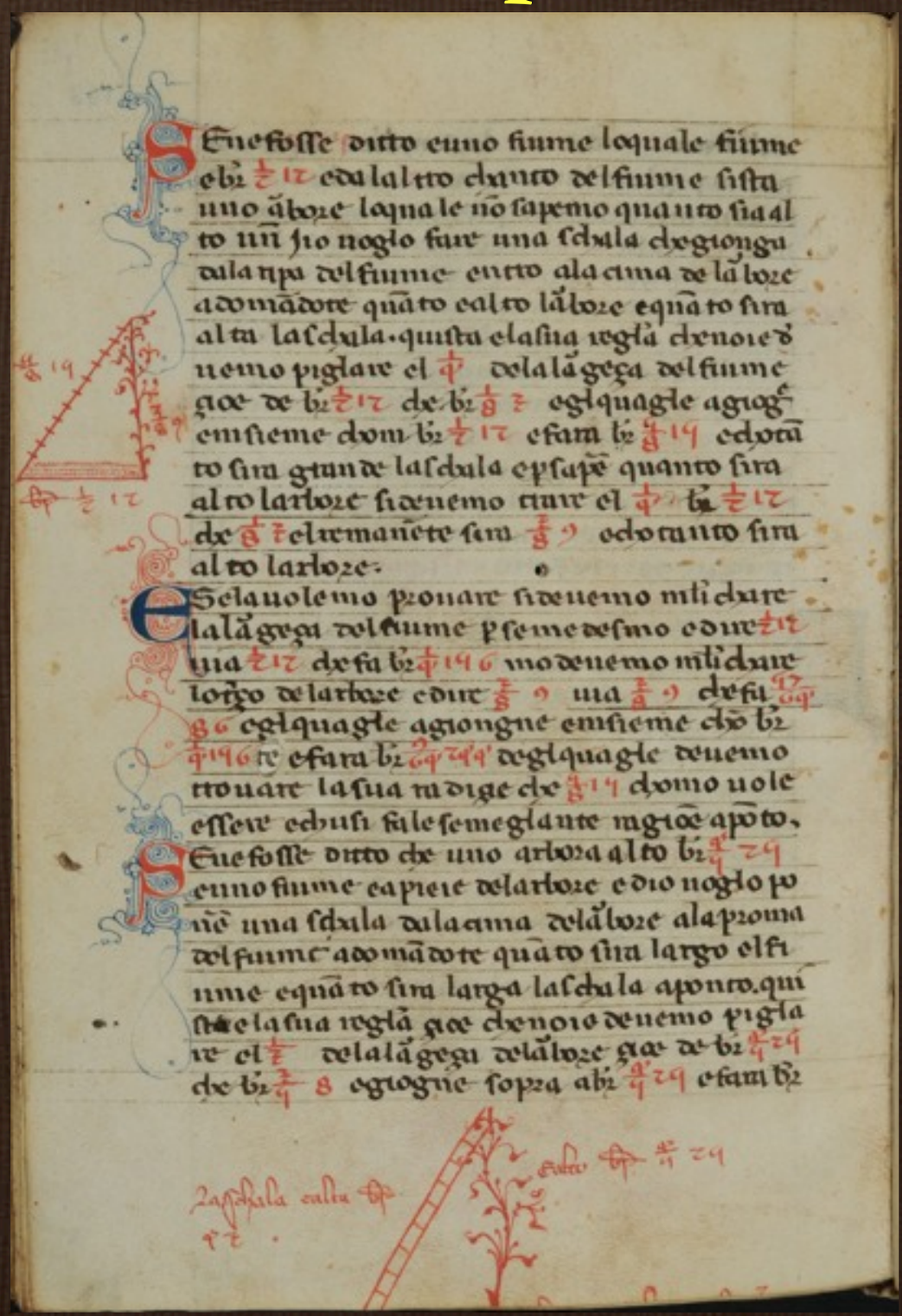


p 1/7 z defa q4 b2 echotanto nuogleru tutto
quisto rotondo epquisto modo puoie fare
tutte quiste ragione etutta uia pigla egle
1/11 detutta lasoma eagiongne sopze dxo
ditto auemo denante.

Seuefosse ditto euno rotondo dxel suno di
ametro ene b2 10 euoie uolessemo sapē q
te b2 quadze fosse ano sapendo quillo dxe
nogliesse deutorno. quistae lasua regla
dxe deuemo mli dxare 10 uia 10 defa 100
b2 deglequagle b2 10 deuemo abatrē gle
1/14 dxesouno 7/7 z1 oz deuemo tuare de b2a
100 quisto 7/7 z1 etremāa b2 9/7 8 echotā
te b2a quadze sia tutto quisto rotondo e
p quisto modo puoie fare tutte lesemegla
te ragione gioe taschetusare quillo dxe p
lodiametro demego mlidxa edelasoma a
batte gle 1/14 euerate apunto.

Seuefosse ditto euno rotondo dxe nogle de
torno b2 22 unde neuoglo fare q' rotonde
esapē quato uogleā aasauno pse. quista
eue lasua regla dxe noie deuemo pigla e
lamita de b2 22 dxe 11 b2 echotanto uogle
m aasauno dequiste q' etutta una pte la
soma p mego echotanto nogleru p quato.

Selauolemo prouare sideuemo sapē quā
te b2 quadze sia aasauno enquisto modo
dxe deuemo sapē lo diametro loro donqua
deuemo pātire b2 11 p 1/7 z dxenenene 1/2 z
echotanto el suo diametro demego mo

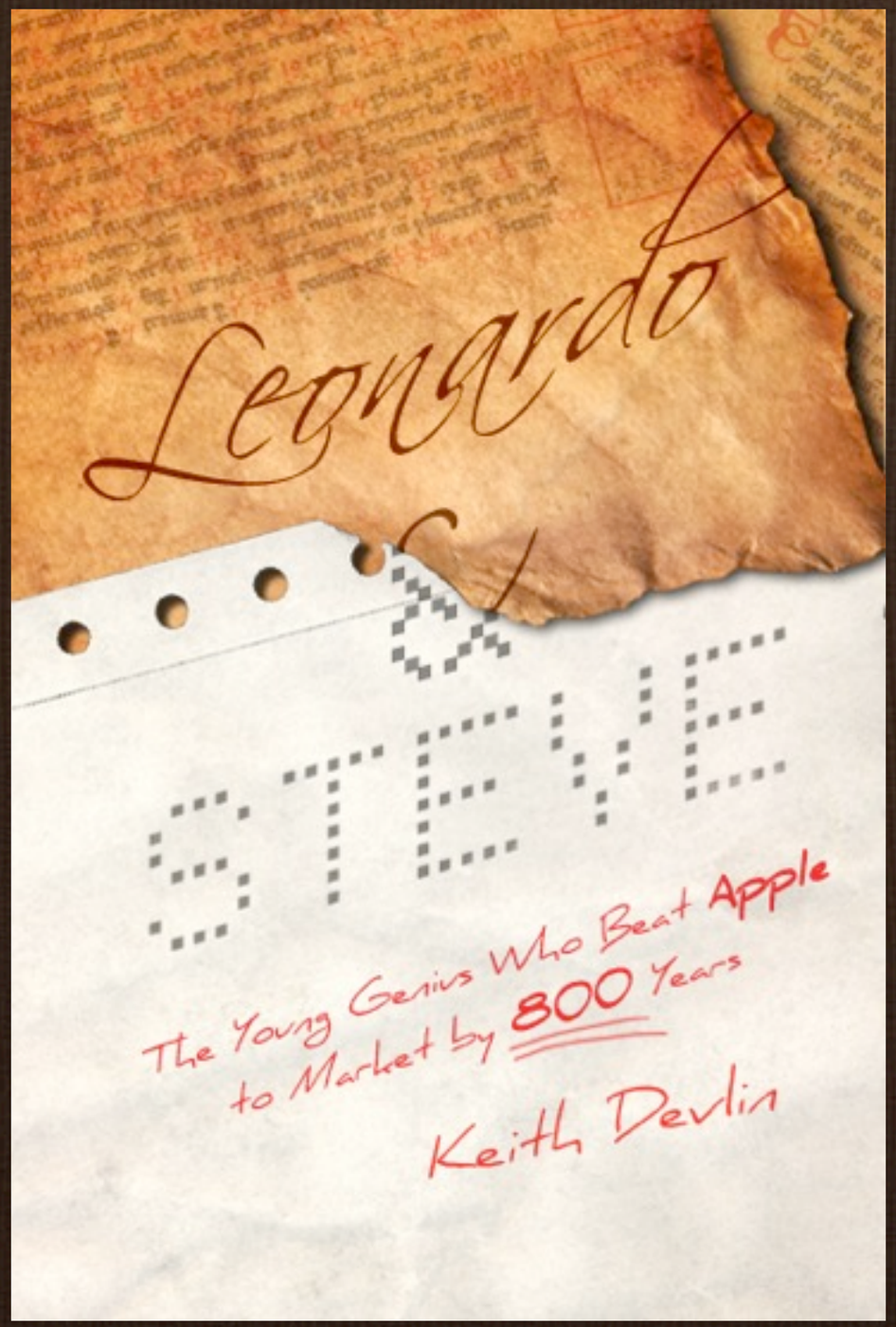


Seuefosse ditto euno fiume loquale fiume
eb2 1/2 12 edalaltro dxanto delfiume sista
uno ābore laquale nō sapemo quanto sia al
to nīn sio nogio fare una scala dxegiongu
dala rpa delfiume entro ala cima de lā bore
adommādare quāto eal tro lābore equāto sia
alta lascala. quista elasua regla dxenoie d
uemo piglare el 1/4 delalāgeça delfiume
gioe de b2 1/2 12 de b2 1/8 z eglquagle agiogē
emsieme dom b2 1/2 12 efam b2 1/8 14 echotā
to sia grande lascala epsapē quanto sira
alto larbore. sideuemo tuare el 1/4 b2 1/2 12
de 1/8 z elremanēte sia 1/8 9 echotanto sira
alto larbore.

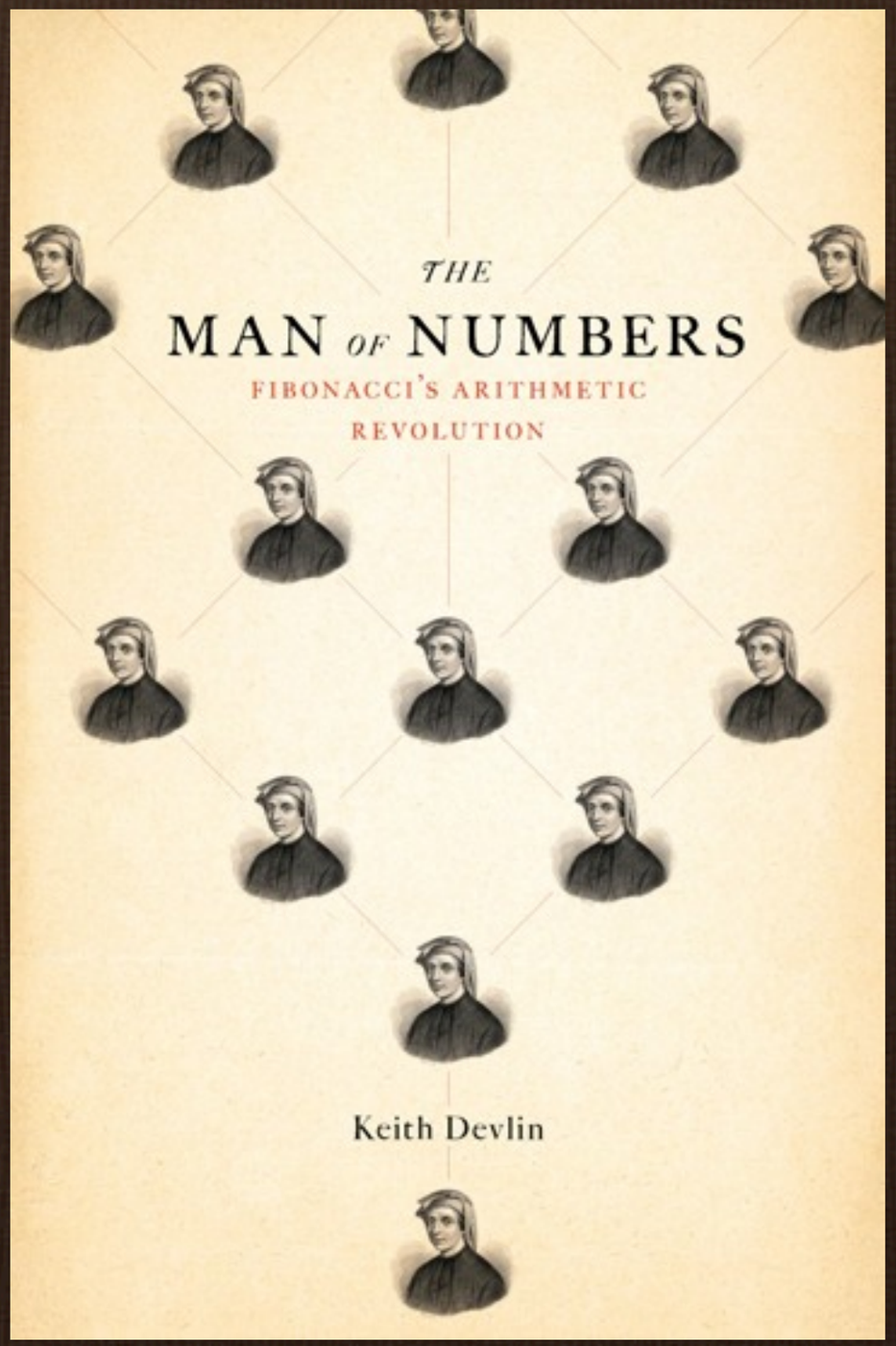
Selauolemo prouare sideuemo mli dxare
lalāgeça delfiume pseme desmo edxe 1/2 12
uia 1/2 12 defa b2 1/4 146 modeuemo mli dxare
lotxo delarbore edxe 1/8 9 una 1/8 9 defa 17/64
86 eglquagle agiongne emsieme dxo b2
1/4 146 te efara b2 64/4 749 deglquagle deuemo
trouare lasua radige de 1/8 14 dxomo uole
essere echusi fa le semeglante ragioe apunto.

Seuefosse ditto dxe uno arbora alto b2 4/4 24
euno fiume eapiede delarbore edio nogio po
nē una scala dala cima delābore ala proma
delfiume adommādare quāto sia largo elfi
ume equāto sia larga lascala apunto. qui
sta elasua regla gioe dxenoio deuemo pigla
re el 1/2 delalāgeça delābore gioe de b2 4/4 24
dxe b2 1/4 8 egiogne sopza ab2 4/4 24 efam b2

My Leonardo books



e-book original



New York: Walker & Co.

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Apple

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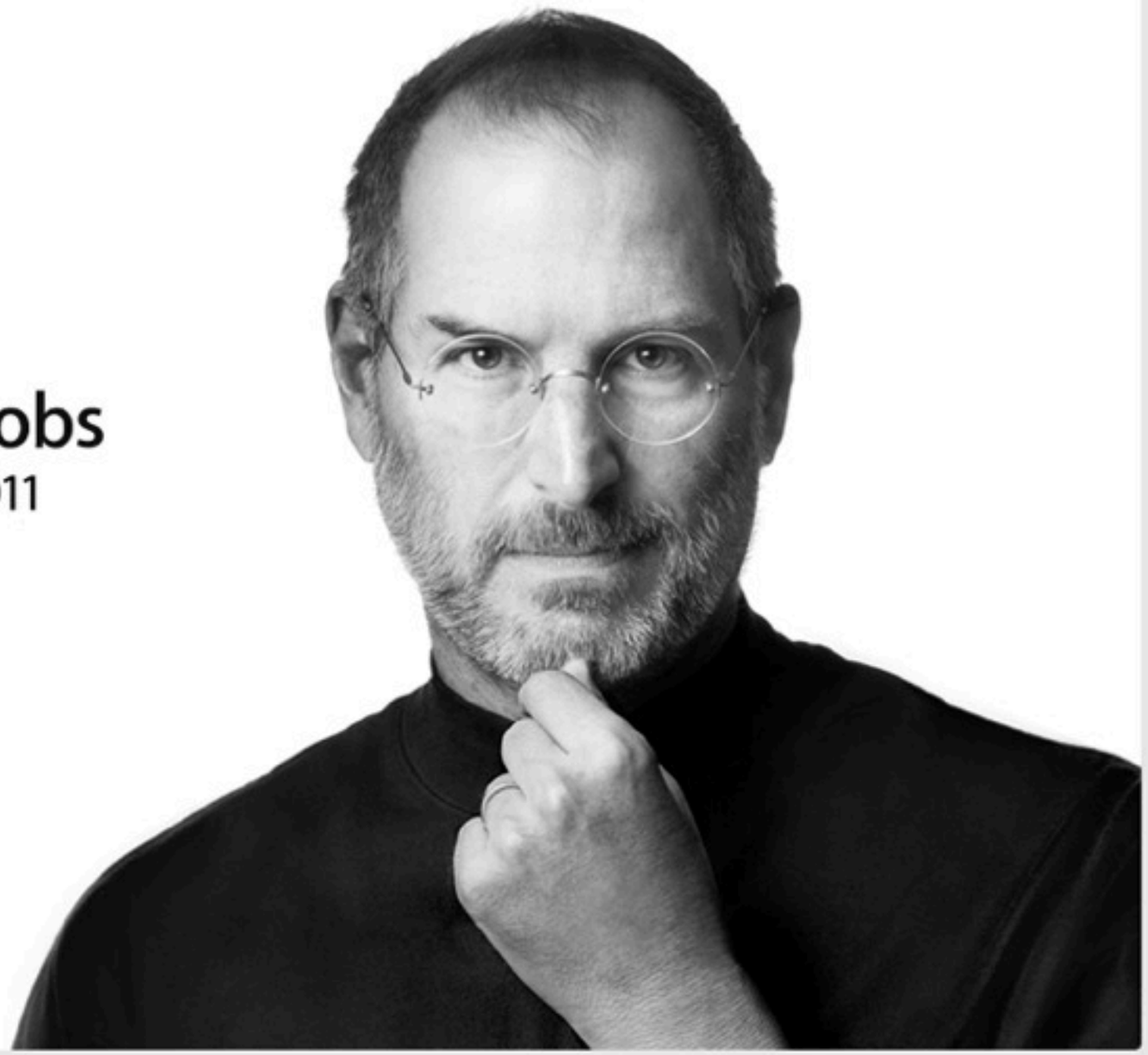

Steve Jobs

1955-2011