A Trojan horse across the Channel

On the circulation of Vincenzio Viviani's *divinatio* through his correspondence with Robert Southwell

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Introduction: Galileo's last disciple

1. Viviani's *divinatio* of Apollonius

2. Southwell as a Trojan horse

Conclusion: mapping Viviani's correspondance

Vincentij Viuiani

In Elementa Conica Apollonij Pergæi

Notæ, Animadversiones, quædam Marginales

Prop. I. 4. V.

per punctum B transit BE cum sit ℓ hypothesim in conica superficie, atq; exeunt in maiorem lineam rectam ijdem ~~de~~ terminos ℓ

Prop. II. V. 9

quare et intra conicam superficiem tam ~~extra~~ circulus hr totus intra ejusdem ℓ

Prop. III. Aliter ~~et~~ alibi.

Si cuius plani, et rectam secetur, recto triangulum erit.

Si cuius cuiusvis vertex A, basis autem circulus BC: et ℓ A secetur plano aliquo, quod sectiones faciat in superficie lineas AB AC; et in ea lineam BC. Dico hos lineas duas rectas rectum ABC triangulum esse. Quoniam enim punctum B communis sectio ℓ circuli secantis, cum ~~triangulo~~ basi BC, et ℓ plano secante, et in superficie conica cum vertice A (cuiusmodi ~~linea~~ BA ~~recta~~ est in secante ℓ plano (cum ipsius extrema puncta sint in eodem plano) et tota in superficie conica (per diametrum) ~~est~~ ipsius in communi sectione, ergo AB communis sectio secantis plani, et basis cum superficie conica, et recta linea. Eadem ratione et linea AC; et autem et BC recta, quare ABC est triangulum. Si igitur cuius plani secetur ℓ secatur, rectum triangulum erit.

Prop. IV. V. 8. V. 18.

Dico DE circulum esse] Dico planum à linea DHE rectilineum aream esse. ℓ

est linea DE, est planum DE, ℓ

Prop. V

Sectio ne sit trapezium quæ sit.

Prop. VI. V. 9. V. 17

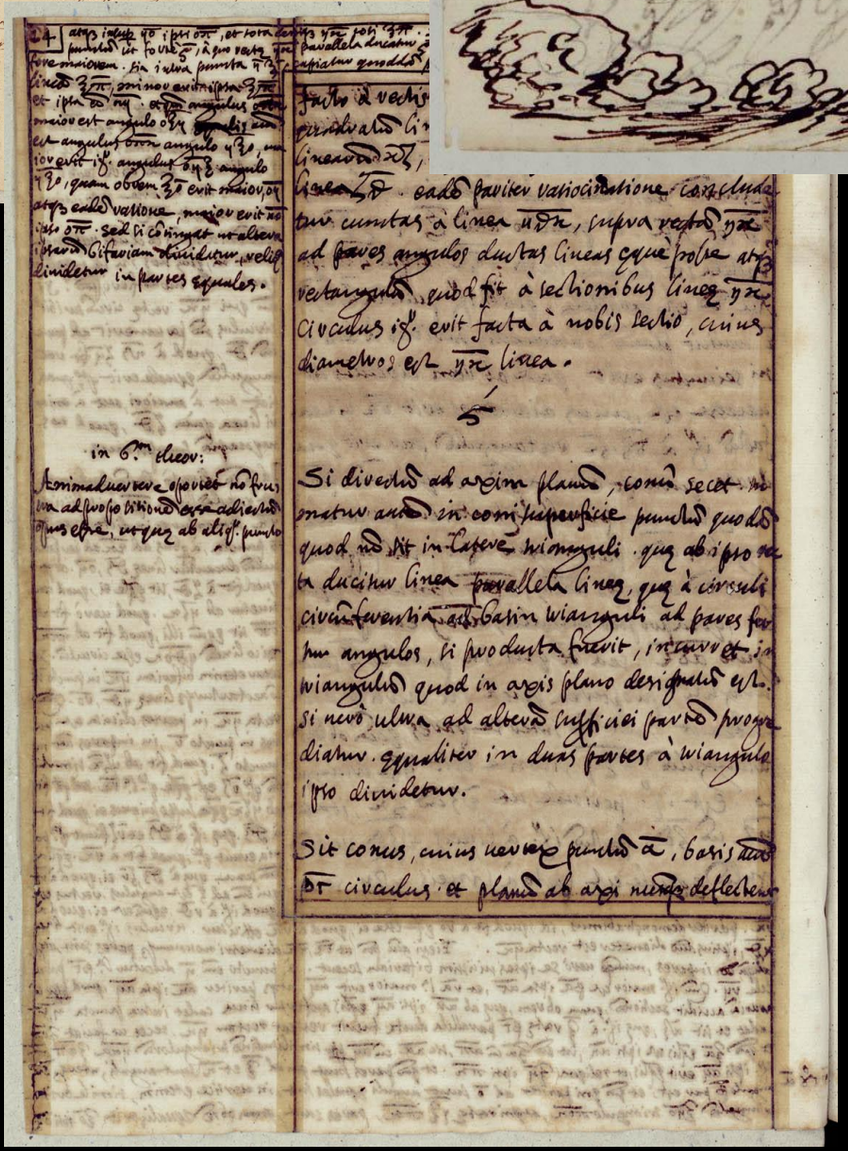
quod datam rectam cuiusvis rectæ lineæ data sit proportionalis, et quod datæ cuiusvis à quovis puncto in plano circulo sumpto, ad triangulum rectum B

V. 9.

in BC curvilineum

V. 17

quæ autem et circ



24 anguli ad O, qui in circ. et tota basis parallela diametro

Fiat ℓ recta

parallela diametro

capiatur quadrata

Fiat ℓ recta

circulus ℓ

linea ZD, minor existente ipsa ZH, et ipse OD ~~ad~~ angulus

et ipse OD ad angulus

maior est angulo OZH angulus

ergo et angulus OZH angulo

YZO, quam OZH ZH est maior, ergo

angulo adhuc ratione, maior erit ZO

ipso OT. sed si continuat ut alterum

latus OZ bifariam dividatur, vel ipse

dividetur in partes æquales.

linea ZD. eadem pariter ratiocinatione concludetur cuncta à linea VDX, cuiusvis recti ad

ad partes angulos ductas lineas equè posse ac

rectangulum, quod fit à sectionibus linea YX

circulus ipse erit facta à nobis sectio, cuius diameter est YX linea.

5

in 6m circu:

Animadvertere oportet ne forsan ad suos ritus ordinandos adhibendus ipsius ellipsis, vel quæ ab alijs punctis

Si diversis ad axem planis, conus secetur, et in conis superficie punctis quotquot non sit in latere triangulo. quæ ab ipsis ad basim ducitur linea parallela linea quæ à circuli circumferentia ad basim triangulo ad partes ipsum angulos, si productæ fuerit, in curvo et in triangulo quod in axis plano designatus est. si verò ulteriùs ad alterum superficiei partes producatur. æqualiter in duas partes à triangulo ipso dividetur.

Sit conus, cuius vertex punctum A, basis autem circulus et planum ab axi minus deflectens

De Max. & Min. Lib. I. 127

quarta, & in ipsis concipiatur quædam AC ad diametrum BF ordinatim ducta; oportet per eius terminos A, C, dato angulo, vel sectioni, *MAXIMAM* Ellipsim inscribere, cuius transuersa diameter æqualis sit datæ lineæ DE, quæ tamen, pro Ellipsi ABCO, quartæ figuræ, minor sit eius transuersa diametro BO.

Ducatur a ex A, sectionem ABC contingens quæ dia- KF, in ifariam d in Pa- um (ob æqualis et infra sumpta ametro OK ad ad OK, maior (or BK) B, cũ OK ad F bifa- G ca-

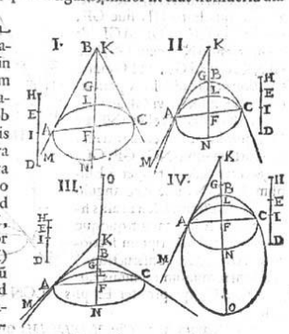
a 2. 4. h.

b 24. 25. pr. conic.

c 35. primi conic.

d 36. primi conic.

e ibidem.



d datam rectam DE applicetur parallelogrammum ccedens figura quadrata, idque sit rectangulum dia proportionali inter DH, HE, erit rectangulum F, æquale quadrato HI, ergo rectæ GF, HI æqua- tur GL æqualis HE, & erit reliqua LF æqualis re- adet omnino infra B, siue intra angulum, vel se- & Hyperbola cadat infra G, quod est intra angu- Parabola cadat infra G, quod est in ipsa sectione; n punctum L cadet infra B; quoniam cum sit OK F bifariam secta in G, per constructionem, ejus re- quadrato GF, (hic notatione dignum videtur, erificari etiam in Hyperbola, nempe rectangulum GF, vel GK) siue quadrato HI, siue rectangulo DE, quare GB erit z minor HE, siue minor GL, quoque intra Ellipsim ABCO. Sumatur præte- FN æqualis ID, erit ergo LN æqualis datæ ED lis EI) & punctum N in quarta figura cadet omni- quoniam cum sit rectangulum DHE, siue NGL, GF, & sit etiam rectangulum OGB æquale eidem demonstrauimus, erunt rectangula OGB, NGL inter se æqualia, & ideo, vt OG ad GN, ita LG ad GB, sed est LG maior GB, vt paulò ante ostendimus, quapropter, & OG erit maior GN, siue punctum N cadet intra Ellipsim ABCO.

f 79. h.

g 80. h.

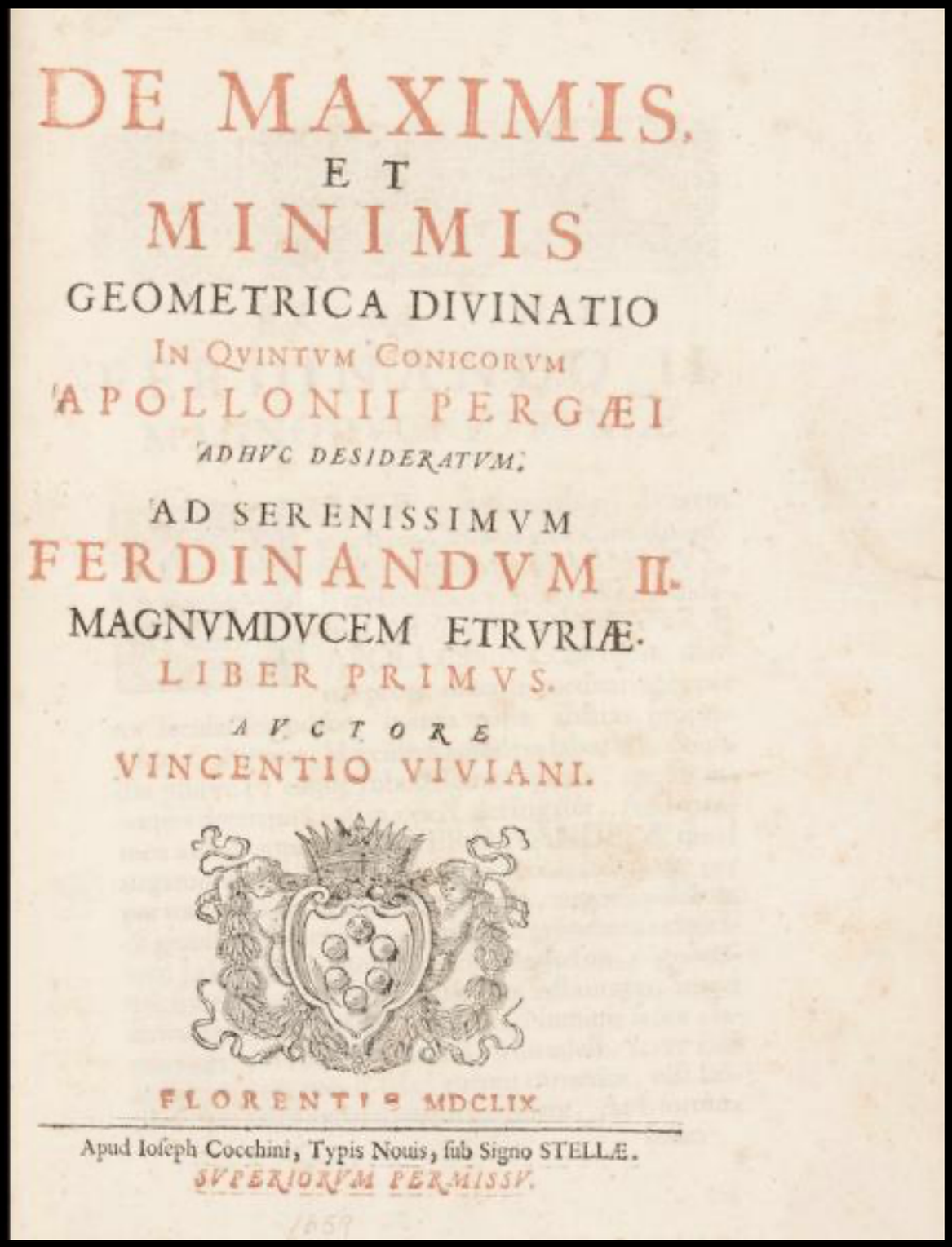
Tandem cum trãsuerso LN, quod æquatur datæ lineæ ED, circa applica- tam

et rectangulum OK ad OF aut KB ad BF, scilicet OK maior OF, aut KB maior BF atque est.

W. 3°. 181.

A dì 8 Luglio 1658 Peroxo vedùti da quel degnissimo nuovo Scolaro nove mirabili Inuentioni Geometriche di Vn trattato de Massimis et Minimis dello Fratello ie ne hò cauate Vere di Mano di Vincenzio Viuiani formate con il Suo stilo di Lapis Rosso e Nero

1. Viviani's *divinatio* of Apollonius



DE MAXIMIS
ET
MINIMIS
GEOMETRICA DIVINATIO
IN QVINTVM CONICORVM
APOLLONII PERGÆI
ADHVC DESIDERATVM;
AD SERENISSIMVM
FERDINANDVM II.
MAGNVMDVCEM ETRVRIÆ.
LIBER PRIMVS.
AVCTORE
VINCENTIO VIVIANI.

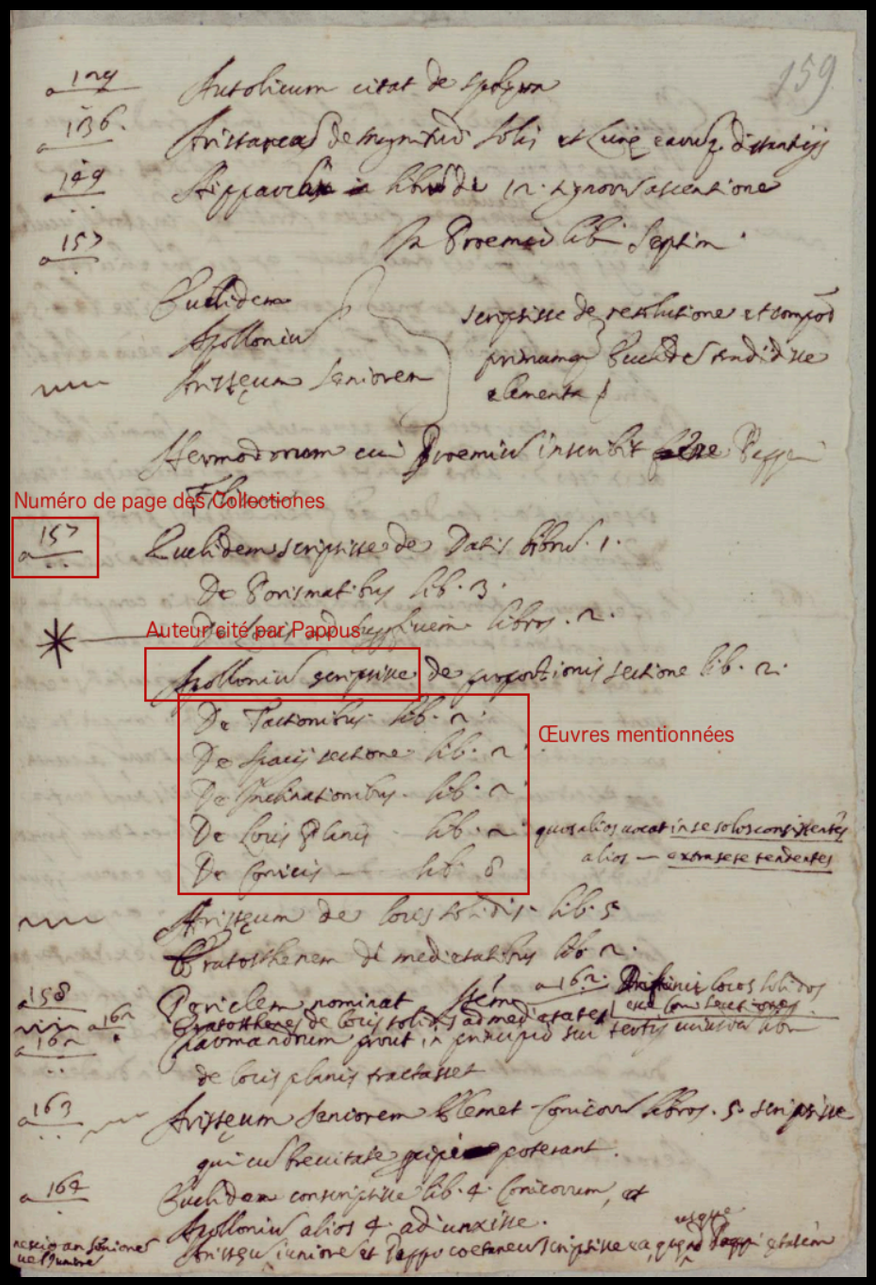
FLORENTIÆ MDCLIX.

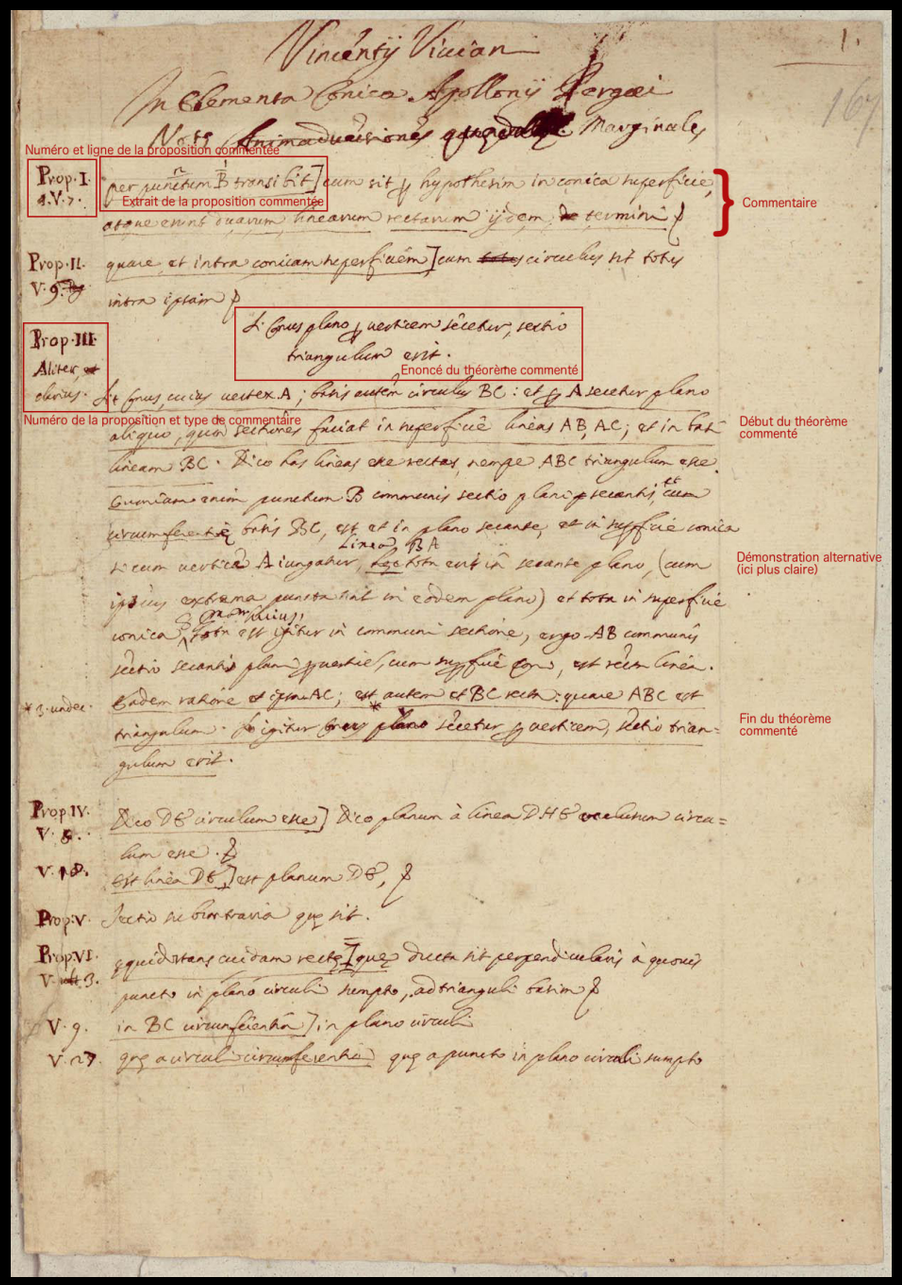
Apud Ioseph Cocchini, Typis Nouis, sub Signo STELLÆ.
SVPERIORVM PERMISSV.

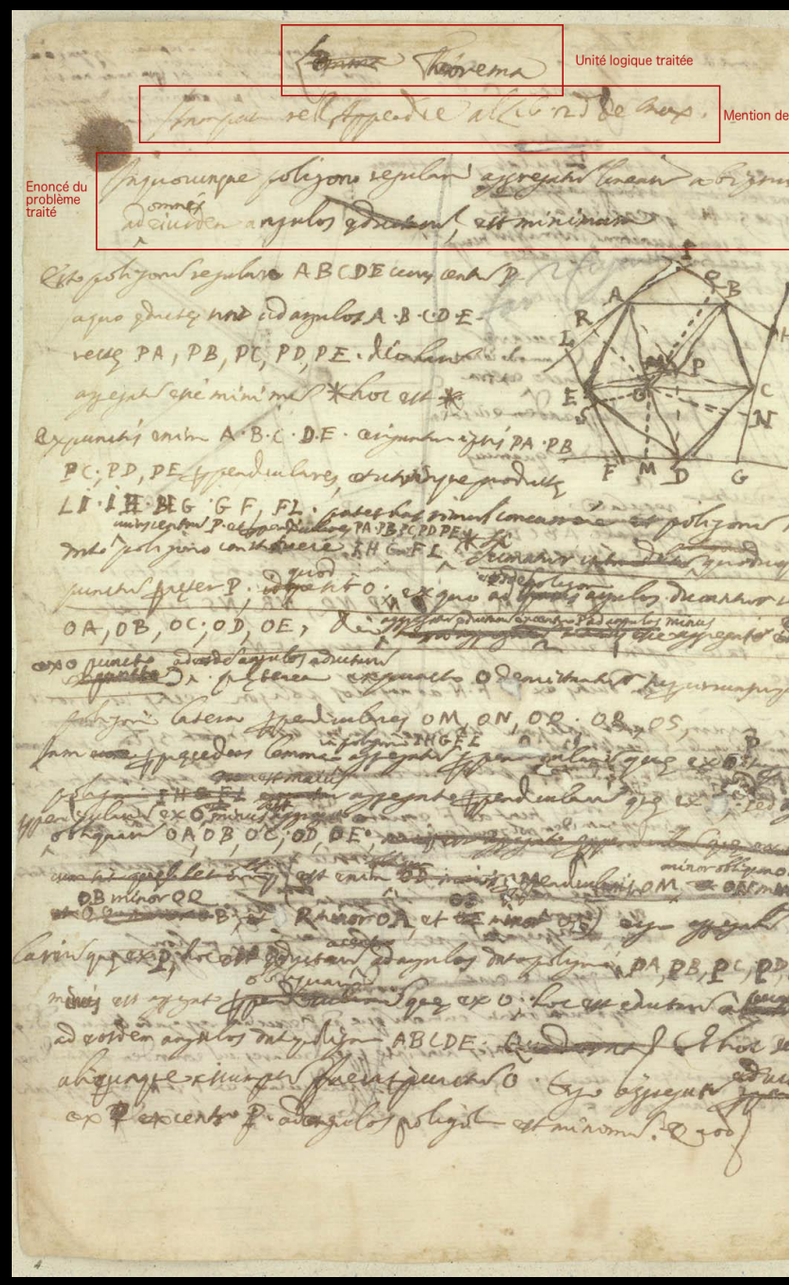
De Maximis et Minimis, Geometrica Divinatio in Quintum Conicorum pollonii Pergæi

1659
Florence

1. Viviani's *divinatio* of Apollonius







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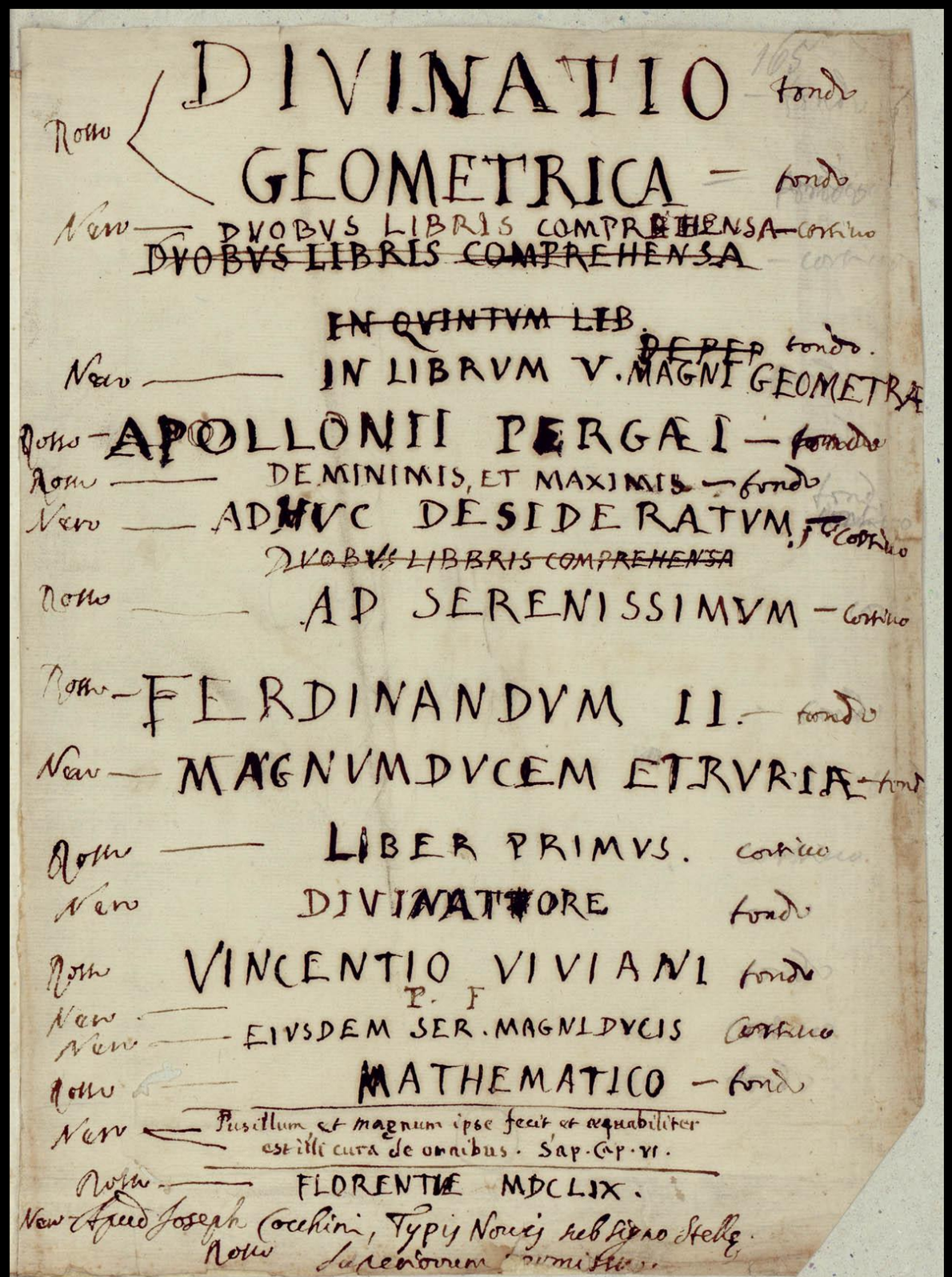
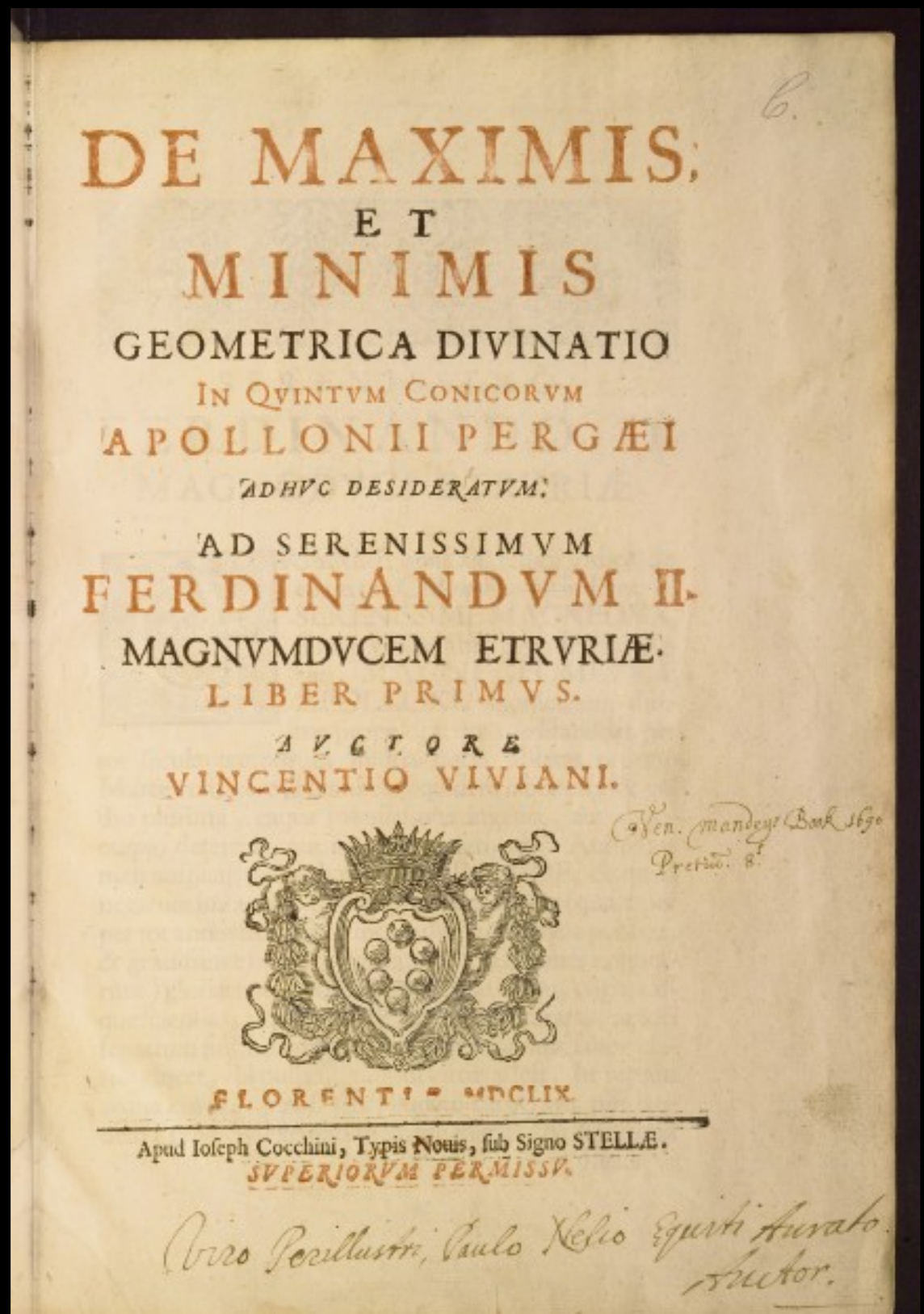

DIVINATIO
GEOMETRICA
DVOBVS LIBRIS COMPREHENSA
~~DVOBVS LIBRIS COMPREHENSA~~
~~IN QVINTVM LIB.~~
IN LIBRVM V. MAGNI GEOMETRÆ
APOLLONII PERGÆI
DE MINIMIS, ET MAXIMIS
ADHVC DESIDERATVM,
~~DVOBVS LIBRIS COMPREHENSA~~
AD SERENISSIMVM
FERDINANDVM II.
MAGNVMDVCEM ETRVRIÆ
LIBER PRIMVS.
DIVINATORE
VINCENTIO VIVIANI
P. F
EIVSDEM SER. MAGNI DVCIS
MATHEMATICO
Pusillum et magnum ipse fecit et æquabiliter est illi cura de omnibus. Sap. Cap. VI.
FLORENTIÆ MDCLIX.
Apud Joseph Cocchini, Typis Nouis sub Signo Stellæ.
Superiorum permissu.


DE MAXIMIS
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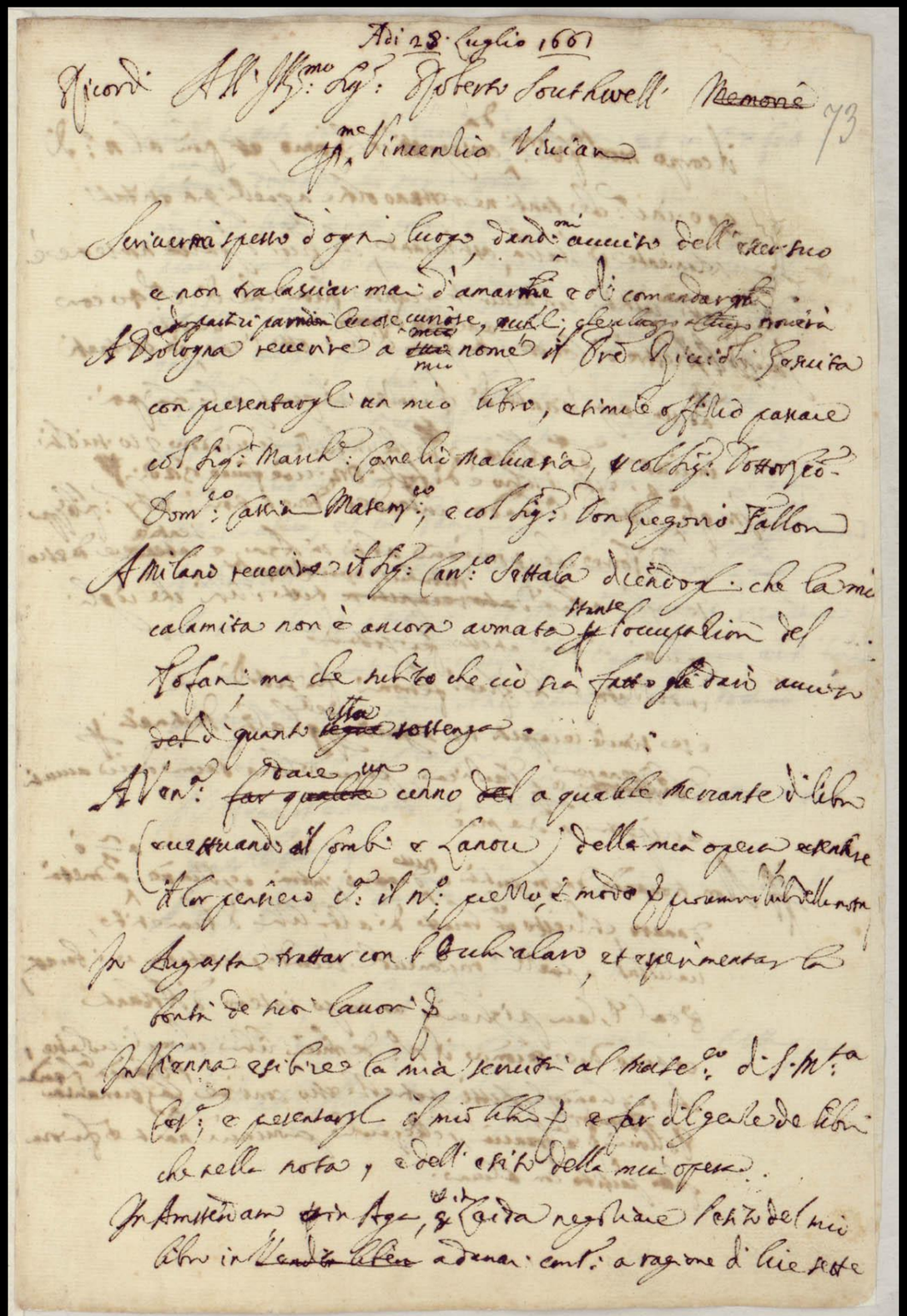
SVPERIORVM PERMISSV.

2. Southwell as a Trojan horse

Robert Southwell
(1635-1702)

2. Southwell as a Trojan horse



Letter to Southwell
28 July 1661

"A Bologna reverire a mio nome il Pre Riccioli Gesuita con presentargli un mio libro, e simile offizio passer col Sig^r. Marche. Cornelio Malvasia, col Sig^r. Dottor Gio. Dom^co. Cassini Matemco., e col Sig^r. Don Gregorio Fallon"

Conclusion:

mapping Viviani's correspondance

Thank you!