

VII. An account of Books. 1. *Epistola D. Guilhelmi Musgrave, S. R. S. ad Editorem missa, in qua ratio redditur libri nuper editi, cui titulus, De Arthritide Symptomatica Dissertatio. Auctore Guilhelmo Musgrave, M. D. Incltyi Medicorum Londinensium Collegii, & Regiæ Societatis Socio, in 8vo.*

DE Experimentis meis, cùm ipsa jubeat Pietas rationem aliquam Regiæ me Societati reddere; jam post intermissum aliquamdiu commercium Epistolare redditurum merito expectes. Quare per nuperos hosce dies quid in re Medicâ notaverim, quid etiam lucubraverim, quando ad Scientiam naturalem promovendam, pro tua humanitate id tibi conferre videatur, en paucis accipe.

De *Arthritide* scribentes, quorum ego Libros pervolvi, omnes in eo laborarunt, ut Morbi istius qua *Exquisiti, Primarii & Genuini* Doctrinam excolant & Disciplinam edant; de *Secundariâ* sive *Symptomaticâ Arthritide*, parum vel minimè solliciti. Qui quidem eorum Error quodnam extiterit in evincendâ *Arthritide* impedimentum, quas moras fecerit, quantoq; fuerit Humano Generi incommodo, vel ex eo constat, quòd *Arthritidis exquisita* sui generis materiâ, eâq; sine Morbo præcedente ullo Paroxysmos celebrante, tum etiam propriâ gaudeat Curatione: E diverso manifestum est, *Arthritides Symptomaticas*, nullam habere sibi peculiarem, sed vel *Arthritidis Primigeniæ* materiam, vel ab aliquo præcedente Morbo, quem *Primarium* dicimus, derivatam; semper autem a *Primario* Morbo eas in Paroxysmos evehi, propriasq; Curationes
semper

semper postulare : Uade palam est, quantum illi fuerint hallucinati, qui dum uni eidemq; tantus Morbo, nempe *Arthritidi* Medicinam facere sibi viderentur ; revera multis, iisque inter se diversis, diversaq; ratione impugnandis facerent.

Ut in istâ Medicinæ parte quod deest, pro virili suppleam, *Arthritidis* in *Primigeniam* & *Symptomaticam* divisionem, itemq; *symptomaticæ* in suas *Species* distributionem, religiosissime ante omnia conservandam propono.

Eum recte curaturum credunt, qui rationalem Medicinam profitentur, quem prima Origo Cause non fefellerit : neque curari id, quod agrum est, posse ab eo qui quid sit ignoret.

Quid quod Doctissimum *Mortonum* in *Phthisiologiâ*, non sine *Gentis Medicæ* approbatione & applausu, distinctione ea utentem legimus ; istiusque operâ Morbum difficilem luculenter explicari, gravissimum feliciter curari.

Hunc ego *Choragum* secutus *Arthritidem* dico *symptomaticam*, in eâque *Species*, quotquot usquam mihi innotuere, comprehensas. *Illius* ratio generalis in eo locatur, quòd cum Morbi sint ab *Arthritide Primigeniâ* diversi, & intervallo quodam distantes, Stationes *Primarias* linquant, & erga *Arthritidem* moventes ei paulatim appropinquent. De appropinquandi modo ut recte cogitemus, *Primarii Affectus Exuviæ*, sive collapsa symptomata, simul cum *Arthritidis* usurpato *Primigeniæ* Vultu, *Arthritides Symptomaticas* certissimè commonstrant.

Harum

Harum ecce recensentem!

Arthritis	Symptomata	Primigenia	succeedit.	
		Falso sic appellata, quæ		Rheumatismo,
		Minus proprie dicta, quæ		Chlorosi, Hydropi, Melancholiæ, Scorbuto, Lui Venereæ Asthmati,
		Magis proprie dicta, quæ	Febri, Colicæ, Morbis quibus- dam Cuticula- tribus,	

Rheumatismo superveniens *Symptomata*, falso & ex vulgi tantum opinione dicta *Arthritis*, Paroxysmos ad morem *Arthriticum* habet omnino nullos; nec Materiam ei, quæ est *Arthritica* ullâ ex parte comparem, sed a viscida quadam materia ductus exiguos implente eosque distendente proficiscitur. Quid huic *ῥιζοδύνη* sit in causa exquiritur, & tandem vel a Calore Frigoreque vehementibus & continuis, vel ab Sale Alcalico in sanguine retento, vel ab utroque eam oriri, tanquam probabile, declaratur.

Arthritis ex *Chlorosi* eas tantummodo pallidas invadit, quæ Miasmate *Arthritico* sunt hæreditario imbutæ. *Chlorosi* abituræ supervenit, & simul cum Vultu colorato, cum Robore, cum Sanguinis *Μετασεισµῶ*, istorum Symptomatum Societati se immiscens, profilit *Arthritis*. Causam habet conjunctam cum *Arthritide Primigenia* communem, à *Chloroseos* causa multum abludentem. Quamdiu vagatur hæc *Arthritis*, incerta ejus est Diagnofis; sed ex Ægrotæ Parentum morbis expiscanda: Articulis affixa Dolore, Tumore, Rubore, sed & iis pro augmento mensium minutis & declinantibus, se ostendit. Medendi Judicatio singularis & præcipua requirit, ut per Muliebria sanguis expurgetur.

Getur ; ſicq; *Chloroſi* & *Arthritidi* ſimul ſemelq; occurratur. Huic affinis ea, quæ ſteriles & Catameniis orbatis afficit *Arthritis* ; excepto quòd a vitioſa plenitudine procreata Catharſi, eàq; tum crebro, tum forti, depellenda eſt.

Hydropi quæ ſuppullulat *Arthritis*, ita ſe plerumq; habet. Morbo iſti, ubi in humido omne vitium, & cum humidi quòd abundat jam prius emiſſum eſt, maximè verò poſt *Amara* & *Chalybeata*, ſucceſcendo emergit, & quidem auſpicato. Annos enim elargitur & valetudinem, ſi non optimum certè deſiderabilem: Quare omni ope & induſtriâ niti oportebit, ut auxiliis tum ad *Hydropem* propulſandum, tum ad *Arthritidem* invocandam idoneis, augeatur ea confirmeturque.

Ex *Symptomaticis magis proprie dictis*, prima utpote a *Primigenia Arthritide* remotiſſima, (nam a remotioribus orſi, ad eas, quæ magis vicinæ ſunt, gradatim deſcendimus) eſt *Melancholica*. Alienum id ac *αἰσθησιμον*, quòd in fiſtula alimentariâ ſpiritus, natura debiles, premendo *Melancholiam* peperit, jam in Artus propellitur, & *Arthritidem* parit *Symptomaticam*. Clementer ea ſe fere gerit, neque Paroxyſmos adeo atrocès habet, ac reliquæ ferme omnes ; & ea qui tenentur, in priſtinum affectum, nempe *Melancholiam* plerumq; cito revertuntur. Dignoscitur hic Affectus, ſi *Æger* diu *Melancholia*, demum *Arthritide* laboraverit, & hac quòd magis eò remiſſius illâ, maximè ſi hoc crebro acciderit. In ejus Prophylaxi, juvat alienum e ſanguine amoliri, ejuſque in primis viis regerminationi obſtare : tum ſpiritus levare, languentes ſuſcitare : quòd quidem Aqq. purgantibus & Diureticis, Infuſo Teæ Chalybeatis, & Cortice Peruano perficiendum.

Melancholicæ proxima, ſed longo proxima intervallo, eſt *Arthritis* Ea, quæ *Scorbutum* excipit ; Morbus certe apud *Damnonios* ingenio valde peculiari, propter *Scorbuti*, ex quo Emanat, *ἴδιον* peculiare. Eſt enim is *Scorbutus* veteris iſtius *Lepræ*, quæ *Damnonium* univerſum paucis ante ſeculis perreptando graviter afflixit, *ἐπιχθονία*. Hinc illæ

illæ frequentes Papulæ, Cutis ille pruritus intolerabilis, Color ille flammeus, Fervor importunus, Exanthemata, Lichenes, Squammulæ veteris scil. *Lepræ* reliquiæ, Ignis nondum penitus extincti Scintillulæ. Mites habet hæc *Arthritis* Paroxyfmos, & (quod ei proprium) Affectus Primarii Symptomata non pauca constanter retinet : Ut ex *Scorbuto Arthritico* scabie, maculis, Gingivarum vitiiis, renitente licet Medicinâ, etiam dolente Articulo inficiantur. Calido isti *Scorbuto* quæ subnascitur, *Arthritis* semper reperitur *Calida*: τὸ Πάλσιον τὸ Παθόν. In Paroxyfmo, Materia Articulis impacta blande foras elicienda. Cane pejus & angue sunt *Repellentia*. Extra paroxyfnum, evacuantibus, Materia peccatis amandetur, alterantibus corrigatur, ne repullet inhibeat : Horum primum Mercurialibus, alterum Antiscorbuticis cum Antiarthriticis una maritatis, Aqq. Diureticis, tertium Digestivis attentandum.

Immoderata Venus ab antiquo *Arthritidem* accersivit, verum maxime ex quo accessit ei *Lues*. Maturos hæc *Symptomata* potissimum invadit. *Luis* ad *Arthritidem* tendenti calcar addit Empericorum Mos ille perniciosissimus, quo Puris suppressioni in curanda Gonorrhæâ propter nimis insistent hi Ardeliones, neglectâ vel remisse factâ Purgatione. Etsi *Luis* in *Arthritidem* mutatio sæpe est in eodem corpore, tamen nonnunquam diversa comprehendit, cum a Mariti *Lue Arthritis* in Uxore per concubitum accendatur. Hujus *Symptomata* Dolor est Erraticus, & ob aliena ista spicula acutus, nulli certe *Arthritidi* tam acutus, tam cito recidivus, tam simul longius duraturus. Quamprimum interciduntur Accessiones, aut multum remittuntur, si nulla fuerit evacuatio Materiæ, in caput ea solet transferri, & vel Apoplexian, vel Motus convulsivos excitare. In Paroxyfmo Dolor Paregoricis allevandus, sed non nisi cum Cautelâ datis ne capiti materia impingatur. In vacationibus, a *Lue Venerea* mutuo sumenda Indicatio : Antisyphiliticis, cum Evacuantibus, tum Alterantibus, sanguis

tuendus, quem in finem aquæ profunt *Bathonienfes*, & in nostra vicinia *Bamptonenfes*.

Aſthmati ſuccreſcit *Podagra* creberrime *Pituitoſe*, maximeq; ſi Medicinâ, (Catharticis ſcil. $\Delta\rho\alpha\sigma\eta\kappa\omega\lambda\acute{\eta}\sigma\iota\varsigma$, & Antiaſthmaticis calidioribus) fuerit extimulata. Ejus Materiam diu in *Ægroti* corpore extitiſſe, Pituitâ videlicet involutam, & eum eâ per Sputum $\kappa\alpha\lambda\acute{\iota}\pi\tau\iota\kappa\eta\alpha\sigma\iota\upsilon$ externi credibile eſt. Aliis omnibus *Arthritidis ſpeciebus* hoc nomine *Arthritis* hæc *Symptomatica* *Æſtate* lætatur. Hyeme ab *Aſthmate* ſuperatur ſub ejuſque larva ſe abſcondit. Propterea quod illius materia frequenti expuitione magnam partem ejicitur, raro Toſos, aut Ulcera, aut Dolorem habet diutinum. In Epicenæ hujus *Arthritidos*, nunc Pulmonem, nunc Artus infeſtantis, Curatione in priore ſtatu ut *Aſthma* debelletur, Dolor *Articularis* excitandus; Venæ ſectio vel prorfus omittenda, vel quam in ſimplici *Aſthmate* oporteret ſanguis minori quantitate detrahendus. Cathariſis Orgaſmum in ſanguine facientibus, ſed & iis rarius celebranda, ne videlicet Naturam *Arthritida* recte $\pi\alpha\tau\acute{\iota}\varsigma\ \acute{\iota}\xi\ \upsilon\upsilon\acute{\iota}\sigma\alpha\upsilon$ deſiderantem, alio divertamus Materiam *Arthriticam* tum expellentia, tum evocantia, tum interne, tum externe adhibeantur. In altero vero ſtatu, quo propria perſonâ elucet *Arthritis*, ſtudioſius inſiſtendum, et, ſi flaccuerit excitandæ, ſi vigerit tuendæ ſervandæque. Natura enim ab *Aſthmate* per *Arthritida* ſibi cavet. In ejus dolore Paregorica propter ſpiritum difficilem, non temere propinanda. In hujus *Symptomaticæ* Prophylaxi, $\Delta\pi\epsilon\pi\omicron\iota\alpha\varsigma$ fæces & reliquias Eccoproticis ſubinde datis amandare digeſtivis coctionem perficere, Diætæ rationem aptam proſequi expediet.

Febrî interdum exquisitæ, eiq; tam intermittenti quam continuæ, tam $\Sigma\upsilon\beta\acute{\iota}\chi\omega$ quam $\Sigma\upsilon\upsilon\chi\acute{\omega}$ ſuccedit *Arthritis*; nec quidem modo intellectu difficili, ſive per indomitum aliquid & $\beta\tau\epsilon\phi\omicron\gamma\epsilon\upsilon\epsilon\acute{\iota}\varsigma$ in ſanguine contentum, eumq; perturbans ſive propter obſtructas glandulas oriatur *Febris*. Ratione ortus, Multiplex eſt hæc *Arthritis*; ſemper autem, quo poſſumus ſtudio promovenda, nempe ut tenuetur *Febris*.

In hujus *Symptomaticæ* Prophylaxi, *Febris* cujus ea Germea est & Fructus, habeatur ratio, quæ quidem varia requirit diligenter attendenda.

Morbus Colicus hac in Regione frequentissimus est; & nunc a Bile, nunc ab acido Pomaceo, nunc a Dyspepsis ortus, *Arthritidem* habet frequenter Pedisequam. Quæ Profapix prius dictæ est, ei medendæ preferenda Indicatio, qua externis quibuscunque materia foras in Artus electetur. Hujus Curationis proprietas habeatur, auxiliis uti tantummodo externis, Cardiaca respuere interna & calida; ne incitata *Febre*, & mutatâ simul inclinatione Materiæ, Cerebrum ea, (quod jure quasi avito facere solet) aggrediatur. *Colicæ* ex Pomaceo superveniens, *Arthritis* dolorem habet valdè acutum, in *Colicam* facile recurrit, iterumq; *Arthritidos* personam induit, iterumq; deponit; raro Articulorum Nodis, Oppilationibus, Ulceribus est signata; quod ex Materiâ, partim per anum usitate expressâ partim Intestinis affixâ, fieri credibile est. *Colicam* ex *Dispnoë* ortam, quæ sequitur *Arthritis*, *Catharsis* fortiore, vel Cardiacis calidioribus solet excitari; & in *Colicam* iterum mutari, quoties Materia vel in intestina retrocedit, vel in primis viis de novo generatur; quorum alterum sæpe & ex facili fit alterum quotidie. In hac *Arthritide* sanandâ, Medicinam uti decet, nemo unquam exercebit, nisi *Colicam*, cui ea subjicitur, ob oculos posuerit. Ubi in Poculis erratum, illud deponendum. Quod intus alieni est, per Aq. purgantes expellendum. Dyspepsia ut tollatur, Coctionis *Εγγασήσιον* bene & crebro purgandum, Digestivis roborandum. Hujus tituli *Symptomaticis* hoc commune est, Quod eorum Paroxysmi per Eccoprotica subinde iterata maxime vel præcaventur, vel saltem minuuntur; & quod omnium sæpissime in affectum redeunt *Primarium*.

Morbis Cuticularibus, quales sunt Acores, Hæmorrhoides, Ulcera, succedit aliquando Podagra. In Morbis hisce *Primariis*, Natura ineptum aliquid extra propellit.

(1604)

Hoc si adustum fuerit, Articulis sæpe deponitur. Arthritico durante Paroxyfmo conquiescunt Affectus Primarii, fiſtantur Evacuaciones, exſiccantur Latices; eo ad exitium perducto, vel paulo poſt ſcaturiunt denuo, & quidem tantisper novâ repullulante & urgente dum Materia, prælium redintegretur, & Ἀρθριτικὰ Arthritica revertatur. In Curatione Morbus quicumq; fuerit Primarius in totum alendus, *Ulcus* per Cathæretica, *Achoreſ* per Attrahentia, *Hæmorrhoides* per Aloetica internè, per Hirudines externe adhibitas.

Habes Libelli noſtri Epitomen: Utinam ſane ei, quo te ſtudio & affectu proſequer; utinam ei qua Societatem obſervantia colo & revereor par inveniatur.

Vale in Augmentum Scientiarum; & illius memineris, quod ab *Hippocrate* ſcriptum eſt, Ἀγαθὸίαι ἢ Ἰηγεῖσιν, αἱ Οὐκὶς Ἰηθεὶς Πλάνας καὶ Ἀπορίας. Iterum vale. *Iſſæ Damnoniorum*. Æquinoctio Verno, MDCCCIII.

2. Specimen Lithographiæ Helveticæ curioſæ, quo Lapides ex Figuratis Helveticis Selectiſſimi Æri incipiſtuntur & deſcribuntur, a Johanne Jacobo Scheuchzerro, M. D. Figuri, 1732, 8^{vo}.

Not only our own, but all the Bodies we converſe with and make uſe of, *Animals*, *Vegetables* and *Minerals*, riſe out of the *Earth*. Which therefore is a Subject of ſo great *Notice* and *Conſideration*, much to be wondred the *Ancients* ſhould have beſtow'd ſo little *Time* or *Thought* upon it; and the more becauſe many of them were ſo exact in the choice of what they were to treat upon. But *Georgius Agricola* was the firſt we know of, that about

about 150 years ago attempted any thing to purpose on this subject. His living in a considerable *Mine Country*, and his great converse with *Ores* and *Minerals*, gave him a mighty opportunity of advancing this *Knowledge*: And his *Learning* and *Diligence* were both very extraordinary. But the greater part of his Labour was employ'd in setting forth the Ways of working the *Mines*, of discovering and ordering the *Ores* of *Metals* and *Minerals*, and in endeavouring to ascertain which particular *Sorts* of *them* the *Ancients* meant by *their Names*, rather than in clearing up the *Natural History* of them. Not but that he made some Progress in *this* too, and very great for the time in which he liv'd, when *Natural Studies* were only in their *Infancy*: So great that *none* of the *Writers* of *Fossils* since his time have come near him. Indeed the greatest part of *them* have done little more than *copy* from his *Writings*. But of late there hath been such a view given the *World* of the *Extent*, the *Use* and the *Importance* of this *Study*, as to have recommended it to the Pursuit of some of the most *discerning Naturalists* of the *Age*. Amongst these is Dr *Scuehzer* of *Zurich*, the Author of this *Specimen*, who along with *Real Learning* and great *Personal Abilities*, has shewn a vast deal of *Diligence* in his *Inquiries* into *this part of Nature*. That *City* has been very happy in producing *several*, who have bent *their Thoughts* *this way*. The works of *Conradus Gesnerus*, who was one of the greatest Genius of the *last Age*, and *Jacobus Wagnerus's Natural History of Switserland*, are *Instances* of *this*. Every body knows what vast *Mountains* there are in *that Country*. and Dr *Scheuchzer* with indefatigable *Industry*, to say nothing of the *Expence* and of the great *danger* of such an *Undertaking*, has carried his *Searches* and *Enquiries* to the *Tops* of the *highest* of *them*. And even there he found *variety* of *Sea-shells*, and other *Marine Productions*. But these have been also observed on the highest *Mountains* in other parts as well as here; which indeed cannot

cannot but be thought a *Thing* very surprizing and of great *Consideration*, by all who duly reflect upon it. Along with the *Descriptions* of the *Bodies* here set forth, the *Author* hath caused *Icons* to be grav'd of *all* of *them*. The chief of the figured *Native Fossils* he found in this Country, are the *Belemnites*, p. 25. 44. The *Selenita Rhomboidalis*, p. 49. and the *Fluor Christallinus trigonus*, p. 29. He gives a remarkable Variety of the *Fossil Corolloid Bodies*, ex. gr. *Corallium fossile cortice reticulato*, d. 14. *Retepora seu Escbara maxima Imperati Lapidea*, p. 13. *Alcyonium tuberosum forma ficus vel quintum Dioscor*, p. 17. *Fungulus pyriformis Lapideus*, p. 6. *Astroites*, p. 36, 39. Of the Sea Shells that he gather'd on these *Mountains*, the most considerable are the *Nerita*, p. 26. *Auris Marina Fossilis*, p. 58. *Umbilicus Marinus*, p. 24. *Concha Tellinoides*, p. 21. *Concha Margaritiferae fragmenta*, p. 55. *Conchula echinata*, p. 49. *Pectunculus parvus capillaribus Striis notatus*, p. 23. *Pecten dense striatus*, *ibid.* *Chamaefossilis*, p. 55. In this *Shell* he observes there were discernible the *Vestigia* of the *Muscles* by means of which the *Animal* adhered to the *Shell*. Nor ought we to omit the *Echinus Spatagus*, p. 61. The *Asteria*, p. 2. The *Entrochi*, p. 4, &c. Two *Joints* of the *Claw* of a *Lobster* struck out of a piece of *Stone*, p. 27. And a piece of a *Shell* of a *Crab*, of that sort that is called the *Molucco-Crab*, lodged in a very hard sort of *Stone*, p. 65.

3. *De Locis solidis secunda Divinatio Geometrica, in quinque Libros injuria Temporum amissos, Aristæi Senioris Geometræ. Autore Vincentio Viviani, Magni Ducis Etruriæ Mathematico Primario, & Regalis Societatis Londini Sodali. Opus Conicum in Lucem prolatum, Ann. 1701. Folio.*

THe Author *Vincentio Viviani*, who was 80 years old when this Book was published, and the last alive of the famous *Galileos* Scholars, was ever since the year 1642 employed by the great Dukes of *Tuscany* in directing the Fortifications of their Dominions, overseeing their Buildings, the banks of the Rivers, and other publick Works; so that he complained that he had not leisure to prosecute his inventions in Geometry, that he made in his younger days, of which this Book is one.

As for his other Works they are these. In the year 1659. he published a Book in folio, intituled, *De Maximis & Minimis Divinatio Geometrica in Quintum Apollonii Librum*; and he wishes, that as *Apollonius's* own fifth Book was found shortly after, so *Aristæus's* Books may be found after the edition of this. That *Divinatio* is the reason why this Book, we are now to give an account of, is called *Divinatio Secunda*. In the year 1692 he published a Treatise in *Italian*, intituled, *Formazione e Misura di Tutti i cieli*, in consequence of an *Ænigma Architectonicum* he had, under a borrowed name, proposed in the beginning of that year, in which divers learned men concerned themselves. These are all he has

has published in Mathematicks, besides this Book, and two small pieces, containing the Solutions of some Problems proposed by *French* Mathematicians. He dyed at *Florence*, An. 1702, and left a great many other Works, rather begun than perfect; but which, such as they are, will no doubt be acceptable to the Publick, as coming from one of so great knowledge and reputation in Synthetick Geometry, and Mechanical Learning.

In the Preface to this Book he gives an account of *Aristæus Senior Geometra*, as far as can be gathered from the Ancients, and of his Writings. This *Aristæus* wrote five Books of *Conick Sections*, which *Euclid* himself valued so much as to imitate and add to them, as *Pappus* says. He wrote other *Five Books de Locis Solidis*, which are these that *Vincentio Viviani* pretends to restore. *Pappus* also seems to say that he wrote a History of what had been done in Geometry until his time. And *Campanus* in an Annotation on *Prop. 1. Lib. XIV.* of the Elements, mentions a Book of *Aristæus*, intituled, *Expositio Scientiæ quinque Corporum*, from whence it may be inferred that he was of the *Platonick Sect.*

Tho the Author intended five Books, as *Aristæus* had written; yet he has published only three, and seems to despair of ever publishing the other two.

Liber I.

In quo de locis Ordinationum conicarum Limitibus pertractatur.

This Book is divided into five parts.

Part I. Are 34 Lemmatical Propositions, where are considerable cases in demonstrating the properties of the Conick Sections from the *Regulatrix*; *Moduli ex Semirecto*,
ex

ex verticali, ex laterali; and in the Hyperbola from the *Noctatis* & *Asymptoto*, *Triangulum circumscriptum a Symptote*, &c. all which he there defines.

Part 2. Prop. 35. Shews that the *Altitudines Normalium* (or the *Subnormales*) in all the Conick Sections, erected from the points of the *Axis*, where the *Ordinates* are erected, are *ad Locum planum*: And Prop. p. 36 and 37, that the *Normales* to a right Line and a Circle erected as above (which is ever understood) are *ad Locum planum*; but in the 38 and on to the 42, that the *Normales* of the Conick Sections are *ad Locos Solidos*, which he there determines.

Part 3. Prop. 43. shews that in all the Conick Sections and Circle, the *Altitudines Normalium super Ramos ex vertice* are *ad Locum Planum*; but from thence to the 49, that the *Normales super Ramos ex vertice* are *ad locos Solidos*, which he there determines.

Part 4. In the first three propositions from the 50 to the 52 inclusive, he determines the *Locus Solidus* of the *Rami* from the Vertex of a Circle, or from an Origine betwixt the Vertex and the Center, or without the Circle. Prop. 53. he shews that the *Rami* from the *Focus* of any Conick Section erected to the *Axis* are *ad Locum planum* of a right Line there determined. In the following Prop. p. to the 58 he determines the *Loci Solidi*, made by the Ordination of the *Rami* of a *Parabola*, drawn from the principal *Vertex*, and from an Origine in the *Axis* betwixt the *Vertex* and the *Focus*, and below the *Focus*, and above or without the *Vertex*. In the next four to the 62 he determines the *Loci Solidi* made by the Ordination of the *Rami* drawn from the Origine in the Lesser Axis of an *Ellipsis*; to wit, either the *Vertex*, the Center, betwixt the *Vertex* and Center, or without the *Vertex*. From the 63 to the 68 he determines the *Loci Solidi* made by the like ordination of the *Rami* upon the greater Axis of an *Ellipsis*. From the 69 to the 77 the like is

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done in regard to the *Hyperbola*, where there occurs a greater variety, as it is here managed. The next two Propositions are the like in the opposite Sections, where they superadd any thing to what was before said of one *Hyperbola*. And because a Rectilinear Angle may be considered as an infinitely narrow *Hyperbola*, to wit, whose transverse Axis is a point, in the 80 and last Proposition of this Book he determines the *Locus Solidus*, made by the ordination of the *Rami* to this Angle, from an Origine in its Axis, either within or without the Angle. To this Book he subjoyns an Epilogue, containing some general Corollaries, useful, as he says, toward some things which he intended to publish; as that in a Circle the *Loci Solidi* made by the ordination of the *Rami* from an Origine in the Vertex, or within, are *Parabolæ*, which are all Lines like one another; and that the *Loci plani* arising by the ordination of the *Rami* from the *Focus* of a Conick Section or Circle are strait Lines, which are also like Lines, and so in other cases, that like *Loci* arise from such applications.

Part 5. The first two Propositions determine the *Loci Solidi*, arising when the Tangents of the *Parabola*, intercepted betwixt the Section and either the Axis or the Tangent in the principal *Vertex*, are made *ordinates* to the principal Axis. And the next two determine the *Loci Solidi*, arising when the *Normales*, either to the Section, or to the *Rami*, proceeding from the principal *Vertex*, are made *ordinates* to the Tangent in the said *Vertex*.

Liber II.

In quo Loci Ordinatarum potentium Limites indicantur.

In this he treats at large, in 71 Propositions, of the *Loci* both *Plani* and *Solidi* arising from *ordinates* upon

a Strait Line, whose Squares are equal to the Sums or differences of the Rectangles and Squares of a Line, and its Segments and other assumed Lines, in all the variety and combinations thereof.

Liber III.

In quo Loci variarum dispositionum Limites assignantur.

Here is the determination of the *Loci plani* and *Solidi* that arise from several ways different from the former. For example, if from two given points there be drawn several pairs of Strait Lines, whose Squares together be equal to a given Square, the concurrence of each pair is in the *Locus planus* of a Circle there determined. And (the other conditions remaining) if of each pair of Strait Lines one be drawn from a given point, and the other be perpendicular to a given Strait Line, the concurrence is in the *Locus Solidus* of an *Ellipsis* there determined. Afterwards there are several Problems concerning Arithmetical, Geometrical, and Harmonical mean proportionals betwixt two Extreams, and divers Methods for describing the Conick Sections by points. There are also subjoyned several *addenda* to all the preceding three Books.

At the end of the Book are Prints of the *Orthography* and *Gate of a Stately House* built by the Author *Vincenzio Viviani* at *Florence*, with the Inscriptions on the front thereof in honour of the *French King Lewis XIV.*, franc. whom he had an annual Pension for many years: and of the *Family of the Great Duke of Tuscany*; and of his Preceptor the Famous *Galileo Galilei*, with a Print of *Galileo's Busto in Brass*, which is set over the Gate.

ERRATA. P. 1581. l. 22. after *refract* r. *viciously*.