

CAPUT 5. AD NODUM 5^{um}

AN SIT SUBSTANTIA LIQUIDA SUPER LUNAM. AN SUBSTANTIA MORTALIS REPERIATUR IN COELIS. QUO SENSU QUANTITAS SIT IDEM QUOD INDIVISIBILITAS

1. Quid sint motus, mutatio, actio, et passio. 2. Quid sint categoriae & quid relata. 3. Quid sint ortus, interitus, generatio, corruptio, mors^d. 4. Examen argumenti pro liquido. 5. Examen argumenti contra motum sphaerarum solidarum. 6. Examen argumenti quo probat quantitatem esse liquiditatem.

1. Dicendum est hoc loco quid sit motus, quid sit mutatio, quid actio, quid passio, quid relata sive, ut vocat Aristoteles, τὰ πρὸς τί; quid sit ortus, quid interitus, quid generari, quid destrui, aliaque huic similia⁶⁰. Ex quibus malè intellectis author noster ratiocinatus est, putans tamen demonstrasse se materiam aliquam liquidam necessario existere supra lunam, orbesque, si essent solidi, quemadmodum putaverunt astronomi mediae antiquitatis, non posse unum intra alium moveri, et denique substantiam aliquam esse in coelo mortalem. Sciendum igitur est motum esse dici quicquid nobis videtur non esse in eadem distantia, et in eodem situ respectu alicuius puncti quod imaginamur fixum, hoc est quod non videtur esse in eodem loco⁶¹. Moveri autem (sive motus) est locum alium continuò relinquere alium acquirere, neque si id quod movetur, interea dum movetur, alias induat qualitates, velut si homo dum ambulat, rubeat, pertinet id ad motum, quem hic definii; potest enim quis in eodem loco stans, & rubere & pallere | sed ad mutationem; Mutatio autem est partium latio⁶², sive motus, propter quem aliter apparet totum quàm apparebat ante⁶³. Cùm enim rerum mutationem à mutatione apparentiarum, sive phantasmatum, quae suscitantur in nobis à rebus ipsis in sensus nostros agentibus oriri supponimus; siquidem res aliqua aliter nobis videtur esse quàm fuerat, statim mutatam eam esse dicimus, sive in eodem loco, sive in diversis apparentem. Quoniam verò impossibile est imaginari quòd res, cuius omnes partes ita se habeant sicut ante,

(d) Harl., ch. 10

60. Categ. VII (6.a.35 sqq.). Cf. f. 128 sq. ci-dessous.

61. OL I.72, 97 (DC c. 6 § 13, c. 8 § 10); EW VII.83-84 (Dec. phys. c. 2). Cf. Euclides *physicus*, p. 16 (sur la solidité des orbes célestes).

62. Arist. *Phy.s.* V.iv (227.b.30).

63. Sextus-Empir. *Contre les physiciens*, I.374.

aliter tamen agat in nos eosdem existentes quàm ante egerant, omnem mutationem motui attribuemus, non quidem totius corporis, sed partium eius internarum, quas non videmus; siquidem motum illum partium videremus, non vocaretur mutatio totius, sed singularum partium motus; faceremusque tot corpora quot partes diverse motas videremus. Mutatio itaque est motus, non totius, sed partium; et motus ille, mutatio est non partium sed totius. Neque vero motus partium dicitur mutatio, nisi inde oriatur diversa rei species, sive apparentia in sentiente. Ideò enim sphaera, quae circumversa super axem proprium, ita ut tota quidem immota sit, pars vero unaquaeque moveatur, immutata censetur, quia sub eadem specie et apparentia apparet; sed si ex motu partium aliter appareat sentienti, ut homo immotus, motu tamen sanguinis nunc rubet, nunc pallet, tum demum mutatus esse dicitur. Est ergo mutatio motus partium ille, per quem alià specie apparet res sentienti quàm prius. Agere dicitur id quod aliud movet, vel mutat; pati verò quod ab alio movetur, vel mutatur^e.

2. Aristoteles in libro quem inscripsit⁶⁴, *Categoriae* i.e. *appellationes*, distinxit rerum nomina, sive appellationes, in decem genera; quaedam enim nomina rebus imponuntur propter species, sive imagines ipsarum in animo; quae nomina respondent quaestioni, *Quid est*, scilicet, quid est illud, cuius habemus imaginem. | Ex his conflatur *Categoria ουσΙΩΝ*, sive *essentialium*⁶⁵. Alia respondent ad quaestionem de parte imaginis, partes autem imaginis in mente, sunt extensio sive quantitas, figura, color et quaelibet alia qualitas sensibilis, ut quaestio, *id quod videmus, vel eius ideam habemus quantum est*, et respondetur per mensuram, ut *cubitale*, vel *bicubitale*; unde conficitur *Categoria quantitatis* ex nominibus mensurarum; vel quaestio, *id cuius imaginem habemus, quale est*, ut *calidum*, an *frigidum*, *album* an *nigrum*; quadratum an rotundum; ex quibus nominibus fit *Categoria qualitatis*⁶⁶. Quartò interrogari potest quid, quantum, & quale aliquid sit respectu alterius, ut an quis filius sit, vel aequalis, vel similis, quae sunt nomina imposita rebus⁶⁷. Propter nostram earum cum aliis rebus comparisonem, et ex his constat *Categoria relatorum*, sive τῶν πρὸς τί. In quinta Categoria posuit nomina signifi-

(e) Harl., ch. 8. Cf. f. 385v (f) partes... sensibilis ajouté en marge, par Mers.? par le copiste B?

64. Liv. IV (I.b.25). L'ordre n'est pas celui d'Aristote; peut-être est-il traditionnel: cf. *La logique de Port-Royal* (1682; edn. 1683, pt. I, ch. 3). OL I.22 sqq. (DC c. 2 § 15).

65. White définit *ousia* dans *An apology for Rushworth's Dialogues* (edn 1654, p. 88).

66. *Meta.* IV.iv (1006a); White: *Euclides physicus*, pp. 69-100 (sur le rapport entre les qualités et le mouvement local).

67. Cf. ff. 129v sqq..

cantia motum, quatenus in movente, id est actionem. In sextâ, nomina significantia motum, quatenus in moto vel mutato, id est passionem. In 7^a nomina dirigentia ad locum, ut in urbe, in domo. In 8^a nomina dirigentia ad tempus, ut prima, vel secunda Olympiade. In 9^a, nomina positionum ut stans, sedens; et in decimâ, nomina habituum ut armatus, vestitus, paratus & similia. Huiusmodi distinctio an recta & utilis philosophia extiterit non disputo; considerabimus tantum hoc loco naturam relatorum. Cum igitur *relata*, et secundum *Aristotelem*, & secundum rei veritatem, sint nomina imposita, non propter aliquid in re ipsa nisi quatenus confertur cum re aliâ, sequitur nomen tale rei non amplius convenire si vel ipsa mutetur, vel alia illa res ad quam conferebatur; exempli causâ si duae res propter albedinem utriusque nominentur *similes*, perdunt illud nomen, si utraque earum mutetur ex albo in nigrum. *Nomina* verò *absoluta* rei cui imponuntur, convenient semper, nisi ipsa mutetur. Ut si quid vocetur album, erit semper album, nisi ipsum mutetur, utcunque mutentur alia; et si quid vocetur bicubitale, erit semper bicubitale; utcunque mutentur alia, si ipsum nihil patiat. Neque ergo quod ex *simili* evadit | dissimile, ideò necessario mutatur, aut patitur aliquid, album enim idem manet nec patitur, etsi propter mutationem alterius albi in nigrum desinat esse simile.

3. Ortus & interitus accipiuntur aliquando pro creatione ex nihilo, et destructione, sive reductione in nihilum, id quod a sola omnipotentia divina & fieri & intelligi potest; imaginatione enim nostrâ nullo modo assequi possumus quomodo aut aliquid ex nihilo, aut nihilum ex aliquo oriri possit. Quandoque autem & plerumque pro generatione, et corruptione accipitur, id est pro mutatione, non tamen qualicunque, sed eâ propter quam nomen rei imponimus, vel adimimus, quod respondet ad quaestionem *quid est?* Sic homo dicitur generari, non quòd materia ex qua fit, suscipiat novum colorem, vel qualitates carnis aut ossium; aut aliam parvam mutationem, sed quando subierit mutationem tantam, ut cum ipsam intueamur, habeamus ab aspectu eius eam imaginem propter quam solemus rem aliquam appellare hominem. Eodem modo non quaelibet mutatio, ut ex *albo* fieri nigrum, aut ex sano aegrotum, sed non amplius habere sensum, & figuram hominis, est hominis *interitus*, corruptio. Generatio ergo corporis est mutatio eius, propter quam ipsi conveniet nomen novum ex iis quae pertinent ad *Categoriam* essentiae; homo qui, ex cubitali fit bicubitalis, nomen quidem novum habet ex iis quae sunt in *Categoria* secunda, quae est mensurarum, hominis tamen nomen manet; sed si mutetur in arborem, generari arbor dicitur, & homo interire. Interitus enim corporis, est mutatio eius illa, propter quam nomen ei non amplius convenit quod habebat ante ex iis quae pertinent ad *Categoriam* οὐσίας essentiae. Materia tamen eius, in qua consistit natura corporis, non interit: sicut vini cotyla infusa oceano, quanquam desinat esse vinum, non tamen desinit esse corpus. |

Interitus autem vegetabilium et sensibilibus solus est qui appellatur *mors*, et *mortale* dicitur quod vegetabile vel sensibile existens mori potest.

4. Accedamus iam ad argumenta authoris. Primò autem corpora aliqua liquida esse demonstratum dicit pag. 37^r, ex eo quod non datur vacuum. *Clarum*, inquit, *est corpora minima moveri, & in unum corpus convenire non posse absque liquidi alicuius medii vehiculo. Manifestum enim est, quoties conveniunt, vacuum, aut liquidum mixtum habere, cum eorum figurae non semper locum replent.* Vacuum autem non datur; ergo est inter ipsa aliquod liquidum. Quae argumentatio innititur hypothese quam antè⁶⁸ falsam esse ostendimus: *non posse esse vacuum.*

5. Esse autem liquida aliqua corpora supra Lunam veteres censuerunt, et moderni censent; medii negare nescientes aliter rationem reddere coelestium phaenomenon⁶⁹. Postquam autem Copernicus astronomiam restituisset, orbis illi solidi concentrici, excentrici atque epicycli haberi coeperunt incredibiles, atque argumenta etiam conquiri physica, quibus ne possibiles quidem eos esse ostendi posset. Praecipuum verò hoc erat quòd soliditas illa sive durities, quam supposuerunt sphaerarum coelestium, impedirent ipsarum motum, argumentum sumentes ab eo quòd si cylindrus cylindrum, exterior interiorem arcu complectatur, interior videbatur non posse converti. Sed considerare oportet causam eius rei esse posse quòd se invicem arcu illâ complicatione premant. Deinde etsi non premant, non potest esse contactus ita perfectus ex cylindris manu dolatis, | quin superficies earum non sint scabrae, & denticulis implicatis motum impediunt; cuius rei signum est quòd ope axungiae, quae inaequalitates repleat, cylindrus cylindro insertus convertitur facilius, cum tamen contactus maior est unctis quam non unctis. Sed author noster contra orbium coelestium duritiem novo quodam genere argumenti utitur a natura nominum *Relatorum*⁷⁰. *Sunt*, inquit, *duo corpora A & B, nonne vides quae de iis dicamus (id est eorum nomina) alia non nisi singulis mutatis variari, alia vero immutato illo de quo loquimur, variari posse[?]* id est alia manere, nisi ipsae res mutentur, quarum sunt nomina, alia verò non manere, etiamsi res quarum sunt nomina non mutentur. *Ut quod A sit A, quaecunque mutatio fiat in B, si A maneat immotum, semper verum erit, vel quod Plato est Plato, quicquid accidat Socrati. Quod autem A simile vel aequale sit ipsi B, C mutato B*

(g) Avec (quod in omni generatione usu venire necesse est) après minima et *Unde atomi Epicurei etiam ex hac parte deficiunt. Cum enim divisibiles sint après vehiculo*

68. Aux ff. 23 sqq.

69. Galilée: *Due sistemi* p. 113

70. *OL* I.20 (*DC* c. 2 § 13). *Arist. Categ.* VII, 6a, 6b; *Meta.* V.xv.1 (1020. b.).

mutari potest^h, vel quòd *Plato* sit discipulus *Socratis*, mutari potest, ipso Platone immutato solâ mutatione *Socratis*. Quae omnia clarè & breviter sic dici poterant; nomina absoluta, nisi res mutantur, semper manere, nomina relativa non semper. An non mirabitur quis si huiusmodi principium pertinere audiat ad quaestionem de liquiditate sphaerarum coelestium. Assumit autem aliud, quod idem est, si non est mutatum manet idem; et demonstrationem sic texit. *Esto A, locus & locatum B. Si neque A neque B in se se aliquam mutationem subeat, fit semper A esse A, et B, B, et A respectu B semper idem esse & operari. Si itaque | erant aliquando A et B: et A non locabat B, dum omnia eadem manent, impossibile est ut A locet B. et si semel locus fuerit, impossibile est, iisdem stantibus, non esse eiusdem locum*ⁱ. Et paulo infrâ subiungit quod erat demonstrationis reliquum. *Cùm igitur, nullo in se mutato, non possit contingere ut respectus unius ad alterum varietur. Si duae contiguæ sphaerae adeo solidæ sint (id est duræ) ut ex neutra quicquam deteri possit per motum, nihil est intrinsecum quod in iis per motum localem mutari potest*⁷¹. Si ergo coelum ponatur localiter mutari, ponitur extrinsecè id est secundum locum facta ea mutatio^k.

Quaestio erat an duarum sphaerarum contiguarum ita durarum, ut per motum nihil illis deteri possit, possit^l illa quae interior est converti super axem proprium. Ille autem non hoc concludit sed aliud, nimirum si coelum moveatur localiter, moveri ipsum extrinsecè, id est secundum locum. At putat forte iis verbis contineri idem quod verbis quibus quaestio est proposita. Quod etsi mirum sit, concedatur. Videamus autem vim praemissarum ex quibus infertur. 1^a est, si *neutra sphaera*, inquit, *mutetur, intrinsecè manebit idem respectus unius ad alteram*^m. 2^a si *idem maneat respectus, sphaera exterior, quae erat locus interioris, semper erit locus eius*. 3^a si *sphaera altera ab altera motu suo nihil deterat, fiet in neutrà mutatio intrinseca*. 4^a. *Sphaerae si solidæ sunt, nihil altera ab altera deterit; ergo si duae sphaerae exterior & interior solidæ sint, exterior interioris semper erit locus*ⁿ. | Subauditur autem sphaeram interiorem, nisi mutet locum, non posse converti super axem proprium. Si voce mutationis non comprehendat motum localem^o falsa est prima, quia duo corpora quaelibet (puta duos planetas) motibus suis divertis respectum variant, cùm sint quandoque magis, quandoque minus distantes à se invicem.

(h) Après *ipsi B, C* il y a dans le MS une lacune d'un centimètre, qui ne se trouve pas dans le *DM* et quo *Mers.* ne remplit pas. Y avait-il un mot dans le brouillon de *Hobbes* que le copiste n'a pu lire? (i) *DM* 38-39, avec *erat* pour *erant*; *donec* pour *dum*; et *impossibile erit* pour *impossibile est* (j) *deteri M** (k) *DM* 39-40, avec *aliud* pour *alterum*; *mutari possit* pour *mutari potest*; et *mutatio facta* pour *facta ea mutatio* (l) *possit M** (m) *alteram edd alterum MS* (n) *DM* 40 (o) motum localem *M* locum motalem (*sic*) *MS*

71. Cf. ff. 31v, 66, 116, 126, 161v.

Sed si motum localem comprehendit, falsa est tertia, possunt^p enim duo corpora immutata transferri secundum locum id est moveri localiter, quanquam alterum ab altero nihil deterat, nec alterum in alterum omninò operetur; conclusio autem, *sphaeram exteriorem interioris semper esse locum*, non est ea quae inferenda erat, nempe sphaeram interiorem super axem suum non posse converti. Neque eam continet, non enim ad conversionem sphaericam opus est ut sphaera exeat à suo loco; sed tantum ut partes eius moveantur denuò in loca sua rediturae.

Ex^q eo autem quòd substantia aliqua existens supra Lunam liquida sit, probat esse aliquid in coelis mortale, pag. 41. Ratiocinationis forma huiusmodi est. Praemissarum 1^a. est^r *quod dividi potest, potest interire*. Cui adiuncta 3^a *quod potest interire, mortale est*, producit hanc, *quod dividi potest mortale est*, quae cum hac 4^a. *quod liquidum est dividi potest*^s, facit, *quicquid liquidum est esse mortale*, at ostensum antè erat, *esse in coelo substantiam liquidam*, conficitur ergo esse aliquid in coelis mortale. Vox individui duplici sensu accipi solet: 1^o pro singulari sive una re sola ut sol, Luna, | haec stella; 2^o, pro indivisibili, ut atomus propter exiguitatem vel ut infinitè dura, ut ille putat (si quae essent) propter duritiam⁷². Utrovis horum sensuum accipiatur praemissa 1^a, vel secunda falsa, vel absurda est, nam^t si per individuum intelligatur singulare ex mutatione phasium Lunae et Veneris, potest inferri quòd illa duo astra obnoxia sint interitui. Si verò individuum idem sit quod indivisibilitas, secunda absurda est, nempe^u *quod dividitur individuum mutat*, non enim dividi potest quod sic individuum est. Non est ergo verum, *quod dividi potest posse interire*, imò interire corpus nullo modo potest, sed mutari potest, eoque ut alio nomine appellandum sit, sed neque recta locutio est illa altera: *quod interire potest mortale est*, mors enim nullius substantiae interitus est, sed determinata quaedam mutatio corporum sentientium in non-sentientia. Neque est interitus, id est annihilatio id quod appellamus mortem. In 4^a. falsum quoddam insinuat, nimirum non est divisibile quod non est liquidum. Concludit tamen esse in coelis mortale aliquod, poterat autem conclusisse eodem argumento nullum esse in coelis corpus non mortale. Corpus enim omne divisibile est, neque minus sol & astra quàm circumfusum liquidum.

6. Praecedentium ratiocinationum omnium debilitas ex eo orta est, quòd non intellexerit author quid sit dividi, cùm enim idem ponat esse dividi,

(p) possunt *M* potest *MS* (q) Ce paragraphe est précédé, par erreur, du chiffre 5 (r) *DM* 41, paraphrase (s) *Hobbes* omet la deuxième phrase de *White*: « quod dividatur (de homogeneis loquor) individuum mutare » (t) nam *M* non *MS* (u) nempe *M**

72. Selon *White* (*Euclides physicus*, pp. 27-28) les atomes n'existent point, parce que (inter alia) *Epicure* les a pris comme postulat.

& partem à parte | dirimi, fit ut liquida & mollia minus sint divisibilia duris & consistentibus⁷³, et ut maximè dura minimè sint divisibilia, utque tempus cuius continuitas abrumpi non potest sit indivisibile, aliaque multa absurda. Deinde cùm Dividi idem statuatur esse quod interire, sequitur nullum corpus non esse obnoxium suâ naturâ destructioni, id est annihilationi, cuius contrarium manifestum est, nempe nullum corpus posse interire, etsi enim potest corpus aliquod desinere esse hominem, vel arborem, non tamen potest desinere esse corpus, id est *interire*. Tertiò, cùm statuatur idem esse divisibile (id est ut ille vult liquidum, aut molle) quod quantum, corpora dura non habebunt quantitatem, quae omnia & alia innumera absurda inde consequentia ostendunt Philosophiae studium, nisi paucissimis, nocere magis quàm prodesse ad scientiam veritatis.

Quantitatem autem idem esse cum divisibilitate, id est separabilitate, sic probat. Quaestioni, inquit, *quantum est*, respondent omnes per mensuras, ut passûs, ulnas, libras, & similia; mensura autem uniuscuiusque rei est pars eius, partes autem non sunt nisi quae separabiles sint; nam si signabiles tantum sint, imaginariae sunt, hoc est nullae. Quantitas ergo est separabilitas, cùm autem ostensum sit capite tertiò divisionem mentalem veram esse & imaginaria verè dividi, argumentatio haec tota corrumpitur. Praeterea cùm libras, hoc est pondera, ponat inter mensuras quanti, an pondus | etiam, cùm sit quantitas, consistit quoque in separabilitate partium; et quò magis aliquid fluidum est, eo magis ponderat? ponderabit itaque minus argentum vivum, quod fluidum est, quàm chalybs quae est durissima. Sed philosopho nostro *divisibilitas* est omnia, nimirum liquiditas, quantitas, densitas, raritas, patibilitas (nam quae mentaliter dividuntur, à mente pati dicit quia dividi est verbum passivae vocis) et corruptibilitas,

(v) sit *M* est *MS*

73. Cf. ff. 8 et 18.

CAPUT 6^{um}

AD NODUM 7. DE DEMONSTRATIONE ARISTOTELIS PRO IMMORTALITATE COELI. DE SIMPLICITATE & COMPOSITIONE, AN SURSUM MISSA ANTE QUIESCANT, QUÀM INCIPIANT DESCENDERE. ET AN ID QUOD EXIGUÀ VI MITTITUR SURSUM QUIESCERE FACIAT ID QUOD MAGNA VI IPSI OCCURRIT DESCENDENDO

1. Quid sint simplex, multiplex & mixtum. 2. Omnes lineas esse simplices. 3. Quid sit linea recta & quid curva. 4. Quid sit motus simplex & compositus, et quomodo rectus motus & circularis sint simplices. 5. Corporum simplicitatem & mixtionem non sequi ex eorum motibus simplici & mixto. 6. De natura & naturali, & principio motus. | 7. Definitio contrariorum. 8. Ex contrarietate motuum non sequi mixtionem corporum motorum. 9. Corpora sursum missa non quiescere, ante quàm incipiant recidere. 10. Detectio paralogismi authoris. 11. Corpus ascendens motu minore non sistit corpus cui occurrit descendenti motu maiore, & quid sit motus maior & minor.

1. Nodum sextum quo continentur rationes propter quas Aristoteles et alii putarunt sphaeras coelestes esse duras⁷⁴, narratio coniecturalis, quae & satis probabilis est, & parum utilis ad scientiam veritatis, visum est praeterire, & transilire ad septimum, in quo multa sunt ad motum pertinentia examinatione non indigna. Cùm enim Aristoteli visum est distingui corpora in simplicia & mixta, & mixta quidem mutari, simplicia non mutari putarit, voluit coelestibus & elementis adscribere simplicitatem, sublunaribus caeteris mixtionem⁷⁵. Mixtionem autem ex motuum infert contrarietate, quae in motu recto esse posse inquit, in motu circulari esse non posse. Corpora simplicia ea esse ait quorum motus est simplex, & motum simplicem qui per lineas simplices fit; linea autem simplex quid sit non definit, sed quae sit recta nempe & circularis; neque definit | quid sit motus mixtus aut compositus; videndum ergo est quid sit simplex, quid compositum, quid mixtum, quid linea simplex; quid composita, quid motus simplex; quid compositus, et quo sensu corpus dicatur simplex, vel compositum, vel mixtum.

Simplex autem *unum* est, quatenus comparatum cum alio cuius ipsum est pars. *Compositum* autem definitum est supra capite 2^o, nempe *unum*,

74. *De coelo* II.7 (289.a.12-16) et II.9 (291.a.18-22).

75. *Phys.* III.v (204.b.10); *Due sistemi*, p. 61. White: *Peripateticall institutions*, 1656, pp. 55-68.

21. *De Motu circulari*
 22. *De caetera Motuum Varietate*
 23. *De Centro Aequilibrii*
 24. *De Refractione et Reflexione*

PARS QUARTA: PHYSICA SIVE DE NATURAE PHAENOMENIS 5

25. *De Sensione et Motu animali*
 26. *De Universo et Sideribus*
 27. *De Luce, Calore, et Coloribus*
 28. *De Frigore, Vento, Duro, Glacie, Flexorum
 Restitutione, Diaphano, Fulgure et Tonitru,
 et Origine Fluviorum* 10
 29. *De Sono, Odore, Sapore, et Tactili*
 30. *De Gravitate*

3 *Aequilibrii*] of *Equiponderation of Bodies pressing downwards in straight parallel lines* E

PARS I
 COMPUTATIO SIVE LOGICA

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 OL 1, 1

CAPUT I
 De Philosophia

- 5 1. *Introductio*. 2. *Philosophiae definitio explicata*. 3. *Animi ratiocinatio*. 4. *Proprietas quid*. 5. *Quomodo proprietas a generatione derivatur, et contra*. 6. *Philosophiae finis*. 7. *Utilitas*. 8. *Subjectum*. 9. *Partes*. 10. *Epilogus*.

1. Versari mihi inter homines videtur hodie Philosophia, quemadmodum frumentum et vinum fuisse in rerum natura narratur priscis temporibus.¹ Erant enim ab initio rerum vites et spicae sparsim per agros, sed satio nulla. Itaque glande vivebatur, aut si quis ignotas dubiasve baccas tentare ausus esset, cum detrimento id fecit sanitatis suae. Similiter Philosophia, id est, *Ratio naturalis*, in omni homine innata est; unusquisque enim aliquosque ratiocinatur, et in rebus aliquibus; verum ubi longa rationum serie opus est, propter rectae methodi, quasi sationis defectum deviant plerique et evagantur. Ex quo contingit sanioris iudicii vulgo haberi et esse eos, qui quotidianam experientiam tanquam glande contenti Philosophiam aut abjiciunt aut non expetunt, quam ii qui opinionibus minime vulgaribus, sed dubiis leviterque | arreptis imbuti tanquam parum sani perpetuo disputant et rixantur. Fateor quidem partem Philosophiae eam, in qua magnitudinum figurarumque rationes supputantur, egregie cultam esse. Caeterum quia in reliquis partibus similem operam positam nondum vidi, consilium in eo, quoad potero, Philosophiae universae pauca et prima Elementa tanquam semina quaedam, ex quibus pura et vera Philosophia paulatim enasci posse videtur, explicare.

OL 1, 2

1 dans AB et OL 1 seulement titre courant 2 titre imprimé dans A en caractères beaucoup plus grands, dans EB en caractères plus grands que les titres des autres parties du livre 6 a B] in A, mais corrigé dans l'errata en a 11 sed satio nulla] but no care was taken for the planting and sowing of them E 16 sationis defectum] for want of sowing and planting, that is, of improving their Reason E 23 operam positam] advancement E 25 Elementa éd.] elementa AB Elements E

1. Cf. Lucrèce, *De Rerum Natura* V, 1361-1364.

Quam difficile sit inveteratas eloquentissimorumque scripto-
rum autoritate confirmatas opiniones mentibus hominum excutere,
non ignoro. Praesertim cum Philosophia vera (id est, accurata)
orationis non modo fucum, sed etiam omnia fere | ornamenta ex
professo rejiciat; cumque scientiae omnis fundamenta prima non
modo speciosa non sint, sed etiam humilia, arida et pene deformia
videantur.

Attamen cum sint aliqui certe, quanquam pauci, quos in omni
re | veritas et rationum firmitudo ipsa per se delectat, paucis illis
operam hanc navandam esse censui. Itaque ad institutum venio.
Incipiam autem ab ipsa Philosophiae definitione.

2. *Philosophia est effectuum sive phaenomenon ex conceptis
eorum causis seu generationibus, et rursus generationum, quae esse
possunt, ex cognitis effectibus per rectam ratiocinationem acquisita
cognitio.*

Ad quam definitionem intelligendam considerare oportet primo
Sensionem atque Memoriam rerum, quae communes homini sunt
cum omnibus animantibus, etsi cognitiones sint, tamen, quia datae
sunt statim a natura, non ratiocinando acquisitae, non esse Philo-
sophiam.

Secundo cum Experientia nihil aliud sit quam memoria, Pru-
dentia autem sive prospectus in futurum aliud non sit quam ex-
pectatio rerum similium iis rebus, quas jam experti sumus, nec
prudentiam quidem Philosophiam esse censendum est.

Per Ratiocinationem autem intelligo computationem. Compu-
tare vero est *plurium rerum simul additarum summam colligere,
vel unâ re ab aliâ detractâ cognoscere residuum.* Ratiocinari igitur
idem est quod *addere et subtrahere*, vel si quis adjungat his *multi-
plicare et dividere*, non abnuam, cum *multiplicatio* idem sit quod
aequalium *additio, divisio* quod aequalium, quoties fieri potest,
substractio. Recidit itaque ratiocinatio omnis ad duas operationes
animi, *additionem et subtractionem*.

3. Quomodo autem animo sine verbis tacita cogitatione ratio-
cinando addere et subtrahere solemus, uno aut altero exemplo
ostendendum est. Si quis ergo e longinquo aliquid obscure videat,
etsi nulla sint imposita vocabula, habet tamen ejus rei ideam ean-
dem, propter quam impositis nunc vocabulis dicit eam rem esse
corpus. Postquam autem propius accesserit videritque eandem rem
certo quodam modo nunc uno, nunc alio in loco esse, habebit ejus-

4 fere ornamenta] the very ornaments E (lisant vere ou vera au lieu de fere?) 8 pas
d'alinea dans E 13 generationum] of such Causes or Generations E

dem ideam novam, propter quam nunc talem rem *animatam* vocat.
Postremo cum stans in proximo figuram ejus videat, vocem audiat
aliasque res, quae signa sunt animi rationalis, perspiciat, habet
quoque ideam tertiam, etiamsi nomen ejus nullum adhuc fuerit;
eandem scilicet, propter quam dicimus aliquid esse *rationale*. De-
nique, quando totam rem ut unam plene jam et | | distincte visam
concipit, illa idea composita est ex praecedentibus, atque hoc modo
componitur haec nomina singula *corpus, animatum, rationale* in
unum nomen *corpus animatum rationale sive hominem*. Simili-
ter ex conceptibus *quadrilateri, aequilateri, rectanguli* componitur
conceptus quadrati. Potest enim animus concipere quadrilaterum
sine conceptu aequilateri, et aequilaterum sine conceptu rectanguli,
et concepta haec singula potest conjungere in conceptum unum
sive ideam | unam quadrati. Patet ergo, quo modo animus concepta
componit. Rursus si quis hominem astantem videat, concipit totam
ejus ideam, si vero recedentem sequatur oculis tantum, amittit
ideam earum rerum, quae signa erant rationis, attamen idea ani-
mati oculis inhaerebit, itaque ex tota idea *hominis*, id est, *corporis
animati rationalis* subducitur idea *rationalis*, residua est *corporis
animati*. Deinde paulo post in distantia majore amittetur idea *ani-
mati*, residuebit idea *corporis* tantum, tandemque, cum prae distantia
amplius conspici non potest, tota idea ab oculis evanescit. Atque
his exemplis, qualis res sit animi ratiocinatio interna sine vocibus,
satis explicatum esse puto.

Non ergo putandum est computationi, id est, ratiocinationi in
numeris tantum locum esse, tanquam homo a caeteris animantibus
(quod censuisse narratur Pythagoras)¹ sola numerandi facultate di-
stinctus esset, nam et magnitudo magnitudini, corpus corpori, motus
motui, tempus tempori, gradus gradui, actio actioni, conceptus
conceptui, proportio proportioni, oratio orationi, | nomen nomini
(in quibus omne Philosophiae genus continetur) adjici adimique
potest.

Rem autem, quamcumque addimus vel adimimus, id est, in
rationes referimus, eam dicimus *considerare*, Graece λογίζεσθαι,
sicut ipsum computare sive ratiocinari συλλογίζεσθαι nominant.

2 Postremo] Thirdly E 13 aequilaterum A 10] aequilateri AB of that equality E
22 prae distantia om. E 25 explicatum éd. (cf. Wallis, Due Correction, p. 23: exem-
plo explicatum, aut comprobatum)] exemplicatum A manifest E exemplicatum
B 30 gradus] Degrees of Quality E 34 pas d'alinea dans E

1. Cette anecdote rapportée dans Aristote, *Problemata* XXX, 6 ne concerne pas
Pythagore, mais Platon.

4. Effectus autem et Phaenomena sunt corporum facultates sive potentiae, quibus alia ab aliis distinguimus, id est, unum alteri aequale aut inaequale, simile vel dissimile esse concipimus; ut in superiore exemplo, postquam ad corpus aliquod satis appropinquatum est ad percipiendum motum et incessum ejus, distinguimus ipsum ab arbore, a columna, et ab aliis certis corporibus defixis, unde incessus ille *proprietas* ejus est, quippe animalium proprius, quo a caeteris corporibus distinguitur.

A 4 5. Quomodo autem effectus cognitio ex cognita generatione acquiri potest, circuli exemplo facile intelligitur. Proposita enim figurâ planâ ad figuram circuli proxime accedente, sensu quidem, circulus necne sit, cognosci nullo modo potest; at ex cognita figurâe propositae generatione, facillime; facta enim sit figura ea ex cujuspian corporis circumductione, cujus alter terminus maneat immotus, sic ratiocinabimur: corpus circumductum eadem semper longitudine applicat sese primo ad unum radium, deinde ad alium et ad tertium, quartum, et successive ad omnes; itaque ab eodem puncto attingit circumferentiam eadem longitudine unde quaque, id est, omnes radii sunt aequales. Cognoscitur itaque a tali generatione procedere figuram, a cujus puncto uno medio ad omnia extrema aequalibus radiis attingitur.

OL I, 6
B 4 Similiter a cognita figura pervenimus ratiocinando ad generationem aliquam, etsi forte non eam quae fuit, tamen eam quae esse potuit; nam cognitâ proprietate circuli, quam modo diximus, scire, si corpus aliquod ita, ut diximus, circumducatur, circulum generari, facile est.

6. Finis autem seu scopus Philosophiae est, ut praevisis effectibus uti possimus ad commoda nostra, vel ut effectibus animo conceptis per corporum ad corpora applicationem effectus similes, quatenus humana vis et rerum materia patietur, ad vitae humanae usus industriâ hominum producantur.

Nam ut quis de rerum dubiarum difficultate superatâ vel de abditissimarum veritatum detectione apud se tacitus gaudeat et triumphet, tantae operae, quanta Philosophiae impendenda est, pretium esse non judico; neque vero cuiquam, ut se scire sciat alter, si modo nihil inde aliud consequuturum se putet, magnopere stu-

1 Phaenomena] the *Appearances* of things to sense E 3 aut B] ut A (*faute d'impression*) corrigé dans l'errata en vel 8 quo] and a faculty by which E 13 facta enim sit figura] For let it be known that the figure was made E 22 *pas d'alinéa dans E* 32 *pas d'alinéa dans E* 34-35 pretium esse non judico] is not worth E 35 ut se scire sciat alter] to teach another E (*traduction erronée*)

dendum esse censeo. Scientia propter potentiam;¹ Theorema (quod apud Geometras proprietatis investigatio est) propter Problemata, id est, propter artem construendi; omnis denique speculatio, actionis vel operis alicujus gratiâ instituta est.

5 7. Quanta autem sit Philosophiae utilitas, imprimis vero Physicae et Geometriae, tum optime intelligemus, cum praecipua humani generis, quae nunc sunt, commoda enumeravimus et institutiones eorum qui eis fruuntur, cum eorum institutionibus, qui eis carent, contulerimus. Commoda autem humani generis maxima sunt Artes, nimirum mensurandi tam corpora quam eorum motus; movendi gravissima pondera; aedificandi; navigandi; instrumenta ad omnem usum fabricandi; | motus coelestes, siderum aspectus, temporis momenta | calculandi; orbis terrarum faciem depingendi: quibus quanta bona hominibus acquisita sunt, facilius intelligitur quam dicitur. His fruuntur gentes Europaeae fere omnes, Asianae pleraeque, Africanæ aliquot, Americanæ vero et quae gentes propinquae sunt utriusque polo, omnino carent. Cur autem? An illae his acutiores sunt? An non sunt omnibus hominibus ejusdem generis animae, eadem animae facultates? Quid ergo alteris adest, alteris deest, nisi Philosophia? Harum ergo omnium utilitatum causa est Philosophia. Moralis vero et civilis Philosophiae utilitas non tam ex commodis, quae ab ea cognita, quam ex calamitatibus, quas ab ejus ignoratione habemus, aestimanda est. Calamitates autem omnes, quae humanâ industriâ evitari possunt, a bello oriuntur, praecipue vero a bello civili; hinc enim caedes, solitudo, inopiaque rerum omnium² derivatur. Causa autem horum non est, quod homines ea velint, voluntas enim nisi Boni saltem apparentis nulla est; neque quod mala haec esse nesciant; quis enim est qui caedes et paupertatem mala et molesta sibi esse non sentit? Causa igitur belli civilis est, quod bellorum et pacis causae ignorantur; et quod paucissimi sunt qui officia sua, quibus pax coalescit | et conservatur, id est, veram vivendi regulam didicerunt. Est autem hujus regulae cognitio moralis Philosophia. Quare autem eam non didicerunt, nisi quod a nemine clarâ et rectâ methodo hactenus tradita sit? Quid enim?

5-6 Physicae] of Natural Philosophy E 6 Geometriae] Geometricae OL I (*faute d'impression?*) 6-7 humani generis, quae nunc sunt] of which mankind is capable E 13 orbis terrarum faciem depingendi] of Geography &c. E 26 horum] of war E 28 haec] the effects of war E 32 veram vivendi regulam didicerunt] have learned the rules of civil life sufficiently E

1. Cf. Francis Bacon, *Novum Organum*, Livre I, III^{me} aphorisme.

2. "Inopia rerum omnium": cf. Tite-Live, *Ab urbe condita* (9, 4, 1; 25, 26, 2; 40, 41, 3).

OL I, 8 Multitudini hominum imperitorum doctores olim Graeci, Aegyptii, Romani aliique innumera dogmata de naturis deorum suorum, quae ipsi, an vera essent necne, nesciebant, | quaeque manifestissime falsa atque absurda erant, persuadere potuerunt, officia sua eidem multitudini, si ea ipsi cognovissent, persuadere non potuerunt? Vel pauca illa, quae extant, Geometrarum scripta ad controversiam omnem in iis rebus, quas tractant, tollendam valebunt; innumera illa et ingentia volumina Ethicorum, si certa et demonstrata continerent, nil valebunt? Quid denique causae excogitari potest, cur scripta illorum scientifica, horum, ut ita dicam, verbifica tantum sint, nisi quod illa a scientibus, haec ab hominibus doctrinam, quam tractant, ignorantibus eloquentiae vel ingenii sui ostentandi causâ prodierunt? Quin tamen talium librorum aliquorum lectio jucundissima sit, non negaverim. Sunt enim eloquentissimi, sententiasque multas continent luculentas et salubres minimeque vulgares. Sed quae pronuntiatae ab illis universaliter, non tamen plerumque universaliter verae sunt; unde fit, ut mutatis temporum, locorum, personarum circumstantiis non minus saepe ad sceleratorum consiliorum confirmationem quam ad praecepta officiorum percipienda adhibeantur. Quod autem maxime in illis desideratur, est regula actionum certa, unde sciri possit, justum an injustum sit, quod facturi sumus. Quod enim in unaquaque re *facere* jubent *id quod rectum est*; antequam Recti regula aliqua et mensura certa constituta sit (quam hactenus nemo constituit), inutile est. Quoniam igitur officiorum, id est, moralis scientiae ignoracionem bella civilia atque inde calamitates maximae consequuntur, ejusdem cognitioni commoda his contraria merito attribuemus. Videmus itaque universae philosophiae (ut laudem | caeteramque jucunditatem inde provenientem taceamus) quanta sit utilitas.

OL I, 9 8. Subjectum Philosophiae sive materia, circa quam versatur, est corpus omne, cujus generatio aliqua concipi et cujus comparatio secundum ullam ejus considerationem institui potest. Sive in quibus compositio et resolutio locum habet; id est, omne corpus, quod generari vel aliquam habere proprietatem intelligi potest.

Deducitur autem hoc ex ipsa Philosophiae definitione, cujus munus est vel proprietates ex generatione vel generationem ex proprietatibus investigare; ubi ergo generatio nulla aut nulla proprietas, ibi nulla Philosophia intelligitur. Itaque excludit a se Philosophia Theologiam, doctrinam dico de natura et attributis Dei aeterni,

15 vulgares. Sed *éd.*] vulgares, sed AB 19 officiorum] the precepts of Civill duties E 22 jubent *éd.*] jubent AB 24 officiorum] of Civill duties E 35 *pas d'alinéa dans E* 39 de natura et attributis Dei] of God E

ingenerabilis, incomprehensibilis, et in | quo nulla compositio, nulla divisio institui, nulla generatio intelligi potest. B 6

Excludit doctrinam de angelis et rebus illis omnibus, quae nec corpora nec corporum affectus existimantur; quia in illis locus non est compositioni nec divisioni, ut in quibus non est magis nec minus, id est, nullus locus ratiocinationi.

Excludit Historiam tam naturalem quam politicam, etsi philosophiae utilissimas (imo necessarias), quia cognitio talis aut experientia est aut autoritas, non autem ratiocinatio.

Excludit scientiam omnem, quae oritur ex divina inspiratione vel revelatione, quippe quae non est acquisita ratione, sed gratiâ divinâ et actu instantaneo (quasi sensio quaedam supernaturalis) dono data.

Excludit doctrinam omnem non modo falsam, | sed etiam non bene fundatam; nam quae recta ratiocinatione cognoscuntur, ea falsa aut dubia esse non possunt; itaque excluditur Astrologia, qualis hodie ostentatur, et caeterae hujusmodi divinationes potius quam scientiae. Postremo excluditur a philosophiâ doctrina de cultu Dei, qui non a ratione naturali, sed ab autoritate Ecclesiae cognoscendus est neque ad scientiam, sed ad fidem pertinet. OL I, 10 A 7

9. Philosophiae partes principales duae sunt. Corporum enim generationes proprietatesque quaerentibus duo corporum quasi summa genera maximeque inter se distincta sese offerunt. Unum, quod a natura rerum compaginatum, appellatur *naturale*; alterum, quod a voluntate humana conventionibus pactionibusque hominum constitutum, *civitas* nominatur. Hinc itaque oriuntur primo duae partes Philosophiae, *Naturalis* et *Civilis*. Deinde vero, quia ad cognoscendas civitatis proprietates necessarium est, ut hominum ingenia, affectus, mores ante cognoscantur, Philosophia civilis rursus in duas partes scindi solet, quarum ea quae de ingeniis moribusque tractat, *Ethica*, altera, quae de officiis civium cognoscit, *Politica* sive *Civilis* simpliciter nominatur. Dicemus itaque (postquam ea quae ad Philosophiae ipsius naturam pertinent, praemiserimus) primo loco de *Corporibus naturalibus*; secundo de *ingenio et moribus Hominis*; tertio de *officiis Civium*.

10. Postremo cum sint fortasse nonnulli, quibus definitio Philosophiae supra tradita non placet, quique libertate ad arbitrium definiendi concessa quidlibet ex quolibet concludi posse dicitant | (quamquam hanc ipsam definitionem convenire cum sensu omnium OL I, 11

18 *après* scientiae. *alinéa dans E* 26-27 oriuntur primo duae partes] spring the two parts E 35 *Civium éd.*] *civium AB of Subjects E* 36 quibus *éd.*] cui AB

hominum non difficulter ostendi posse putem), tamen ne ea de re disputandi aut mihi aut illis causa sit, profiteor me hac operam traditurum esse Elementa scientiae ejus quae ex cognitâ rei generatione investigantur effectus, vel contra ex cognito effectu generatio ejus, ut illi, qui Philosophiam aliam quaerunt, eam aliunde petere admoneantur. 5

4 ex cognito effectu] from the Effects E

CAPUT II De Vocabulis

A 8
B 7

1. *Monimentorum sensibilium sive Notarum ad memoriam necessitas. Notae definitio.* 2. *Eorundem necessitas ad significandos animi conceptus.* 3. *Utrumque horum praestant Nomina.* 4. *Nominis definitio.* 5. *Nomina signa sunt non rerum, sed cogitationum.* 6. *Nomina quarum rerum sint.* 7. *Nomina positiva et negativa.* 8. *Nomina contradictoria.* 9. *Nomen commune.* 10. *Nomina primae et secundae intentionis.* 11. *Universale, Particulare, Individuum, Indefinitum.* 12. *Nomen univocum et aequivocum.* 13. *Nomen absolutum et relativum.* 14. 10 *Nomen simplex et compositum.* 15. *Praedicamenti descriptio.* 16. *Notanda quaedam circa praedicamenta.*

1. Quam sint cogitationes hominum fluxae et caducae, quamque fortuita earum repetitio, nemini deesse possunt certissima in semet ipso experimenta. Neque enim quantitatum sine sensibilibus et 15 praesentibus mensuris, neque colorum sine sensibilibus et praesentibus exemplaribus, neque | numerorum sine nominibus numeralibus (ordine dispositis memoriterque recitatis) meminisse quisquam potest. Itaque absque aliquo tali adjumento, quicquid homo apud animum suum ratiocinando collectum habuerit, statim elabitur, nec 20 potest nisi iterato opere revocari. Ex quo sequitur ad Philosophiae acquisitionem necessaria esse monimenta aliqua sensibilia, quibus et reduci cogitationes praeteritae et suo quaeque ordine tanquam registrari possint. Hujusmodi monimenta sunt, quas vocamus *Notas*; nimirum *res sensibiles arbitrio nostro adhibitae, ut illarum sensu 25 cogitationes in animum revocari possunt similes iis cogitationibus, quarum gratia sunt adhibitae.*

2. Rursus etsi unus aliquis homo quamquam excellentis ingenii partim ratiocinando, partim *notas* ad memoriam adjuvandam inveniendae atque ediscendo tempus suum omne contereret, quis 30 illum non videt neque sibi multum et aliis nihil profuturum? Nisi enim monimenta, quae invenerit sibi, communia quoque aliis sint, scientia ejus cum ipso peribit. | Quod si communia sint multis eadem

OL I, 12

A 9

2 De Vocabulis] Of Names E 4-5 *Utrumque horum*] both those necessities E 13-14 semet ipso *éd.*] semetipso AB 20 ad Philosophiae *éd.*] ad Philosophiae AB of Philosophy E 22-23 tanquam registrari] registred E 31 quae invenerit sibi *om.* E

monimenta sive *notae*, et quae ab uno inveniuntur, aliis tradita fuerint, cum universi generis humani utilitate scientiae augeri possunt. Itaque ad Philosophiae traditionem necessarium est, ut sint signa aliqua, quibus, quae ab aliis excogitata sunt, aliis patefieri et demonstrari possint. *Signa* autem vocari solent *antecedentia* | *consequentium* et *consequentia antecedentium*, quoties plerumque *ea simili modo praecedere et consequi experti sumus*. Exempli gratia, nubes densa signum est consequuturæ pluviae, et pluvia signum antecedentis nubis, ob eam causam, quod raro nubem | densam sine sequente pluvia, pluviam autem sine antecedente nube numquam experti sumus. Signorum autem alia naturalia sunt, quorum exemplum est, quod modo dixeramus; alia arbitraria, nimirum quae nostra voluntate adhibentur, qualia sunt suspensa hedera ad significandum vinum venale, lapis ad significandum agri terminum, et voces humanae certo modo connexae ad significandas animi cogitationes et motus. *Notae* ergo et signi differentia est, quod illa nostri, hoc aliorum gratia institutum sit.

3. Voces humanae sic, ut cogitationum signa sint, connexae, *Oratio*, partes vero singulae *Nomina* appellantur. Cum autem Philosophiae, ut diximus, et *notae* et *signa* (*notae*, ut recordari, *signa*, ut demonstrare cogitationes nostras valeamus) necessaria sint, nomina utramque rem praestant. Sed *notarum* prius quam *signorum* officio funguntur. Nam homini, etsi unicus in mundo existeret, inservirent quidem ad memoriam, cum tamen ad demonstrationem, nisi alius sit, cui demonstret, inservire non possent. Praeterea, nomina per se singula *notae* sunt, nam cogitata revocant etiam sola, signa vero non sunt, nisi quatenus in oratione disponuntur et partes ejus sunt. Verbi gratia, vox *homo* excitat quidem in audiente ideam hominis, non tamen (nisi quis addat *est animal* vel aliud aliquid aequivalens) significat aliquam ideam fuisse in animo loquentis, sed voluisse eum aliquid dicere, quod potuit quidem incipere a voce *homo*, potuit vero etiam a voce *homogeneum*. Natura itaque *nominis* consistit

1 monimenta sive *notae*] notes E 3 traditionem A 10] acquisitionem AB the acquiring E 5 demonstrari] made known E 14 lapis] a stone set in the ground E 15 voces humanae] words E 16 illa A 10 et OL I] illae AB those E 18 Voces humanae] Words E 19 *Nomina* éd.] *Nomina* AB *Name* E 19–20 Philosophiae] for the acquiring of Philosophy E 21 demonstrare] make ... known to others E 24–25 ad demonstrationem, nisi alius sit, cui demonstret] to teach others, (unless there were some others to be taught.) E 26 etiam sola éd.] etiam solae AB 28–32 vox *homo* ... voce *homogeneum*] a man may begin with a word, whereby the hearer may frame an Idea of something in his mind, which nevertheless he cannot conceive to be the Idea which was in the mind of him that spake, but that he would say something which began with that word, though perhaps not as by it selfe, but as part of another word E 29 *est animal* éd.] *est animal* AB

primario in eo, quod sit *nota* adhibita memoriae causâ; accidit autem, ut serviat quoque significandis demonstrandisque iis rebus, | quas memoriâ tenemus. Definiemus igitur nomen hoc modo.

4. *Nomen est vox humana arbitrato hominis adhibita, ut sit nota, quâ cogitationi praeteritae cogitatio similis in animo excitari possit, quaeque in oratione disposita et ad alios prolata signum | iis sit, qualis cogitatio in ipso proferente praecessit vel non praecessit.* Quod autem nomina ab arbitrio hominum orta esse supposuerim, rem minime dubiam brevitatis causa assumi posse judicavi; cui enim, qui verba quotidie nova nasci, vetera aboleri, diversa diversis gentibus in usu esse, denique qui inter res et verba neque similitudinem esse neque comparisonem ullam institui posse videt, in animum venire potest naturas rerum sibimet ipsis nomina sua prae-buisse? Quamquam enim nomina quaedam animalium aliarumque rerum, quibus parentes nostri primi uterentur, docuerit Deus,² ea tamen arbitrio suo posuit, et postea tum ad turrim Babel, tum etiam procedente tempore passim in desuetudinem et oblivionem abierunt aliaque in eorum locum arbitrio hominum inventa et recepta successerunt.

20 Porro quicumque vulgo vocabulorum usus sit, Philosophis tamen, qui scientiam suam aliis tradituri sunt, nomina ad sensus suos significandos, quae voluerint, modo se intelligi faciant, adhibendi potestas semper, etiam necessitas quandoque fuit atque erit. Nam Mathematicis, ut figuras a se inventas *parabolas*, *hyperbolas*, *cissoeides*, *quadratrices*, etc. appellarent, vel ut magnitudines nominarent aliam A, aliam B, non erat a quoquam impetrandum nisi a se ipsis.

5. Quoniam autem nomina, ut definitum est, disposita in oratione signa sunt conceptuum, manifestum est ea non esse signa ipsarum rerum; quo sensu enim intelligi potest sonum hujus vocis *lapis* esse signum lapidis, alio, quam ut is qui vocem eam audisset, colligeret loquentem de lapide cogitasse? Itaque disputatio illa, an nomina significant *materiam*, an *formam*, an *compositum*, ali-

2 demonstrandisque] and make known to others E 4 vox *humana*] a Word E 6 quaeque in oratione disposita et ad alios prolata] and which being pronounced to others E 13 sibimet ipsis éd.] sibimetipsis AB 20 pas d'alinea dans E 22 modo se intelligi faciant] if they would have it understood E 25 etc. éd.] etc. AEB 31 lapidis éd.] lapidis AB of a Stone E 21.33–22.1 aliaque ejusmodi metaphysicorum, errantium sunt] and other like subtleties of the *Metaphysicks*, is kept up by erring men E

1. Cf. Platon, *Cratyle*, 383a.

2. Selon Genèse 2,19 sq. c'est toutefois l'homme qui donne lui-même un nom à chacun des animaux que Dieu lui présente.

aeque ejusmodi metaphysicorum, errantium sunt nec intelligentium verba, de quibus disputant.

6. Neque vero ut omne nomen alicujus rei nomen sit, necessarium est. Sicut enim voces *homo*, *arbor*, *lapis* ipsarum rerum nomina sunt, ita quoque imagines hominis, arboris, lapidis, quae 5
occurrunt somniantibus, sua sibi habent nomina, quamvis res non sint, sed rerum figmenta tantum et phantasmata. Datur enim ipsarum meminisse, ideoque nominibus eas non minus quam res ipsas notari et significari oportet. Etiam vox haec *futurum* nomen est, sed res futura nondum ulla est, neque scimus, quod futurum vocamus, an 10
futurum nunquam sit; attamen quia cogitatione praeterita praesentibus subnectere soliti sumus, nomine *futuri* talem subnexionem significamus. Porro quod neque est neque fuit neque erit | neque 11
esse potest, nomen tamen habebit, hoc ipsum scilicet *quod neque est neque fuit*, etc. vel brevius hoc *impossibile*. Denique vox haec *nihil* 15
nomen est, rei tamen nomen esse non potest. Nam si (exempli gratia) subducentes binarium et ternarium ex quinario non videmus ullum residuum, si illius subductionis meminisse velimus, oratio haec *Nihil residuum est* et in illa nomen *nihil* inutile non est. Propter eandem 20
rationem etiam *minus quam* | *nihil* dicitur recte de residuo, ubi majus detrahitur a minore. Hujusmodi enim residua doctrinae causâ fingit sibi animus cupitque, quoties opus est, in memoriam revocare. Quoniam autem *nomen* omne ad aliquod *nominatum* relationem habeat, etsi nominatum non semper res sit existens in rerum natura, licebit tamen doctrinae causa pro *nominato rem* dicere, tanquam 25
idem esset, sive *res* illa vere existat, sive ficta sit.

7. Nominum distinctio prima erit, quod alia sint *positiva* sive 10
affirmativa, alia *negativa*, quae et *privativa* et *infinita* appellari solent. *Positiva* sunt, quae propter similitudinem, aequalitatem vel identitatem; *negativa*, quae propter diversitatem vel dissimilitudinem vel inaequalitatem rerum cogitarum imponuntur. Illorum 30
exempla sint *homo*, *philosophus*, nam *homo* quemlibet e multis hominibus, *philosophus* quemlibet e multis philosophis denotat propter omnium similitudinem; item *Socrates* positivum nomen est, propterea quod unum semper atque eundem denotat. *Negativorum* 35
exempla sunt, quae fiunt ex adjecta ad *positivum* particula *negativa* non ut *non homo*, *non philosophus*. Sunt autem *positiva negativis* priora, neque enim nisi praexistentibus illis usus horum esse potuit;

15 etc. éd.] etc. AEB 26 esset éd.] essent AB it were E 28 infinita] Indefinite E 33 philosophus éd.] Philosophus AB a Philosopher E 37 non homo, non philosophus éd.] non-Homo, non-Philosophus AB Not-Man, Not-Philosopher E

nam cum nomen *albi* certis rebus impositum est, deinceps vero aliis rebus nomina *nigri*, *caerulei*, *diaphani*, etc., non poterunt horum omnium cum *albo* dissimilitudines, quae numero infinitae sunt, uno nomine praeterquam *albi* negatione, hoc est, nomine *non albi* vel huic aequipollenti, in quo vox *albi* repetitur (quale est *albo dissimile*), contineri. Atque his negativis | revocamus in animum et 5
significamus, quid non cogitavimus. OL I, 17

8. Nomen autem *positivum* et *negativum* contradictoria inter se sunt, ita ut ejusdem rei nomina ambo esse non possint. Praeterea 10
contradictoriorum nominum alterum quidem cujuslibet rei nomen est. Quicquid enim est, vel homo est vel non homo, album vel non album, et sic de caeteris. Quod quidem manifestius est, quam ut probari aut explicari amplius debeat. Nam qui hoc sic enuntiant 11
Idem non potest esse et non esse, obscure; qui vero sic *Quicquid est, vel est vel non est*,¹ etiam absurde et ridicule loquuntur. Hujus axiomatis certitudo, nimirum *Duorum nominum contradictoriorum alterum cujuslibet rei nomen esse, alterum non esse*, principium est et fundamentum omnis ratiocinationis, id est, omnis Philosophiae; itaque accurate enuntiari debuit, ut omnibus per se clara et perspicua 15
esset, sicut revera est, nisi iis qui longos de hac re sermones apud Metaphysicos legentes, ubi nihil vulgare dici putant, id quod intelligunt, intelligere se nesciunt.

9. Deinde nominum alia sunt pluribus rebus *communia* ut *homo*, *arbor*; alia singulis rebus *propria* ut *Is qui scripsit Iliadem*, *Homerus*, *hic*, *ille*. Nomen autem *commune*, cum sit plurium rerum sigillatim sumptarum nomen, non autem collective omnium simul (ut *homo* non est generis humani nomen, sed uniuscujusque ut Petri, Johannis, et caeterorum hominum seorsim), vocatur ob eam rem *universale*. Est ergo nomen hoc *universale* non rei alicujus 20
existentis in rerum natura neque ideae sive phantasmatis alicujus in | animo formati, sed alicujus semper vocis sive nominis nomen. Ita OL I, 18
ut, cum dicatur animal vel saxum vel spectrum vel | aliud quicquam B 11
esse universale, non intelligendum sit ullum hominem, saxum,

2 etc. éd.] etc. AEB 4-5 non albi éd.] Non-albi AB 5-6 albo dissimile] Unlike to white, &c. E 7 significamus] signifie to others E 11 non homo éd.] Non-homo AB 13 qui hoc sic enuntiant] they that say E 16-17 Duorum nominum ... non esse éd.] (duorum nominum contradictoriorum, alterum cujuslibet rei nomen esse, alterum non esse) AB Of two Contradictory Names, one is the Name of any thing whatsoever, the other not E 21 Metaphysicos] the Writers of Metaphysics E 23 Deinde] Secondly E 28 ob B] ab A (faute d'impression) 29 nomen] word E

1. Probablement une citation peu précise de Franciscus Suarez, *Disputationes Metaphysicae*, Disputatio III, Sectio III, no. V.

etc. fuisse, esse aut esse posse universale, sed tantum voces eas
animal, saxum, etc. esse nomina universalia, id est, nomina pluribus
 rebus communia, et respondentem ipsis in animo conceptus sunt
 singularium animalium vel aliarum rerum imagines et phantasmata.
 Ideoque non est opus ad vim universalis intelligendam alia facultate
 quam imaginativa, qua recordamur voces ejusmodi modo unam
 rem, modo aliam in animo excitasse. *Communium* etiam *nominum*
 alia sunt magis, alia minus *communis*; magis *commune* est, quod
 plurium, minus, quod pauciorum rerum nomen est. Ut *animal* magis
 commune est quam *homo* vel quam *equus* aut *leo*, quia illud haec
 omnia complectitur; itaque nomen magis commune respectu minus
 communis, quod sub ipso continetur, *genus* vel *generale* dici solet,
 hoc vero illius *species* vel *speciale* dicitur.

10. Atque hinc distinctio nominum tertia existit, videlicet ut alia
primae, alia *secundae intentionis* dicta sint. Primae intentionis sunt
 nomina rerum ut *homo, lapis*, secundae sunt nomina nominum et
 orationum ut *universale, particulare, genus, species, syllogismus*,
 et similia. Quare autem illa primae, haec secundae intentionis dicta
 sunt, difficile est pronuntiare; nisi forte iis rebus nomina imponere,
 quae ad vitam quotidianam conducebant, intentio prima, deinde
 vero iis rebus, quae pertinebant ad scientiam, id est, nominibus dare
 nomina, posterior et secunda cura fuerit. Sed quacunque de causa
 hoc factum sit, manifestum tamen est *genus, species, definitionem*
 non esse nomina aliarum rerum praeterquam vocum et nominum;
 et propterea non recte poni in *Metaphysicis* *genus* et *speciem* pro
 rebus et definitionem pro rei natura, cum sint tantum cogitationum
 nostrarum de natura rerum significationes.

11. Quarto nominum alia sunt significationis certae sive deter-
 minatae, alia indeterminatae sive indefinitae. Determinatae et
 certae significationis est primo nomen, quod unius tantum rei est, et
 vocatur *individuum* ut *Homerus, haec arbor, illud animal*. Secundo
 quod habet adjectam vocem *omne, quodlibet, utrumque, utrumvis*
 vel aliam aequipollentem. Vocatur autem *universale*, quia nomen
 est uniuscujusque in illis pluribus, quibus commune est. Sunt autem
 significationis certae propterea, quod is qui audit, concipit animo
 rem, quam loquens conceptam vellet. *Indefinitae* significationis

1 fuisse, esse aut esse posse] ever was or can be E 2 etc. éd.] etc. AEB 5 vim
 universalis éd.] vim *Universalis* AB the extent of an Universal name E 12 quod
 sub ipso continetur om. E 16 lapis] Stone, &c. E 23 definitionem] Defini-
 tion, &c. E 25 in *Metaphysicis*] as the Writers of *Metaphysics* have done E
 29 indeterminatae sive indefinitae] of *uncertaine* and *undetermined* E 30 unius
 tantum rei est] is given to any one thing by it self E 31 animal.] living Creature,
 &c. E 32 omne, quodlibet] All, Every E (traduction erronée)

nomen est primo cui adjicitur vox *aliqua, quaedam* vel alia his
 aequipollens, et vocatur *particulare*. Deinde nomen commune nude
 positum sine notâ ullâ aut universalitatis aut particularitatis ut *homo*,
lapis, vocaturque *indefinitum*, utrumque autem, *particulare* et *inde-*
 5 *finitum*, ideo incertae sunt significationis, quia is qui audit, nescit,
 de qua re is qui loquitur, sese intelligi velit. Itaque in oratione nomen
indefinitum et *particulare* pro aequivalentibus censi debent.

Sunt autem voces illae universalitatis et particularitatis *omne*,
quodlibet, aliquod, etc. non nomina, sed nominum partes, ut idem
 sit *omnis homo* et *Homo ille, quem audiens animo concipiet*, et
quidam homo idem quod *Homo ille, quem loquens animo jam*
concepit. Ex quo intelligi etiam potest hujusmodi signorum usum
 esse homini non propter se sive ad scientiam propria meditatione
 acquirendam (habet enim unusquisque cogitationem suam sine his
 determinatam), sed propter alios, id est, ad docendum et ad concep-
 tus suos aliis significandos; nec fuisse ea memoriae, sed colloquii
 causâ excogitata.

12. Solent etiam distingui nomina in *univoca* et *aequivoca*, ut
univoca sint, quae in eadem serie ratiocinationis idem semper signi-
 20 *ficant, aequivoca* vero, quae nunc uno, nunc alio modo intelligenda
 sunt. Ut si quis nomen trianguli *univocum* esse diceret, quod in
 eodem sensu semper accipiatur, parabolam vero *aequivocum*, quia
 quandoque allegoriam aut similitudinem, quandoque figuram quan-
 dam geometricam denotat. Etiam omnis metaphora ex professo
 25 *aequivoca* est; sed distinctio haec non est ipsorum nominum, sed
 iis utentium, quorum alii vocibus (ad eliciendam veritatem) proprie
 et accurate utuntur, alii ad ornatum vel ad fallaciam abutuntur.

13. Quinto nominum alia *absoluta*, alia *relativa* appellantur.
Relativa sunt, quae imponuntur propter comparisonem ut *pater*,
 30 *filius, causa, effectus, simile, dissimile, aequale, inaequale, domi-*
nius, servus, etc. Quae vero non ad significandam comparisonem
 imponuntur, ea vocantur *absoluta*. Sicut autem de universalitate
 dictum est, eam vocibus, non rebus attribui oportere, sic etiam de

8 pas d'alinéa dans E 8 particularitatis B] particularibus A (faute d'impression?),
 mais corrigé dans l'errata en particularitatis Particularity E 8-9 omne, quodli-
 bet] All, Every E (traduction erronée) 9 etc. éd.] etc. AEB 10 homo ille éd.]
 Homo ille AB That Man E 11 quidam homo éd.] quidam homo AB Some Man E
 16-17 memoriae, sed colloquii causâ] onely to make us remember, but to make us
 able to discourse with others E 18 etiam] Fifthly E 19 serie ratiocinationis] train
 of Discourse E 20 vero éd.] vere AB but E 22 aequivocum éd.] Aequivocum
 AB Equivocall E 28 Quinto] Sixt(h)ly E 28-29 alia absoluta, alia relativa
 appellantur. Relativa éd.] alia Absoluta, alia Relativa appellantur. Relativa AB
 some are Absolute, others Relative. Relative E 33 vocibus] to Words & Names onely E

A 13

OL I, 19

B 12

OL I, 20

A 14

OL I, 21

caeteris nominum distinctionibus dicendum est; nimirum, nullam rem *univocam* aut | *aequivocam*, *relativam* aut *absolutam* esse. Est quoque alia nominum distinctio in *concreta* et *abstracta*, sed quoniam nomina abstracta orta sunt a propositione nec potuerunt constitui sine supposita affirmatione, de iis dicemus suo loco (cap. 3., art. 3.).

B 13

14. Sexto nomina alia *simplicia*, alia *composita* sive conjuncta sunt. Imprimis autem monendum est nomen non ita in Philosophia sumi sicut in Grammatica, ut unum nomen sit, quod una constat voce, sed quod simul sumptum nomen sit unius rei. Nam Philosophis totum hoc *corpus animatum sentiens* unum nomen est, quia unius rei, nimirum uniuscujuscunque animalis, quae tamen Grammaticis tria sunt nomina. *Simplex* a *composito* non distinguitur ut in Grammatica *per praepositionem*. *Simplex* nomen hic appello, quod in unoquoque genere communissimum sive universalissimum est. *Compositum* vero, quod per adjunctum aliud nomen fit minus universale significatque plures conceptus extitisse in animo, | propter quos nomina illa posteriora addita sunt. Exempli causa, in conceptu hominis (sicut in superiore capite indicatum est)¹ primus conceptus est eum aliquid esse extensum, cui rei notandae adhibitum est nomen *corpus*; itaque *corpus* est nomen simplex, positum scilicet pro unico illo primo conceptu; deinde cum video illam moveri tali modo, alius nascitur conceptus, propter quem nominatur *corpus animatum*, quod nomen hic *compositum* appello, sicut etiam nomen *animal*, quod *corpori animato* aequivalet. Eodem modo *corpus* | *animatum rationale* ipsique aequivalens | *homo* magis adhuc compositum est. Atque sic videmus compositionem conceptuum in animo respondere compositioni nominum; nam ut in animo una idea sive phantasma alteri supervenit et huic aliud, ita nomini unum aliud atque aliud superadditur, et fit ex omnibus unum nomen compositum. Cavendum tamen est, ne putemus eodem modo componi ipsa corpora extra animum, nimirum esse in rerum natura corpus sive existens aliquid imaginabile, quod primo nullam omnino habeat magnitudinem, deinde addita magnitudine

A 15
OL I, 22

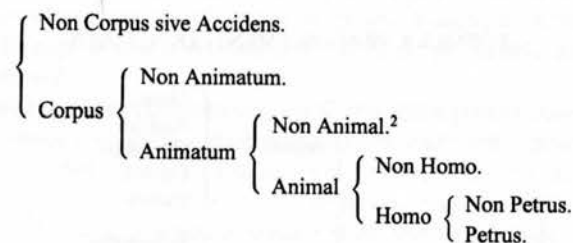
5-6 (cap. 3., art. 3.) éd.] (Cap. 3. art. 4.) AB (la seule note marginale dans De Corpore, reliée à dicemus par un astérisque; c'est seulement par erreur qu'elle ne fut pas incorporée dans le texte) om. E 7 Sexto] Lastly E 7 composita sive conjuncta] Compounded E 11 totum hoc om. E 12 quia unius rei om. E (par erreur) 16 Compositum éd.] Compositum AB a Compounded Name E 24 nomen hic compositum appello éd.] nomen hic compositum appello AB this I here call a Compounded Name E

1. Cf. I.3.

fiat quantum et pro magnâ vel parvâ quantitate appositâ densum aut rarum, et rursus adjunctâ figurâ fiat figuratum et postea injecto lumine vel colore lucidum et coloratum, quamquam sint nonnulli, qui sic philosophati sunt.¹

- 5 15. Scriptores logici nomina (per omnia rerum genera) minus communia magis communibus subordinando in quasdam scalas sive gradus digerere conati sunt. Velut in genere corporum primo et summo loco *corpus* simpliciter ponere, deinde sub eo nomina minus communia, quibus limitetur et determinatius fiat, nimirum
- 10 *animatum* et *inanimatum*, et sic deinceps, donec perveniatur ad *individua*; similiter in genere quantitatum primo et summo loco ponunt *quantum*, deinde *lineam*, *superficiem*, et *solidum*, nomina minus lata. Atque hos ordines nominum sive scalas appellare solent *Praedicamenta* et *Categorias*. Ordinantur autem nomina non
- 15 modo *positiva*, sed etiam *negativa*. Exempla autem sive *Formulae Praedicamentorum* hujusmodi esse possunt.

FORMULA PRAEDICAMENTI CORPORUM

A 16 B 14
OL I, 23

Consideratur autem
tum Accidens tum Corpus { absolute ut { Quantitas; tantum.
vel { Qualitas; tale.
comparate, et dicitur Relatio.

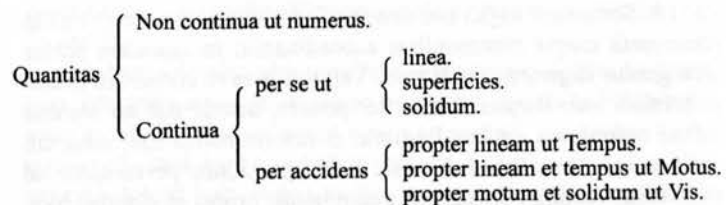
7 Velut in genere] In the Scale E 8 eo éd.] ea AB 11 in genere] in the Scale E 17 dans la Formula Praedicamenti Corporum: Animatum éd.] animatum AB

1. Cf. Kenelm Digby, *Two Treatises, in the one of which the Nature of Bodies, in the other, the Nature of Mans Soule is looked into, in way of discovery of the Immortality of Reasonable Souls*, Paris 1644, First Treatise, ch. III, VI et VIII.

2. Pour Hobbes, la division de l'*Animatum* en *Non Animal* et *Animal* est, en ce qui concerne le *Non Animal*, contradictoire, tandis que, dans le cas de l'*Animal*, elle est tautologique. Comme le montre le parallèle avec *De Motu*, VII.5, Hobbes emprunte cette division à la logique scolastique de son temps, pour laquelle *Animatum* est le nom de tout ce qui possède la vie, alors qu'*Animal* désigne plus précisément le vivant doué de sensation et *Non Animal* par conséquent la plante.

? voir
p 29

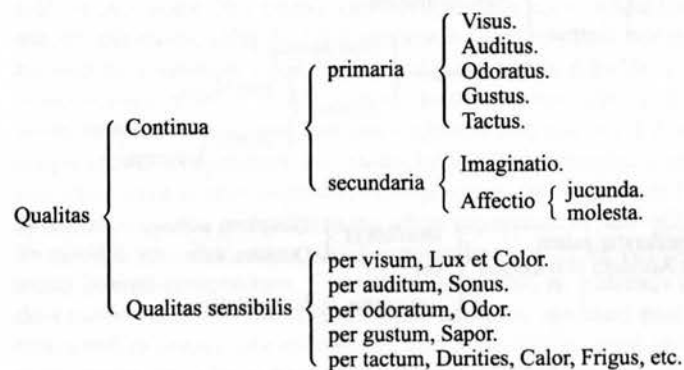
FORMULA PRAEDICAMENTI QUANTITATUM

A 17
B 15

Ubi notandum est *lineam*, *superficiem*, et *solidum* tanta dici, id est, aequalitatis et inaequalitatis capacia esse primario et naturâ suâ; *tempus* autem nisi propter *lineam* et *motum*; *velocitatem* nisi propter *lineam* et *tempus*; postremo *vim* nisi propter *solidum* et *velocitatem* alia aliis majora, minora vel aequalia, aut omnino quantitates dici non posse.

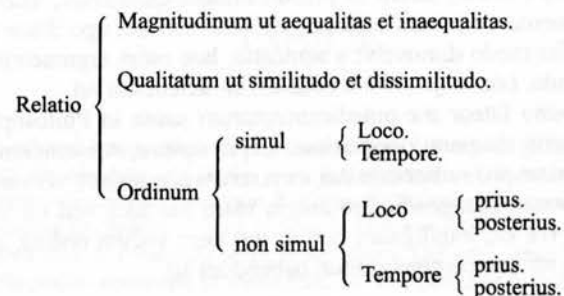
OL I, 24

FORMULA PRAEDICAMENTI QUALITATIS



4 *velocitatem*] *Motion* E 5 *velocitatem*] *Motion* E 6 quantitates AB] quantitatibus OL I (*faute d'impression*) 8 *dans la Formula Praedicamenti Qualitatis: Qualitas sensibilis A*] *Sensible Quality* E Sensibilis B

FORMULA PRAEDICAMENTI RELATIONIS



16. Circa quae Praedicamenta notandum imprimis est, quod sicut in primo factum est, ita fieri posse in caeteris, ut divisio semper sit in nomina contradictoria; nam ut ibi *corpus* dividitur in *animatum* et *non animatum*, ita in praedicamento secundo potest *quantitas continua* dividi in *lineam* et *non lineam*, et rursus *non linea* in *superficiem* et *non superficiem*, et sic in caeteris, sed non fuit necesse.

A 18
B 16

Secundo observandum est, quod nominum *positivorum* inferioris semper continetur a superiore, *negativorum* vero superioris ab inferiore. Nam, | exempli gratia, *animal* nomen est uniuscujusque hominis, et ideo continet in se nomen *homo*, cum contra *non homo* nomen sit uniuscujusque rei, quod non est animal, ideoque nomen *non animal*, quod ponitur superius, continetur ab inferiore nomine *non homo*.

OL I, 25

Tertio cavendum est, ne putemus, sicut nomina, ita etiam rerum ipsarum diversitates hujuscemodi distinctionibus per contradictoria exauriri aut numero limitari posse; aut argumentum inde sumi (ut ridicule quidam fecerunt)¹ ad probandum rerum ipsarum species non esse infinitas.

5 *non animatum* OL I] *Non-animatum* AB 6 *non lineam* éd.] *non-lineam* AB 6-7 *non linea* éd.] *non-linea* AB 10 *negativorum* éd.] *Negativorum* AB of *Negatives* E 12 *non homo* éd.] *Non-homo* AB 14 *non animal* éd.] *Non-Animal* AB 15 *non homo* éd.] *Non-homo* AB 17-18 per contradictoria exauriri aut numero limitari posse] may be searched out and determined E

1. Cf. Thomas White, *De Mundo Dialogi tres*, Paris 1642, pp. 59-61 et 321 (cf. *De Motu*, VII.5 et XXXI.7).

Quarto nolo quemquam arbitrari praedictas has formulas pro
 certa et vera nominum ordinatione a me exhiberi; nam hujusmodi
 ordinatio nisi a Philosophiâ perfectâ stabiliri non potest; neque si
 ego, exempli causa, lucem in praedicamento qualitatuum, alter in
 praedicamento corporum collocet, ob eam rem aut ego illum aut
 ille me ullo modo dimovebit a sententia; hoc enim argumentis et
 ratiocinando, non dispositione vocularum faciendum est.

Postremo fateor me praedicamentorum usum in Philosophia
 hactenus non magnum perspexisse. Cepit, opinor, Aristotelem li-
 bido quaedam pro autoritate sua, cum rerum non posset, verborum
 tamen censum peragendi; ego autem idem hic feci, sed eo fine,
 ut, qualis res sit, intelligatur, non ut pro vero vocum ordine, nisi
 postquam ratione comprobabitur, habendum sit.

CAPUT III De Propositione

A 19
 OL I, 26

1. *Orationum species diversae.* 2. *Propositionis definitio.* 3. *Quid sint Sub-
 jectum, Praedicatum, et Copula, et quid Abstractum et Concretum.* 4. *Usus
 et abusus nominum abstractorum.* 5. *Propositio universalis et particularis.* 6.
 5 *Affirmativa et negativa.* 7. *Vera et falsa.* 8. *Verum et falsum in oratione, non
 in rebus esse.* 9. *Propositio prima et non prima, Definitio, Axioma, Petitio.*
 10. *Propositio necessaria et contingens.* 11. *Categorica et hypothetica.* 12.
Propositio eadem multis modis proferitur. Quae ad eandem categoricam reduci B 17
 10 *possunt, aequipollentes esse.* 13. (*Categoricam necessariam suae hypotheticae
 aequipollentem esse.*) 14. *Universales conversas per nomina contradictoria
 aequipollentes esse.* 15. *Negativas easdem esse, sive negatio ante, sive post
 copulam ponatur.* 16. *Particulares simpliciter conversas aequipollentes esse.*
 17. *Quae sint subalternae, contrariae, subcontrariae, contradictoriae.* 18. *Quid
 15 sit Consequentia.* 19. *Falsum ex veris non sequi.* 20. *Quomodo propositio
 propositionis sit causa.*

1. Ex connexionione sive contextu nominum, orationis diversae oriun-
 tur species. Quarum aliae desideria et affectus hominum significant,
 quales sunt *interrogationes*, quae desiderium significant cognos-
 20 cendi ut *Vir bonus est quis?*,¹ ubi nomen unum ponitur, alterum
 desideratur atque ab eo quem interrogamus, expectatur; *precatio-
 nes*, quae desiderium significant aliquid habendi; *promissiones*,
comminationes, *optiones*, *jussiones*, *lamentationes* aliaque aliorum
 25 affectuum indicia. Potest etiam esse oratio omnino absurda et in-
 significans, nimirum ubi nominum seriei nulla in animo respon-
 det series conceptuum; quemadmodum saepe accidit hominibus,
 qui de rebus valde subtilibus cum nihil intelligant, intelligere ta-
 men videri volunt, ut verba proferant incohaerentia. Nam | ver-
 borum etiam incohaerentium connexio, etsi orationis fine (id est
 30 significatione) careat, oratio tamen est, occurritque apud scriptores

OL I, 27

4 4. om. E 7 non prima éd.] non-prima AB 10 AEB donnent comme sommaire
 de l'article 13 la phrase précédente, mais celle-ci résume la fin de l'article 12 et doit
 donc être incorporée dans le sommaire de cet article; c'est pourquoi il convenait
 d'établir un sommaire propre à 13. 18 species. Quarum éd.] species; quarum
 AB 19 quales sunt] such are first E 20 ponitur] there is ... expressed E
 21-22 precationes éd.] Precationes AB Then Prayers E

1. Horace, *Epistulae* I 16, 40.

3 stabiliri éd.] stabiliri AB be performed E 7 vocularum] of words into Classes E

A 20 metaphysicos non multo minus saepe quam oratio significativa. Philosophiae unica orationis species est, quam | vocant alii quidem *Dictum*, alii *Enuntiatum* et *Pronuntiatum*,¹ plerique autem *Propositionem*; videlicet orationem *affirmantium* vel *negantium*, notamque veritatis et falsitatis.

2. Est autem *Propositio oratio constans ex duobus nominibus copulatis, qua significat is qui loquitur, concipere se nomen posterius ejusdem rei nomen esse, cujus est nomen prius*; sive (quod idem est) nomen prius a posteriore contineri. Exempli causa, oratio haec *Homo est animal*, in qua duo nomina copulantur per verbum *est, propositio* est; propterea quod qui sic dicit, significat putare se nomen posterius *animal* nomen esse rei ejusdem, cujus nomen est *homo*, sive nomen prius *homo* contineri in nomine posteriore *animal*.

(3.) Solet autem nomen prius *Subjectum* vel *Antecedens* vel *Contentum*, posterius *Praedicatum*, *Consequens* vel *Continens* appellari.² Signum connexionis in plerisque gentibus vel est vox aliqua ut illa *est* in propositione *Homo est animal* vel vocis casus sive terminatio aliqua, ut in hac propositione *Homo ambulat* (quae idem valet quod *Homo est ambulans*) terminatio illa, quae dicitur *ambulat* potius quam *ambulans*, signum est ea nomina concipi ut copulata sive ut nomina ejusdem rei. Sunt autem gentes nonnullae, vel certe esse possunt, quae (etsi) vocem respondentem verbo nostro *est* nullam omnino habeant, formant tamen propositiones sola nominis unius post aliud positione, tanquam pro *Homo est animal* diceremus tantum *Homo animal*, nam et ille ipse ordo nominum connexionem suam satis indicare potest; neque ob eam rem, quod careant voce *est*, (illi) minus ad philosophandum idonei sunt.

Itaque in omni *propositione* tria considerata occurrunt; videlicet duo nomina *subjectum* et *praedicatum*, et *copulatio*. Et nomina quidem in animo excitant cogitationem unius et ejusdem rei. *Copulatio* autem cogitationem inducit causae, propter quam ea nomina

2 après quidem E ajoute in Latine 4 notamque] and expresseth E 10 est éd.] est AB is E 11-12 significat putare se] conceives E 15 pas d'alinéa dans E 18 est éd.] Est, ut AB is E 22 après rei. alinéa dans E 27-28 neque ob ... idonei sunt.] and they (=Propositions) are as apt and usefull in Philosophy, as if they were copulated by the Verbe Is. E (lisant idoneae au lieu de idonei) 29 Itaque éd.] 3. Itaque AB 3 Wherefore E 32 inducit B] inducunt A, mais corrigé dans l'errata en inducit makes us E

1. Expressions scolastiques (cf. aussi Sénèque, *Epistulae morales* 117, 13).
2. Expressions scolastiques.

illi rei imponuntur; ut cum dicimus, exempli gratiâ, *Corpus est mobile*, quamquam rem ipsam cogitamus utroque nomine designatam, non tamen ibi acquiescit animus, sed quaerit ulterius, quid sit illud *esse corpus* vel *esse mobile*, id est, quae sint in ea re diversitates ab aliis rebus, quare illa sic vocetur, aliae non vocentur. Quaerentes itaque quid est *esse aliquid* ut *esse mobile, esse calidum, etc.*, quaerunt in rebus nominum suorum causas.

Atque hinc nascitur nominum illa (quam praecedente capite¹ tetigimus) distinctio in *concreta* et *abstracta*. *Concretum* autem est, quod rei alicujus, quae existere supponitur, nomen est, | ideoque quandoque *suppositum*, quandoque *subjectum*, Graece ὑποκειμε-
vov appellatur ut *corpus, mobile, motum, figuratum, cubitale, calidum, frigidum, simile, aequale, Appius, Lentulus*, et similia. *Abstractum* est, quod in re supposita existente nominis concreti causam denotat ut *esse corpus, esse mobile, esse motum, esse figuratum, esse tantum, esse calidum, esse frigidum, esse simile, esse aequale, esse Appium* vel *Lentulum*, et similia; vel nomina his aequivalentia, quae communiter | *Abstracta* dici solent ut *corporeitas, mobilitas, motus, quantitas, calor, frigus, similitudo, aequalitas*, et (quibus vocibus Cicero usus est) *Appietas, Lentulitas*.² Ejusdem generis etiam sunt infinitiva, nam *vivere, moveri* idem sunt quod *vita* et *motus* vel *esse vivens* et *esse motum*. Nomina autem abstracta causam nominis concreti denotant, non ipsam rem. Exempli gratiâ, cum aliquid videamus vel visibile aliquid animo concipiamus, apparet illa res vel concipitur non in uno puncto, sed ut habens partes a partibus distantes, id est, ut extensa per spatium aliquod; quoniam igitur rem ita conceptam voluimus appellari *corpus*, causa ejus nominis est *esse eam rem extensam* sive *extensio* vel *corporeitas*; sic cum videntes aliquid modo hinc, modo inde apparere, vocamus illud *motum* vel *translatum*, causa nominis ejus est *moveri* eam rem sive *motus* ejus.

Causae autem nominum eadem sunt quae nostrorum conceptuum, nimirum potentia aliqua vel actio vel affectio rei conceptae vel, ut aliqui loquuntur, *modi* ejus, plerumque autem vocantur *Accidentia*. *Accidentia* | dico non eo sensu, quo accidens opponitur *ne-*

2 cogitamus B] cogitent A, mais corrigé dans l'errata en cogitamus we conceive E 5-6 vocentur. Quaerentes éd.] vocentur; quaerentes AB 11 après quandoque E ajoute in Latine 14 in re supposita existente Harl. C] in re supposita existentem A 10 et AB in any Subject E 19 et (quibus éd.] (et quibus AB and (as E 34 modi ejus] the Manner by which any thing workes upon our senses E

1. Cf. II.13.
2. Cicéron, *Ad Familiares* III, 7, 5.

cessario, sed quia non sunt res ipsae nec rerum partes, ita tamen res ipsas comitantur, ut (excepta extensione) perire et destrui possint, abstrahi non possint.

4. Inter nomina *concreta* et *abstracta* hoc quoque interest, quod illa propositione ex illis conflata priora sint, haec vero (quia, nisi esset propositio, a cuius copula oriuntur, esse non possent) posteriora. Est autem nominum abstractorum tum in omni vita, tum praecipue in Philosophia magnus et usus et abusus; usus in eo, quod sine his ratiocinari, id est, computare corporum proprietates plerumque non possumus. Cum enim calorem, lucem, velocitatem multiplicare, dividere, addere vel adimere vellemus; si duplicarem vel adderemus ea per nomina concreta, dicendo (verbi gratia) calidum calidi, lucidum lucidi, motum moti duplum esse, non proprietates duplicarem, sed ipsa corpora calida, lucida, mota, etc., quod non volebamus. Abusus autem in eo consistit, quod cum videant aliqui considerare posse, id est, ut diximus, inferri in rationes quantitatis, caloris et aliorum accidentium incrementa et decrementa sine consideratione corporum sive subjectorum suorum (id quod appellatur *abstrahere* sive seorsim ab illis existere), loquuntur de accidentibus, tanquam possent ab omni corpore separari. Hinc enim originem trahunt quorundam metaphysicorum crassi errores; nam ex eo, quod considerari potest cogitatio sine consideratione corporis, inferre volunt, non esse opus corporis cogitantis;¹ et ex eo, quod quantitas considerari potest non considerato corpore, existere etiam putant quantitatem sine corpore et corpus sine quantitate, ita ut addita ad corpus quantitate tum demum fiat quantum.² Ab eodem fonte nascuntur illae voces insignificantes *substantiae abstractae*, *essentia separata*³ aliaque similia; etiam confusio illa vocum a verbo est derivatarum ut *essentia*, *essentialitas*, *entitas*, *entitativum* et *realitas*, *aliquidditas*, *quidditas*, quae apud gentes, quibus copulatio non sit per verbum *est*, sed per verba adjectiva ut *currit*, *legit*, etc.

5 propositione ex illis conflata priora sint] were invented before Propositions E 10 calorem] colorem OL I (faute d'impression?) 21 metaphysicorum] of writers of *Metaphysics* E 28 verbo] the Latine Verb E 30 quidditas,] Quiddity, &c. E

1. Cf. René Descartes, *Meditationes de prima philosophia*, Paris 1641, II^{me} Méditation; Kenelm Digby, *Two Treatises*, Second Treatise, ch. IX. Cette doctrine est aussi celle des scolastiques, qui s'accordent à défendre l'immortalité de l'âme.

2. Cf. Kenelm Digby, *Two Treatises*, First Treatise, ch. III. Cette doctrine est répandue dans la philosophie scolastique de la nature.

3. Deux déterminations scolastiques du mode d'être des anges.

vel per meram nominum collocationem, audiri non potuissent, quae tamen gentes philosophari ut caeterae possunt. Non sunt itaque eae voces *essentia*, *entitas* omnisque illa barbaries ad Philosophiam necessariae.

5. Propositionum distinctiones multae sunt, quarum prima sit, quod alia *universalis* sit, alia *particularis*, alia *indefinita*, alia *singularis*; quae distinctio *quantitatis* appellari solet. *Universalis* est, cuius *subjectum* affectum est signo universalis nominis ut *Omnis homo est animal*. *Particularis*, cuius *subjectum* affectum est signo nominis particularis ut *Quidam homo est doctus*. *Indefinita*, cuius *subjectum* et commune nomen est et sine signo ut *Homo est animal*, *Homo est doctus*. *Singularis* est, cuius *subjectum* est nomen singulare ut *Socrates est Philosophus*, *Hic homo est niger*.

6. Secunda distinctio, quae *qualitatis* dicitur, est in *affirmativam* et *negativam*. *Affirmativa* est, cuius *praedicatum* est *nomen positivum* ut *Homo est animal*. *Negativa*, cuius *praedicatum* est *nomen negativum* ut *Homo est non lapis*.

7. Tertia distinctio est, quod alia *vera* est, alia *falsa*. *Vera* est, cuius *praedicatum* continet in se *subjectum*, sive cuius *praedicatum* nomen est uniuscujusque rei, cuius nomen est *subjectum*; ut *Homo est animal* vera propositio est, propterea quod, quicquid vocatur homo, idem vocatur quoque animal. Et *Quidam homo est aegrotus* vera est, cum sit cuiusdam hominis nomen *aegrotus*. Quae autem vera non est, sive cuius *praedicatum* non continet *subjectum*, ea falsa appellatur ut *Homo est saxum*.

Voces autem hae *verum*, *veritas*, *vera propositio* idem valent. Veritas enim in dicto, non in re consistit: nam etsi *verum* opponatur aliquando | *apparenti* vel *ficto*, id tamen ad veritatem propositionis referendum est. Nam ideo simulachrum hominis in speculo vel spectrum negatur esse verus homo, propterea quod haec propositio *Spectrum est homo* vera non est; nam ut spectrum non sit verum spectrum, negari non potest. Neque ergo veritas rei affectio est,

1-2 quae tamen gentes éd.] quae tamen gentes cum A quibus tamen gentibus, cum B 1-2 quae tamen gentes philosophari ut caeterae possunt] and yet seeing such Nations Compute and Reason E 2 possunt. Non B] possunt, non A et OL I 2 itaque A, mais tant l'errata que l'Examinatio, p. 185 signalent à tort que ce mot devrait être supprimé] necessariae B et OL I 3 *essentia*, *entitas* OL I] *Essentia*, *Entitas* AB *Essence*, *Entity* E 4 necessariae *Examinatio*, p. 185] necessariae non est A, mais corrigé dans l'errata en necessariae om. B et OL I 5 5. om. E 7 est éd.] est AB is E 16 *praedicatum* éd.] *Praedicatum* AB *Praedicat* E 23 vera éd.] vera AB True E 23 *aegrotus* éd.] *Aegrotus* AB sick E 24 *subjectum* éd.] *subjectum* AB 27 in re] in the Things spoken of E 29 est. Nam éd.] est; nam AB

OL I, 31

B 20

A 23

OL I, 32

sed propositionis. Quod autem a metaphysicis dici solet *Ens, unum et verum idem sunt*, nugatorium et puerile est; quis enim nescit *hominem et unum hominem et vere hominem* idem sonare.

8. Intelligitur hinc veritati et falsitati locum non esse nisi in iis animantibus, qui oratione utuntur. Etsi enim animalia orationis expertia hominis simulachrum in speculo aspicientia similiter affecta esse possint, ac si ipsum hominem vidissent, et ob eam causam frustra eum metuerent vel ablandirentur, rem tamen non apprehendunt tanquam veram aut falsam, sed tantum ut similem; neque in eo falluntur. Quemadmodum igitur orationi bene intellectae debent homines, quicquid recte ratiocinantur, ita eidem quoque male intellectae debent errores suos; et ut Philosophiae decus, ita etiam absurdorum dogmatum turpitudine solis competit hominibus. Habet enim oratio (quod dictum olim est de Solonis legibus)¹ simile aliquid telae aranearum; nam haerent in verbis et illaqueantur ingenia tenera et fastidiosa, fortia autem perrumpunt.

Deduci hinc quoque potest, veritates omnium primas ortas esse ab arbitrio eorum qui nomina rebus primi imposuerunt vel ab aliis posita acceperunt. Nam, exempli causa, verum est *Hominem esse animal*, ideo quia eidem rei duo illa nomina imponi placuit.

OL I, 33

9. Quarto distinguitur propositio in *primam et non primam*. Prima est, cujus praedicatum est nomen, quod per plura nomina subjectum explicat ut *Homo est corpus animatum rationale*; idem enim, quod comprehenditur in nomine *homo*, fusius dicitur nominibus conjunctis *corpus, animatum, rationale*. Dicitur autem *prima*, quia prima est in ratiocinatione; nam nisi nomine rei, de qua quaeritur, prius intellecto nihil probari potest. Sunt *primae* autem nihil aliud praeter definitiones vel definitionis partes, et hae solae principia demonstrationis sunt, nimirum veritates arbitrio loquentium audientiumque factae, et propterea indemonstrabiles. Sunt qui his addunt alias quasdam propositiones, quas appellant *primas et principia*, nempe *axiomata sive communes notiones*; quae, quia (etsi probatione non egent propter evidentiam) probari possunt, non sunt vere *principia*; ideoque minus recipienda pro principiis, quod

B 21

A 24

1 propositionis] of the Proposition concerning it E 1 metaphysicis] the Writers of *Metaphysics* E 2 *et verum idem sunt* éd.] et *verum*, idem sunt AB are equivalent to one another E 3 *hominem et unum hominem et vere hominem* éd.] *Hominem*, et *unum hominem* et *vere hominem* AB *A Man, One Man, and a Very Man* E 5-6 animalia orationis expertia] some brute Creatures E 21 *non* éd.] *non* AB *not* E 25 *rationale*. Dicitur éd.] *rationale*; dicitur AB 29-30 loquentium audientiumque] by the Inventors of Speech E

1. Plutarque, *Vies parallèles*, Solon, ch. 5.4.

sub nomine *principiorum* multa ignota et quandoque falsa clamore hominum (commendantur), qui omnia, quae ipsi vera esse putant, pro claris obtrudunt. Solent quoque petitiones quaedam in numerum recipi *principiorum* ut, verbi gratia, *Posse inter duo puncta duci lineam rectam*¹ caeteraeque petitiones Geometrarum. Et principia quidem illa sunt artis sive constructionis, non autem scientiae et demonstrationis.

10. Quinto distinguitur *propositio* in *necessariam* (id est, necessario veram) et *veram quidem, sed non necessario*, quam vocant *contingentem*. *Necessaria* est, quando nulla res concipi potest sive fingi ullo tempore, cujus nomen sit *subjectum*, quin ejusdem nomen sit etiam *praedicatum*. Ut *Homo est animal* necessaria propositio est, quia | quocumque tempore supponimus rei alicui convenire nomen *homo*, eidem rei conveniet quoque nomen *animal*. *Contingens* vero est, quae modo vera, modo falsa esse potest ut *Omnis corvus est niger*; hodie quidem contingere potest, ut sit vera, alio tempore, ut sit falsa. Rursus in omni propositione necessariâ *praedicatum* vel aequivalet subjecto ut in hac *Homo est animal rationale*, vel pars aequivalentis est ut in hac *Homo est animal*. Componitur enim nomen hoc *animal rationale* sive *homo* ex duobus, *animal* et *rationale*. At in contingente hoc non fit, nam etsi vera esset *Omnis homo est mendax*, quoniam tamen vox *mendax* non est pars nominis compositi, cui aequivalet nomen *homo*, non dicitur illa propositio necessaria, sed contingens, etsiamsi semper ita contingeret. *Necessariae* itaque propositiones illae sunt, quae sempiternae veritatis sunt.

OL I, 34

Hinc quoque manifestum est veritatem non rebus, sed orationibus adhaerere. Veritates enim aliquae aeternae sunt, semper enim verum erit *Si homo, tum animal*; ut autem homo aut animal in aeternum existat, necesse non est.

11. Sexta distinctio propositionum est in *categoricam* et *hypotheticam*. *Categorica* est, quae simpliciter sive absolute pronuntiata est ut *Omnis homo est animal*, *Nullus homo est arbor*. *Hypothetica*, quae conditionaliter ut *Si quis homo est, is etiam animal est*; *Si quis homo est, is lapis non est*. *Categorica* et *hypothetica* ipsi respondens in propositionibus necessariis idem significant, in contingentibus non idem; exempli causa, si haec *Omnis homo est*

B 22

A 25

11 sit éd.] sit AB is E 25-26 sempiternae veritatis sunt] are of Sempiternal Truth, that is, true at all times E 27 *pas d'alinéa dans* E 28 adhaerere. Veritates éd.] adhaerere, veritates AB 35 *après est. alinéa dans* E

1. Euclide, *Les Eléments*, Livre I, 1er Postulat.

OL I, 35 *animal* vera sit, vera quoque erit *Si quis homo est, is etiam animal est*; sed in contingentibus etsi vera sit *Omnis corvus niger est*, falsa tamen erit *Si quid corvus sit, id nigrum est*. Propositionem autem hypotheticam tum veram esse recte dicunt, quando consequentia est vera, ut veram esse *Omnis homo est animal*, quando si vera sit *Illud est homo*, non potest non esse vera *Idem illud est animal*. Itaque quoties hypothetica vera est, categorica ei respondens non modo vera, sed etiam necessaria est; id quod adnotandum putavi pro argumento, ut tutius plerumque sit Philosophis per propositiones hypotheticas quam per categoricas ratiocinari.

12. Quoniam autem propositio quaelibet pluribus modis et proferri et scribi possit et soleat, etsi loquendum semper sit, sicut plurimi loquuntur, iis tamen, qui philosophiam a doctoribus ediscunt, cavendum est, ne varietate illa loquutionis decipiantur. Itaque si quando obscuritas aliqua occurrat, reducenda est propositio ad formam suam simplicissimam et categoricam, in qua sit expressa copulativa vox *est*, et *subjectum* aperte separetur et distinguatur a *praedicato*, neutrumque ullo modo cum *copula* misceatur. Exempli gratia, propositio haec *Homo potest non peccare* collata cum hac *Homo non potest peccare*, quomodo differant, tum cognoscitur, si reducantur ad has *Homo est potens non peccare*, *Homo est non potens peccare*, ubi praedicata aperte diversa sunt; sed hoc tacite apud se vel ad solum praeceptorem faciendum, nam sic loqui in congressu hominum absurdum et ridiculum est. Dicturus igitur de propositionibus aequipollentibus primo loco pono propositiones omnes, quae ad unam et eandem pure categoricam reduci possunt, esse *aequipollentes*.

OL I, 36 13. Secundo categorica necessaria suae hypotheticae *aequipollens* est; quales sunt categorica *Triangulum rectilineum habet tres angulos aequales duobus rectis* et hypothetica *Si quid triangulum sit, illud tres habet angulos aequales duobus rectis*.

14. Tertio duae quaelibet universales, quarum unius termini (id est, subjectum et praedicatum) sunt alterius terminis contradictorii et positi ordine converso ut haec *Omnis homo est animal* et *Omne non animal est non homo*. Quoniam enim vera est *Omnis homo est animal*, nomen *animal* continet nomen *homo*, est autem utrumque nomen positivum, itaque per articulum ultimum praecedentis nomen negativum *non homo* continet | nomen negativum

9 sit] fit OL I (faute de lecture?) 13 iis éd.] ab iis AB 32 Tertio B] Item A Also E 35 homo. Quoniam éd.] homo; quoniam AB 38 non homo OL I] non animal AB Not Living Creature E not man EW I

non animal, vera ergo est *Omne non animal est non homo*. | Vel haec *Nullus homo est arbor*, *Nulla arbor est homo*. Nam si verum sit *arbor* non esse nomen ullius hominis, nulli rei conveniet utrumque nomen *homo* et *arbor*, est ergo vera *Nulla arbor est homo*. Item propositioni, cuius uterque terminus est negativus, ut huic *Omne non animal est non homo*, aequipollet haec *Solum animal est homo*.

15. Quarto *propositiones negativae*, sive particula negationis ponatur post copulam, ut faciunt gentes nonnullae, sive ante, ut fit *Latine* et *Graece*, si termini iidem sint, aequipollent. Exempli gratia, *Homo non est arbor* et *Homo est non arbor* aequipollent, quamquam hoc neget Aristoteles;¹ item haec *Omnis homo est non arbor* et *Nullus homo est arbor* aequipollent, idque ita aperte, ut non egeat demonstratione.

16. Postremo particulares omnes conversis terminis aequipollent ut haec *Quidam homo est* | *caecus* et *Quoddam caecum est homo*, nam nomen utrumque alicujus unius et ejusdem hominis nomen est, ideoque eandem veritatem significant connexa utrovis ordine.

17. Earum quae terminos eosdem et eodem ordine positos, sed varia quantitate vel qualitate modificatos habent, aliae dicantur *subalternae*, aliae *contrariae*, aliae *subcontrariae*, aliae *contradictoriae*.

Subalternae sunt universalis et particularis ejusdem qualitatis ut *Omnis homo est animal*, *Quidam homo est animal* vel *Nullus homo est sapiens*, *Quidam homo non est sapiens*. Harum si universalis vera est, etiam particularis vera erit.

Contrariae sunt universales diversae qualitatis ut *Omnis homo est beatus*, *Nullus homo est beatus*. Harum si una vera est, altera est falsa; possunt quoque esse ambae falsae ut in exemplo proposito.

Subcontrariae sunt particulares diversae qualitatis ut *Quidam homo est doctus*, *Quidam homo non est doctus*; quae non possunt esse ambae falsae, sed possunt ambae esse verae.

Contradictoriae sunt, quae differunt et quantitate et qualitate ut *Omnis homo est animal*, *Quidam homo non est animal*; quae neque ambae verae neque ambae falsae esse possunt.

1 non animal OL I] non Homo AB Not Man E not living-creature EW I 1 homo. Vel éd.] Homo; vel AB 6 aequipollet OL I] aequipollet AB 7 Quarto B] Tertio A, mais corrigé dans l'errata en Quarto Fourthly E 10 Homo non est arbor et Homo est non arbor] Man is not-a-Tree and Man is not-a-Tree E 17 connexa éd.] connexae AB 27 Harum si B] Harum A, mais corrigé dans l'errata en Harum si And of these if E 27 altera est B] altera A, mais corrigé dans l'errata en altera est the other is E 32 Contradictoriae éd.] Contradictoriae AB Contradictory E

1. Aristote, *De interpretatione*, ch. 12 (21 b 1 sq.).

18. Propositio ex duabus aliis propositionibus sequi dicitur, quando si hae verae esse supponantur, illam non esse veram supponi non potest. Exempli causa, sint duae propositiones *Omnis homo est animal* et *omne animal est corpus*, quae intelligantur esse verae, et propterea *corpus* esse nomen uniuscujusque animalis et
 A 27 *animal* uniuscujusque hominis; quoniam his intellectis intelligi
 OL I, 38 non potest *corpus* non esse nomen uniuscujusque hominis, id est, propositionem hanc *Omnis homo est corpus* esse falsam, dicitur haec ex illis duabus sequi sive inferri necessario.

19. Verum ex falsis sequi aliquando potest, falsum ex veris
 B 24 nunquam. Si enim hae *Omnis homo est lapis* et *Omnis lapis est animal* (quae falsae sunt) concedantur esse verae, conceditur *animal* esse nomen uniuscujusque lapidis et *lapidem* uniuscujusque hominis, id est, *animal* esse nomen uniuscujusque hominis, hoc est, propositionem hanc *Omnis homo est animal* esse veram, sicut vera est; itaque sequetur aliquando vera ex falsis. Sed sint ambae verae, quaecumque eae sint, falsa non sequetur; cum enim vera ex falsis sequatur ob eam causam, quia etsi falsae sint, concedantur tamen esse verae, vera etiam ex veris concessis sequetur eodem modo.

20. Quoniam autem ex veris non sequetur nisi vera, ideoque
 intellectio verarum causa est intellectionis alterius verae ex illis derivatae, solent propositiones duae antecedentes propositionis illatae sive consequentis causae appellari;¹ dicunt ergo Logici *praemissas esse causas conclusionis*; et ferri quidem potest hoc, etsi locutio ea propria non sit, cum intellectionis intellectio, non oratio orationis causa sit. Quod vero iidem rem ipsam suae proprietatis causam esse dicant, ineptum est. Exempli causa, cum figura quaedam sit triangulum, habeatque omne triangulum angulos suos simul sumptos aequales duobus rectis, unde sequitur figuram illam habere angulos suos omnes aequales duobus rectis, propter eam rem dicunt figuram illam causam esse illius aequalitatis; caeterum, quoniam
 OL I, 39 figura suos angulos non ipsa facit neque ergo causa efficiens dici potest, vocant eam *causam formalem*, cum revera causa omnino non sit. Neque figuram omnino sequitur proprietates ejus, sed simul cum ipsa existit, sed solummodo cognitio figurae antecedit

5 *corpus* OL I] *corpus* AB *Body* E 5-6 animalis et *animal* OL I] *animalis* & *Animal* AB *Living Creature, and Living Creature* E 6 his intellectis] if these be understood to be true E 7 *corpus* éd.] *Corpus* AB *Body* E 8 hanc B] hunc A 11 nunquam. Si éd.] nunquam; si AB never. For if E 16 falsis. Sed éd.] falsis; sed AB false. But E 24 *causas conclusionis* éd.] *causas Conclusionis* AB *Causes of the Conclusion* E 34 sit. Neque éd.] sit; neque AB

1. Expression courante principalement chez les logiciens occamistes.

cognitionem proprietatis; una autem cognitio alterius cognitionis vere causa est, nimirum causa efficiens.

Et de propositione, quae progressionis philosophicae quasi uno tantum pede promotus primus passus est, tantum esto; cui si debito modo addatur alter, fiet syllogismus, tanquam gressus integer, de quo in capite sequenti dicturus sum.

A 28

CAPUT IV De Syllogismo

1. *Definitio Syllogismi.* 2. *In syllogismo tres tantum sunt termini.* 3. *Major, minor, et medius terminus, item major et minor propositio quid sint.* 4. *Medius terminus in omni syllogismo debet esse in utraque propositione determinatus ad rem unam et eandem.* 5. *Ex duabus particularibus nihil infertur.* 6. *Syllogismum esse collectionem duarum propositionum in unam summam.* 7. *Syllogismi figura quid.* 8. *Quid sit in animo syllogismo respondens.* 9. *Figura indirecta prima quomodo fit.* 10. *Figura indirecta secunda quomodo fit.* 11. *Figura indirecta tertia quomodo fit.* | 12. *Modi in unaquaque figura multi, sed plerique inutiles ad Philosophiam.* 13. *Categorico syllogismo aequipollet hypotheticus.*

OL I, 40

1. Oratio, quae constat tribus propositionibus, ex quarum duabus sequitur tertia, vocatur *Syllogismus*. Et ea quidem, quae sequitur, *Conclusio*, reliquae *Praemissae* appellantur. Exempli gratia, oratio haec *Omnis homo est animal, omne animal est corpus*, ergo *omnis homo est corpus* syllogismus est, quoniam tertia ex praecedentibus sequitur, id est, si illae verae esse concedantur, concedi necesse est hanc quoque veram esse.

2. Ex duabus autem propositionibus, quae terminum communem non habent, conclusio nulla sequitur, neque ergo fit syllogismus. Sint enim quaelibet duae praemissae *Homo est animal, Arbor est planta* ambae verae; quoniam tamen ex his non colligitur *plantam* nomen esse aut hominis aut hominem plantae, non necesse est, ut vera sit *Homo est planta*.

Corollarium. Itaque in syllogismi praemissis tres tantum termini esse possunt.

Praeterea in *conclusionem* terminus nullus potest, qui non fuerit in praemissis. Sint enim duae praemissae quaelibet *Homo est animal, Animal est corpus*, si tamen in *conclusionem* ponatur alius quilibet terminus ut *Homo est bipes*, etsi vera sit, non tamen ex praemissis sequitur, cum ex iis non colligitur nomen *bipes* convenire

11–12 *Categorico syllogismo aequipollet hypotheticus*] *An Hypotheticall Syllogisme when equipollent to a Categorical* E 21–22 syllogismus. Sint éd.] syllogismus; sint AB 26 *pas d'alinéa dans AEB* 29 praemissis. Sint éd.] Praemissis; sint AB

homini; quare rursus in unoquoque syllogismo termini tres tantum sunt.

3. Horum terminorum *major* dici solet is qui est in *conclusionem* praedicatum; *minor* is qui est in *conclusionem* subjectum, reliquus *medius* vocatur ut in hoc syllogismo *Homo est animal, animal est corpus*, ergo *homo est corpus*, *corpus* est terminus *major*, *homo* terminus *minor* et *animal* *medius*. Item praemissarum ea, in qua reperitur terminus *major*, *major propositio*, ea quae habet terminum *minorem*, *minor propositio* dicitur.

4. Si medius terminus non sit in utraque praemissâ determinatus ad unam eandemque rem singularem, conclusio ex praemissis non sequitur | neque fiet syllogismus. Sit enim *minor* terminus *homo*, *medius animal*, *major leo* et sint praemissae *Omnis homo est animal, Quoddam animal est leo*, non sequitur tamen *omnem* aut *aliquem hominem esse leonem*. Ex quo intelligitur in omni syllogismo illam propositionem, quae habet *medium* terminum pro *subjecto*, debere esse aut *universalem* aut *singularem*, non autem *particularem* neque *indefinitam*. Exempli causa, syllogismus hic *Omnis homo est animal, quoddam animal est quadrupes*, ergo *quidam homo est quadrupes* ideo vitiosus est, quia *medius* terminus *animal* in priore praemissâ ad hominem solum determinatur, dicimus enim hoc tantum: *animal* esse nomen hominis, in posteriore vero de aliquo alio animale praeter hominem intelligi potest. At si posterior fuisset *universalis* ut hic *Omnis homo est animal, omne animal est corpus*, ergo *omnis homo est corpus*, syllogismus fuisset legitimus, sequutum enim esset *corpus* esse omnis animalis, id est, etiam hominis nomen, id est, veram fuisse *conclusionem* *Omnis homo est corpus*. Similiter si medius terminus sit *singulare* nomen, fiet syllogismus, inutilis quidem ad Philosophiam, sed tamen syllogismus ut hic *Quidam homo est Socrates, Socrates est philosophus*, ergo *quidam homo est philosophus*; nam concessis praemissis negari conclusio non potest.

5. Ex duabus ergo praemissis, in quibus ambabus medius terminus est *particularis*, non fit syllogismus; nam sive *medius terminus*

5 syllogismo éd.] Syllogismo. AB Syllogisme, E 11 ex praemissis om. E 12 syllogismus. Sit éd.] Syllogismus; sit AB 13 sint praemissae B] fiat Syllogismus A, mais corrigé dans l'errata en sint praemissae let the Premisses be E 13 *Omnis homo* éd.] *omnis Homo* AB Man E 14 *Quoddam animal* est éd.] *quoddam Animal* est AB *Some Living Creature* is E 15 aut éd.] aut AB or E 18 *indefinitam* OL I] *Indefinitum* AB 19 ergo éd.] ergo AB therefore E 21–22 dicimus enim hoc tantum: *animal* esse nomen hominis] for there the Name of *Living Creature* is given to *Man* onely E 22 *animal* éd.] *Animal* AB *Living Creature* E 24 *Omnis* éd.] *omnis* AB *Every* E 26 *corpus* éd.] *Corpus* AB *Body* E 27 id est, etiam hominis] that is of *Man* E 31 ergo B] ergo A therefore E

OL I, 42 sit in utraque praemissa *subjectum* sive in utraque praedicatum sive in altera *subjectum*, in altera praedicatum, non | necesse est, ut ad eandem rem determinetur. Sint enim praemissae

Quidam homo est caecus } ubi medius terminus
Quidam homo est doctus } est *subjectum*, 5

A 30 non sequetur neque *caecum* alicujus docti neque *doctum* alicujus caeci nomen esse, cum nomen *doctum* non contineat nomen *caecum* nec hoc illud; non est ergo necesse, ut ambo sint nomina ejusdem hominis. Sic ex praemissis his

Omnis homo est animal } in quibus ambabus *medius* 10
Omnis equus est animal } terminus est praedicatum,

nihil sequetur, nam cum *animal* utrobique indefinitum sit ideoque aequivaleat particulari, possitque homo esse quoddam animal et equus aliud quoddam animal, non necesse est, ut *homo* sit nomen equi aut *equus* hominis. Vel si praemissae sint

Omnis homo est animal } in quarum altera *medius* 15
Quoddam animal est quadrupes } terminus est *subjectum*, in altera praedicatum,

non sequetur conclusio, propterea quod, cum nomen *animal* non sit determinatum, potest in altera de homine, in altera de non homine 20 intelligi.

6. Manifestum autem est ex praecedentibus syllogismum nihil aliud esse praeter collectionem summae, quae fit ex duabus propositionibus (per terminum communem, quem *medium* appellant) inter se conjunctis; et ita *syllogismum* esse additionem trium nominum sicut *propositio* duorum. 25

OL I, 43 7. Distingui solent syllogismi diversitate *figurarum*, hoc est, diversa positione *medii termini*; et in figura rursus distinguuntur quidam *modi*, hoc est, differentiae quaedam in propositionum *quantitate* et *qualitate*. *Prima figura* numeratur ea, in qua termini ordi- 30

3 determinetur. Sint *éd.*] determinetur; sint AB 4 *Quidam homo est caecus* OL I] *Quidam homo est caecus* AB *Some Man is blind* E 5 *Quidam homo est doctus* OL I] *Quidam homo est doctus* AB *Some Man is learned* E 6 non *éd.*] Non AB 9 hominis. Sic *éd.*] hominis, sic AB *Man*. So E 10 *Omnis homo est animal* OL I] *Omnis homo est animal* AB *Every Man is a Living Creature* E 11 *Omnis equus est animal* OL I] *Omnis equus est animal* AB *Every Horse is a Living Creature* E 12 nihil *éd.*] Nihil AB 15 *equus éd.*] *Equus* AB *Horse* E 16 *Omnis homo est animal* OL I] *Omnis homo est animal* AB *Every Man is a Living Creature* E 17-18 *Quoddam animal est quadrupes* OL I] *Quoddam animal est quadrupes* AB *Some Living Creature is four-footed* E 19 non *éd.*] Non AB 19 non sequetur conclusio] The Conclusion will follow E (*omettant par erreur la négation*) the conclusion will not follow EW I

nantur secundum latitudinem significationum, ut *minor terminus* B 27 *primus* ordine fiat, deinde *medius*, tertius *major*; ut si ponamus pro *minore* termino *homo*, pro *medio* *animal*, pro *maiore* *corpus*; syllogismus in prima figura erit

5 *Homo est animal est corpus*,

in qua minor propositio est *Homo est animal*, major *Animal est corpus*, conclusio sive summa collecta *Homo est corpus*. Appellatur autem haec figura directa, quia termini ejus directum ordinem observant; variatur autem per quantitatem et qualitatem quatuor 10 modis. Siquidem enim omnes termini sint positivi et minor terminus universalis ut *Omnis homo est animal*, *omne animal est corpus*, fit modus primus, in quo omnes propositiones sunt affirmativae A 31 universales; sin major sit nomen negativum et minor universalis, fit secundus modus ut *Omnis homo est animal*, *omne animal est non arbor*, in quo major propositio et conclusio sunt universales 15 negativae. His duobus addi solent alii duo, faciendo minorem terminum particularem. Potest quoque fieri, ut tam major quam medius terminus nomen sit negativum; quod cum fit, oritur alius modus, in quo omnes propositiones negativae sunt, et tamen legitimus fiet syllogismus, ut si termini sint *minor homo*, *medius non lapis*, *major non silex*, syllogismus | *Nullus homo est lapis*, *quicquid non est lapis*, *non est silex*, ergo *nullus homo est silex*, etsi ex tribus constet 20 negativis, est tamen legitimus. Sed quoniam in Philosophia, cujus est de proprietatibus rerum regulas statuere universales, negativa non differat ab affirmativa, nisi quod in hac nomen positivum, in illa negativum de subjecto affirmatur, superfluum est alium modum considerare in figura directa praeter eum, in quo omnes propositiones sunt et universales et affirmativae.

8. Syllogismo directo cogitatio in animo respondens est hujusmodi. Primo concipitur phantasma rei nominatae cum accidente sive affectu ejus, propter quem appellatur eo nomine, quod est in

2 fiat, deinde OL I] fit. Deinde A fiat. Deinde B 3 *maiore* OL I] *maiore* AB *the Major Term* E 5 *Homo est animal est corpus*, *éd.*] *Homo est Animal est Corpus*. A *Man is a Living Creature, is a Body*, E *Homo est Animal, Animal est Corpus*. B *Homo est animal, animal est corpus*. OL I 6 in *éd.*] In AB in E 10 modis. Siquidem *éd.*] modis, siquidem AB 11 *Omnis homo est animal, omne animal est corpus* OL I] *omnis Homo est Animal, omne animal est corpus* AB *Every Man is a Living Creature, Every Living Creature is a Body* E 13 universalis] an Universall Name E 18 nomen sit negativum] are *Negative Terms* E 20 *homo* OL I] *Homo* AB *Man* E 22 ergo *éd.*] ergo AB therefore E 24 *negativa éd.*] et *negativa* AB 25-26 in illa negativum de subjecto affirmatur] in the former the Subject is affirmed by a Negative Name E 29-30 hujusmodi. Primo A 10] hujusmodi; primo Harl. C et AB

*Omnis homo est animal,
Omne animal est non lapis, ergo
Omnis homo est non lapis,*

fiet inversus

*Omnis lapis est non animal, 5
Omne non animal est non homo, ergo
Omnis lapis est non homo,*

quae conclusio conversa et aequipollens est conclusionis directae.

Figurae itaque, si earum numerus solius medii termini situs varietate definiatur, tres tantum sunt; in quarum prima medius terminus medium locum, in secunda ultimum, in tertia primum locum obtinet. At si figurae numerentur secundum situm terminorum simpliciter, quatuor erunt, nam prima rursus in duas distinguetur, nimirum in directum et inversum. Ex quo patet controversiam, quae est inter Logicos de quartâ figurâ, non tam esse quam videri, nam de re patet propter terminorum situm (nullâ quantitate neque qualitate, quibus distinguuntur modi, consideratâ) quatuor esse syllogismorum differentias, quas quilibet vel figuras vel alio nomine pro arbitrio suo appellare potest.

OL I, 48

12. In singulis his figuris si praemissas per eas quae possunt esse a quantitate et qualitate, differentias variare velimus, multi in unaquaque earum orientur *modi*; nimirum in figura directa 6, in figurarum indirectarum prima 4, in secunda 14, in tertia 18. Sed quoniam a figura directa rejecimus omnes *modos* ut superfluos praeter eum qui constat ex universalibus et cujus minor affirmativa est, rejecimus una eos *modos* caeterarum figurarum, quae oriuntur ex praemissarum directae figurae conversionibus.

B 30
A 34

13. Sicut autem in propositionibus necessariis ante¹ ostensum est categoricam et hypotheticam aequipollentes esse, ita quoque syllogismum categoricum et hypotheticum aequivalere manifestum est. Syllogismus enim categoricus quilibet hic

1-3 *Omnis homo ... non lapis B*] *Omnis homo est animal, Omne animal est non lapis. Ergo, Omnis homo est non lapis A 4 fiet éd.] Fiet AB 4 inversus B*] inversa *A, mais corrigé dans l'errata en inversus 5-7 Omnis lapis ... non homo B*] *Omnis lapis est non animal, Omne non animal est non homo. Ergo, Omnis lapis est non homo A 8 quae éd.] Quae AB 12 obtinet. At éd.] obtinet; at AB 15-16 non tam esse quam videri B (changement induit par Examinatio, p. 9 [OL IV. 15])*] meram esse *λογωμαχίαν* sive rixam de nomine *A* is a meer *λογωμαχία*, or contention about the Name thereof *E (le terme λογωμαχία est emprunté à la 1ère Epître à Timothée 6,4) 20* possunt *B*] possit *A, mais corrigé dans l'errata en* possint are capable of *E*

1. Cf. III.11.

*Omnis homo est animal,
Omne animal est corpus, ergo
Omnis homo est corpus*

eandem habet vim quam hypotheticus hic

5 *Si quid est homo, illud est animal,
Si quid est animal, illud est corpus, ergo
Si quid est homo, illud est corpus.*

Similiter in figura indirecta categoricus hic

10 *Nullus lapis est animal,
Omnis homo est animal, ergo
Nullus homo est lapis vel
Nullus lapis est homo*

aequivalet hypothetico huic

15 *Si quid homo est, animal est,
Si quid lapis est, animal non est, ergo
Si quid lapis est, homo non est vel
Si quid homo est, lapis non est.*

Et videntur quidem quae dicta sunt sufficere ad cognitionem naturae syllogismorum, nam et quae de modis et figuris fuse ab aliis utiliter tractata sunt, in illis clare continentur; neque tam praeceptis ad legitimam ratiocinationem quam praxi opus est, citiusque multo veram logicam discent qui mathematicorum demonstrationibus quam qui logicorum syllogizandi praeceptis legendis tempus conterunt: haud aliter quam parvuli pueri gressum formare discunt non praeceptis, sed saepe gradiendo. Itaque de gressu Philosophiae qualis esse debet, tantum dictum esto. Dicemus proximo loco de vitiorum sive errorum, in quos incaute ratiocinantes incidere solent, speciebus et causis.

OL I, 49

2 *corpus, ergo éd.] corpus. Ergo, AB 3-4 corpus eandem éd.] corpus. Eandem AB 6 corpus, ergo éd.] corpus. Ergo, AB 9-17 Nullus lapis ... non est. éd.] Nullus lapis est animal, Omnis homo est animal, Ergo Nullus homo est lapis, vel Nullus lapis est homo. Aequivalet Hypothetico huic, Si quid homo est, animal est, Si quid lapis est, animal non est, Ergo Si quid lapis est, homo non est, vel Si quid homo est, lapis non est. AB Nullus lapis est animal, Omnis homo est animal, Ergo, Nullus homo est lapis, vel Nullus lapis est homo. Aequivalet hypothetico huic, Si quid homo est, animal est, Si quid lapis est, animal non est, Ergo, Si quid lapis est, homo non est, vel Si quid homo est, lapis non est. OL I 18-19 ad cognitionem naturae] for the nature E 19-20 quae de ... clare continentur] the doctrine of Moods and Figures is clearly delivered by others that have written largely and profitably of the same E (traduction erronée) 26 après esto. alinéa dans E*

A 35

CAPUT V

De Erratione, Falsitate, et Captionibus

1. *Erratio et falsitas quomodo differunt. Error animi citra vocabulorum usum quomodo contingit.* 2. *Septem modi incoherentiae nominum, in quibus propositio semper falsa est.* 3. *Exemplum primi.* 4. *Secundi.* 5. *Tertii.* 6. *Quarti.* 7. *Quinti.* 8. *Sexti.* 9. *Septimi.* 10. *Falsitatem propositionum detegi per terminorum resolutionem per continuas definitiones usque ad nomina simplicia sive summa genera.* 11. *Vitium syllogismi ex implicatione terminorum cum copula.* 12. *Vitium syllogismi ex aequivocatione.* 13. *Captiones sophisticas peccare saepius in materia quam in forma syllogismi.*

B 31

OL I, 50

1. Errare non modo affirmando et negando, sed etiam sentiendo et in tacita hominum cogitatione contingit. Affirmando et negando, quando rei | alicui nomen attribuunt, quod nomen ejus rei non est. Ut si simulachro Solis viso tum per reflexionem in flumine, tum directe in coelo, utriusque nomen Solis attribuendo, diceremus duos esse soles; id quod nisi hominibus accidere non potest, nam aliis animalibus usus nominum nullus est. Falsitatis nomen solum hoc genus erroris meretur, ut quod non a Sensu aut a rebus ipsis, sed a temeritate oritur pronuntiandi. Nomina enim non a rerum speciebus, sed a voluntate hominum constituta sunt; quo fit, ut qui a pactis rerum appellationibus discedit, non a rebus neque a Sensu fallitur (nam illam rem, quam videt, appellari Solem non videt, sed voluit), sed negligentia sua sententiam falsam dicit. Sensu et cogitatione erratur, quando ex praesente imaginatione aliud imaginamur, vel quando praeterita, quae non praecessere, vel futura, quae sequutura non sunt, tamen tanquam praeterita vel futura fingimus; ut quando ex viso Solis in flumine simulachro rem aliquam, cujus illud simulachrum est, eo loci esse imaginamur, vel quando ex conspectis gladiis pugnam fuisse vel fore ex eo, quod plerumque ita fieri consuevit, vel ex promissis promittentis animum vel denique ex quocunque signo rem significatam frustra fingimus. Atque hujusmodi errores omnibus rebus sensu praeditis

3 *animi*] of the Mind by it selfe E 20 a voluntate] from the Will and Consent E 23 voluit] from their owne will and agreement E 24 Sensu ... erratur] Tacite Errors, or the Errors of Sense E 24 praesente A 10] praesenti AB 27-28 rem aliquam, cujus illud simulachrum est] the Sunne it selfe E

communes | sunt; neque sic tamen aut a sensibus aut a rebus, quas sentimus, sed a nobis ipsis ea quae non sunt fingentibus, et quae simulachra tantum sunt, plus quam simulachra esse praesumentibus fallimur. Falsae autem neque res neque imaginationes dici possunt,

A 36

5 cum et vere sunt id quod sunt neque promittunt ut signa quicquam, quod non praestant; non enim illae promittunt, | sed ex illis nos, neque nubes, sed nos ex visa nube pluviam promittimus. Erroribus itaque, qui contingunt ex signis naturalibus, occurreretur primo et ante ratiocinationem, si ad hujusmodi conjecturalia comparemus nos tanquam ignorantes; deinde per ratiocinationem. Proveniunt enim a defectu ratiocinationis. Caeteri errores, qui in affirmationibus et negationibus consistunt (id est, falsitas propositionum), pravae ratiocinationis vitia sunt. De his igitur, ut qui Philosophiae contraria sunt, praecipue dicendum est.

OL I, 51

15 2. Errores, qui contingunt inter ratiocinandum, id est, inter syllogizandum, vel in alicujus praemissae falsitate vel in illatione consistunt. In primo casu syllogismum peccare dicunt materiâ; in secundo formâ. Considerabimus primo materiam, quibus scilicet modis propositio aliqua falsa | esse possit, deinde formam, et quibus modis contingit, quando praemissae sunt verae, illationem esse non veram.

B 32

20 Quoniam omnis propositio vera est, per Cap. 3., art. 7., in qua copulantur duo nomina ejusdem rei, falsa autem, in qua nomina copulata diversarum rerum sunt, quot modis contingit nomina copulata non esse ejusdem rei, totidem modis falsa fiet propositio.

25 Rerum autem nominatarum genera quatuor sunt, nimirum *Corpora*, *Accidentia*, *Phantasmata*, et *Nomina ipsa*. Itaque in omni vera propositione necesse est nomina copulata vel ambo esse *Corporum* vel ambo *Accidentium* vel ambo *Phantasmatum* vel ambo *Nominum*, nomina aliter conjuncta incoherentia esse et constituere propositionem falsam. Potest etiam contingere, ut nomen rei | cum nomine orationis copuletur. Septem ergo modis copulata nomina non cohaerent.

OL I, 52

2 ea quae non sunt fingentibus, et] while we feigne E 4 imaginationes] Imaginations of Things E 26 genera quatuor sunt] may be reduced to these four kinds E 27 et Nomina éd.] et nomina AB and Names E 30 Nominum, nomina éd.] Nominum. Nomina AB 31-32 ut nomen rei cum nomine orationis copuletur B] ut nomen copuletur cum oratione A 10, Harl. C et A that the Name of a Body, of an Accident, or of a Phantasme may be copulated with the Name of a Speech E ut Nomen Rei copuletur cum Nomine Orationis Examinatio, p. 185

- | | | | | |
|--------------------------|-------------|--------------------------|---|--------------------------|
| 1. Si nomen Corporis | } copuletur | } cum nomine Accidentis. | 5 | |
| 2. Si nomen Corporis | | | | cum nomine Phantasmatis. |
| 3. Si nomen Corporis | | | | cum nomine Nominis. |
| 4. Si nomen Accidentis | | | | cum nomine Phantasmatis. |
| 5. Si nomen Accidentis | | | | cum nomine Nominis. |
| 6. Si nomen Phantasmatis | | | | cum nomine Nominis. |
| 7. Si nomen Rei | | | | cum nomine Orationis. |

Quorum omnium exempla subjungemus.

A 37 3. Juxta modum primum falsae sunt, ubi nomina abstracta copulantur cum concretis ut *Esse est ens, Essentia est ens, Τὸ τί ἦν εἶναι, id est, quidditas est ens,*¹ et multae istiusmodi, quae reperiuntur in *Metaphysicis* Aristotelis; item *Intellectus agit, Intellectus intelligit, Visus videt, Corpus est magnitudo, Corpus est quantitas, Corpus est extensio, Esse hominem est homo, Albedo est alba;* simile enim est ac si quis diceret *Cursor est cursus* vel *Ambulatio ambulat;* item *Essentia est separata, Substantia est abstracta* atque harum similes vel ab his derivatae (quarum philosophia communis est plenissima). Cum enim nullum subjectum accidentis, id est, nullum corpus est accidens, nullum nomen accidentis corpori neque corporis accidenti tribuetur.

4. Secundo modo peccant propositiones hujusmodi: *Spectrum est corpus* vel *spiritus*, id est, corpus tenue. *Species sensibiles volant per aerem, huc, illuc moventur*, quod proprium est corporum. Item *Umbra movetur* vel est corpus. *Lumen movetur* vel est corpus. *Color est objectum visionis, sonus auditionis, Spatium vel locus est res extensa* aliaque hujusmodi innumerae. Cum enim spectra, species visibiles, soni, umbra, lux, color, spatium, etc. somniantibus non minus | adsunt quam vigilantibus, non sunt eae res externae, sed animi imaginantis phantasmata; nomina itaque eorum cum nominibus corporum copulari in veram propositionem non possunt.

B 33 5. Tertii modi propositiones falsae sunt tales: *Genus est ens, Universale est ens, Ens de ente praedicatur. Genus enim et univer-*

7 nomen Rei *Examinatio*, p. 185, et B] Nomen A 10 et A the Name of a Body, of an Accident or of a Phantasme E (cf. *Examinatio*, p. 185: lire Rei au lieu de Corporis) 7 nomine Orationis *Examinatio*, p. 185, et B] Oratione A 10 et A the Name of a Speech E 10 ut] as (in Latine and Greek) E (les trois exemples qui suivent sont donnés dans E en latin et en grec) 11 id est, éd.] (i.) AEB (abréviation usuelle) 11 multae éd.] multa AB 12 *Metaphysicis* Aristotelis; item éd.] *Metaphysicis Aristotelis*; item AB in Aristotles *Metaphysicks*. Also E 14 alba] a White thing, etc. E 17-18 plenissima). Cum éd.] plenissima cum AB abounds). For E 22 vel éd.] vel AB or E 23 huc, illuc éd.] huc, illuc AB hither and thither E 26 innumerae. Cum éd.] innumerae; cum AB 27 species visibiles, soni] sensible Species E 27 etc. éd.] etc. AEB &c. OL I

1. Cf. Aristote, *Métaphysique* Z, ch. 4 (1030 a 3).

sale et praedicare nominum, non rerum nomina sunt. Item *Numerus est infinitus* falsa est, nam numerus nullus est infinitus, sed nomen tantum sive vox haec *numerus*, cui cum in animo nullus certus numerus substernitur, nomen quidem appellatur indefinitum, non tamen numerus aliquis est infinitus.

6. In quantum modum incidunt falsae tales: *Objecti magnitudo vel figura ea quae est, spectantibus apparet, Color, lumen, sonus est in objecto* et harum similes. Apparet enim objectum idem quandoque majus, quandoque minus, quandoque quadratum, quandoque rotundum pro diversitate distantiarum et mediorem; una autem et eadem semper est vera rei visae magnitudo et figura, adeo ut eae quae apparent magnitudines et figurae, eorundem objectorum magnitudines et figurae esse non possint. Sunt igitur phantasmata. Coniunguntur itaque in hujusmodi propositionibus nomina accidentium cum nominibus phantasmatum.

7. Quinto modo peccant qui dicunt *Definitionem esse rei | essentiam, Albedinem vel aliud accidens esse genus vel universale. Definitio enim non est rei essentia, sed oratio conceptus nostros de rei essentia significans; similiter non albedo ipsa, sed vox albedo genus est et universale.*

8. Sexto modo errant qui dicunt *Ideam alicujus rei esse universalem*, tanquam esset in animo imago | quaedam hominis, quae nullius unius hominis esset, sed hominis simpliciter, quod est impossibile, nam idea omnis et una est et unius rei; decipiuntur autem in eo, quod nomen rei pro idea ejus ponunt.

9. Septimo modo errant qui distinguentes entia dixerunt *Entium aliud esse ens per se, aliud per accidens*; nimirum quia haec *Socrates est homo* propositio necessaria est et *Socrates est musicus* propositio contingens, ob eam causam faciunt entia alia necessaria sive per se, alia contingentia sive per accidens; itaque, cum *necessarium, contingens, per se, per accidens* nomina sint non rerum, sed propositionum, dicentes *Ens aliquod esse ens per se* copulant cum nomine rei nomen propositionis. Eundem errorem errant, qui ideas alias in intellectu, alias in phantasia ponunt;¹ quasi alia esset idea sive imago hominis, quae orta a sensu in memoria

2 est éd.] est AB is E 2 falsa A 10] falsus AB a false Proposition E 4-5 non tamen numerus aliquis est infinitus om. E (ajout redondant?) 8 similes. Apparet éd.] similes; apparet AB 13-14 phantasmata. Coniunguntur éd.] Phantasmata, coniunguntur AB 32 *Ens aliquod esse ens per se* éd.] *Ens aliquod esse ens per se* AB any thing that has being, exists by Accident E

1. Doctrine scolastique que nous connaissons surtout par Descartes, *Méditationes de prima philosophia*, 6me Méditation.

A 38

OL I, 54

retinetur, alia, quae in intellectu est, quando intelligimus *Hominem esse animal*. Id quod imposuit est, quod *nomini* unam, *propositioni* aliam respondere rei *ideam* putaverint; quod est falsum. Nam propositio significat ordinem tantum eorum quae in eadem ideâ hominis observantur unum post aliud, ut ad orationem hanc *Homo est animal* unicam habemus ideam, etsi in ea idea prius id consideretur, propter quod vocatur *homo*, posterius vero id, propter quod vocatur *animal*. Harum omnium | per omnes modos falsitates ex nominum copulatorum definitionibus detegendae sunt.

10. Quando vero nomina corporum cum nominibus corporum, nomina accidentium cum nominibus accidentium, nomina nominum cum nominibus nominum, et nomina phantasmatum cum nominibus | phantasmatum copulantur, non statim cognoscimus propterea, an propositiones illae verae sint, sed oportet prius cognoscere utriusque nominis definitionem et rursus nominum, quae in definitione illa ponuntur, definitiones, donec continuata resolutione perveniatur ad nomen simplicissimum, id est, in eo genere rerum summum sive universalissimum. Quod si neque tunc veritas aut falsitas apparet, Philosophiae res est et ratiocinatione a definitionibus incipiente investiganda; omnis enim propositio universaliter vera aut definitio est aut pars | definitionis aut ex definitionibus demonstranda.

11. Syllogismi vitium, quod in formâ latere potest, reperietur semper vel in implicatione copulae cum altero terminorum vel in aliqua vocatione aequivocatione; utroque autem modo quatuor fient termini, quod ostensum est¹ in legitimo syllogismo fieri non posse. Implicatio autem copulae cum utrovis termino reductis propositionibus ad puram et nudam praedicationem statim detegitur. Ut si quis sic arguetur

Manus tangit calamum,
Calamus tangit chartam, ergo
Manus tangit chartam,

ineptia per reductionem statim manifesta est; nam si sic enuntietur

2 *animal*. Id éd.] *Animal*; id AB 5 *est* éd.] *est* AB is E 7 *homo* éd.] *Homo* AB *Man* E 8 *animal* éd.] *Animal* AB *Living Creature* E 14 *sint* éd.] *sunt* Harl. C et AB 18 *universalissimum*. Quod éd.] *Universalissimum*, quod AB 28 *detegitur*. Ut éd.] *detegitur*, ut AB 31 *chartam*, ergo éd.] *chartam*. Ergo AB 33 *ineptia* éd.] *Ineptia* AB

1. Cf. IV.2.

Manus est tangens calamum,
Calamus est tangens chartam, ergo
Manus est tangens chartam,

manifesti sunt quatuor termini *manus*, *tangens calamum*, *calamus*, et *tangens chartam*.

Sed non videtur ab hoc genere sophismatum tantum periculi esse, ut ulterius ea prosequi operae pretium sit. OL I, 56

12. In aequivocis autem fallacia aliqua esse potest, non tamen in iis quae per se manifesta sunt, neque in metaphoris, nam vox *metaphora* translationem nominis ab una re ad aliam ipsa praedicat. Sunt autem aequivoca, nec ea perobscura, quae tamen fallunt aliquando ut in hac argumentatione *Pertinet ad Philosophiam primam tractatio principiorum, sed primum omnium principium est, idem non simul esse et non esse; pertinet ergo ad Philosophiam primam tractare, an idem possit simul esse et non esse*. Aequivocatio in voce *principio* fallaciam habet, nam initio *Metaphysicorum*, ubi dicitur tractationem principiorum pertinere ad scientiam primam, per | *principia* intelligit Aristoteles *causas* rerum et entia quaedam, quae vocat prima. Sed ubi propositionem illam primum dicit esse principium,¹ intelligit principium et causam cognitionis, id est, verborum intellectum; quo si quis careat, ne doceri quidem quidquam potest. B 35

13. Captiones autem Sophistarum atque Scepticorum, quibus deridere aut oppugnare veritatem olim soliti sunt, vitium plerumque habebant non in forma, sed in materia syllogismi, et decepti saepius fuerunt quam deceperunt. Nam illud Zenonis celebre argumentum contra motum innitebatur huic propositioni *Quicquid dividi potest in partes numero infinitas, est infinitum*, quam ille procul dubio censuit esse veram, tamen falsa est; nam dividi posse in partes infinitas nihil aliud est quam dividi posse in partes quotcumque quis velit. | Necesse autem non est, ut linea, etsi possem ipsam dividere et subdividere quoties voluero, propter eam causam dicatur habere A 40 OL I, 57

2 *chartam*, ergo éd.] *chartam*. Ergo AB 4 *manifesti* OL I] *Manifesti* AB 6 *pas d'alinéa dans* E 10 *aliam* éd.] *aliud* AB 12 *Philosophiam primam*] *Metaphysicks* E 13 *sed* éd.] *sed* AB *But* E 13 *principium*] *Principles* E (*faute d'impression?*) *principle* EW I 13 *idem* éd.] *Idem* AB *the same thing* E 14 *Philosophiam primam*] *Metaphysicks* E 16 *Metaphysicorum* éd.] *Metaphysicorum* AB of his *Metaphysicks* E of his *Metaphysics* EW I 18 *entia*] *Existences* E 19 *primum* éd.] *primam* AB; *c'est pourquoi* E *traduit par* but where he says *a Primary Proposition is a Principle* 20 *principium*] *the beginning* E 21 *quidem* OL I] *quidam* AB

1. Aristote, *Métaphysique* Γ, ch. 3 et 4.

partes numero infinitas sive infinita esse, nam quotcunque partes fecero, semper tamen earum numerus finitus erit; sed quia qui dicit *partes* simpliciter, non adjiciendo quot, non ipse numerum praefinit, sed auditori determinandum relinquit, ideo dici solet lineam posse dividi in infinitum, quod nullo alio sensu verum esse potest.

Atque haec sufficiant de syllogismo, qui est tanquam gressus Philosophiae; nam et quantum necesse est ad cognoscendum, unde vim suam habeat omnis argumentatio legitima, tantum diximus, et omnia accumulare, quae dici possunt, aequae superfluum esset, ac si quis, ut dixi, puerulo ad gradiendum praecepta dare velit. Acquiritur enim ratiocinandi ars non praeceptis, sed usu et lectione eorum librorum, in quibus omnia severis demonstrationibus transiguntur. Transeo jam ad viam Philosophiae, id est, ad philosophandi methodum.

6 *alinéa dans E, pas d'alinéa dans AB* 6 *sufficiant éd. (cf. XXV.11: Atque haec sufficiant)] sufficiunt AB may suffice E* 9 *omnia accumulare, quae dici possunt] to enlarge this Treatise with all that may be heaped together E* 12 *omnia] the Conclusions E* 13-14 *ad philosophandi methodum] to the Method of Study E*

1. Cf. IV.13.

CAPUT VI De Methodo

A 41
OL I, 58

1. *Methodi et Scientiae definitiones.* 2. *Notius de singularibus quam de universalibus, quod sunt; contra notius de universalibus quam de singularibus, cur sunt, sive quoniam sint eorum causae.* 3. *Philosophantes quid scire quaerunt.* 4. *Pars prima, qua principia inveniuntur, est pure analytica.* 5. *Causae maxime in unoquoque genere universales sunt per se cognitae.* 6. *Methodus a principiis inventis ad scientiam tendens simpliciter quoniam sit.* 7. *Methodus scientiae civilis ut et naturalis a sensu ad principia scientiae analytica, a principiis rursus synthetica est.* 8. *Methodus quaerendi, an res proposita sit materia, an accidens.* 9. *Methodus quaerendi, an accidens propositum sit in hoc vel illo subjecto.* 10. *Methodus quaerendi effectus propositi causam.* 11. *Vocabula inventioni serviunt ut notae, demonstrationi ut verba significantia.* 12. *Demonstrandi methodus synthetica est.* 13. *Definitiones solas esse propositiones primas universales.* 14. *Definitionis natura et definitio.* 15. *Definitionis proprietates.* 16. *Demonstrationis natura.* 17. *Proprietates demonstrationis et demonstrandorum ordo.* 18. *Demonstrationis vitia.* 19. *Analytica Geometrarum quare hoc loco tractari non potest.*

1. Ad cognitionem Methodi revocanda in memoriam est Philosophiae definitio. Ea vero tradita est supra (Cap. 1., artic. 2.) in hunc modum: *Philosophia est phaenomenon sive effectuum apparentium ex concepta productione sive generatione aliquâ possibili, et productionis, quae fuit vel esse potuit, ex concepto effectu apparente per rectam rationem acquisita cognitio.* Est ergo *Methodus philosophandi effectuum per causas cognitae vel causarum per cognitos effectus brevissima investigatio.* Scire autem aliquem effectum tunc dicimur, cum et causas ejus, quot sunt, et in quo subjecto insunt et in quod subjectum effectum introducunt et quomodo id

9 *scientiae analytica éd.] Scientiae Analytica A (avec une tache entre les deux mots) Scientiae Analytica B* 13 *notae éd.] Notae AB Markes E* 13-14 *verba significantia] Signes E* 20 (Cap. 1., artic. 2.) *éd.] Cap. 1. artic. 2. AB (Chap. 1. Art. 2.) E* 21-24 *Philosophia est ... acquisita cognitio éd.] Philosophia est Phaenomenon sive effectuum apparentium, ex concepta productione sive generatione aliquâ possibili; & productionis quae fuit, vel esse potuit, ex concepto effectu apparente, per rectam rationem acquisita cognitio AB Philosophy is the knowledge we acquire by true Ratiocination, of Appearances, or apparent Effects, from the knowledge we have of some possible Production or Generation of the same; and of such Production as has been or may be, from the knowledge we have of the Effects E* 24-25 *philosophandi] in the Study of Philosophy E* 27 *quot éd.] quod AB that E*

B 36

OL I, 59

faciunt, cognoscimus. Itaque scientia τοῦ διότι sive causarum est; alia cognitio omnis, quae τοῦ ὅτι dicitur, sensio est vel a sensione remanens imaginatio sive memoria.

A 42 Principia itaque scientiae omnium prima sunt phantasmata sensûs et imaginationis, quae quidem cognoscimus naturaliter, quod sunt; quare autem sunt seu a quibus proficiscuntur causis cognoscere ratiocinatione opus est, quae consistit (ut dictum est supra Cap. 1., art. secundo) in compositione et divisione sive resolutione. Itaque omnis methodus, per quam causas rerum investigamus, vel compositiva est vel resolutiva vel partim compositiva, partim resolutiva. Et resolutiva quidem *analytica*; compositiva autem *synthetica* appellari solet.

2. Omni methodo commune est hoc, ut procedatur a cognitio ad incognita; id quod manifestum est ex allata Philosophiae definitione. In cognitione autem sensuum totum phaenomenon notius est quam quaelibet pars ejus; ut cum videmus hominem, prius notus seu notior est conceptus sive idea illa tota hominis quam particulares ideae *figurati, animati, rationalis*, hoc est, prius videmus hominem totum cognoscimusque, quod est, quam animum ad particularia illa advertimus. Itaque in cognitione τοῦ ὅτι sive *quod est* initium quaerendi est a tota idea. Contra, in cognitione τοῦ διότι sive in cognitione causarum, id est, in scientiis, notiores sunt partium causarum quam totius. Componitur enim causa totius ex causis partium, componenda autem prius cognosci necesse est quam compositum. Per partes autem hoc loco intelligo non partes ipsius rei, sed partes naturae ejus, ut per partes hominis non intelligo caput, humeros, brachia, etc., sed figuram, quantitatem, motum, sensationem, ratiocinationem, et similia, quae sunt accidentia, quae composita simul constituunt totam hominis, non molem, sed naturam. Atque in hoc consistit id quod vulgo dicitur alia esse *nobis*, alia esse *naturae* notiora.¹ Non enim arbitrator eos qui sic distinguunt, notum quicquam esse existimare, quod etsi homini nemini, naturae tamen notum sit. Notiora igitur *nobis* de notitia sensuum, notiora *naturae* de notitia

1-2 Itaque scientia ... ὅτι dicitur] And this is the Science of Causes, or as they call it of the διότι. All other Science, which is called the ὅτι E (*lisant* Atque au lieu de Itaque, scientia au lieu de cognitio, et τὸ ὅτι au lieu de τοῦ ὅτι) 4 Principia] Beginnings E 7 ratiocinatione opus est] is the work of Ratiocination E (*lisant* ratiocinationis au lieu de ratiocinatione) 8 sive B] sine A (*faute d'impression*) corrigé dans l'errata en sive or E 15 phaenomenon] object E 27 etc. éd.] etc. AB &c. E 31 notiora. Non éd.] notiora; non AB 32-33 sit. Notiora éd.] sit; notiora AB

1. Cf. Aristote, *Physique* A, ch. 1 (184 a 19-21).

ratione acquisitâ intelligi debent, et sic tota partibus, id est, eae res, quae nomina habent minus universalialia (quas brevitatis causa *singulares*), quam quae nomina habent magis universalialia (quas *universales* dicemus) notiores *nobis*; partium autem causae quam causa totius, hoc est, universalialia singularibus notiora *naturae* dici solent.

3. Philosophantes quaerunt vel simpliciter sive indefinite Scientiam, hoc est, nullâ certâ quaestione propositâ tantum scire, quantum possunt, vel certi alicujus phaenomeni causam vel aliquid saltem certum invenire, ut quaeenam sit causa *luminis, caloris, gravitatis, figurae propositae*, et similia, vel in quo subjecto accidens aliquod propositum inhaereat, vel ad effectum aliquem, qui proponitur generandum, ex multis accidentibus quae potissimum conducant, vel quo modo ad certum effectum producendum causae particulares propositae conjungi debeant. Propter varietatem hanc rerum | quaesitarum modo methodus *analytica*, modo *synthetica*, modo utraque adhibenda est.

4. Quoniam autem qui Scientiam simpliciter quaerunt, quae consistit in cognitione causarum, quantum fieri potest, omnium rerum, causae autem singularium omnium componuntur ex causis universalium sive simplicium, necesse illis est, ut prius cognoscant causas universalium sive accidentium eorum quae sunt omnibus corporibus, hoc est, omni materiae communes, quam singularium, hoc est, accidentium, quibus una res ab alia distinguitur. Rursus antequam sciri illorum causae possunt, cognoscere oportet, quae sunt illa ipsa universalialia. Universalialia autem cum contineantur in natura singularium, ratione eruenda sunt, id est, per resolutionem. Exempli gratia, proposito quolibet conceptu sive idea rei singularis, puta quadrati, quadratum ergo resolvetur in *planum terminatum lineis et angulis rectis certo numero et aequalibus*. Itaque habemus

1-4 tota partibus ... notiores *nobis*] the *Whole*, that is, those things that have Universal Names, (which for brevities sake I call *Universal*) are more knowne to us then the *Parts*, that is, such things as have Names lesse Universal, (which I therefore call *Singular*;) E (*rapportant* eae res à partibus au lieu de tota, et par conséquent *faisant dépendre* quae nomina habent magis universalialia de tota au lieu de partibus) 3 *singulares* éd.] *singulares* AB 4 *universales* éd.] *Universales* AB 12-13 effectum aliquem, qui proponitur generandum, ex multis accidentibus] the *generation* of some propounded *Effect* from many *Accidents* E (*lisant* effectum aliquem, qui proponitur, generandum ex multis accidentibus) 17 modo utraque om. E 28 proposito B] proposita A, *mais corrigé dans l'errata en* proposito 29 quadrati B] quadrati hujus A, *mais corrigé dans l'errata en* quadrati of a *Square*, this *Square* E (*lisant* hoc au lieu de hujus) 29 quadrati, quadratum éd.] Quadrati. Quadratum AB 30 *lineis*] *straight lines* E 30 et *angulis rectis certo numero et* éd.] & *angulis rectis, certo numero, & AB*

universalia haec sive materiae omni convenientia: *lineam, planum* (in quo continetur *superficies*), *terminatum, angulum, rectitudinem*,
 B 38 | *aequalitatem*, quorum causas sive generationes si quis invenerit, in causam quadrati eas componet. Rursus si proponat sibi conceptum auri, venient inde resolvendo ideae *solidi, visibilis, gravis* 5 (id est, conantis ad centrum Terrae sive motus deorsum) aliaque multa magis universalia quam est ipsum aurum, quae rursus resolvi possunt, donec perveniatur ad universalissima. Atque eodem modo alia atque alia resolvendo cognitum erit, quoniam ea sunt, quorum causis sigillatim cognitis et compositis cognoscuntur causae 10 OL I, 62 rerum singularium. Concludemus itaque methodum investigationis notiones rerum universales esse pure analyticam.

5. Causae autem universalium (eorum quorum causae aliquae omnino sunt) manifestae sunt per se sive *naturae* (ut dicunt) nota, ita ut nullam omnino methodo indigeant; causa enim eorum omnium 15 universalis una est motus. Nam et figurarum omnium varietas ex varietate oritur motuum, quibus construuntur, nec motus aliam causam habere intelligi potest praeter alium motum, neque varietates rerum sensu perceptarum ut colorum, sonorum, saporum, etc. aliam 20 A 44 habent causam praeter motum, partim in objectis agentibus, partim in ipsis sentientibus delitescens; ita tamen, ut, quamquam qualis ille motus sit, sine ratiocinatione cognosci non possit, esse tamen motum aliquem manifestum sit. Etsi enim plerisque, ut mutationem in motu consistere intelligant, monstratione aliqua opus sit, id tamen non accidit propter rei obscuritatem (nam ut aliquid vel de statu vel 25 de motu suo decedat nisi per motum, intelligi non potest), sed vel propter naturalem discursum praedictis magistrorum corruptum vel propterea, quod ad veritatem inquirendam nullam omnino cogitationem adhibent.

6. Cognitis igitur universalibus et eorum causis (quae sunt 30 cognitionis τοῦ διότι principia prima) habemus primo eorum definitiones (quae nihil aliud sunt quam conceptuum nostrorum simplicissimorum explicationes). Nam qui *locum* (exempli causa) recte concipit, definitionem hanc *Locus est spatium, quod a corpore adaequate impletur vel occupatur* ignorare non potest; et qui *motum* 35

2 *superficies* éd.] superficies AB *Superficies* E 2 *rectitudinem*] *Straightness, Rectitude* and E 3 sive generationes om. E 10–11 causae rerum singularium] Singular things E 19 etc. éd.] etc. AEB &c. OL I 33 explicationes). Nam éd.] explicationes) nam AB 34–35 *Locus est spatium, quod a corpore adaequate impletur vel occupatur* éd.] *Locus est spatium quod a Corpore adaequate impletur vel occupatur* AB *Place is that space which is possessed or filled adaequately by some Body* E

concipit, nescire non potest, quod motus est loci | unius privatio OL I, 63 et alterius acquisitio. Deinde habemus eorum generationes sive descriptiones, ut quod *linea*, verbi gratia, fiat ex motu puncti, superficies ex motu lineae, motus unus ex motu alio, etc. Restat 5 inquirendum, qualis motus quales effectus generet, ut qualis motus lineam rectam, qualis circulem faciat, qualis motus pellat, qualis trahat, et qua via, qualis rem visam, auditam, etc. aliter atque aliter videri, audiri, etc. faciat. Atque huius inquisitionis methodus compositiva est. Primo enim videndum, corpus motum, si nihil 10 aliud consideretur in | eo praeter motum, quid efficiat: apparet autem statim effici lineam sive longitudinem; deinde, quid faciat corpus longum, si moveatur: constabitque fieri superficiem; atque ita porro, quid fiat ex motu simpliciter. Deinde simili modo, ex huiusmodi 15 motibus additis, multiplicatis, substractis divisisque, qui effectus, quales figurae et quales earum existent proprietates, contemplandum est. Atque ex hac contemplatione orta est Philosophiae pars ea quae appellatur Geometria.

Post considerationem eorum quae fiunt ex motu simpliciter, sequitur consideratio eorum quae motus unius corporis efficit in 20 corpus aliud, et quoniam motus esse potest in partibus corporis singulis, ita tamen, ut totum suo loco non decedat, inquirendum est primo loco, quis motus quem motum efficit in | toto; hoc est, A 45 incurrente aliquo corpore in aliud corpus, quod quiescit vel quod motu aliquo jam movetur, qua via et qua velocitate movebitur illud post incursum, et rursus, quem motum motus ille secundus generabit in tertio, et sic deinceps, ex qua contemplatione existet Philosophiae pars illa, quae de Motu est.

Tertio loco ad eorum inquisitionem devenietur, quae fiunt ex OL I, 64 motu partium, ut in quo consistit, quod eadem res sensui tamen eadem non videantur, sed mutatae; itaque investigantur hoc loco qualitates sensibiles, quales sunt *lux, color, diaphaneitas, opacitas, sonus, odor, sapor, calor, frigus*, et similia; quae quia sine cognitione causae ipsius sessionis cognosci non possunt, consideratio causarum *visionis, auditus, olfactus, gustus, et tactus* tertium locum 35 obtinebit, qualitates autem illae praedictae mutationesque omnes in locum quartum differendae sunt, quae duae considerationes eam partem Philosophiae continent, quae vocatur Physica. In his quatuor partibus continetur, quicquid in Philosophia naturali demonstra-

4 etc. Restat éd.] etc. restat AB etc. It remains E 7 etc. éd.] etc. AB om. E &c. OL I 8 etc. éd.] etc. AB om. E &c. OL I 9 est. Primo éd.] est, primo AB 13 simpliciter. Deinde éd.] simpliciter; deinde AB

tione proprie dictâ explicari potest. Nam si phaenomenon naturalium speciatim causa reddenda sit, puta quales sint motus et virtutes corporum coelestium et partium ipsorum, ea ratio ex dictis Scientiae partibus petenda est, aut omnino ratio non erit, sed conjectura incerta.

Post Physicam ad moralia veniendum est, in qua (parte) considerantur motus animorum, nempe *appetitus, aversio, amor, benevolentia, spes, metus, ira, aemulatio, invidia*, etc., quas causas habent et quarum rerum ipsae causae sint; quae ideo post Physicam consideranda sunt, quia causas habent in sensu et imaginatione, quae sunt subjectum contemplationis physicae. Haec autem omnia eo ordine quem dixi investiganda esse ex eo constat, quod physica intelligi non possunt nisi cognito motu, qui est in partibus corporum minutissimis, neque talem motum partium nisi cognito quid sit, quod motum efficit in alio, neque hoc nisi cognito | motus simpliciter quid efficiat. Et ex eo, quod omnis rerum ad sensus apparitio determinatur | talisque et tantus fit per motus compositos, quorum unusquisque certum gradum velocitatis certamque viam obtinet, primo loco viae motuum simpliciter (in quo consistit Geometria), deinde viae motuum generatorum et manifestorum, postremo viae motuum interiorum et invisibilium (quae quaerunt Physici) investigandae sunt. Itaque qui Philosophiam naturalem quaerunt, nisi a Geometria principium quaerendi sumant, frustra quaerunt; | et qui de ea scribunt disseruntve Geometriae ignari, lectoribus auditoribusque suis abutuntur.

7. Philosophia civilis morali ita adhaeret, ut tamen distrahi ab ea possit; cognoscuntur enim causae motuum animorum non modo ratiocinatione, sed etiam uniuscujusque suos ipsius motus proprios observantis experientia. Atque ob eam rem non solum ii qui methodo synthetica a primis Philosophiae principiis ad scientiam cupiditatum perturbationumque animorum semel pervenerint, progrediendo eadem viâ incident in causas et necessitatem constituendarum civitatum, scientiamque acquirunt juris naturalis officiorumque civilium, et in omni genere civitatis, quod juris ipsi debetur civitati, et caetera, quae Philosophiae civilis propria sunt, propterea quod principia Politicae constant ex cognitione motuum animorum, cognitio autem motuum animorum ex scientia sensuum

2 virtutes] Influences E 8 etc. *éd.*] etc. AEB 22 Physici] Naturall Philosophers E 22 investigandae *éd.*] investigandi AB 31 pervenerint *éd.*] pervenerit AB they that have attained E 33 civitatum] Common-wealths E 34 civitatis] Government E 35 civitati] the Commonwealth E

et cogitationum, sed etiam illi, qui priorem partem Philosophiae, nimirum Geometriam et Physicam non didicere, ad principia tamen Philosophiae civilis methodo analytica pervenire possunt. Nam proposita quaestione qualibet ut, *an actio talis justa, an | injusta sit*, resolvendo illud *injustum in factum* et *contra leges*, et notionem illam *legis in mandatum* ejus qui coercere potest, et *potentiam* illam in *voluntatem* hominum pacis causa talem potentiam constituentium, pervenietur tandem ad hoc, quod tales sunt hominum appetitus et motus animorum, ut, nisi sint a potentia aliqua coerciti, bello se invicem persecuturi sint, id quod per uniuscujusque proprium animum examinantis experientiam cognosci potest. Itaque ab hoc loco progredi potest componendo ad determinandam cujuslibet actionis propositae justitiam vel injustitiam. Jam ex iis quae diximus, manifestum est methodum philosophandi iis qui simpliciter Scientiam quaerunt nullâ certâ quaestione propositâ, partim analyticam, partim syntheticam esse, nimirum a sensibus ad inventionem principiorum analyticam esse, caetera synthetica.

8. Quaerentibus phaenomeni vel effectus alicujus certi et propositi causam aliquando accidit, ut, utrum ea res, cujus causam quaerimus, materia sit sive corpus, an corporis accidens aliquod, ignoretur. Nam etsi in Geometria, ubi quaeritur causa magnitudinis vel | proportionis vel figurae, certo sciamus eas res, nempe magnitudinem, proportionem, et figuram, esse accidentia, in Physica tamen, ubi de phantasmatum sensibilibus causis agitur, quae pro ipsis rebus, quorum sunt phantasmata, sese offerunt (et) plerisque imponunt, non ita facilis est dijudicatio; praesertim vero in phantasmatis visionis. Exempli causa, qui Solem intuetur, existit illi idea quaedam splendida magnitudinis quasi (per diametrum) unius pedis, atque id ipsum appellat ille Solem, etiam si Solem revera | multo majorem esse sciat; similiter phantasma videtur aliquando a longinquo quidem rotundum, in proximo vero quadratum. Itaque dubitari merito potest, utrum phantasma illud materia sive corpus aliquod naturale sit, an vero corporis accidens aliquod. Hujus quaestionis examinandae methodus talis est. Materiae et accidentis

1 cogitationum] Imagination E 3 possunt B] potest A, *mais dans l'errata corrigé en* possunt 4 ut, *éd.*] ut AB as E 6 *mandatum* ejus qui coercere potest] *Command* of him or them that have *Coercive Power* E 17 synthetica *éd.*] Syntheticam AB 23 accidentia, in *éd.*] accidentia. In AB 23 Physica] Naturall Philosophy E 24-26 de phantasmatum ... est dijudicatio] concerning the Causes of the Phantasmes of sensible things, it is not so easie to discern between the things themselves from which those Phantasmes proceed, and the Appearances of those things to the sense E 26 dijudicatio; praesertim *éd.*] dijudicatio. Praesertim AB 27 visionis. Exempli *éd.*] visionis; exempli AB 30 phantasma] the Phantasme of the same thing E

proprietates, quas a definitionibus eorum methodo syntheticâ prius invenimus, comparandae sunt cum ipsa idea; et siquidem ideae convenient corporis sive materiae proprietates, ipsa corpus est, si non conveniunt, accidens est. Siquidem ergo materia neque fieri neque perire neque augeri aut minui neque loco moveri nostrâ operâ possit, idea autem illa oriatur, destruat, augeatur, minuatur, moveatur nostro arbitrio, certum est materiam non esse, sed accidens. Est ergo methodus ista synthetica.

9. Quod si de accidentis cogniti subjecto quaestio sit, id quod dubitari aliquando potest, ut in praecedente exemplo splendor ille et magnitudo apparens Solis, in quo subjecto sit, dubitari potest, inquisitio erit huiusmodi. Primo dividetur materia universa in partes, utpote in objectum, medium, et ipsum sentiens, vel aliqua divisione, quae ad rem propositam maxime videbitur accomodata; deinde singulae partes excutiendae sunt secundum subjecti definitionem, ea autem, quae accidentis illius capacia non sunt, rejicienda sunt. Verbi gratia, si Sol ratiocinatione aliquâ verâ inveniatur major quam magnitudo apparens, magnitudo illa in Sole non est; si Sol est in una certa linea recta et in una distantia certa, magnitudo autem et splendor visus sit in pluribus distantis et lineis, ut fit per reflectionem aut refractionem, non erit splendor ille neque apparens illa magnitudo in ipso Sole. Itaque corpus solare non erit splendoris et magnitudinis illius subjectum; et propter easdem rationes rejicietur quoque aer aliaquae, donec relinquatur nihil, quod splendoris aut magnitudinis illius subjectum esse possit, praeter ipsum sentiens. Quae methodus, quatenus subjectum in partes dividitur, analytica; quatenus subjecti et accidentis proprietates cum ipso accidente, cujus subjectum quaerimus, comparantur, synthetica est.

10. Quando vero effectus alicujus propositi causa investiganda est, ante omnia cogitanda et comprehendenda animo est ejus rei, quae causa appellatur, notio sive idea perfecta, nimirum quod *causa est summa sive aggregatum accidentium omnium tam in agentibus quam in patiente ad propositum effectum concurrentium, quibus omnibus existentibus effectum non existere vel quolibet eorum uno absente existere intelligi non potest.*

Cognito autem quid causa sit, unumquodque accidens effectum concomitans vel praecedens, quatenus videbitur ad effectum aliquo modo pertinere, sigillatim examinandum est videndumque, utrum

4 est. Siquidem *éd.*] est, siquidem AB 7 materiam] a Body E 12 huiusmodi. Primo *éd.*] huiusmodi; primo AB in this manner. First E 31 quae *causa éd.*] quae Causa AB 36 *pas d'alinea dans E*

illo non existente propositus effectus existere intelligi possit necne; atque hoc modo ea quae ad effectum producendum concurrunt, ab iis segregabuntur, quae non concurrunt. Quo facto ea quae concurrunt, congreganda sunt et consideratio habenda, an iis omnibus simul existentibus possibile tamen sit intelligere, quod propositus effectus non existat. Quod si id concipere non possumus, aggregatum illud causa ejus integra est, aliter non est, sed alia adhuc quaerenda et accumulanda sunt. | Exempli gratia, si causa luminis quaerenda sit, examinamus primo externa, reperimus autem, quotiescunque lumen apparet, esse objectum quoddam praecipuum tanquam fons ipsius luminis, sine quo lumen intelligi non potest: itaque ad generationem luminis concurrunt primo objectum aliquod. Deinde consideramus medium invenimusque, quod nisi certo modo dispositum sit, nempe ut sit diaphanum, etsi objectum maneat idem, tolli tamen effectum: concurrunt itaque ad luminis generationem medii diaphaneitas. Tertio observo corpus videntis reperioque a prava oculorum, cerebri, nervorum, cordis dispositione, id est, ab obstructionibus, a stupore, a debilitate tolli lumen: confert itaque ad causam luminis organorum ad recipiendas externorum impressiones apta dispositio. Rursus ex omnibus iis rebus, quae inhaerentia in objecto efficere lumen possunt, sola actio est (id est, motus aliquis), quae manente effectu deesse intelligi non potest; nam ut lucere aliquid possit, non requiritur, ut sit tantae magnitudinis vel talis figurae, neque etiam, ut toto corpore e loco suo egrediatur (nisi forte dicatur, id quod in Sole vel alio corpore existens causa est luminis, esse lucem; quod quia per lucem nihil aliud intelligitur praeter causam luminis, inepta exceptio esset, tanquam diceretur causam luminis esse id quod in Sole existens lumen efficit), restat, ut actio, qua lumen generatur, sit motus tantum partium ejus. Ex quo facile intelligitur, quid medium conferat, nempe motus illius continuationem ad oculum, et postremo, quid oculus et reliqua organa sentientis contribuant, | nempe ejusdem motus continuationem usque ad cor sive sensationis organum ultimum. Atque hoc modo conflata erit causa luminis | ex motu continuo ab origine ejus ad originem motus vitalis, cujus quidem motus vitalis a motu illo adveniente mutatio est ipsum lumen. Sed haec dicta sint pro exemplo tantum, nam de ipso lumine, unde et quomodo generetur, aliâs magisque

16 medii diaphaneitas] Transparency E 26 lucem] the light it hath in it selfe E 27 diceretur B] dicitur A should say E 29 ejus. Ex *éd.*] ejus; ex AB 33 ultimum. Atque *éd.*] ultimum, atque AB 35-36 motus vitalis a motu illo adveniente mutatio] the alteration of Vitall Motion, made by the impression upon it of Motion continued from the Object E

OL I, 69

A 49

OL I, 70

B 43

suo loco dicendum est.¹ Interea manifestum est, quod in causarum investigatione partim methodo analytica, partim synthetica opus est: analytica ad effectus circumstantias sigillatim concipiendas, synthetica ad ea quae singulae per se efficiunt, in unum componenda. Tradita jam inveniendi methodo dicendum restat de methodo docendi, hoc est, de demonstratione et demonstrandi mediis.

11. In methodo inveniendi usus vocabulorum consistit in eo, ut sint *notae*, quibus quae adinventae sunt revocari in memoriam possint; nam nisi id fiat, quicquid invenimus, perit, neque progredi a principiis uno aut altero syllogismo longius propter imbecillitatem memoriae possibile est. Exempli gratia, si quis contemplando positum ante oculos ejus aliquod triangulum inveniret, quod anguli ejus omnes simul sumpti aequales essent duobus angulis rectis, idque rem ipsam tacite cogitando sine omni verborum tam conceptorum quam prolatorum usu, contingeret illi, ut in oblato triangulo altero priori dissimili vel etiam in eodem, sed secundum alium situm conspecto, utrum ea proprietas inesset ei necne, ignoraret; et proinde ad singula triangula proposita, quae multitudine infinita sunt, contemplatio denuo instituenda esset. Id quod per vocabulorum usum (quorum unumquodque universale singularium rerum conceptus denotat infinitarum) necesse non est. Inserviunt tamen inventioni, ut jam dixi,² tanquam *notae* ad memoriam, non ut verba ad significandum; itaque homo solitarius philosophus fieri sine magistro potest. Adamus potuit. Sed docere, hoc est, demonstrare supponit duos orationemque syllogisticam.

12. Quoniam autem docere aliud non est praeterquam per propriae inventionis vestigia animum illius, qui docendus est, ad inventorum cognitionem perducere, eadem erit methodus demonstrandi quae fuerat investigandi, nisi quod pars methodi prior, nempe quae procedebat a sensu rerum ad principia universalialia, omittenda sit. Illa enim, cum sint principia, demonstrari non possunt, et cum sint nota naturae (ut dictum est supra articulo quinto), explicatione quidem egent, demonstratione non item. Tota igitur demonstrandi methodus synthetica est, consistens in orationis ordine incipientis a

3 est: analytica *éd.*] est. Analytica AB 14-15 conceptorum] understood E (*traduction erronée*) 22-23 tanquam *notae* ad memoriam, non ut verba ad significandum] as *Markes* for the helpe of our Memory, whereby we register to our selves our own Inventions; but not as *Signes* by which we declare the same to others E 28 demonstrandi] Demonstration to others E 32 naturae] by Nature E (*lisant naturâ au lieu de naturae*)

1. Cf. XXVII.2.
2. Cf. II.1.

propositionibus primis sive universalissimis per se intellectis et per propositionum in syllogismos perpetuam compositionem procedentis, donec a discente intellecta sit conclusionis quaesitae veritas.

13. Principia autem illa solae Definitiones sunt, quarum duo sunt genera. Alia enim sunt eorum vocabulorum, quae res significant, quarum causa aliqua intelligi (non) potest; alia eorum, quae res significant, quarum causa intelligi potest. Prioris generis sunt corpus sive materia, quantitas sive extensio, motus simpliciter, denique quae omni materiae insunt. Secundi generis sunt corpus tale, motus talis et tantus, magnitudo tanta, talis figura, aliaque omnia, quibus unum corpus ab alio distingui potest. Prioris generis nomina satis definiuntur, si oratione quantum fieri potest brevissimâ earum rerum, quarum illa nomina sunt, clarae et perfectae ideae sive conceptus in animo audientis excitentur, veluti si motum definiamus esse loci unius derelictionem et alterius acquisitionem continuam. Nam etsi neque movens ullum neque causa motûs in definitione illa reperiatur, tamen ex audita oratione illa idea motûs animo satis clare obversabitur. Nomina autem rerum, quae causam habere posse intelliguntur, in definitione habere debent ipsam causam sive modum generationis, veluti cum circulum definimus esse figuram natam ex circumlacione lineae rectae in plano etc. Praeter definitiones alia propositio nulla dicenda prima est, neque ergo, si paulo severius agere volumus, in numerum principiorum ascribenda est. Nam Axiomata, quae habentur apud Euclidem, quia demonstrari possunt, principia demonstrandi non sunt, quamquam, quia demonstratione non egent, omnium consensu principiorum auctoritatem assequuta sunt. Deinde ea quae Postulata et Petitiones appellantur, principia quidem reverâ sunt, non tamen demonstrationis, sed constructionis, id est, non scientiae, sed potentiae sive, quod idem est, non Theorematum, quae sunt speculationes, sed Problematum, quae ad praxim et opus aliquod faciendum pertinent.¹ Illa vero recepta vulgo dogmata, qualia sunt *Natura abhorret vacuum*, *Natura nihil frustra facit*, et similia, neque per se cognita neque aliunde demonstrabilia et saepius falsa quam vera multo minus pro principiis habenda sunt.

5 genera. Alia *éd.*] genera, alia AB 7 intelligi *éd.*] intelligi non AB conceive no E 8 motus simpliciter] *Motion* E 14 excitentur, veluti *éd.*] excitentur. Veluti AB 18 animo] into the Mind of the Hearer E 21 etc. *éd.*] etc. AB &c. E 32 vacuum] *Vanity* E (*faute d'impression?*) vacuity EW I

1. Ces affirmations reprennent en partie I.6 et III.9.

OL I, 73 Sed ut revertar ad definitiones, ratio quare illa, | quae causam
 A 51 et generationem habent, per causam et generationem | definienda
 essedico, haec est. Finis demonstrandi est causarum et generationis
 rerum scientia, quae si non habetur in definitionibus, haberi non
 potest in conclusione syllogismi illius, qui ex definitionibus existit 5
 primus; et siquidem in conclusione prima non reperiatur, neque in
 ulla conclusione reperietur ulteriore, itaque nulla unquam existet
 scientia, id quod est contra demonstratoris scopum et consilium.

14. Definitiones autem, ut quas principia sive propositiones
 primas esse modo diximus, orationes sunt, et quia adhibitae sunt 10
 ad excitandam in animo discentis alicujus rei ideam, si quod ei
 rei nomen aliquod impositum sit, non potest definitio aliud esse
 B 45 quam illius nominis per orationem explicatio. Siquidem autem
 nomen impositum sit propter conceptum compositum, non aliud est
 definitio quam nominis illius in partes suas universaliores resolutio; 15
 ut quando definimus hominem dicendo *Homo est corpus animatum*
sentiens rationale, nomina illa *corpus animatum* etc. partes sunt
 totius hujus nominis *homo*. Unde fit, ut hujusmodi definitiones
 semper constant ex genere et differentia, ita ut priora nomina omnia
 praeter ultimum pro genere, ultimum autem pro differentia 20
 sit. Quod si nomen aliquod universalissimum in suo genere sit,
 definitio ejus constare ex genere et differentia non potest, sed fieri
 debet per circumloquutionem quamlibet, modo ea ad vim nominis
 explicandam maxime sit idonea. Rursus fieri potest, et saepe evenit,
 OL I, 74 ut conjuncta sint genus et differentia, ita tamen, ut definitionem | non
 25 faciant; ut hae voces *linea recta* continent genus et differentiam, non
 tamen est definitio, nisi putemus lineam rectam ita definiri *Linea*
recta est linea recta; attamen si esset una aliqua vox ab ambabus
 illis diversa, quae idem significaret quod illae ambae, tunc hujus
 unius vocis essent illae duae voces definitio. Ex iis quae dicta sunt, 30
 Definitio ipsa, quomodo definienda sit, intelligi potest, nempe *quod*
sit propositio, cujus praedicatum est subjecti resolutivum, ubi fieri
potest, ubi non potest, exemplificativum.

3-4 Finis demonstrandi est causarum et generationis rerum scientia] The End of Science, is the Demonstration of the Causes and Generations of Things E 6-7 in ulla conclusione ... ulteriore, itaque] in any further Conclusion deduced from that; and therefore by proceeding in this manner E 15 universaliores] most Universall E 17 *corpus animatum* etc. éd.] *Corpus animatum* etc. AB *Body Animated*, etc. E 20 pro genere] *General* E 26 *linea recta* éd.] *linea recta* AB *a Straight Line* E 26 continent] continet OL I 27-28 *Linea recta est linea recta* éd.] *Linea recta est linea recta* AB *A Straight Line is a Straight Line* E 28 si esset una aliqua vox] if there were added another Name consisting of different Words E 29-30 hujus unius vocis] of that Name E 33 *exemplificativum* éd. (cf. *Examinatio*, p. 24 [OL IV, 38]) *exemplificativum* AB *it exemplifies* E

15. Proprietates definitionis sunt

1. Quod tollit aequivocum adeoque omnem illam distinctionum multitudinem, quibus utuntur ii qui Philosophiam acquiri posse putant disputationibus. Nam natura definitionis est, ut definiat, id est, determinet nominis definiti significationem, eamque abscindat ab omni alia significatione quam quae in definitione continetur; et propterea distinctionum, quotquot esse possunt circa definitum, una definitio omnium locum | obtinet. A 52
2. Quod exhibet definiti notionem universalem, adeo ut pictura quaedam sit universalis non ad oculum, sed ad animum. Nam ut qui hominem pingit, imaginem efficit hominis hujus, sic qui nomen *homo* definit, imaginem efficit hominis alicujus.
3. Quod de definitionibus, an sint admittendae necne, non sit necesse disputare. Quoniam enim inter docentem et discipulum sola res agitur, si discipulus intelligit definiti partes omnes in definitione resolutas, et tamen definitionem admittere nolit, controversia jam tunc finitur; idem enim est | ac si doceri nollet. OL I, 75
 Quod si non intelligit, definitio sine controversia inepta est, propterea quod definitionis natura in eo consistit, ut ideam rei clare exhibeat; principia enim per se nota sunt, aut principia non sunt.
4. Quod definitiones in Philosophia priores sunt nominibus definitis. Philosophiae enim docendae initium est a definitionibus, et progressus ejus ad scientiam compositi compositivus est. B 46
 Cum itaque definitio sit nominis compositi per resolutionem explicatio, et processus sit a resolutis ad composita, prius intelligendae sunt definitiones quam nomina composita; imo nominibus partium in oratione explicatis non est necesse, ut sit nomen ex iis compositum. Exempli gratia, cognitio nominibus his *aequilaterum, quadrilaterum, rectangulum* non erat Geometriae necessarium, ut omnino esset nomen hoc *quadratum*; nomina enim definita in Philosophia brevitate causâ tantum adhibentur.
5. Quod nomina composita, quae in Philosophia una aliqua parte definiuntur, possint in alia parte aliter definiri; sicut parabolae 35

2 1. B] 1^a. A First, E 9 2. B] 2^a. A Secondly, E 12 imaginem efficit hominis alicujus] makes a Representation of some Man to the mind E 13 3. B] 3^a. A Thirdly, E 14-15 Quoniam enim inter docentem et discipulum sola res agitur] For when a Master is instructing his Scholar E 22 4. B] 4^a. A Fourthly, E 24-25 est. Cum éd.] est, cum AB 26 a resolutis] from the parts E 28 ut sit] that the Definition should be E 31 *quadratum* éd.] *quadratum* AB *Square* E 34 5. B] 5^a. A Fift(h)ly E

et hyperbolae alia est in Geometria, alia in Rhetorica definitio. Institutae enim sunt et inserviunt definitiones certae alicui doctrinae; siquidem ergo definitio in una Philosophiae parte nomen aliquod, quod videbitur ad geometrica brevius tradenda idoneum, inducat, potest quoque in aliis Philosophiae partibus idem eodem jure facere; nominum enim usus privatus atque (etiam inter plures consentientes) arbitrarius est.

OL I, 76

6. Quod nomen nullum per unum vocabulum definitur. Propterea quod unum vocabulum unius | aut plurium vocabulorum resolutivum esse non potest.

7. Quod nomen definitum repeti in definitione non debet. Nam definitum est totum compositum, definitio vero compositi in partes resolutio, totum autem sui ipsius pars esse non potest.

A 53

16. Definitiones duae quaelibet, quae componi possunt in syllogismum, producant conclusionem, quae, quia a principiis, id est, a definitionibus derivatur, *demonstrata* et ipsa derivatio sive compositio *demonstratio* dicitur. Similiter si ex duabus propositionibus, quarum una est definitio, altera conclusio demonstrata, syllogismus fiat, vel quarum neutra est definitio, sed utraque prius demonstrata, ille syllogismus quoque demonstratio dicitur, et sic deinceps. Demonstrationis igitur definitio hujusmodi erit: *Demonstratio est syllogismus vel syllogismorum series a nominum definitionibus usque ad conclusionem ultimam derivata*. Ex quo intelligitur omnem ratiocinationem legitimam, quae initium habet in principiis veris, esse scientificam, et veram demonstrationem. Nam quod ad originem nominis attinet, etsi Graeci ἀποδείξιν, quam Latini ad verbum vertentes demonstrationem appellaverunt, pro ea ratiocinatione sola usurparunt, in qua descriptis certis lineis et figuris rem probandam quasi ante oculos posuere, quod proprie est ἀποδεικνύειν sive monstrare, tamen ita fecisse ob eam causam videntur, quia praeterquam in Geometria (in qua fere solâ hujusmodi figuris locus est) circa alias res ratiocinationem | certam et scientificam nullam, sed omnia controversiis clamoribusque plena esse animadvertissent; idque | non propterea, quod sine figuris veritas, quam praetendebant, apparere non poterat, sed quia nulla posuerant ratiocinationis suae legitima principia. Quapropter nulla

B 47

OL I, 77

1-2 definitio. Institutae *éd.*] definitio; institutae **AB** 3-5 definitio ... nomen aliquod ... inducat] a Definition may have in it some one ... Name **E** (*traduction erronée*) 8 6. **B**] 6^a. **A** Sixt(h)ly, **E** 11 7. **B**] 7^a. **A** Seventhly, **E** 27 Latini ad verbum vertentes demonstrationem] the Latines *Demonstratio* **E** 30 monstrare] to *shew* by the Figure **E** 33 omnia] their Doctrines concerning all other things **E**

est ratio, quin praepositis definitionibus in quocunque doctrinae genere verae possint esse demonstrationes.

17. Proprium ergo demonstrationis methodicae est

1. Ut omnis rationis series sit legitima, hoc est, secundum syllogismorum leges supra traditas.
2. Ut singulorum syllogismorum praemissae prius demonstratae sint usque a definitionibus primis.
3. Ut procedatur post definitiones eâdem methodo, qua qui docet ipsa quaeque invenerat. Nempe ut primo demonstrantur ea quae sunt definitionibus maxime universalibus proxima (in quo continetur pars Philosophiae illa, quae Philosophia prima dicitur). Deinde ea quae demonstrari possunt per motum simpliciter (in quo consistit Geometria). Post Geometriam ea quae doceri possunt per actionem manifestam, id est, per impulsionem et tractionem. Inde ad motum partium invisibilium sive mutationem et ad doctrinam sensuum imaginationisque descendendum est et ad animalium passiones | internas, praesertim vero hominis, in quibus continentur fundamenta prima officiorum sive doctrinae civilis, quae locum tenet ultimum. Quod autem doctrinae universae ordo is quem dixi esse debeat, ex eo cognosci potest, quod quae posteriore loco docenda esse dicimus, nisi iis cognitis quae priore loco tractanda proponuntur, demonstrari non possunt; cujus methodi exemplum aliud afferri nequit praeter ipsam Elementorum | Philosophiae, quam proximo capite aggredimur et per totum librum persequimur, tractationem.

A 54

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18. Praeter paralogismos, qui contingunt propter falsitatem praemissarum vel vitium compositionis, de quibus dictum est Capite praecedente, duo praeterea sunt, et ii proprii demonstrationum, *Petitio principii* et *Causa falsa*, quae non modo discipulum rudem, sed etiam magistrum aliquando fallunt faciuntque, ut quod demonstratum esse putant, demonstratum non sit. *Principium* autem *petere* dicuntur, qui conclusionem probandam, aliis verbis enuntiatam,

4 1. **B**] 1^{um}. **A** First, **E** 6 2. **B**] 2^{um}. **A** Secondly, **E** 6-7 prius demonstratae sint usque] be demonstrated **E** 8 3. **B**] 3^{um}. **A** Thirdly, **E** 8 qui docet] he that Teaches or Demonstrates any thing **E** 11 Philosophia prima] *Philosophia Prima* **E** (*en latin dans le texte*) 13 Post *éd.*] post **AB** After **E** 13 doceri] taught or shewed **E** 17 animalium *om.* **E** 18 fundamenta prima officiorum] the Grounds of Civil Duties **E** 24 ipsam] that Treatise of **E** 26 qui contingunt **B**] quae **A**, *mais corrigé dans l'errata en* qui contingunt whose fault lies either **E** 28-29 et ii proprii demonstrationum, *Petitio principii* et *Causa falsa*] which are frequent in Demonstration; one whereof is commonly called *Petitio Principii*; the other is the supposing of a *False Cause* **E**

pro definitione ponunt, id est, pro principio demonstrandi. Itaque ponentes pro causa rei quaesitae ipsam rem sive effectum faciunt in demonstrando circulum; ut qui demonstrare vellet (exempli causa), quod Terra stet immobilis in centro Universi, et causam ejus rei supponat gravitatem, eamque definiat qualitatem esse, qua corpus grave tendit ad centrum Universi, frustra laborabit; quaeritur enim, quatenam sit causa, quod qualitas illa Terrae insit, et propterea, qui gravitatem causam ejus rei supponit, ipsam rem pro sui ipsius causa ponit.

B 48

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A 55

*Causae falsae exemplum in tractatu quodam hujusmodi invenio.*¹ Demonstrandum erat Terram moveri. Incipit ergo ab hoc, quod cum Terra et Sol situm inter se eundem non servant, necesse sit alterutrum moveri localiter, quod est verum; deinde quod vapores, quos Sol e terra marique elevat, propter motum hunc necessario moventur, quod verum est quoque; inde infert nasci ventos, etiam hoc concedi debet; ab his ventis moveri inquit aquas marinas, illarum autem motu fundum | maris quasi flagellatum se convertere: demus etiam hoc; concludet ergo necessario Terram moveri. Paralogismus tamen est. Nam si ventus ille causa fuit, quare Terra ab initio circumageretur, et motus vel Solis vel Terrae fuerit causa illius venti, erat motus vel Solis vel Terrae ante ipsum ventum. Si ante ventum natum Terra mota esset, tum ventus ille revolutionis Terrae causa esse non potuit; sin stante Terrâ motus erat Sol, manifestum est vento illo existente Terram potuisse | non moveri; non est ergo motus illius causa illa, quam proposuit. Sed hujus generis in scriptoribus physicis paralogismi passim occurrunt permulti, quamquam hoc ipso, quem adduxi in exemplum, elaboratior esse nullus potest.

19. Videri alicui potest ad hunc locum de Methodo pertinere artem illam Geometrarum, quam vocant Logisticam,² id est, per quam a suppositione quaesiti tanquam veri ratiocinando incidunt vel in cognita, ex quibus quaesiti veritatem demonstrare possunt, vel in impossibilia, ex quibus intelligi potest id quod supponitur esse falsum. Verum ea ars hoc loco explicari non potest. Cujus

1 demonstrandi. Itaque *éd.*] demonstrandi; itaque AB 2 effectum] some Effect of it E (*traduction erronée*) 8 causam ejus rei supponit *éd.*] causatur AB he that supposeth Gravity to be the Cause E 17 convertere: demus *éd.*] convertere. Demus AB 18 necessario Terram moveri] the Earth is moved E 19 est. Nam *éd.*] est; nam AB 21 ventum. Si *éd.*] ventum; si AB 28 de Methodo *om.* E

1. Cf. Thomas White, *De Mundo Dialogi tres*, pp. 130-136, 177-186 et 216 (cf. *De Motu*, XVIII.1 et 8, ainsi que XXI.1 et 6).

2. Cf. François Viète, *In Artem Analyticam Isagoge. Ad Logisticen Speciosam Notae priores*, Paris 1631.

rei causa est, quod methodus illa nisi ab iis qui in Geometria versati sunt, neque exerceri neque intelligi potest; ipsis autem Geometris quanto quisque plura praesentioraque habet theoremata, tanto magis Logistica uti potest, adeo ut ab ipsa Geometria realiter distincta non sit. Habet enim ea methodus tres partes, quarum prima est inter incognita et cognita inventio aequalitatis, quam vocant aequationem; aequatio autem illa inveniri non potest nisi ab iis qui proportionis naturam, proprietates et transpositiones, linearum et superficierum additionem, subtractionem, multiplicationem, divisionem, radicumque extractionem in promptu habent, id quod jam Geometrae non mediocris est. Secunda est, ut ex aequatione inventâ judicare possint, an ex ea quaestionis veritas vel falsitas erui possit necne, id quod majoris adhuc scientiae est. Tertia, aequatione inventâ, quae ad quaestionis solutionem sit idonea, eam ita resolvere, ut veritas vel falsitas ejus fiat manifesta, id quod in quaestionibus difficilioribus sine cognitione naturae figurarum curvilinearum fieri non potest. Curvilinearum autem naturam et proprietates in promptu habere Geometria summa est. Accidit praeterea, | quod in aequationibus inveniendis nulla est methodus, sed tantum quisque valet, quantum solertia praestat naturali.

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B 49

5 sit. Habet *éd.*] sit; habet AB 13 Tertia, *éd.*] Tertia, ut AB 17 Curvilinearum B] Curvilinearum A

OF MAN

CHAP. I

Of SENSE

CONCERNING the Thoughts of man, I will consider them first *Singly*, and afterwards in *Trayne*, or dependance upon one another. *Singly*, they are every one a *Representation* or *Apparence*, of some quality, or other *Accident* of a body without us; which is commonly called an *Object*. Which *Object* worketh on the Eyes, Eares, and other parts of mans body; and by diversity of working, produceth diversity of *Apparences*.

The Originall of them all, is that which we call *SENSE*; (For there is no conception in a mans mind, which hath not at first, totally, or by parts, been begotten upon the organs of *Sense*.) The rest are derived from that originall.

To know the naturall cause of *Sense*, is not very necessary to the business now in hand; and I have else-where written of the same at large. Nevertheless, to fill each part of my present method, I will briefly deliver the same in this place.

The cause of *Sense*, is the *Externall Body*, or *Object*, which presseth the organ proper to each *Sense*, either immediatly, as in the *Tast* and *Touch*; or mediately, as in *Seeing*, *Hearing*, and *Smelling*: which pressure, by the mediation of *Nerves*, and other strings, and membranes of the body, continued inwards to the *Brain*, and *Heart*, causeth there a resistance, or counter-pressure, or endeavour of the heart, to deliver it self: which endeavour because *Outward*, seemeth to be some matter with-

out. And this *seeming*, or *fancy*, is that which men call *Sense*; and consisteth, as to the Eye, in a *Light*, or *Colour figured*; To the Eare, in a *Sound*; To the Nostrill, in an *Odour*; To the Tongue and Palat, in a *Savour*; And to the rest of the body, in *Heat*, *Cold*, *Hardnesse*, *Softnesse*, and such other qualities, as we discern by *Feeling*. All which qualities called *Sensible*, are in the object that causeth them, but so many several motions of the matter, by which it presseth our organs diversly. Neither in us that are pressed, are they anything else, but divers motions; (for motion, produceth nothing but motion.) But their apparence to us is *Fancy*, the same waking, that dreaming. And as pressing, rubbing, or striking the Eye, makes us fancy a light; and pressing the Eare, produceth a dinne; so do the bodies also we see, or hear, produce the same by their strong, though unobserved action. For if those Colours, and Sounds, were in the Bodies, or Objects that cause them, they could not bee [4] severed from them, as by glasses, and in Ecchoes by reflection, wee see they are; where we know the thing we see, is in one place; the apparence, in another. And though at some certain distance, the reall, and very object seem invested with the fancy it begets in us; Yet still the object is one thing, the image or fancy is another. So that *Sense* in all cases, is nothing els but originall fancy, caused (as I have said) by the pressure, that is, by the motion, of externall things upon our Eyes, Eares, and other organs thereunto ordained.

But the Philosophy-schooles, through all the Universities of Christendome, grounded upon certain Texts of *Aristotle*, teach another doctrine; and say, For the cause of *Vision*, that the thing seen, sendeth forth on every side a *visible species* (in English) a *visible shew*, *apparition*, or *aspect*, or *a being seen*; the receiving whereof into the Eye, is *Seeing*. And for the cause of *Hearing*, that the thing

heard, sendeth forth an *Audible species*, that is, an *Audible aspect*, or *Audible being seen*; which entring at the Eare, maketh *Hearing*. Nay for the cause of *Understanding* also, they say the thing Understood sendeth forth *intelligible species*, that is, an *intelligible being seen*; which comming into the Understanding, makes us Understand. I say not this, as disapproving the use of Universities: but because I am to speak hereafter of their office in a Commonwealth, I must let you see on all occasions by the way, what things would be amended in them; amongst which the frequency of insignificant Speech is one.

CHAP. II

Of IMAGINATION

THAT when a thing lies still, unlesse somewhat els stirre it, it will lye still for ever, is a truth that no man doubts of. But that when a thing is in motion, it will eternally be in motion, unless somewhat els stay it, though the reason be the same, (namely, that nothing can change it selfe,) is not so easily assented to. For men measure, not onely other men, but all other things, by themselves: and because they find themselves subject after motion to pain, and lassitude, think every thing els growes weary of motion, and seeks repose of its own accord; little considering, whether it be not some other motion, wherein that desire of rest they find in themselves, consisteth. From hence it is, that the Schooles say, Heavy bodies fall downwards, out of an appetite to rest, and to conserve their nature in that place which is most proper for them; ascribing appetite, and Knowledge of what is good for their conservation, (which is more than man has) to things inanimate absurdly.

When a Body is once in motion, it moveth (unless something els hinder it) eternally; and whatsoever hindreth it, cannot in an instant, but in time, and by degrees quite extinguish it: And as wee see in the water, though the wind cease, the waves give not over rowling for a [5] long time after; so also it happeneth in that motion, which is made in the internall parts of a man, then, when he Sees, Dreams, &c. For after the object is removed, or the eye shut, wee still retain an image of the thing seen, though more obscure than when we see it. And this is it, the Latines call *Imagination*, from the image made in seeing; and apply the same, though improperly, to all the other senses. But the Greeks call it *Fancy*; which signifies *appareance*, and is as proper to one sense, as to another. *IMAGINATION* therefore is nothing but *decaying sense*; and is found in men, and many other living Creatures, as well sleeping, as waking.

The decay of Sense in men waking, is not the decay of the motion made in sense; but an obscuring of it, in such manner, as the light of the Sun obscureth the light of the Starres; which starres do no less exercise their vertue by which they are visible, in the day, than in the night. But because amongst many stroaks, which our eyes, eares, and other organs receive from externall bodies, the predominant onely is sensible; therefore the light of the Sun being predominant, we are not affected with the action of the starres. And any object being removed from our eyes, though the impression it made in us remain; yet other objects more present succeeding, and working on us, the *Imagination* of the past is obscured, and made weak; as the voyce of a man is in the noyse of the day. From whence it followeth, that the longer the time is, after the sight, or Sense of any object, the weaker is the *Imagination*. For the continuall change of mans

body, destroyes in time the parts which in sense were moved: So that distance of time, and of place, hath one and the same effect in us. For as at a distance of place, that which wee look at, appears dimme, and without distinction of the smaller parts; and as Voyces grow weak, and inarticulate: so also after great distance of time, our *imagination* of the Past is weak; and wee lose (for example) of Cities wee have seen, many particular Streets; and of Actions, many particular Circumstances. This *decaying sense*, when wee would express the thing it self, (I mean *fancy* it selfe,) wee call *Imagination*, as I said before: But when we would express the *decay*, and signifie that the Sense is fading, old, and past, it is called *Memory*. So that *Imagination* and *Memory*, *Memory* are but one thing, which for divers considerations hath divers names.

Much memory, or memory of many things, is called *Experience*. Againe, *Imagination* being only of those things which have been formerly perceived by Sense, either all at once, or by parts at severall times; The former, (which is the imagining the whole object, as it was presented to the sense) is *simple Imagination*; as when one imagineth a man, or horse, which he hath seen before. The other is *Compounded*; as when from the sight of a man at one time, and of a horse at another, we conceive in our mind a Centaure. So when a man compoundeth the image of his own person, with the image of the actions of an other man; as when a man imagins himselfe a *Hercules*, or an *Alexander*, (which happeneth often to them that are much taken with reading of Romants) it is a compound *imagination*, and properly but a *Fiction* [6] of the mind. There be also other *Imaginations* that rise in men, (though waking) from the great impression made in sense: As from gazing upon the Sun, the impression leaves an image of the Sun before our eyes a long time

after; and from being long and vehemently attent upon Geometrical Figures, a man shall in the dark, (though awake) have the Images of Lines, and Angles before his eyes: which kind of Fancy hath no particular name; as being a thing that doth not commonly fall into mens discourse.

Dreams The imaginations of them that sleep, are those we call *Dreams*. And these also (as all other Imaginations) have been before, either totally, or by parcels in the Sense. And because in sense, the Brain, and Nerves, which are the necessary Organs of sense, are so benumbed in sleep, as not easily to be moved by the action of Externall Objects, there can happen in sleep, no Imagination; and therefore no Dreame, but what proceeds from the agitation of the inward parts of mans body; which inward parts, for the connexion they have with the Brayn, and other Organs, when they be distempered, do keep the same in motion; whereby the Imaginations there formerly made, appeare as if a man were waking; saving that the Organs of Sense being now benumbed, so as there is no new object, which can master and obscure them with a more vigorous impression, a Dreame must needs be more cleare, in this silence of sense, than are our waking thoughts. And hence it cometh to passe, that it is a hard matter, and by many thought impossible to distinguish exactly between Sense and Dreaming. For my part, when I consider, that in Dreames, I do not often, nor constantly think of the same Persons, Places, Objects, and Actions that I do waking; nor remember so long a trayne of coherent thoughts, Dreaming, as at other times; And because waking I often observe the absurdity of Dreames, but never dream of the absurdities of my waking Thoughts; I am well satisfied, that being awake, I know I dreame not; though when I dreame, I think my selfe awake.

And seeing dreames are caused by the distemper of some of the inward parts of the Body; divers distempers must needs cause different Dreams. And hence it is, that lying cold breedeth Dreams of Feare, and raiseth the thought and Image of some fearfull object (the motion from the brain to the inner parts, and from the inner parts to the Brain being reciprocal:) And that as Anger causeth heat in some parts of the Body, when we are awake; so when we sleep, the over heating of the same parts causeth Anger, and raiseth up in the brain the Imagination of an Enemy. In the same manner; as naturall kindness, when we are awake causeth desire; and desire makes heat in certain other parts of the body; so also, too much heat in those parts, while wee sleep, raiseth in the brain an imagination of some kindness shewn. In summe, our Dreams are the reverse of our waking Imaginations; The motion when we are awake, beginning at one end; and when we Dream, at another.

The most difficult discerning of a mans Dream, from his waking [7] thoughts, is then, when by some accident we observe not that we have slept: which is casie to happen to a man full of fearfull thoughts; and whose conscience is much troubled; and that sleepeth, without the circumstances, of going to bed, or putting off his clothes, as one that noddeth in a chayre. For he that taketh pains, and industriously layes himself to sleep, in case any uncouth and exorbitant fancy come unto him, cannot easily think it other than a Dream. We read of *Marcus Brutus*, (one that had his life given him by *Julius Cæsar*, and was also his favorite, and notwithstanding murdered him,) how at *Philippi*, the night before he gave battell to *Augustus Cæsar*, hee saw a fearfull apparition, which is commonly related by Historians as a Vision: but considering the circumstances, one may easily judge to have been but a

*Apparitions
or Visions*

short Dream. For sitting in his tent, pensive and troubled with the horror of his rash act, it was not hard for him, slumbering in the cold, to dream of that which most affrighted him; which feare, as by degrees it made him wake; so also it must needs make the Apparition by degrees to vanish: And having no assurance that he slept, he could have no cause to think it a Dream, or any thing but a Vision. And this is no very rare Accident: for even they that be perfectly awake, if they be timorous, and superstitious, possessed with fearfull tales, and alone in the dark, are subject to the like fancies, and believe they see spirits and dead mens Ghosts walking in Church-yards; whereas it is either their Fancy onely, or els the knavery of such persons, as make use of such superstitious feare, to passe disguised in the night, to places they would not be known to haunt.

From this ignorance of how to distinguish Dreams, and other strong Fancies, from Vision and Sense, did arise the greatest part of the Religion of the Gentiles in time past, that worshipped Satyres, Fawnes, Nymphs, and the like; and now adayes the opinion that rude people have of Fayries, Ghosts, and Goblins; and of the power of Witches. For as for Witches, I think not that their witchcraft is any reall power; but yet that they are justly punished, for the false believe they have, that they can do such mischief, joyned with their purpose to do it if they can: their trade being neerer to a new Religion, than to a Craft or Science. And for Fayries, and walking Ghosts, the opinion of them has I think been on purpose, either taught, or not confuted, to keep in credit the use of Exorcisme, of Crosses, of holy Water, and other such inventions of Ghostly men. Neverthelesse, there is no doubt, but God can make unnaturall Apparitions: But that he does it so often, as men need to feare such things, more than they feare the stay, or change, of the course of

Nature, which he also can stay, and change, is no point of Christian faith. But evill men under pretext that God can do any thing, are so bold as to say any thing when it serves their turn, though they think it untrue; It is the part of a wise man, to believe them no further, than right reason makes that which they say, appear credible. If this superstitious fear of Spirits were taken away, and with it, Prognostiques from Dreams, false Prophecies, and many other things depending thereon, by (8) which, crafty ambitious persons abuse the simple people, men would be much more fitted than they are for civill Obedience.

And this ought to be the work of the Schooles: but they rather nourish such doctrine. For (not knowing what Imagination, or the Senses are), what they receive, they teach: some saying, that Imaginations rise of themselves, and have no cause: Others that they rise most commonly from the Will; and that Good thoughts are blown (inspired) into a man, by God; and Evill thoughts by the Divell: or that Good thoughts are powred (infused) into a man, by God, and Evill ones by the Divell. Some say the Senses receive the Species of things, and deliver them to the Common-sense; and the Common Sense delivers them over to the Fancy, and the Fancy to the Memory, and the Memory to the Judgement, like handing of things from one to another, with many words making nothing understood.

The Imagination that is rayzed in man (or any other creature indued with the faculty of imagining) by words, or other voluntary signes, is that we generally call *Understanding*; and is common to Man and Beast. For a dogge by custome will understand the call, or the rating of his Master; and so will many other Beasts. That *Understanding* which is peculiar to man, is the *Understanding* not onely his

*Understand-
ing*

will; but his conceptions and thoughts, by the sequell and contexture of the names of things into Affirmations, Negations, and other formes of Speech: And of this kinde of Understanding I shall speak hereafter.

CHAP. III

Of the Consequence or TRAYNE of Imaginations

BY *Consequence*, or TRAYNE of Thoughts, I understand that succession of one Thought to another, which is called (to distinguish it from Discourse in words) *Mentall Discourse*.

When a man thinketh on any thing whatsoever, His next Thought after, is not altogether so casuall as it seems to be. Not every Thought to every Thought succeeds indifferently. But as wee have no Imagination, whereof we have not formerly had Sense, in whole, or in parts; so we have no Transition from one Imagination to another, whereof we never had the like before in our Senses. The reason whereof is this. All Fancies are Motions within us, reliques of those made in the Sense: And those motions that immediately succeeded one another in the sense, continue also together after Sense: In so much as the former comming again to take place, and be prædominant, the later followeth, by coherence of the matter moved, in such manner, as water upon a plain Table is drawn which way any one part of it is guided by the finger. But because in sense, to one and the same thing perceived, sometimes one thing, sometimes another succeedeth, it comes to passe in time, that in the Imagining of any thing, there is [9] no certainty what we shall Imagine next; Onely this is certain, it shall be something that succeeded the same before, at one time or another.

This Trayne of Thoughts, or Mentall Discourse, is of two sorts. The first is *Unguided*, without *Designe*, and inconstant; Wherein there is no Passionate Thought, to govern and direct those that follow, to it self, as the end and scope of some desire, or other passion: In which case the thoughts are said to wander, and seem impertinent one to another, as in a Dream. Such are Commonly the thoughts of men, that are not onely without company, but also without care of any thing; though even then their Thoughts are as busie as at other times, but without harmony; as the sound which a Lute out of tune would yeeld to any man; or in tune, to one that could not play. And yet in this wild ranging of the mind, a man may oft-times perceive the way of it, and the dependance of one thought upon another. For in a Discourse of our present civill warre, what could seem more impertinent, than to ask (as one did) what was the value of a Roman Penny? Yet the Cohærence to me was manifest enough. For the Thought of the warre, introduced the Thought of the delivering up the King to his Enemies; The Thought of that, brought in the Thought of the delivering up of Christ; and that again the Thought of the 30 pence, which was the price of that treason: and thence easily followed that malicious question; and all this in a moment of time; for Thought is quick.

The second is more constant; as being *regulated* by some desire, and designe. For the impression made by such things as wee desire, or feare, is strong, and permanent, or, (if it cease for a time,) of quick return: so strong it is sometimes, as to hinder and break our sleep. From Desire, ariseth the Thought of some means we have seen produce the like of that which we ayme at; and from the thought of that, the thought of means to that mean; and so continually, till we come to some beginning within

Trayne of Thoughts unguided

Trayne of Thoughts regulated

our own power. And because the End, by the greatnesse of the impression, comes often to mind, in case our thoughts begin to wander, they are quickly again reduced into the way: which observed by one of the seven wise men, made him give men this præcept, which is now worne out, *Respice finem*; that is to say, in all your actions, look often upon what you would have, as the thing that directs all your thoughts in the way to attain it.

The Trayn of regulated Thoughts is of two kinds; One, when of an effect imagined, wee seek the causes, or means that produce it: and this is common to Man and Beast. The other is, when imagining any thing whatsoever, wee seek all the possible effects, that can by it be produced; that is to say, we imagine what we can do with it, when wee have it. Of which I have not at any time seen any signe, but in man onely; for this is a curiosity hardly incident to the nature of any living creature that has no other Passion but sensuall, such as are hunger, thirst, lust, and anger. In summe, the Discourse of the Mind, when it is governed by designe, is nothing but *Seeking*, or the faculty of Invention, which the Latines call *Sagacitas*, and [101] *Solertia*; a hunting out of the causes, of some effect, present or past; or of the effects, of some present or past cause. Sometimes a man seeks what he hath lost; and from that place, and time, wherein hee misses it, his mind runs back, from place to place, and time to time, to find where, and when he had it; that is to say, to find some certain, and limited time and place, in which to begin a method of seeking. Again, from thence, his thoughts run over the same places and times, to find what action, or other occasion might make him lose it. This we call *Remembrance*, or Calling to mind: the Latines call it *Reminiscentia*, as it were a *Re-coming* of our former actions.

Sometimes a man knows a place determinate,

Remem-
brance

within the compasse whereof he is to seek; and then his thoughts run over all the parts thereof, in the same manner, as one would sweep a room, to find a jewell; or as a Spaniel ranges the field, till he find a sent; or as a man should run over the Alphabet, to start a rime.

Sometime a man desires to know the event of an action; and then he thinketh of some like action past, and the events thereof one after another; supposing like events will follow like actions. As he that foresees what will become of a Criminal, re-cons what he has seen follow on the like Crime before; having this order of thoughts, The Crime, the Officer, the Prison, the Judge, and the Gallowes. Which kind of thoughts, is called *Foresight*, and *Prudence*, or *Providence*; and sometimes *Wisdom*; though such conjecture, through the difficulty of observing all circumstances, be very fallacious. But this is certain; by how much one man has more experience of things past, than another; by so much also he is more Prudent, and his expectations the seldomer faile him. The *Present* onely has a being in Nature; things *Past* have a being in the Memory onely, but things *to come* have no being at all; the *Future* being but a fiction of the mind, applying the sequels of actions Past, to the actions that are Present; which with most certainty is done by him that has most Experience; but not with certainty enough. And though it be called Prudence, when the Event answereth our Expectation; yet in its own nature, it is but Presumption. For the foresight of things to come, which is Providence, belongs onely to him by whose will they are to come. From him onely, and supernaturally, proceeds Prophecy. The best Prophet naturally is the best gesser; and the best gesser, he that is most versed and studied in the matters he guesses at: for he hath most *Signes* to gesse by.

Prudence

Signes

A *Signe*, is the Event Antecedent, of the Consequent; and contrarily, the Consequent of the Antecedent, when the like Consequences have been observed, before: And the oftner they have been observed, the lesse uncertain is the *Signe*. And therefore he that has most experience in any kind of businesse, has most *Signes*, whereby to guesse at the Future time; and consequently is the most prudent: And so much more prudent than he that is new in that kind of business, as not to be equalled by any advantage of naturall and extemporary wit: though perhaps many young men think the contrary.

Nevertheless it is not Prudence that distinguisheth man from [II] beast. There be beasts, that at a year old observe more, and pursue that which is for their good, more prudently, than a child can do at ten.

Conjecture of
the time past

As Prudence is a *Præsumption* of the *Future*, contracted from the *Experience* of time *Past*: So there is a *Præsumption* of things *Past* taken from other things (not future but) *past* also. For he that hath seen by what courses and degrees, a flourishing State hath first come into civil warre, and then to ruine; upon the sights of the ruines of any other State, will guesse, the like warre, and the like courses have been there also. But this conjecture, has the same incertainty almost with the conjecture of the *Future*; both being grounded onely upon *Experience*.

There is no other act of mans mind, that I can remember, naturally planted in him, so, as to need no other thing, to the exercise of it, but to be born a man, and live with the use of his five Senses. Those other Faculties, of which I shall speak by and by, and which seem proper to man onely, are acquired, and encreased by study and industry; and of most men learned by instruction, and discipline;

and proceed all from the invention of Words, and Speech. For besides Sense, and Thoughts, and the Trayne of thoughts, the mind of man has no other motion; though by the help of Speech, and Method, the same Facultyes may be improved to such a height, as to distinguish men from all other living Creatures.

Whatsoever we imagine, is *Finite*. Therefore there is no Idea, or conception of anything we call *Infinite*. No man can have in his mind an Image of infinite magnitude; nor conceive infinite swiftness, infinite time, or infinite force, or infinite power. When we say any thing is infinite, we signifie onely, that we are not able to conceive the ends, and bounds of the thing named; having no Conception of the thing, but of our own inability. And therefore the Name of *God* is used, not to make us conceive him; (for he is *Incomprehensible*; and his greatnesse, and power are unconceivable;) but that we may honour him. Also because whatsoever (as I said before,) we conceive, has been perceived first by sense, either all at once, or by parts; a man can have no thought, representing any thing, not subject to sense. No man therefore can conceive any thing, but he must conceive it in some place; and indued with some determinate magnitude; and which may be divided into parts; nor that any thing is all in this place, and all in another place at the same time; nor that two, or more things can be in one, and the same place at once: For none of these things ever have, or can be incident to Sense; but are absurd speeches, taken upon credit (without any signification at all,) from deceived Philosophers, and deceived, or deceiving Schoolemen. [12]

CHAP. IV
Of SPEECH

Original of
Speech

THE Invention of *Printing*, though ingenious, compared with the invention of *Letters*, is no great matter. But who was the first that found the use of *Letters*, is not known. He that first brought them into *Greece*, men say was *Cadmus*, the sonne of *Agenor*, King of *Phenicia*. A profitable Invention for continuing the memory of time past, and the conjunction of mankind, dispersed into so many, and distant regions of the Earth; and with all difficult, as proceeding from a watchfull observation of the divers motions of the Tongue, Palat, Lips, and other organs of Speech; whereby to make as many differences of characters, to remember them. But the most noble and profitable invention of all other, was that of SPEECH, consisting of *Names* or *Appellations*, and their Connexion; whereby men register their Thoughts; recall them when they are past; and also declare them one to another for mutuall utility and conversation; without which, there had been amongst men, neither Common-wealth, nor Society, nor Contract, nor Peace, no more than amongst Lyons, Bears, and Wolves. The first author of Speech was *God* himself, that instructed *Adam* how to name such creatures as he presented to his sight; For the Scripture goeth no further in this matter. But this was sufficient to direct him to adde more names, as the experience and use of the creatures should give him occasion; and to joyn them in such manner by degrees, as to make himself understood; and so by succession of time, so much language might be gotten, as he had found use for; though not so copious, as an Orator or Philosopher has need of. For I do not find any thing in the Scripture,

out of which, directly or by consequence can be gathered, that *Adam* was taught the names of all Figures, Numbers, Measures, Colours, Sounds, Fancies, Relations; much less the names of Words and Speech, as *Generall*, *Speciall*, *Affirmative*, *Negative*, *Interrogative*, *Optative*, *Infinitive*, all which are usefull; and least of all, of *Entity*, *Intentionality*, *Quiddity*, and other insignificant words of the School.

But all this language gotten, and augmented by *Adam* and his posterity, was again lost at the tower of *Babel*, when by the hand of *God*, every man was stricken for his rebellion, with an oblivion of his former language. And being hereby forced to disperse themselves into severall parts of the world, it must needs be, that the diversity of Tongues that now is, proceeded by degrees from them, in such manner, as need (the mother of all inventions) taught them; and in tract of time grew every where more copious.

The generall use of Speech, is to transferre our Mentall Discourse, into Verbal; or the Trayne of our Thoughts, into a Trayne of Words; and that for two commodities; whereof one is, the Registering of the Consequences of our Thoughts; which being apt to slip out of our memory, and put us to a new labour, may again be recalled, by such words as they were marked by. So that the first use of names, is to serve for *Markes*, or *Notes* of remembrance. Another is, when many use the same words, to signifie (by their connexion and order,) one to another, what they conceive, or think of each matter; and also what they desire, feare, or have any other passion for. And for this use they are called *Signes*. Speciall uses of Speech are these; First, to Register, what by cogitation, wee find to be the cause of any thing, present or past; and what we find things present or past may produce, or effect:

The use of
Speech

which in summe, is acquiring of Arts. Secondly, to shew to others that knowledge which we have attained; which is, to Counsell, and Teach one another. Thirdly, to make known to others our wills, and purposes, that we may have the mutuall help of one another. Fourthly, to please and delight our selves, and others, by playing with our words, for pleasure or ornament, innocently.

Abuses of
Speech

To these Uses, there are also foure correspondent Abuses. First, when men register their thoughts wrong, by the inconstancy of the signification of their words; by which they register for their conceptions, that which they never conceived; and so deceive themselves. Secondly, when they use words metaphorically; that is, in other sense than that they are ordained for; and thereby deceive others. Thirdly, when by words they declare that to be their will, which is not. Fourthly, when they use them to grieve one another: for seeing nature hath armed living creatures, some with teeth, some with horns, and some with hands, to grieve an enemy, it is but an abuse of Speech, to grieve him with the tongue, unless it be one whom wee are obliged to govern; and then it is not to grieve, but to correct and amend.

The manner how Speech serveth to the remembrance of the consequence of causes and effects, consisteth in the imposing of Names, and the Connexion of them.

Names Pro-
per & Com-
mon

Of Names, some are *Proper*, and singular to one onely thing; as *Peter, John, This man, this Tree*: and some are *Common* to many things; as *Man, Horse, Tree*; every of which though but one Name, is nevertheless the name of divers particular things; in respect of all which together, it is called an *Universall*; there being nothing in the world *Universall* but Names; for the things named, are every one of them *Individuall* and *Singular*.

'One *Universall* name is imposed on many things, for their similitude in some quality, or other accident: And whereas a *Proper Name* bringeth to mind one thing onely; *Universals* recall any one of those many.

And of Names *Universall*, some are of more, and some of lesse extent; the larger comprehending the lesse large: and some again of equall extent, comprehending each other reciprocally. As for example, the Name *Body* is of larger signification than the word *Man*, and comprehendeth it; and the names *Man* and *Rationall*, are of equall extent, comprehending mutually one another. But here wee (114) must take notice, that by a Name is not alwayes understood, as in Grammar, one onely Word; but sometimes by circumlocution many words together. For all these words, *Hee that in his actions observeth the Lawes of his Country*, make but one Name, equivalent to this one word, *Just*.

By this imposition of Names, some of larger, some of stricter signification, we turn the reckoning of the consequences of things imagined in the mind, into a reckoning of the consequences of Appellations. For example, a man that hath no use of Speech at all, (such, as is born and remains perfectly deafe and dumb,) if he set before his eyes a triangle, and by it two right angles, (such as are the corners of a square figure,) he may by meditation compare and find, that the three angles of that triangle, are equall to those two right angles that stand by it. But if another triangle be shewn him different in shape from the former, he cannot know without a new labour, whether the three angles of that also be equall to the same. But he that hath the use of words, when he observes, that such equality was consequent, not to the length of the sides, nor to any other particular thing in his triangle; but onely to this, that the sides were straight, and the

angles three; and that that was all, for which he named it a Triangle; will boldly conclude Universally, that such equality of angles is in all triangles whatsoever; and register his invention in these generall termes, *Every triangle hath its three angles equall to two right angles.* And thus the consequence found in one particular, comes to be registred and remembred, as an Universall rule; and discharges our mentall reckoning, of time and place; and delivers us from all labour of the mind, saving the first; and makes that which was found true *here*, and *now*, to be true in *all times* and *places*.

But the use of words in registring our thoughts, is in nothing so evident as in Numbering. A naturall foole that could never learn by heart the order of numerall words, as *one*, *two*, and *three*, may observe every stroak of the Clock, and nod to it, or say one, one, one; but can never know what hour it strikes. And it seems, there was a time when those names of number were not in use; and men were fayne to apply their fingers of one or both hands, to those things they desired to keep account of; and that thence it proceeded, that now our numerall words are but ten, in any Nation, and in some but five, and then they begin again. And he that can tell ten, if he recite them out of order, will lose himselfe, and not know when he has done: Much lesse will he be able to adde, and subtract, and performe all other operations of Arithmetique. So that without words, there is no possibility of reckoning of Numbers; much lesse of Magnitudes, of Swiftnesse, of Force, and other things, the reckonings whereof are necessary to the being, or well-being of man-kind.

When two Names are joyned together into a Consequence, or Affirmation; as thus, *A man is a living creature*; or thus, *if he be a man, he is a living creature*, If the later name *Living creature*, signifie all that the former name *Man* signifieth, then the

affirmation, or consequence is *true*; otherwise *false*. For *True* and *False* are attributes of Speech, not of Things. And where Speech is not, there is neither *Truth* nor *Falshood*. *Error* there may be, as when wee expect that which shall not be; or suspect what has not been: but in neither case can a man be charged with *Untruth*.

Seeing then that *truth* consisteth in the right ordering of names in our affirmations, a man that seeketh precise *truth*, had need to remember what every name he uses stands for; and to place it accordingly; or else he will find himselfe entangled in words, as a bird in lime-twiggs; the more he struggles, the more belimed. And therefore in Geometry, (which is the onely Science that it hath pleased God hitherto to bestow on mankind,) men begin at settling the significations of their words; which settling of significations, they call *Definitions*; and place them in the beginning of their reckoning.

By this it appears how necessary it is for any man that aspires to true Knowledge, to examine the *Definitions* of former Authors; and either to correct them, where they are negligently set down; or to make them himselfe. For the errors of *Definitions* multiply themselves, according as the reckoning proceeds; and lead men into absurdities, which at last they see, but cannot avoyd, without reckoning anew from the beginning; in which lyes the foundation of their errors. From whence it happens, that they which trust to books, do as they that cast up many little summs into a greater, without considering whether those little summes were rightly cast up or not; and at last finding the error visible, and not mistrusting their first grounds, know not which way to cleere themselves; but spend time in fluttering over their bookes; as birds that entring by the chimney, and finding themselves inclosed in a chamber, flutter at the false light of a glasse window,

*Necessity of
Definitions*

for want of wit to consider which way they came in. So that in the right Definition of Names, lyes the first use of Speech; which is the Acquisition of Science: And in wrong, or no Definitions, lyes the first abuse; from which proceed all false and senselesse Tenets; which make those men that take their instruction from the authority of books, and not from their own meditation, to be as much below the condition of ignorant men, as men endued with true Science are above it. For between true Science, and erroneous Doctrines, Ignorance is in the middle. Naturall sense and imagination, are not subject to absurdity. Nature it selfe cannot erre: and as men abound in copiousnesse of language; so they become more wise, or more mad than ordinary. Nor is it possible without Letters for any man to become either excellently wise, or (unless his memory be hurt by disease, or ill constitution of organs) excellently foolish. For words are wise mens counters, they do but reckon by them: but they are the mony of fooles, that value them by the authority of an *Aristotle*, a *Cicero*, or a *Thomas*, or any other Doctor whatsoever, if but a man.

Subject to
Names

Subject to Names, is whatsoever can enter into, or be considered in an account; and be added one to another to make a summe; or substracted one from another, and leave a remainder. The Latines called [16] Accounts of mony *Rationes*, and accounting, *Ratiocinatio*: and that which we in bills or books of account call *Items*, they called *Nomina*; that is, *Names*: and thence it seems to proceed, that they extended the word *Ratio*, to the faculty of Reckoning in all other things. The Greeks have but one word *λόγος*, for both *Speech* and *Reason*; not that they thought there was no *Speech* without *Reason*; but no *Reasoning* without *Speech*: And the act of reasoning they called *Syllogisme*; which signifieth summing up of the consequences of one saying to

another. And because the same things may enter into account for divers accidents; their names are (to shew that diversity) diversly wrested, and diversified. This diversity of names may be reduced to foure generall heads.

First, a thing may enter into account for *Matter*, or *Body*; as *living*, *sensible*, *rationall*, *hot*, *cold*, *moved*, *quiet*; with all which names the word *Matter*, or *Body* is understood; all such, being names of *Matter*.

Secondly, it may enter into account, or be considered, for some accident or quality, which we conceive to be in it; as for *being moved*, for *being so long*, for *being hot*, &c; and then, of the name of the thing it selfe, by a little change or wresting, wee make a name for that accident, which we consider; and for *living* put into account *life*; for *moved*, *motion*; for *hot*, *heat*; for *long*, *length*, and the like: And all such Names, are the names of the accidents and properties, by which one *Matter*, and *Body* is distinguished from another. These are called *names Abstract*; because severed (not from *Matter*, but) from the account of *Matter*.

Thirdly, we bring into account, the Properties of our own bodies, whereby we make such distinction: as when any thing is *Seen* by us, we reckon not the thing it selfe; but the *sight*, the *Colour*, the *Idea* of it in the fancy: and when any thing is *heard*, wee reckon it not; but the *hearing*, or *sound* onely, which is our fancy or conception of it by the Eare: and such are names of fancies.

Fourthly, we bring into account, consider, and give names, to *Names* themselves, and to *Speeches*: For, *generall*, *universall*, *speciall*, *æquivocall*, are names of Names. And *Affirmation*, *Interrogation*, *Commandement*, *Narration*, *Syllogisme*, *Sermon*, *Oration*, and many other such, are names of *Speeches*. And this is all the variety of Names *positive*; which are put to mark somewhat which is in Nature, or

Use of Names
Positive

may be feigned by the mind of man, as Bodies that are, or may be conceived to be; or of bodies, the Properties that are, or may be feigned to be; or Words and Speech.

Negative
Names with
their Uses

There be also other Names, called *Negative*; which are notes to signifie that a word is not the name of the thing in question; as these words *Nothing, no man, infinite, indocible, three want foure,* and the like; which are nevertheless of use in reckoning, or in correcting of reckoning; and call to mind our past cogitations, though they be not names of any thing; because they make us refuse to admit of Names not rightly used.

Words insignificant

All other Names, are but insignificant sounds; and those of two [17] sorts. One, when they are new, and yet their meaning not explained by Definition; whereof there have been abundance coyned by Schoole-men, and pusled Philosophers.

Another, when men make a name of two Names, whose significations are contradictory and inconsistent; as this name, an *incorporeall body*, or (which is all one) an *incorporeall substance*, and a great number more. For whensoever any affirmation is false, the two names of which it is composed, put together and made one, signifie nothing at all. For example, if it be a false affirmation to say *a quadrangle is round*, the word *round quadrangle* signifies nothing; but is a meere sound. So likewise if it be false, to say that vertue can be powred, or blown up and down; the words *In-powred vertue, In-blown vertue*, are as absurd and insignificant, as a *round quadrangle*. And therefore you shall hardly meet with a senselesse and insignificant word, that is not made up of some Latin or Greek names. A Frenchman seldome hears our Saviour called by the name of *Parole*, but by the name of *Verbe* often; yet *Verbe* and *Parole* differ no more, but that one is Latin, the other French.

Understanding

When a man upon the hearing of any Speech,

hath those thoughts which the words of that Speech, and their connexion, were ordained and constituted to signifie; Then he is said to understand it: *Understanding* being nothing else, but conception caused by Speech. And therefore if Speech be peculiar to man (as for ought I know it is,) then is *Understanding* peculiar to him also. And therefore of absurd and false affirmations, in case they be universall, there can be no *Understanding*; though many think they understand, then, when they do but repeat the words softly, or con them in their mind.

What kinds of Speeches signifie the Appetites, Aversions, and Passions of mans mind; and of their use and abuse, I shall speak when I have spoken of the Passions.

The names of such things as affect us, that is, which please, and displease us, because all men be not alike affected with the same thing, nor the same man at all times, are in the common discourses of men, of *inconstant* signification. For seeing all names are imposed to signifie our conceptions; and all our affections are but conceptions; when we conceive the same things differently, we can hardly avoyd different naming of them. For though the nature of that we conceive, be the same; yet the diversity of our reception of it, in respect of different constitutions of body, and prejudices of opinion, gives everything a tincture of our different passions. And therefore in reasoning, a man must take heed of words; which besides the signification of what we imagine of their nature, have a signification also of the nature, disposition, and interest of the speaker; such as are the names of Vertues, and Vices; For one man calleth *Wisdome*, what another calleth *seare*; and one *cruelty*, what another *justice*; one *prodigality*, what another *magnanimity*; and one *gravity*, what another *stupidity*, &c. And therefore such names can never be true grounds of any

Inconstant
names

ratiocination. No more can Metaphors, and Tropes of speech: but these are less dangerous, because they profess their inconstancy; which the other do not. (18)

CHAP. V

Of REASON, and SCIENCE

Reason what
it is

WHEN a man Reasoneth, hee does nothing else but conceive a summe totall, from Addition of parcels; or conceive a Remainder, from Substraction of one summe from another: which (if it be done by Words,) is conceiving of the consequence of the names of all the parts, to the name of the whole; or from the names of the whole and one part, to the name of the other part. And though in some things, (as in numbers,) besides Adding and Subtracting, men name other operations, as Multiplying and Dividing; yet they are the same; for Multiplication, is but Adding together of things equall; and Division, but Subtracting of one thing, as often as we can. These operations are not incident to Numbers onely, but to all manner of things that can be added together, and taken one out of another. For as Arithmeticians teach to adde and subtract in numbers; so the Geometricians teach the same in lines, figures (solid and superficial,) angles, proportions, times, degrees of swiftnesse, force, power, and the like; The Logicians teach the same in Consequences of words; adding together two Names, to make an Affirmation; and two Affirmations, to make a Syllogisme; and many Syllogismes to make a Demonstration; and from the summe, or Conclusion of a Syllogisme, they subtract one Proposition, to finde the other. Writers of Politiques, adde together Pactions, to finde mens duties; and Lawyers, Lawes, and facts, to finde what is right and wrong in the actions of private men. In summe, in

what matter soever there is place for addition and subtraction, there also is place for Reason; and where these have no place, there Reason has nothing at all to do.

Out of all which we may define, (that is to say determine,) what that is, which is meant by this word Reason, when wee reckon it amongst the Faculties of the mind. For REASON, in this sense, is nothing but Reckoning (that is, Adding and Subtracting) of the Consequences of generall names agreed upon, for the marking and signifying of our thoughts; I say marking them, when we reckon by our selves; and signifying, when we demonstrate, or approve our reckonings to other men.

Reason defined

And as in Arithmetique, unpractised men must, and Professors themselves may often erre, and cast up false; so also in any other subject of Reasoning, the ablest, most attentive, and most practised men, may deceive themselves, and inferre false Conclusions; Not but that Reason it selfe is always Right Reason, as well as Arithmetique is a certain and infallible Art: But no one mans Reason, nor the Reason of any one number of men, makes the certaintie; no more than an account is therefore well cast up, because a great many men have unanimously approved it. And therefore, as when there is a controversy in [19] an account, the parties must by their own accord, set up for right Reason, the Reason of some Arbitrator, or Judge, to whose sentence they will both stand, or their controversie must either come to blowes, or be undecided, for want of a right Reason constituted by Nature; so is it also in all debates of what kind soever: And when men that think themselves wiser than all others, clamor and demand right Reason for judge; yet seek no more, but that things should be determined, by no other mens reason but their own, it is as intolerable in the society of men, as it is in play after

Right Reason where

trump is turned, to use for trump on every occasion, that suite whereof they have most in their hand. For they do nothing els, that will have every of their passions, as it comes to bear sway in them, to be taken for right Reason, and that in their own controversies: bewraying their want of right Reason, by the claym they lay to it.

The use of Reason

The Use and End of Reason, is not the finding of the summe, and truth of one, or a few consequences, remote from the first definitions, and settled significations of names; but to begin at these; and proceed from one consequence to another. For there can be no certainty of the last Conclusion, without a certainty of all those Affirmations and Negations, on which it was grounded, and inferred. As when a master of a family, in taking an account, casteth up the summs of all the bills of expence, into one sum; and not regarding how each bill is summed up, by those that give them in account; nor what it is he payes for; he advantages himself no more, than if he allowed the account in grosse, trusting to every of the accountants skill and honesty: so also in Reasoning of all other things, he that takes up conclusions on the trust of Authors, and doth not fetch them from the first Items in every Reckoning, (which are the significations of names settled by definitions), loses his labour; and does not know any thing; but onely beleeveth.

Of Error and Absurdity

When a man reckons without the use of words, which may be done in particular things, (as when upon the sight of any one thing, wee conjecture what was likely to have preceded, or is likely to follow upon it;) if that which he thought likely to follow, followes not; or that which he thought likely to have preceded it, hath not preceded it, this is called ERROR; to which even the most prudent men are subject. But when we Reason in Words of generall signification, and fall upon a

generall inference which is false; though it be commonly called *Error*, it is indeed an *ABSURDITY*, or senselesse Speech. For *Error* is but a deception, in presuming that somewhat is past, or to come; of which, though it were not past, or not to come; yet there was no impossibility discoverable. But when we make a generall assertion, unlesse it be a true one, the possibility of it is unconceivable. And words whereby we conceive nothing but the sound, are those we call *Absurd*, *Insignificant*, and *Non-sense*. And therefore if a man should talk to me of a *round Quadrangle*; or *accidents of Bread in Cheese*; or *Immateriall Substances*; or of *A free Subject*; *A free-Will*; or any *Free*, but free from being hindred by opposition, I should not say he were in an *Error*; but that his words were without meaning; that is to say, *Absurd*.

[20] I have said before, (in the second chapter,) that a Man did excell all other Animals in this faculty, that when he conceived any thing whatsoever, he was apt to enquire the consequences of it, and what effects he could do with it. And now I adde this other degree of the same excellence, that he can by words reduce the consequences he findes to generall Rules, called *Theoremes*, or *Aphorismes*; that is, he can Reason, or reckon, not onely in number; but in all other things, whereof one may be added unto, or subtracted from another.

But this priviledge, is allayed by another; and that is, by the priviledge of *Absurdity*; to which no living creature is subject, but man onely. And of men, those are of all most subject to it, that professe Philosophy. For it is most true that *Cicero* sayth of them somewhere; that there can be nothing so absurd, but may be found in the books of Philosophers. And the reason is manifest. For there is not one of them that begins his ratiocination from the Definitions, or Explications of the names they are

to use; which is a method that hath been used onely in Geometry; whose Conclusions have thereby been made indisputable.

Causes of absurditie

¹ The first cause of Absurd conclusions I ascribe to the want of Method; in that they begin not their Ratiocination from Definitions; that is, from settled significations of their words: as if they could cast account, without knowing the value of the numerall words, *one, two, and three.*

And whereas all bodies enter into account upon divers considerations, (which I have mentioned in the precedent chapter;) these considerations being diversly named, divers absurdities proceed from the confusion, and unfit connexion of their names into assertions. And therefore

- 2 The second cause of Absurd assertions, I ascribe to the giving of names of *bodies*, to *accidents*; or of *accidents*, to *bodies*; As they do, that say, *Faith is infused*, or *inspired*; when nothing can be *poured*, or *breathed* into any thing, but body; and that, *extension is body*; that *phantasmies* are *spirits*, &c.
- 3 The third I ascribe to the giving of the names of the *accidents* of *bodies without us*, to the *accidents* of our *own bodies*; as they do that say, *the colour is in the body*; *the sound is in the ayre*, &c.
- 4 The fourth, to the giving of the names of *bodies*, to *names*, or *speeches*; as they do that say, that *there be things universall*; that *a living creature is Genus*, or *a generall thing*, &c.
- 5 The fifth, to the giving of the names of *accidents*, to *names* and *speeches*; as they do that say, *the nature of a thing is its definition*; *a mans command is his will*; and the like.
- 6 The sixth, to the use of Metaphors, Tropes, and other Rhetoricall figures, in stead of words proper. For though it be lawfull to say, (for example) in common speech, *the way goeth*, or *leadeth hither*, or *thither*, *The Proverb says this or that* (whereas wayes

cannot go, nor Proverbs speak;) yet in reckoning, and seeking of truth, such speeches are not to be admitted.

The seventh, to names that signifie nothing; but ⁷ are taken up, and (21) learned by rote from the Schooles, as *hypostatical*, *transubstantiate*, *consubstantiate*, *eternal-Now*, and the like canting of Schoolemen.

To him that can avoyd these things, it is not easie to fall into any absurdity, unlesse it be by the length of an account; wherein he may perhaps forget what went before. For all men by nature reason alike, and well, when they have good principles. For who is so stupid, as both to mistake in Geometry, and also to persist in it, when another detects his error to him?

By this it appears that Reason is not as Sense, and Memory, borne with us; nor gotten by Experience onely; as Prudence is; but attained by Industry; first in apt imposing of Names; and secondly by getting a good and orderly Method in proceeding from the Elements, which are Names, to Assertions made by Connexion of one of them to another; and so to Syllogismes, which are the Connexions of one Assertion to another, till we come to a knowledge of all the Consequences of names appertaining to the subject in hand; and that is it, men call SCIENCE. And whereas Sense and Memory are but knowledge of Fact, which is a thing past, and irrevocable; Science is the knowledge of Consequences, and dependance of one fact upon another: by which, out of that we can presently do, we know how to do something else when we will, or the like, another time: Because when we see how any thing comes about, upon what causes, and by what manner; when the like causes come into our power, wee see how to make it produce the like effects.

Children therefore are not endued with Reason at all, till they have attained the use of Speech: but are called Reasonable Creatures, for the possibility apparent of having the use of Reason in time to come. And the most part of men, though they have the use of Reasoning a little way, as in numbring to some degree; yet it serves them to little use in common life; in which they govern themselves, some better, some worse, according to their differences of experience, quicknesse of memory, and inclinations to severall ends; but specially according to good or evill fortune, and the errors of one another. For as for *Science*, or certain rules of their actions, they are so farre from it, that they know not what it is. Geometry they have thought Conjuring: But for other Sciences, they who have not been taught the beginnings, and some progresse in them, that they may see how they be acquired and generated, are in this point like children, that having no thought of generation, are made believe by the women, that their brothers and sisters are not born, but found in the garden.

But yet they that have no *Science*, are in better, and nobler condition with their naturall Prudence; than men, that by mis-reasoning, or by trusting them that reason wrong, fall upon false and absurd generall rules. For ignorance of causes, and of rules, does not set men so farre out of their way, as relying on false rules, and taking for causes of what they aspire to, those that are not so, but rather causes of the contrary.

To conclude, The Light of humane minds is Perspicuous Words, [22] but by exact definitions first snuffed, and purged from ambiguity; *Reason* is the *pace*; Encrease of *Science*, the *way*; and the Benefit of man-kind, the *end*. And on the contrary, Metaphors, and senslesse and ambiguous words, are like *ignes fatui*; and reasoning upon them,

is wandering amongst innumerable absurdities; and their end, contention, and sedition, or contempt.

As, much Experience, is *Prudence*; so, is much Science, *Sapience*. For though wee usually have one name of Wisedome for them both; yet the Latines did always distinguish between *Prudentia* and *Sapientia*; ascribing the former to Experience, the later to Science. But to make their difference appeare more cleerly, let us suppose one man endued with an excellent naturall use, and dexterity in handling his armes; and another to have added to that dexterity, an acquired Science, of where he can offend, or be offended by his adversarie, in every possible posture, or guard: The ability of the former, would be to the ability of the later, as Prudence to Sapience; both usefull; but the later infallible. But they that trusting onely to the authority of books, follow the blind blindly, are like him that trusting to the false rules of the master of Fence, ventures præsumptuously upon an adversary, that either kills, or disgraces him.

The signes of Science, are some, certain and infallible; some, uncertain. Certain, when he that pretendeth the Science of any thing, can teach the same; that is to say, demonstrate the truth thereof perspicuously to another: Uncertain, when onely some particular events answer to his pretence, and upon many occasions prove so as he sayes they must. Signes of prudence are all uncertain; because to observe by experience, and remember all circumstances that may alter the successe, is impossible. But in any businesse, whereof a man has not infallible Science to proceed by; to forsake his own natural judgement, and be guided by generall sentences read in Authors, and subject to many exceptions, is a signe of folly, and generally scorned by the name of Pedantry. And even of those men

Prudence & Sapience, with their difference

Signes of Science

themselves, that in Councells of the Commonwealth, love to shew their reading of Politiques and History, very few do it in their domestique affaires, where their particular interest is concerned; having Prudence enough for their private affaires: but in publique they study more the reputation of their owne wit, than the successe of anothers businesse. [23]

CHAP. VI

*Of the Interiour Beginnings of Voluntary Motions;
commonly called the PASSIONS.
And the Speeches by which they are expressed.*

*Motion
Vitall and
Animal*

THERE be in Animals, two sorts of *Motions* peculiar to them: One called *Vitall*; begun in generation, and continued without interruption through their whole life; such as are the *course* of the *Bloud*, the *Pulse*, the *Breathing*, the *Concoction*, *Nutrition*, *Excretion*, &c; to which *Motions* there needs no help of *Imagination*: The other is *Animall motion*, otherwise called *Voluntary motion*; as to *go*, to *speak*, to *move* any of our limbes, in such manner as is first fancied in our minds. That *Sense*, is *Motion* in the organs and interiour parts of mans body, caused by the action of the things we See, Heare, &c; And that *Fancy* is but the Reliques of the same *Motion*, remaining after *Sense*, has been already sayd in the first and second Chapters. And because *going*, *speaking*, and the like *Voluntary motions*, depend alwayes upon a precedent thought of *whither*, *which way*, and *what*; it is evident, that the *Imagination* is the first internall beginning of all *Voluntary Motion*. And although unstudied men, doe not conceive any motion at all to be there, where the thing moved is invisible; or the space it

is moved in, is (for the shortnesse of it) insensible; yet that doth not hinder, but that such *Motions* are. For let a space be never so little, that which is moved over a greater space, whereof that little one is part, must first be moved over that. These small beginnings of *Motion*, within the body of *Man*, before they appear in walking, speaking, striking, and other visible actions, are commonly called ENDEAVOUR.

Endeavour

This *Endeavour*, when it is toward something which causes it, is called *APPETITE*, or *DESIRE*; the later, being the generall name; and the other, oftentimes restrayned to signifie the *Desire* of *Food*, namely *Hunger* and *Thirst*. And when the *Endeavour* is fromward something, it is generally called *AVERSION*. These words *Appetite*, and *Aversion* we have from the *Latines*; and they both of them signifie the motions, one of approaching, the other of retiring. So also do the *Greek* words for the same, which are $\acute{\omicron}\rho\mu\eta$, and $\acute{\alpha}\phi\omicron\rho\mu\eta$. For *Nature* it selfe does often presse upon men those truths, which afterwards, when they look for somewhat beyond *Nature*, they stumble at. For the *Schooles* find in meere *Appetite* to go, or move, no actual *Motion* at all: but because some *Motion* they must acknowledge, they call it *Metaphoricall Motion*; which is but an absurd speech: for though *Words* may be called *metaphoricall*; *Bodies*, and *Motions* cannot.

*Appetite
Desire*

*Hunger
Thirst
Aversion*

That which men *Desire*, they are also sayd to *LOVE*: and to *HATE* those things, for which they have *Aversion*. So that *Desire*, and [24] *Love*, are the same thing; save that by *Desire*, we alwayes signifie the *Absence* of the *Object*; by *Love*, most commonly the *Presence* of the same. So also by *Aversion*, we signifie the *Absence*; and by *Hate*, the *Presence* of the *Object*.

*Love
Hate*

Of *Appetites*, and *Aversions*, some are born with

THE ELEMENTS OF LAW NATURAL AND POLITIC

BY

THOMAS HOBBS

PART I

HUMAN NATURE

Chapter 1: The General Division of Man's Natural Faculties

1, 2, 3. Preface. 4. Man's nature. 5. Division of his faculties. 6. Faculties of the body. 7. Faculties of the Mind. 8. Power cognitive, conceptions and imagery of the mind.

1. The true and perspicuous explication of the Elements of Laws, Natural and Politic, which is my present scope, dependeth upon the knowledge of what is human nature, what is a body politic, and what it is we call a law. Concerning which points, as the writings of men from antiquity downward have still increased, so also have the doubts and controversies concerning the same, and seeing that true knowledge begetteth not doubt, nor controversy, but knowledge; it is manifest from the present controversies, that they which have heretofore written thereof, have not well understood their own subject.

2. Harm I can do none though I err no less than they. For I shall leave men but as they are in doubt and dispute. But intending not to take any principle upon trust, but only to put men in mind what they know already, or may know by their own experience, I hope to err the less; and when I do, it must proceed from too hasty concluding, which I will endeavour as much as I can to avoid.

3. On the other side, if reasoning aright I win not consent (which may very easily happen) from them that being confident of their own knowledge weigh not what is said, the fault is not mine but theirs. For as it is my part to show my reasons, so it is theirs to bring attention.

4. Man's nature is the sum of his natural faculties and powers, as the faculties of nutrition, motion, generation, sense, reason, &c. For these powers we do unanimously call natural, and are contained in the definition of man, under these words, animal and rational.

5. According to the two principal parts of man, I divide his faculties into two sorts, faculties of the body, and faculties of the mind.

6. Since the minute and distinct anatomy of the powers of the body is nothing necessary to the present purpose, I will only sum them up into these three heads, power nutritive, power motive, and power generative.

7. Of the powers of the mind there be two sorts, cognitive or imaginative or conceptive; and motive. And first of the cognitive.

8. For the understanding of what I mean by the power cognitive, we must remember and acknowledge that there be in our minds continually certain images or conceptions of the things without us, insomuch that if a man could be alive, and all the rest of the world annihilated, he should nevertheless retain the image thereof, and of all those things which he had before seen and perceived in it; every man by his own experience knowing that the absence or destruction of things once imagined, doth not cause the absence or destruction of the imagination itself. This imagery and representations of the qualities of things without us is that we call our cognition, imagination, ideas, notice, conception, or knowledge of them. And the faculty, or power, by which we are capable of such knowledge, is that I here call power cognitive, or conceptive, the power of knowing or conceiving.

Chapter 2: The Cause of Sense

2. Definition of sense. 4. Four propositions concerning the nature of conceptions. 5. The first proved. 6. The second proved. 7, 8. The third proved. 9. The fourth proved. 10. The main deception of sense.

1. Having declared what I mean by the word conception, and other words equivalent thereunto, I come to the conceptions themselves, to show their difference, their causes, and the manner of their production as far as is necessary for this place.

2. Originally all conceptions proceed from the actions of the thing itself, whereof it is the conception. Now when the action is present, the conception it produceth is called SENSE, and the thing by whose action the same is produced is called the OBJECT of sense.

3. By our several organs we have several conceptions of several qualities in the objects; for by sight we have a conception or image composed of colour or figure, which is all the notice and knowledge the object imparteth to us of its nature by the eye. By hearing we have a conception called sound, which is all the knowledge we have of the quality of the object from the ear. And so the rest of the senses also are conceptions of several qualities, or natures of their objects.

4. Because the image in vision consisting in colour and shape is the knowledge we have of the qualities of the object of that sense; it is no hard matter for a man to fall into this opinion, that the same colour and shape are the very qualities themselves; and for the same cause, that sound and noise are the qualities of the bell, or of the air. And this opinion hath been so long received, that the contrary must needs appear a great paradox; and yet the introduction of species visible and intelligible (which is necessary for the maintenance of that opinion) passing to and fro from the object, is worse than any paradox, as being a plain impossibility. I shall therefore endeavour to make plain these four points:

(1) That the subject wherein colour and image are inherent, is not the object or thing seen.

(2) That that is nothing without us really which we call an image or colour.

(3) That the said image or colour is but an apparition unto us of that motion, agitation, or alteration, which the object worketh in the brain or spirits, or some internal substance of the head.

(4) That as in conception by vision, so also in the conceptions that arise from other senses, the subject of their inherence is not the object, but the sentient.

5. Every man hath so much experience as to have seen the sun and other visible objects by reJection in the water and in glasses, and this alone is sufficient for this conclusion: that colour and image may be there where the thing seen is not. But because it may be said that notwithstanding the image in the water be not in the object, but a thing merely phantastical, yet there may be colour really in the thing itself; I will urge further this experience: that divers times men see directly the same object double, as two candles for one, which may happen by distemper, or otherwise without distemper if a man will, the organs being either in their right temper, or equally distempered. The colours and figures in two such images of the same thing cannot be inherent both therein, because the thing seen cannot be in two places: one of these images thereof is not inherent in the object. But seeing the organs of sight are then in equal temper or equal distemper, the one of them is no more inherent than the other, and consequently neither of them both are in the object; which is the first proposition mentioned in the precedent section.

6. Secondly, that the image of any thing seen by reJection in glass or water or the like, is not any thing in or behind the glass, or in or under the water, every man may prove to himself; which is the second proposition.

7. For the third, we are to consider first, that upon every great agitation or concussion of the brain, as it happeneth from a stroke, especially if the stroke be upon the eye, whereby the optic nerve suffereth any great violence, there appeareth before the eyes a certain light, which light is nothing without, but an apparition only, all that is real being the concussion or motion of the parts of that nerve. From which experience we may conclude, that apparition of light without, is really nothing but motion within. If therefore from lucid bodies

there can be derived motion, so as to affect the optic nerve in such manner as is proper thereunto, there will follow an image of light somewhere in that line by which the motion was last derived unto the eye; that is to say, in the object, if we look directly on it, and in the glass or water, when we look upon it in the line of reflection, which in effect is the third proposition, namely, That image and colour is but an apparition unto us of that motion, agitation, or alteration, which the object worketh in the brain, or spirits, or some internal substance in the head.

8. But that from all lucid, shining and illuminated bodies, there is a motion produced to the eye, and, through the eye, to the optic nerve, and so into the brain, by which that apparition of light or colour is effected, is not hard to prove. And first, it is evident that the fire, the only lucid body here on earth, worketh by motion equally every way; insomuch as the motion thereof stopped or inclosed, it is presently extinguished, and no more fire. And farther, that that motion, whereby the fire worketh, is dilatation, and contraction of itself alternately, commonly called scintillation or glowing, is manifest also by experience. From such motion in the fire must needs arise a rejection or casting from itself of that part of the medium which is contiguous to it, whereby that part also rejecteth the next, and so successively one part beateth back the other to the very eye; and in the same manner the exterior part of the eye (the laws of refraction still observed) presseth the interior. Now the interior coat of the eye is nothing else but a piece of the optic nerve, and therefore the motion is still continued thereby into the brain, and by resistance or reaction of the brain, is also a rebound in the optic nerve again, which we not conceiving as motion or rebound from within, think it is without, and call it light; as hath been already shewed by the experience of a stroke. We have no reason to doubt, that the fountain of light, the sun, worketh any other wise than the fire, at least in this matter, and thus all vision hath its original from such motion as is here described. For where there is no light, there is no sight; and therefore colour also must be the same thing with light, as being the effect of lucid bodies: their difference being only this, that when the light cometh directly from the fountain to the eye, or indirectly by reflection from clean and polite bodies, and such as have no particular motion internal to alter it, we call it light. But when it cometh to the eyes by reflection from uneven, rough, and coarse bodies, or such as are affected with internal motion of their own, that may alter it, then we call it colour; colour and light differing only in this, that the one is pure, the other a perturbed light. By that which hath been said, not only the truth of the third proposition, but also the whole manner of producing light and colour, is apparent.

9. As colour is not inherent in the object, but an effect thereof upon us, caused by such motion in the object, as hath been described: so neither is sound in the thing we hear, but in ourselves. One manifest sign thereof is: that as a man may see, so also he may hear double or treble, by multiplication of echoes, which echoes are sounds as well as the original; and not being in one and the same place, cannot be inherent in the body that maketh them. Nothing can make any thing in itself: the clapper hath not sound in it, but motion, and maketh motion in the internal parts of the bell so the bell hath motion, and not sound. That imparteth motion to the air; and the air hath motion, but not sound. The air imparteth motion by the ear and nerves to the brain; and the brain hath motion but not sound. From the brain it reboundeth back into the nerves outward, and thence it becometh an apparition without, which we call sound. And to proceed to the rest of the senses, it is apparent enough, that the smell and taste of the same thing, are not the same to every man, and therefore are not in the thing smelt or tasted, but in the men. So likewise the heat we feel from the fire is manifestly in us, and is quite different from the heat that is in the fire. For our heat is pleasure or pain, according as it is extreme or moderate; but in the coal there is no such thing. By this the fourth and last of the propositions is proved (*viz.*) That as in conception by vision, so also in the conceptions that arise from other senses, the subject of their inherence is not the object, but the sentient.

10. And from thence also it followeth, that whatsoever accidents or qualities our senses make us think there be in the world, they are not there, but are seemings and apparitions only. The things that really are in the world without us, are those motions by which these seemings are caused. And this is the great deception of sense, which also is by sense to be corrected. For as sense telleth me, when I see directly, that the colour seemeth to be in the object; so also sense telleth me, when I see by reflection, that colour is not in the object.

Chapter 3: Of Imagination and the Kinds Thereof

1. Imagination defined. 2. Sleep and dreams defined. 3. Causes of dreams. 4. Fiction defined. 5. Phantasms defined. 6. Remembrance defined. 7. Wherein remembrance consisteth. 8. Why in a dream a man never thinks he dreams. 9. Why few things seem strange in dreams. 10. That a dream may be taken for reality and vision.

1. As standing water put into motion by the stroke of a stone, or blast of wind, doth not presently give over moving as soon as the wind ceaseth, or the stone setteth: so neither doth the effect cease which the object hath wrought upon the brain, so soon as ever by turning aside of the organ the object ceaseth to work; that is to say, though the sense be past, the image or conception remaineth; but more obscurely while we are awake, because some object or other continually plieeth and soliciteth our eyes, and ears, keeping the mind in a stronger motion, whereby the weaker doth not easily appear. And this obscure conception is that we call PHANTASY or IMAGINATION: imagination being (to define it) conception remaining, and by little and little decaying from and after the act of sense.

2. But when present sense is not, as in SLEEP, there the images remaining after sense (when there be any) as in dreams, are not obscure, but strong and clear, as in sense itself. The reason is, because that which obscured and made the conceptions weak, namely sense, and present operation of the objects, is removed. For sleep is the privation of the act of sense, (the power remaining) and dreams are the imaginations of them that sleep.

3. The causes of DREAMS (if they be natural) are the actions or violence of the inward parts of a man upon his brain, by which the passages of sense, by sleep benumbed, are restored to their motion. The signs by which this appeareth to be so, are the differences of dreams proceeding from the different accidents of man's body. Old men being commonly less healthful and less free from inward pains, are thereby more subject to dreams, especially such dreams as be painful: as dreams of lust, or dreams of anger, according as the heart, or other parts within, work more or less upon the brain, by more or less heat. So also the descent of different sorts of phlegm maketh one to dream of different tastes of meats or drinks. And I believe there is a reciprocation of motion from the brain to the vital parts, and back from the vital parts to the brain; whereby not only imagination begetteth motion in those parts; but also motion in those parts begetteth imagination like to that by which it was begotten. If this be true, and that sad imaginations nourish the spleen, then we see also a cause, why a strong spleen reciprocally causeth fearful dreams. And why the effects of lasciviousness may in a dream produce the image of some person that hath caused them. If it were well observed, whether the image of the person in a dream be as obedient to the accidental heat of him that dreameth, as waking his heat is to the person, and if so, then is such motion reciprocal. Another sign that dreams are caused by the action of the inward parts, is the disorder and casual consequence of one conception or image to another: for when we are waking, the antecedent thought or conception introduceth, and is cause of the consequent, as the water followeth a man's finger upon a dry and level table. But in dreams there is commonly no coherence (and when there is, it is by chance), which must proceed from this, that the brain in dreams is not restored to its motion in every part alike; whereby it cometh to pass, that our thoughts appear like the stars between the flying clouds, not in the order which a man would choose to observe them in, but as the uncertain flight of broken clouds permit.

4. As when the water, or any liquid thing moved at once by divers movements, receiveth one motion compounded of them all; so also the brain or spirits therein, having been stirred by divers objects, composeth an imagination of divers conceptions that appeared singly to the sense. As for example, the sense sheweth us at one time the figure of a mountain, and at another time the colour of gold; but the imagination afterwards hath them both at once in a golden mountain. From the same cause it is, there appear unto us castles in the air, chimeras, and other monsters which are not in rerum natura, but have been conceived by the sense in pieces at several times. And this composition is that which we commonly call FICTION of the mind.

5. There is yet another kind of imagination, which for clearness contendeth with sense, as well as a dream; and that is, when the action of sense hath been long or vehement: and the experience thereof is more frequent in the sense of seeing, than the rest. An example whereof is, the image remaining before the eye after a steadfast looking upon the sun. Also, those little images that appear before the eyes in the dark (whereof I think every man hath experience, but they most of all, that are timorous or superstitious) are examples of the same. And these, for distinction sake, may be called PHANTASMS.

6. By the senses (which are numbered according to the organs to be five) we take notice (as hath been said already) of the objects without us; and that notice is our conception thereof: but we take notice also some way or other of our conceptions. For when the conception of the same thing cometh again, we take notice that it is again; that is to say, that we have had the same conception before; which is as much as to imagine a thing past; which is impossible to sense, which is only of things present. This therefore may be accounted a sixth sense, but internal, not external, as the rest, and is commonly called REMEMBRANCE.

7. For the manner by which we take notice of a conception past, we are to remember, that in the definition of imagination, it is said to be a conception by little and little decaying, or growing more obscure. An obscure

conception is that which representeth the whole object together, but none of the smaller parts by themselves; and as more or fewer parts be represented, so is the conception or representation said to be more or less clear. Seeing then the conception, which when it was first produced by sense, was clear, and represented the parts of the object distinctly; and when it cometh again is obscure, we find missing somewhat that we expected; by which we judge it past and decayed. For example, a man that is present in a foreign city, seeth not only whole streets, but can also distinguish particular houses, and parts of houses; departed thence, he cannot distinguish them so particularly in his mind as he did, some house or turning escaping him; yet is this to remember the city; when afterwards there escapeth him more particulars, this is also to remember, but not so well. In process of time, the image of the city returneth, but as of a mass of building only, which is almost to have forgotten it. Seeing then remembrance is more or less, as we find more or less obscurity, why may not we well think remembrance to be nothing else but the missing of parts, which every man expecteth should succeed after they have a conception of the whole? To see at great distance of place, and to remember at great distance of time, is to have like conceptions of the thing: for there wanteth distinction of parts in both; the one conception being weak by operation at distance, the other by decay.

8. And from this that hath been said, there followeth, that a man can never know he dreameth; he may dream he doubteth, whether it be a DREAM or no: but the clearness of the imagination representeth every thing with as many parts as doth sense itself, and consequently, he can take notice of nothing but as present; whereas to think he dreameth, is to think those his conceptions past, that is to say, obscurer than they were in the sense: so that he must think them both as clear, and not as clear as sense; which is impossible.

9. From the same ground it proceedeth, that men wonder not in their dreams at places and persons, as they would do waking: for waking, a man would think it strange to be in a place wherein he never was before, and remember nothing of how he came there. But in a dream, there cometh little of that kind into consideration. The clearness of conception in a dream, taketh away distrust, unless the strangeness be excessive, as to think himself fallen from on high without hurt, and then most commonly he awaketh.

10. Nor is it impossible for a man to be so far deceived, as when his dream is past, to think it real: for if he dream of such things as are ordinarily in his mind, and in such order as he useth to do waking, and withal that he laid him down to sleep in the place where he findeth himself when he awaketh (all which may happen) I know no Kriterion or mark by which he can discern whether it were a dream or not, and do therefore the less wonder to hear a man sometimes to tell his dream for a truth, or to take it for a vision.

Chapter 4: Of the Several Kinds of Discursion of the Mind

1. Discourse. 2. The cause of coherence of thoughts. 3. Ranging. 4. Sagacity. 5. Reminiscence. 6. Experience. 7. Expectation or conjecture of the future. 8. Conjecture of the past. 9. Signs. 10. Prudence. 11. Caveats of concluding from experience.

1. The succession of conceptions in the mind, their series or consequence of one after another, may be casual and incoherent, as in dreams for the most part; and it may be orderly, as when the former thought introduceth the latter; and this is discourse of the mind. But because the word discourse is commonly taken for the coherence and consequence of words, I will (to avoid equivocation) call it DISCURSION.

2. The cause of the coherence or consequence of one conception to another, is their first coherence, or consequence at that time when they were produced by sense. As for example: from St. Andrew the mind runneth to St. Peter, because their names are read together; from St. Peter to a stone, for the same cause; from stone to foundation, because we see them together; and for the same cause, from foundation to church, from church to people, and from people to tumult. And according to this example, the mind may run almost from any thing to any thing. But as to the sense the conception of cause and effect succeed one another. so may they after sense in the imagination. And for the most part they do so. The cause whereof is the appetite of them, who, having a conception of the end, have next unto it a conception of the next means to that end. As when a man, from the thought of honour to which he hath an appetite, cometh to the thought of wisdom, which is the next means thereto; and from thence to the thought of study, which is the next means to wisdom, etc.

3. To omit that kind of discursion by which we proceed from any thing to any thing, there are of the other kind divers sorts. As first in the senses: there are certain coherences of conceptions, which we may call RANGING. Examples whereof are: a man's casting his eye upon the ground, to look about for some small thing

lost; the hounds casting about at a fault in hunting; and the ranging of spaniels. And herein we take a beginning arbitrarily.

4. Another sort of discursion is, when the appetite giveth a man his beginning, as in the example before adduced: where honour, to which a man hath appetite, maketh him to think upon the next means of attaining it, and that again of the next, &c. And this the Latins call *sagacitas*, SAGACITY, and we may call it hunting or tracing, as dogs trace the beast by the smell, and men hunt them by their footsteps; or as men hunt after riches, place, or knowledge.

5. There is yet another kind of discursion beginning with appetite to recover something lost, proceeding from the present backward, from the thought of the place where we miss it, to the thought of the place from whence we came last; and from the thought of that, to the thought of a place before, till we have in our mind some place, wherein we had the thing we miss: and this is called REMINISCENCE.

6. The remembrance of the succession of one thing to another, that is, of what was antecedent, and what consequent, and what concomitant, is called an EXPERIMENT; whether the same be made by us voluntarily, as when a man putteth any thing into the fire, to see what effect the fire will produce upon it; or not made by us, as when we remember a fair morning after a red evening. To have had many experiments, is that we call EXPERIENCE, which is nothing else but remembrance of what antecedents have been followed with what consequents.

7. No man can have in his mind a conception of the future, for the future is not yet. But of our conceptions of the past, we make a future; or rather, call past, future relatively. Thus after a man hath been accustomed to see like antecedents followed by like consequents, whensoever he seeth the like come to pass to any thing he had seen before, he looks there should follow it the same that followed then. As for example: because a man hath often seen offences followed by punishment, when he seeth an offence in present, he thinketh punishment to be consequent thereto. But consequent unto that which is present, men call future. And thus we make remembrance to be prevision or conjecture of things to come, or EXPECTATION or PRESUMPTION of the future.

8. In the same manner, if a man seeth in present that which he hath seen before, he thinks that that which was antecedent to what he saw before, is also antecedent to that he presently seeth. As for example: he that hath seen the ashes remain after the fire, and now again seeth ashes, concludeth again there hath been fire. And this is called CONJECTURE of the past, or presumption of fact.

9. When a man hath so often observed like antecedents to be followed by like consequents, that whensoever he seeth the antecedent, he looketh again for the consequent; or when he seeth the consequent, he maketh account there hath been the like antecedent; then he calleth both the antecedent and the consequent, SIGNS one of another, as clouds are a sign of rain to come, and rain of clouds past.

10. This taking of signs from experience, is that wherein men do ordinarily think, the difference stands between man and man in wisdom, by which they commonly understand a man's whole ability or power cognitive. But this is an error; for these signs are but conjectural; and according as they have often or seldom failed, so their assurance is more or less; but never full and evident; for though a man hath always seen the day and night to follow one another hitherto; yet can he not thence conclude they shall do so, or that they have done so eternally. Experience concludeth nothing universally. If the signs hit twenty times for once missing, a man may lay a wager of twenty to one of the event; but may not conclude it for a truth. But by this it is plain, that they shall conjecture best, that have most experience: because they have most signs to conjecture by; which is the reason that old men are more prudent, that is, conjecture better, *caeteris paribus*, than young. For, being older, they remember more; and experience is but remembrance. And men of quick imagination, *caeteris paribus*, are more prudent than those whose imaginations are slow: for they observe more in less time. And PRUDENCE is nothing else but conjecture from experience, or taking signs of experience warily, that is, that the experiments from which one taketh such signs be all remembered; for else the cases are not alike, that seem so.

11. As in conjectural things concerning past and future, it is prudence to conclude from experience, what is likely to come to pass, or to have passed already; so is it an error to conclude from it, that is so or so called. That is to say, we cannot from experience conclude, that any thing is to be called just or unjust, true or false, nor any proposition universal whatsoever, except it be from remembrance of the use of names imposed arbitrarily by men. For example: to have heard a sentence given (in the like case the like sentence a thousand times) is not enough to conclude that the sentence is just (though most men have no other means to conclude by); but it is

necessary, for the drawing of such conclusion, to trace and find out, by many experiences, what men do mean by calling things just and unjust, and the like. Farther, there is another caveat to be taken in concluding by experience, from the tenth section of the second chapter., that is, that we conclude not such things to be without, that are within us.

Chapter 5: Of Names, Reasoning, and Discourse of the Tongue

1. Of marks. 2. Names or appellations. 3. Names positive and privative. 4. Advantage of names maketh capable of science. 5. Names universal and singular. 6. Universals not in rerum natura. 7. Equivocal names. 8. Understanding. 9. Affirmation, negation, proposition. 10. Truth, falsity. 11. Ratiocination. 12. According to reason, against reason. 13. The causes, as of knowledge, so of error comes by names. 14. Translation of the discourse of the mind into the discourse of the tongue, and of the errors thence proceeding.

1. Seeing the succession of conceptions in the mind are caused (as hath been said before) by the succession they had one to another when they were produced by the senses; and that there is no conception that hath not been produced immediately before or after innumerable others, by the innumerable acts of sense; it must needs follow, that one conception followeth not another, according to our election, and the need we have of them, but as it chanceth us to hear or see such things as shall bring them to our mind. The experience we have hereof, is in such brute beasts, which, having the providence to hide the remains and superfluity of their meat, do nevertheless want the remembrance of the place where they hid it, and thereby make no benefit thereof in their hunger. But man, who in this point beginneth to advance himself above the nature of beasts, hath observed and remembered the cause of this defect, and to amend the same, hath imagined and devised to set up a visible or other sensible mark, the which when he seeth again, may bring to his mind the thought he had when he set it up. A MARK therefore is a sensible object which a man erecteth voluntarily to himself, to the end to remember thereby somewhat past, when the same is objected to his sense again. As men that have passed by a rock at sea, set up some mark, whereby to remember their former danger, and avoid it.

2. In the number of these marks, are those human voices (which we call the names or appellations of things) sensible to the ear, by which we recall into our mind some conceptions of the things to which we give those names or appellations. As the appellation white bringeth to remembrance the quality of such objects as produce that colour or conception in us. A NAME or APPELLATION therefore is the voice of a man, arbitrarily imposed, for a mark to bring to his mind some conception concerning the thing on which it is imposed.

3. Things named, are either the objects themselves, as man; or the conception itself that we have of man, as shape or motion; or some privation, which is when we conceive that there is something which we conceive, not in him. As when we conceive he is not just, not finite, we give him the name of unjust and infinite, which signify privation or defect either in the thing named, or in us that give the name. And to the privations themselves we give the names injustice and infiniteness. So that here be two sorts of names: one of things, in which we conceive something, or of the conceptions themselves, which are called POSITIVE; the other of things wherein we conceive privation or defect, and those names are called PRIVATIVE.

4. By the advantage of names it is that we are capable of science, which beasts, for want of them, are not; nor man, without the use of them: for as a beast misseeth not one or two out of her many young ones, for want of those names of order, one, two, three, &c., which we call number; so neither would a man, without repeating orally, or mentally, the words of number, know how many pieces of money or other things lie before him.

5. Seeing there be many conceptions of one and the same thing, and for every several conception we give it a several name; it followeth that for one and the same thing, we have many names or attributes; as to the same man we give the appellations of just, valiant, &c., for divers virtues, and of strong, comely, &c., for divers qualities of the body. And again, because from divers things we receive like conceptions, many things must needs have the same appellation. As to all things we see, we give the same name of visible; and to all things we see moved, we give the appellation of moveable. And those names we give to many, are called UNIVERSAL to them all; as the name man to every particular of mankind: such appellations as we give to one only thing, are called individual, or SINGULAR; as Socrates, and other proper names; or, by circumlocution, as: he that writ the Iliad, for Homer.

6. This universality of one name to many things, hath been the cause that men think that the things themselves are universal. And do seriously contend, that besides Peter and John, and all the rest of the men that

are, have been, or shall be in the world, there is yet somewhat else that we call man, (viz.) man in general, deceiving themselves by taking the universal, or general appellation, for the thing it signifieth. For if one should desire the painter to make him the picture of a man, which is as much as to say, of a man in general; he meaneth no more, but that the painter shall choose what man he pleaseth to draw, which must needs be some of them that are, have been, or may be, none of which are universal. But when he would have him to draw the picture of the king, or any particular person, he limiteth the painter to that one person himself chooseth. It is plain therefore, that there is nothing universal but names; which are therefore also called indefinite; because we limit them not ourselves, but leave them to be applied by the hearer: whereas a singular name is limited or restrained to one of the many things it signifieth; as when we say, this man, pointing to him, or giving him his proper name, or by some such other way.

7. The appellations that be universal, and common to many things, are not always given to all the particulars, (as they ought to be) for like conceptions and considerations in them all; which is the cause that many of them are not of constant signification, but bring into our minds other thoughts than those for which they were ordained. And these are called EQUIVOCAL. As for example, the word faith sometimes signifieth the same with belief; sometimes it signifieth particularly that belief which maketh a Christian; and sometimes it signifieth the keeping of a promise. Also all metaphors are (by profession) equivocal. And there is scarce any word that is not made equivocal by divers contextures of speech, or by diversity of pronunciation and gesture.

8. This equivocation of names maketh it difficult to recover those conceptions for which the name was ordained; and that not only in the language of other men, wherein we are to consider the drift, and occasion, and contexture of the speech, as well as the words themselves; but also in our own discourse, which being derived from the custom and common use of speech, representeth not unto us our own conceptions. It is therefore a great ability in a man, out of the words, contexture, and other circumstances of language, to deliver himself from equivocation, and to find out the true meaning of what is said: and this is it we call UNDERSTANDING.

9. Of two appellations, by the help of this little verb is, or something equivalent, we make an AFFIRMATION or NEGATION, either of which in the Schools we call also a proposition, and consisteth of two appellations joined together by the said verb is: as for example, this is a proposition: man is a living creature; or this: man is not righteous; whereof the former is called an affirmation, because the appellation living creature is positive; the latter a negation, because not righteous is privative.

10. In every proposition, be it affirmative or negative, the latter appellation either comprehendeth the former, as in this proposition, charity is a virtue, the name of virtue comprehendeth the name of charity (and many other virtues besides), and then is the proposition said to be TRUE or TRUTH: for, truth, and a true proposition, is all one. Or else the latter appellation comprehendeth not the former; as in this proposition, every man is just, the name of just comprehendeth not every man; for unjust is the name of the far greater part of men. And then the proposition is said to be FALSE, or falsity: falsity and a false proposition being the same thing.

11. In what manner of two propositions, whether both affirmative, or one affirmative, the other negative, is made a SYLLOGISM, I forbear to write. All this that hath been said of names or propositions, though necessary, is but dry discourse: and this place is not for the whole art of logic, which if I enter further into, I ought to pursue: besides, it is not needful; for there be few men which have not so much natural logic, as thereby to discern well enough, whether any conclusion I shall hereafter make, in this discourse, be well or ill collected: only thus much I say in this place, that making of syllogisms is that we call RATIOCINATION or reasoning.

12. Now when a man reasoneth from principles that are found indubitable by experience, all deceptions of sense and equivocation of words avoided, the conclusion he maketh is said to be according to right reason; but when from his conclusion a man may, by good ratiocination, derive that which is contradictory to any evident truth whatsoever, then is he said to have concluded against reason: and such a conclusion is called absurdity.

13. As the invention of names hath been necessary for the drawing of men out of ignorance, by calling to their remembrance the necessary coherence of one conception to another; so also hath it on the other side precipitated men into error: insomuch, that whereas by the benefit of words and ratiocination they exceed brute beasts in knowledge; by the incommodities that accompany the same they exceed them also in errors. For true and false are things not incident to beasts, because they adhere to propositions and language; nor have they ratiocination, whereby to multiply one untruth by another.. as men have.

14. It is the nature almost of every corporeal thing, being often moved in one and the same manner, to receive continually a greater and greater easiness and aptitude to the same motion; insomuch as in time the same becometh so habitual, that to beget it, there needs no more than to begin it. The passions of man, as they are the beginning of all his voluntary motions, so are they the beginning of speech, which is the motion of his tongue. And men desiring to shew others the knowledge, opinions, conceptions, and passions which are within themselves, and to that end. having invented language, have by that means transferred all that discursion of their mind mentioned in the former chapter, by the motion of their tongues, into discourse of words; and ratio, now, is but oratio, for the most part, wherein custom hath so great a power, that the mind suggesteth only the first word, the rest follow habitually, and are not followed by the mind. As it is with beggars, when they say their paternoster, putting together such words, and in such manner, as in their education they have learned from their nurses, from their companions, or from their teachers, having no images or conceptions in their minds answering to the words they speak. And as they have learned themselves, so they teach posterity. Now, if we consider the power of those deceptions of sense, mentioned chapter 11 section 10, and also how unconstantly names have been settled, and how subject they are to equivocation, and how diversified by passion, (scarce two men agreeing what is to be called good, and what evil; what liberality, what prodigality; what valour, what temerity) and how subject men are to paralogism or fallacy in reasoning, I may in a manner conclude, that it is impossible to rectify so many errors of any one man, as must needs proceed from those causes, without beginning anew from the very first grounds of all our knowledge, sense; and, instead of books, reading over orderly one's own conceptions: in which meaning I take nosce teipsum for a precept worthy the reputation it hath gotten.